PROBLEMS OF TRANSITION IN A DUAL ECONOMY

The Case of Western Samoa

by

Sam Leung Wai, B.Ag.Sc. (NZ)

A dissertation submitted in partial fulfilment of the requirements for the degree of Master of Agricultural Development Economics in the Australian National University

August, 1975
DECLARATION

Except where otherwise indicated, this dissertation is my own work.

S. Leung Wai

August, 1975
ACKNOWLEDGEMENTS

The relationship between myself and my supervisor, Mr E.K. Fisk, is best described by two Samoan proverbs. A UA SALA UTA, IA TONU TAI\(^1\) refers to the many occasions when Mr Fisk's timely advice provided the guidance in the writing of this, my first piece of research work. In acknowledging his unstinting help and forbearance, I can only say this of myself, E MU'A LE VAO\(^2\).

Dr Barlow has always been a source of additional encouragement and understanding. It is often said of teachers, that students have more need of models than of critics. In spite of heavy commitments to his own research projects, Dr Barlow's boundless energies have helped create a proper environment and atmosphere conducive to study. He has been a source of motivation and inspiration to me.

I would also like to thank the Australian Government for providing the scholarship which enabled me to undertake this course. My family and I owe the Western Samoan Government a great debt for its generosity in granting me leave-on-pay, which enabled us to stay together, during my years of study in Australia. Given the

---

1 Literal translation: When a mistake has been made inland, it should be rectified at the seaside. Meaning: When two persons are engaged in an undertaking and one makes an error, the other can still save the situation by setting things right.

2 Literal translation: The wood is green. Meaning: Used by a young person to excuse his mistakes committed through inexperience.
opportunity, I feel confident that the knowledge I have gained from this course will be of immense value in resolving the problems confronting agricultural development in Western Samoa. However, only time and results will tell whether the investment by both the Australian and Western Samoan Governments will yield the expected dividends.

Finally, I must acknowledge the sacrifices members of my aiga have had to make, in shouldering my part of the responsibilities of managing the welfare of our aiga during my absence. The demands of my studies have too often had to take priority over the personal interests of my wife Margaret and our four children. They have been most patient and understanding. To them all I must say FA'AFETAI LAVA LE ONOSA'I MA LE TAPUA'I MAI.
This study attempts to explain, with the help of some models, the structural transformation taking place within the economic system of Western Samoa, the interaction of the relevant sectors, and the implications for development at the macro-economic level. It is also concerned with an analysis of subsistence and commercial activities of farm families and the context within which they operate in Western Samoa.

Chapter 1 sets out the general background, the problems, the significance and the objectives of the study. In Chapter 2, the economic dualistic approach for the analysis of the development process is discussed. An analysis of the economic system of Western Samoa reveals that economic dualism exists on two levels. At the macro-economic level a distinction is made between the modern monetary sector and the traditional village agricultural sector based on the differences in the conditions of production and distribution within each sector. At the micro-economic level the demarcation of economic dualism is based on the existence, concurrently, of monetary and non-monetary (or subsistence) activities undertaken by subsistence-commercial family farms within the traditional economy.

Chapter 3 describes the Samoan traditional society. The Samoan traditional economy which operates within the context of the traditional society is described in Chapter 4. The productive resources, subsistence and market production, and the development and encouragement of production for the market by the Government and the response by the farmers to such efforts are discussed. The effects of social organizational institutions on production are then considered along with the subsistence and monetary components of rural household incomes.
Chapter 5 describes the development of the various sub-sectors within the monetary economy, and outlines the Government's policies for their advancement.

In Chapter 6, the Lewis model is presented and then used, with modifications of certain of its assumptions, to explain the structural transformation of Western Samoa's economic system and the interactions of the traditional and the monetary economies at the macro-economic level. Models by Fisk and Nakajima are used to analyse the process of transition from subsistence to commercial activities by subsistence-commercial farm families, after suitably defining what constitutes a farm family and a family farm in Western Samoa. Implications for development policy are considered.

Chapter 7 establishes the connection between structural transformation of the economic system and food shortages. The primary cause of food shortages is traced to the accelerated shift of labour out of the traditional into the monetary economies, a process which is exacerbated by rising emigration abroad. The need for Western Samoa to produce its own food requirements is justified. The production and marketing structure of staple foods is analysed, specific problems identified and suggestions towards a solution of staple food shortages discussed.

Chapter 8 summarizes some conclusions and comments on the nature of economic dualism within the economy of Western Samoa and their implications. It is concluded that the present commodity-specific and country-wide indiscriminate extension and development approach by the Department of Agriculture should be replaced with a whole-farm approach which aims at maximizing the utility of family farms, given their resources and the amount of assistance forthcoming from the Government. Such an approach will lead to a better assessment of the resource-endowment of a farm (a village or a district) which presages the development of specialization as one of the ways by which productivity of both land and labour can be raised.
CONTENTS

ACKNOWLEDGEMENTS iii
ABSTRACT v
LIST OF TABLES xi
LIST OF FIGURES xiii

CHAPTER

1 INTRODUCTION 1
   1.1 The General Background 1
      1.1.1 The population 1
      1.1.2 The economy 4
   1.2 The Problem 7
      1.2.1 Techno-organizational constraints on agricultural production 8
      1.2.2 The effects of economic structural transformation 11
      1.2.3 The inter-relationships between subsistence and cash, and between these and other activities of the Samoan farmer 12
   1.3 Significance of the Study 15
   1.4 Objectives of the Study 17

2 DUALISM IN WESTERN SAMOA 18
   2.1 Dualistic Analysis in Perspective 18
      2.1.1 Growth stage or leading sector approach 20
      2.1.2 Two-sector or dual economy approach 21
   2.2 Dualism in Western Samoa 25
      2.2.1 The evolution of the dual economy 26
      2.2.2 Concepts of dualism appropriate to Western Samoa 29
      2.2.3 Dualism and development in Western Samoa 34
3 THE TRADITIONAL SOCIETY

3.1 Organization and Operation
   3.1.1 The extended family or aiga
   3.1.2 The village community or nu'u
   3.1.3 The district or itumalo

3.2 Traditional Land Use
   3.2.1 Types and uses of customary land
   3.2.2 Main patterns of customary land use

3.3 The Lands and Titles Commission of Inquiry

4 THE TRADITIONAL ECONOMY

4.1 The Intrusion of Monetary Activities into the Traditional Village Economy

4.2 The Need for Cash

4.3 The Productive Resources
   4.3.1 Land
   4.3.2 Labour
   4.3.3 Producers' capital

4.4 Production
   4.4.1 Subsistence production
   4.4.2 Market production
   4.4.3 The effects of social and organizational institutions on production
   4.4.4 The effects of the Government's activities on production

4.5 Income

5 THE MONETARY ECONOMY

5.1 The Growth and Structure of the Monetary Economy
   5.1.1 Total and per head income
   5.1.2 Sectoral differentiation and development
   5.1.3 Other indicators of the growth of the monetary economy
CHAPTER 5.2 Government Policy for Advancing the Monetary Economy 126
   5.2.1 Manufacturing industries 129
   5.2.2 Tourist industry 131
   5.2.3 Timber industry 132
   5.2.4 Fisheries 135
   5.2.5 Government 135

5.3 Future Trends 136

6 THE INTERACTION OF THE TRADITIONAL AND THE MONETARY ECONOMIES: A THEORETICAL INTERPRETATION 139

6.1 Interaction at the Macro-Economic Level: Structural Transformation within the Economy 139
   6.1.1 Lewis' modified classical growth model 142
   6.1.2 Modifications of the assumptions of the Lewis model appropriate for the Western Samoan economy 147
   6.1.3 The interactions of the monetary and traditional economies in Western Samoa 151

6.2 Interaction at the Micro-Economic Level: Transition from Subsistence to Commercial Production 163
   6.2.1 The Fisk model 164
   6.2.2 The Nakajima models 172
   6.2.3 The interactions of subsistence and cash activities within the Samoan farm family 184
   6.2.4 Interpretation of the activities of a Samoan farm family using the models 194

7 FOOD SHORTAGES - TOWARDS A SOLUTION 198

7.1 The Basic Cause of Food Shortages 198
7.2 The Need for Self-Sufficiency 201
7.3 The Production and Marketing Structure of Staple Foods 206
   7.3.1 Consumers 206
CHAPTER 7.3.2 Intermediaries 209
7.3.3 Producers 212
7.3.4 The problems 213
7.3.5 Towards a solution 217

8 CONCLUSIONS AND COMMENTS 224

8.1 Economic Dualism and the Interactions of the Relevant Sectors in Western Samoa 224
8.1.1 Structural transformation within the economy 224
8.1.2 Transition from subsistence to commercial production within the family farm 227

8.2 The Relevant Development and Extension Approach 232
8.2.1 The current commodity-specific approach 233
8.2.2 The whole-farm approach 235

8.3 A Practical Application: Towards a Solution of Staple Food Shortages 236
8.3.1 Specialization 236
8.3.2 Marketing improvements 237
8.3.3 Research 238

BIBLIOGRAPHY 239
APPENDICES 245
SYMBOLS AND ABBREVIATIONS 251
<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Total Population and Population Growth, 1911-1971</td>
<td>3</td>
</tr>
<tr>
<td>1.2</td>
<td>Age Composition, 1961 and 1971</td>
<td>4</td>
</tr>
<tr>
<td>1.3</td>
<td>Gross Domestic Product by Sector, 1972</td>
<td>6</td>
</tr>
<tr>
<td>1.4</td>
<td>Distribution of Land in Western Samoa</td>
<td>8</td>
</tr>
<tr>
<td>1.5</td>
<td>Export Volume of Copra, Cocoa and Bananas, 1951-1973</td>
<td>9</td>
</tr>
<tr>
<td>3.1</td>
<td>Percentage of the Total Population in each Five Year Group under Matai and not under Matai in Western Samoa in 1966</td>
<td>40</td>
</tr>
<tr>
<td>4.1</td>
<td>The Availability of Land for Bush Fallow Cultivation in 1966</td>
<td>74</td>
</tr>
<tr>
<td>4.2</td>
<td>The Average Number of Hours Spent a Week per Adult Male in the Main Productive Activities: March-June 1966</td>
<td>78</td>
</tr>
<tr>
<td>4.3</td>
<td>Comparisons of Labour Surveys 1950, 1961 and 1966</td>
<td>79</td>
</tr>
<tr>
<td>4.4</td>
<td>Changes in Dependency Ratio of the Population by Region, 1951-1976</td>
<td>80</td>
</tr>
<tr>
<td>4.5</td>
<td>Types of Fertilizers, Landed Price, and Quantities Imported</td>
<td>82</td>
</tr>
<tr>
<td>4.6</td>
<td>Classification of Loans Approved by the Development Fund</td>
<td>83</td>
</tr>
<tr>
<td>4.7</td>
<td>Kind of Houses in Western Samoa</td>
<td>88</td>
</tr>
<tr>
<td>4.8</td>
<td>Incomes per Consumption Unit for Four Villages</td>
<td>105</td>
</tr>
<tr>
<td>4.9</td>
<td>Subsistence Income by Kind per Household</td>
<td>106</td>
</tr>
<tr>
<td>4.10</td>
<td>Monetary Income by Sources per Household</td>
<td>107</td>
</tr>
<tr>
<td>4.11</td>
<td>The Monetization Factor of Household Incomes</td>
<td>108</td>
</tr>
<tr>
<td>Table</td>
<td>Title</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>5.1</td>
<td>Gross National Cash Income</td>
<td>113</td>
</tr>
<tr>
<td>5.2</td>
<td>Income per Head</td>
<td>114</td>
</tr>
<tr>
<td>5.3</td>
<td>Per Head Income of Some Less Developed Countries</td>
<td>114</td>
</tr>
<tr>
<td>5.4</td>
<td>Gross National Income, Annual Growth Rate</td>
<td>115</td>
</tr>
<tr>
<td>5.5</td>
<td>Gross Domestic Product at Factor Cost</td>
<td>116</td>
</tr>
<tr>
<td>5.6</td>
<td>Gross Domestic Product, Selected Years</td>
<td>118</td>
</tr>
<tr>
<td>5.7</td>
<td>Exports: Quantity, Prices and Value</td>
<td>122</td>
</tr>
<tr>
<td>5.8</td>
<td>Summary Balance of Payments, 1970-1974</td>
<td>125</td>
</tr>
<tr>
<td>5.9</td>
<td>Statistics of Samoan Emigrants to New Zealand</td>
<td>127</td>
</tr>
<tr>
<td>5.10</td>
<td>Enterprises Granted Incentives by Year and by Sector, 1966-1974</td>
<td>128</td>
</tr>
<tr>
<td>5.11</td>
<td>Imports and Exports of Forest Products, 1970-1973</td>
<td>133</td>
</tr>
<tr>
<td>5.12</td>
<td>Production, Imports, Exports and Consumption of Sawn Timber</td>
<td>133</td>
</tr>
<tr>
<td>5.13</td>
<td>Forest Area and Merchantable Timber Volume</td>
<td>134</td>
</tr>
<tr>
<td>6.1</td>
<td>Wage Rate Changes Between 1942 and 1954</td>
<td>160</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Map and Location of Western Samoa in the South-West Pacific</td>
<td>2</td>
</tr>
<tr>
<td>2.1</td>
<td>The Two Levels of Economic Dualism in Western Samoa</td>
<td>32</td>
</tr>
<tr>
<td>3.1</td>
<td>Map of Upolu Island Showing Population by Political and Faipule Districts, 1966</td>
<td>42</td>
</tr>
<tr>
<td>3.2</td>
<td>Map of Savai'i Island Showing Population by Political and Faipule Districts, 1966</td>
<td>43</td>
</tr>
<tr>
<td>4.1</td>
<td>Regional View of Western Samoa with Contrasting Agricultural Characteristics</td>
<td>75</td>
</tr>
<tr>
<td>6.1</td>
<td>The Process of Economic Expansion</td>
<td>145</td>
</tr>
<tr>
<td>6.2</td>
<td>Fisk's Model of a Self-Subsistent Non-Monetary Family Farm in Isolation</td>
<td>165</td>
</tr>
<tr>
<td>6.3</td>
<td>The Effects of Changing Technology on the Production Function</td>
<td>170</td>
</tr>
<tr>
<td>6.4</td>
<td>Nakajima's Model of a Pure Commercial Family Farm Without a Labour Market (Model 1)</td>
<td>175</td>
</tr>
<tr>
<td>6.5</td>
<td>The Effect of a Rise in Asset Income on a Farm Family's Subjective Equilibrium</td>
<td>178</td>
</tr>
<tr>
<td>6.6</td>
<td>Nakajima's Model of a Pure Commercial Family Farm with a Labour Market</td>
<td>181</td>
</tr>
<tr>
<td>6.7</td>
<td>Types of Farm Families and Family Farms in Existence in the Traditional Village Economy</td>
<td>187</td>
</tr>
<tr>
<td>6.8</td>
<td>The Main Types of Activities for which Farm Family Labour is Required</td>
<td>193</td>
</tr>
<tr>
<td>7.1</td>
<td>The Levels of the Wages for Labour in the Monetary Economy and the Average Productivity of Labour in the Traditional Economy over Time (Idealised)</td>
<td>199</td>
</tr>
<tr>
<td>7.2</td>
<td>Marketing Structure of Taro</td>
<td>207</td>
</tr>
<tr>
<td>7.3</td>
<td>Marketing Structure of Bananas</td>
<td>208</td>
</tr>
</tbody>
</table>
CHAPTER 1
INTRODUCTION

1.1 The General Background

Western Samoa, an independent State situated in the Central South Pacific, comprises nine islands of volcanic origin, two of which - Upolu and Savai'i - account for almost its total land area of 1133 square miles. The most recent population census, 1971, enumerated a total population of 146,627 of which 30,261 or 20.6 per cent reside in the only urban area and capital, Apia, which is located on the island of Upolu. The balance of the population live in at least 250 coastal villages and sub-villages in the rural areas (Figure 1.1).

1.1.1 The population

The population ethnic composition is 88.9 per cent Samoan (of the Polynesian race), 10.1 per cent part-Samoans, 0.5 per cent Europeans and 0.5 per cent others. Western Samoa's population growth rate ranks amongst the highest in the world (Table 1.1). Since the 1920s, improved health services, adequate food and shelter, the nature of Samoa's institutions and culture, the freedom from wars and natural disasters, and the absence of individual or institutional restraints to reduce birth, have all contributed to the attainment and maintenance of a high population growth rate (Stace, 1956). This has resulted in a population structure where 73,840 or 50.4 per cent of the total population is under 15 years of age (Table 1.2).
FIGURE 1.1

MAP AND LOCATION OF WESTERN SAMOA IN
THE SOUTH-WEST PACIFIC
TABLE 1.1
TOTAL POPULATION AND POPULATION GROWTH
1911-1971

<table>
<thead>
<tr>
<th>Census Dates</th>
<th>Total Population</th>
<th>Average Annual Increase* Per Cent</th>
<th>Net Emigration</th>
<th>Average Natural Increase* Per Cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1911</td>
<td>38,084</td>
<td>0.41</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1921</td>
<td>37,157</td>
<td>-0.25</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1926</td>
<td>40,229</td>
<td>1.60</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1936</td>
<td>55,946</td>
<td>3.35</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1945</td>
<td>68,197</td>
<td>2.25</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1951</td>
<td>84,909</td>
<td>3.7</td>
<td>-610</td>
<td>3.6</td>
</tr>
<tr>
<td>1956</td>
<td>97,327</td>
<td>2.8</td>
<td>2,303</td>
<td>3.2</td>
</tr>
<tr>
<td>1961</td>
<td>114,427</td>
<td>3.3</td>
<td>3,368</td>
<td>3.9</td>
</tr>
<tr>
<td>1966</td>
<td>131,377</td>
<td>2.8</td>
<td>7,460</td>
<td>3.9</td>
</tr>
<tr>
<td>1971</td>
<td>146,627</td>
<td>2.2</td>
<td>8,970</td>
<td>3.5</td>
</tr>
</tbody>
</table>

* Since previous census.


(2) Data for 1911 up to 1936 were obtained from "Western Samoa - An Economic Survey", South Pacific Commission, Technical Paper No. 91, V.D. Stace, 1956.
### TABLE 1.2

**AGE COMPOSITION**  
1961 AND 1971

<table>
<thead>
<tr>
<th>Age Group</th>
<th>1961 Census (000)</th>
<th>Per Cent of Total</th>
<th>1971 Census (000)</th>
<th>Per Cent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>23.23</td>
<td>20.30</td>
<td>26.77</td>
<td>18.26</td>
</tr>
<tr>
<td>5-14</td>
<td>34.22</td>
<td>29.90</td>
<td>47.07</td>
<td>32.10</td>
</tr>
<tr>
<td>15-54</td>
<td>48.98</td>
<td>43.68</td>
<td>63.81</td>
<td>43.52</td>
</tr>
<tr>
<td>55-64</td>
<td>3.87</td>
<td>3.38</td>
<td>4.94</td>
<td>3.37</td>
</tr>
<tr>
<td>65 and over</td>
<td>3.12</td>
<td>2.73</td>
<td>4.04</td>
<td>2.76</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>144.43</strong></td>
<td><strong>100.00</strong></td>
<td><strong>146.63</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>


Consequently, the proportion of the population of working age (15 to 64 years) is low, 68,749 or 46.8 per cent.

#### 1.1.2 The economy

Economically, Western Samoa is experiencing a minor boom in its infant manufacturing, tourist and timber industries (Fairbairn, 1973). However, the potential in manufacturing is limited by Western Samoa's lack of minerals and raw materials, its geographical isolation from the metropolitan centres, its small

---

1 The various sectors of the monetary economy are considered in greater detail in Chapter 5.
domestic market, and the shortage of entrepreneurial and technical skills amongst its workforce. The exploitation of the economic potential of tourism is unlikely because of the cautious approach to its development by the Government of Western Samoa, whilst the continuity of a viable timber industry depends largely on the success of reafforestation programs on Samoan customary land which are not without problems (GWS²: Department of Agriculture, Forests and Fisheries,³ 1972). Moreover, the investors in these industries are confined to overseas interests and a handful of local European-Samoans with only token participation by indigenous Samoans (Fairbairn, 1973:121).

The estimate of the gross domestic product for 1972 in Table 1.3 describes the sectoral structure of the economy. Although the estimate of the subsistence component must be considered with caution, its large value of $11.3 million emphasises the importance of the village agricultural sector within the economy.

Village agriculture is and will continue to be the main source of livelihood for most Samoans. Almost three-quarters of the people live in the rural agricultural sector. Rural products (agriculture and forestry) represent over 80 per cent of Western Samoa's total exports. More importantly, village agriculture is crucial to the Samoans in the production of subsistence food, shelter and the other necessities of life (Fairbairn, 1973:5). Furthermore, of the total land area of the country, 80.5 per cent is Samoan

² Stands for the Government of Western Samoa.
³ From here on will be referred to as the Department of Agriculture.
TABLE 1.3
GROSS DOMESTIC PRODUCT BY SECTOR, 1972
($'000,000)

<table>
<thead>
<tr>
<th>Sector</th>
<th>1972 Gross Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>13.6</td>
</tr>
<tr>
<td>Forestry and Fisheries</td>
<td>1.4</td>
</tr>
<tr>
<td>Manufacturing and Power</td>
<td>1.2</td>
</tr>
<tr>
<td>Construction</td>
<td>2.3</td>
</tr>
<tr>
<td>Wholesale and Retail Trade</td>
<td>3.0</td>
</tr>
<tr>
<td>Hotel, Real Estate, Finance and Insurance</td>
<td>2.3</td>
</tr>
<tr>
<td>Transport and Communication</td>
<td>1.2</td>
</tr>
<tr>
<td>Government Services</td>
<td>3.0</td>
</tr>
<tr>
<td>Recreation and Other Services</td>
<td>2.2</td>
</tr>
<tr>
<td><strong>Total GDP (includes subsistence)</strong></td>
<td><strong>30.2</strong></td>
</tr>
</tbody>
</table>

GDP per capita $206

* Includes nominal quarrying activities.
# Includes electricity and water.
Ø Includes miscellaneous business services.
+ Includes international, personal and various private non-profit output.
† GDP estimates presented above to include very rough and approximate amounts for in-kind-consumption in the subsistence agriculture sector of $11.3 million. Gross capital formation is estimated at $6.7 million for 1972.

customary land, the control of which is vested in the village units under the custodianship of the matai (head of the extended family of aiga) (Table 1.4). In addition, the Government's concern with the growing distributive inequality of real income as between the rural and urban population in the face of industrial expansion whilst agricultural production stagnates makes the development of the village agricultural sector imperative.

The agricultural sector is predominant in the economy and problems such as underemployment land tenure and village development needs which (sic) loom large for this largely subsistence segment of the economy ... Problems in this sector mitigate or worsen economic prospects elsewhere (GWS: Department of Economic Development, 1974:2,55).

Agriculture is therefore crucial to the life, economy and future development of this island nation.

1.2 The Problem

Although agriculture continues to be the major source of export earnings, Western Samoa's traditional agricultural export products - copra, cacao, and bananas - are declining in importance. In absolute quantitative terms, exports of these products in recent years have been declining or stagnant (Table 1.5). On top of this, the production of adequate supplies of traditional staple foods (taro, bananas, breadfruit, etc.) for subsistence purposes and for the domestic markets has become increasingly problematical, culminating in serious nationwide shortages during 1973.
### TABLE 1.4

DISTRIBUTION OF LAND IN WESTERN SAMOA IN SQUARE MILES AND SQUARE KILOMETRES*

<table>
<thead>
<tr>
<th></th>
<th>Savai'i</th>
<th>Upolu</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Customary Land</strong></td>
<td>594.5</td>
<td>286.9</td>
<td>881.4</td>
</tr>
<tr>
<td></td>
<td>(1,539.8)</td>
<td>(743.0)</td>
<td>(2,282.8)</td>
</tr>
<tr>
<td><strong>Private Freehold Land</strong></td>
<td>6.2</td>
<td>74.0</td>
<td>40.2</td>
</tr>
<tr>
<td></td>
<td>(16.1)</td>
<td>(88.1)</td>
<td>(104.2)</td>
</tr>
<tr>
<td><strong>Western Samoa Trust Estates Corp. Land</strong></td>
<td>3.2</td>
<td>46.6</td>
<td>49.8</td>
</tr>
<tr>
<td></td>
<td>(8.3)</td>
<td>(120.7)</td>
<td>(129.0)</td>
</tr>
<tr>
<td><strong>Public (Government) Land</strong></td>
<td>57.9</td>
<td>65.8</td>
<td>123.7</td>
</tr>
<tr>
<td></td>
<td>(149.9)</td>
<td>(170.4)</td>
<td>(320.3)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>661.8</td>
<td>433.3</td>
<td>1,095.1</td>
</tr>
<tr>
<td></td>
<td>(1,714.1)</td>
<td>(1,122.2)</td>
<td>(2,836.3)</td>
</tr>
</tbody>
</table>

* Square kilometres in brackets.


1.2.1 Techno-organizational constraints on agricultural production

It has been shown that Western Samoa's labour and land resources are adequate for the production of both traditional food staples and export crops to support a viable economy which would supply the basic needs of its rapidly expanding population. However, the same studies also stated that this is possible provided traditional methods of production are adapted or replaced with the appropriate modern technological practices, and provided certain social and institutional constraints to economic development are modified or removed (Fox and Cumberland, 1962; Lauterbach and Stace, 1963, Lockwood, 1965).
### TABLE 1.5

**EXPORT VOLUME OF COPRA, COCOA AND BANANAS, 1951-1973**

<table>
<thead>
<tr>
<th>Year</th>
<th>Copra (tons)</th>
<th>Cocoa (tons)</th>
<th>Bananas (cased)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>14,619</td>
<td>3,212</td>
<td>62,912 @ 72 lbs</td>
</tr>
<tr>
<td>1952</td>
<td>17,037</td>
<td>2,488</td>
<td>65,590</td>
</tr>
<tr>
<td>1953</td>
<td>11,185</td>
<td>2,399</td>
<td>252,582</td>
</tr>
<tr>
<td>1954</td>
<td>13,664</td>
<td>3,743</td>
<td>276,135</td>
</tr>
<tr>
<td>1955</td>
<td>17,178</td>
<td>3,118</td>
<td>446,325</td>
</tr>
<tr>
<td>1956</td>
<td>13,581</td>
<td>3,338</td>
<td>294,887</td>
</tr>
<tr>
<td>1957</td>
<td>14,325</td>
<td>3,069</td>
<td>329,185</td>
</tr>
<tr>
<td>1958</td>
<td>10,077</td>
<td>4,209</td>
<td>884,555</td>
</tr>
<tr>
<td>1959</td>
<td>16,842</td>
<td>4,023</td>
<td>786,423</td>
</tr>
<tr>
<td>1960</td>
<td>14,585</td>
<td>3,721</td>
<td>564,023</td>
</tr>
<tr>
<td>1961</td>
<td>12,922</td>
<td>4,101</td>
<td>560,442</td>
</tr>
<tr>
<td>1962</td>
<td>12,806</td>
<td>5,258</td>
<td>761,500</td>
</tr>
<tr>
<td>1963</td>
<td>15,197</td>
<td>4,324</td>
<td>688,700</td>
</tr>
<tr>
<td>1964</td>
<td>15,301</td>
<td>4,480</td>
<td>647,500</td>
</tr>
<tr>
<td>1965</td>
<td>12,370</td>
<td>2,991</td>
<td>480,565</td>
</tr>
<tr>
<td>1966</td>
<td>14,017</td>
<td>2,723</td>
<td>61,983</td>
</tr>
<tr>
<td>1967</td>
<td>7,405</td>
<td>3,116</td>
<td>95,490</td>
</tr>
<tr>
<td>1968</td>
<td>12,623</td>
<td>2,587</td>
<td>94,327</td>
</tr>
<tr>
<td>1969</td>
<td>14,550</td>
<td>3,017</td>
<td>219,391 @ 72 lbs</td>
</tr>
<tr>
<td>1970</td>
<td>9,619</td>
<td>2,442</td>
<td>200,723 mixed</td>
</tr>
<tr>
<td>1971</td>
<td>17,781</td>
<td>2,890</td>
<td>247,631 @ 56 lbs</td>
</tr>
<tr>
<td>1972</td>
<td>18,722</td>
<td>1,912</td>
<td>94,334</td>
</tr>
<tr>
<td>1973</td>
<td>13,946</td>
<td>1,218</td>
<td>39,285</td>
</tr>
</tbody>
</table>

For some time now, it has been recognised that techno-organizational problems which are regarded as obstacles to increased agricultural production include social and institutional constraints. The most commonly cited of these is the lack of individual motivation to invest for purposes of increasing agricultural output because of the communal ownership of land and insecurity of tenure by the individual. Other examples of socio-economic and political problems associated with the Matai and land tenure systems include inefficiencies due to the lack of specialization because of the subsistence-oriented nature of production, the absence of economies of scale because of land fragmentation, and the considerable amount of time wasted and the enforced idleness of land associated with prolonged lands and titles disputes.

In addition, there are the more recent technical and managerial problems of agricultural production arising from the outbreaks of introduced plant diseases and pests, and the increasingly serious but select instances of soil exhaustion resulting from overcropping under continued application of the traditional technology. The latter of these problems is due to the localised instances of pressure of population on land and the slow dissemination of adaptive production methods compatible with the changing demands on land and labour.

These techno-organizational problems, together with fluctuating world prices for Western Samoa's traditional export crops and the unfavourable climatic effects (hurricanes of 1966 and 1968, drought of 1973) have expanded the list of obstacles for
agricultural production, thus further complicating the process of agricultural development (Fairbairn, 1973; GWS: 1975 Budget Statement).

1.2.2 The effects of economic structural transformation

Something that had not been anticipated, or perhaps seriously underestimated, by earlier studies as impediments to increased agricultural production is the accelerated structural transformation of Western Samoa's economy and the effects of this on an agricultural sector which was already constrained by numerous technical and institutional problems. Indeed, the need to diversify Western Samoa's economic base, by encouraging manufacturing and other secondary industries comprising a modern wage sector in addition to subsistence-commercial activities of the self-employed participants within the traditional agricultural sector, was considered essential for the development of Western Samoa's economy (Lauterbach and Stace, 1963). In view of a rapidly expanding population with growing aspirations and expectations, and the uncertainty in world prices of Western Samoa's major export crops, this need has become more urgent today as it was then.

However, whilst it is recognised that diversification through industrialization of the economy is the right action, it is now evident that the accelerated growth in the wage sector has stimulated a shift of the labour force out of the self-employed subsistence-commercial agricultural sector. Investment in industry has expanded the construction and other service sectors creating more demand for
labour. Furthermore, rising emigration to New Zealand and elsewhere has compounded this "rural-urban" shift of the labour force. Consequently, fewer of the economically active labour force are now left in the villages to produce the traditional export crops in addition to the production of traditional staple foods for subsistence purposes and a surplus for sale to the increasing numbers of local and overseas Samoans on wage employment.

In the face of this drop in the labour force within the village agricultural sector and the other problems enumerated above, it is not surprising that agricultural production for export has declined or remained static whilst that for subsistence purposes and for the domestic cash or exchange markets has not kept up with the increases in demand. In short, whilst the relative numbers of participants in the agricultural sector have fallen, the average productivity per labour unit engaged has not risen since, in the main, the traditional technology is still being used for agricultural production of both export and subsistence products.

1.2.3 The inter-relationships between subsistence and cash, and between these and other activities of the Samoan farmer

Another aspect of the general problem of increasing agricultural output in Western Samoa which has attracted little attention by earlier studies is the fact that the production for subsistence,

---

4 In this study, the meaning of the word "subsistence" is synonymous with such terms as "non-market", "non-cash" and "non-traded". It is used to define production which does not enter the market.
the domestic and export markets are normally undertaken by the same people. Associated with this is the fact that of the three major export crops, bananas are also a major traditional subsistence staple food whilst copra (but in different form) is an important and often essential and irreplaceable ingredient in many of the traditional Samoan food preparations. Some cacao is also consumed as a local beverage, in much the same way as imported processed cacao or tea is consumed. Moreover, taro, which is the major traditional subsistence staple food and local cash crop, is also becoming an important export crop with export values for 1973 in excess of that for bananas. Thus both subsistence and commercial crops and activities are intimately inter-related, so far as the Samoan farmer is concerned, in three very important respects:

(a) subsistence and commercial activities are undertaken concurrently by the same producers;

(b) export crops are also subsistence and commercial crops for the domestic market; and

(c) some traditional staple foods are also exported and some of these are direct substitutes - bananas, taro, breadfruit.

In addition to his subsistence and cash activities, the Samoan farmer must also participate in communal family or village activities of various kinds\(^5\) (Lockwood, 1971; Fairbairn, 1967). Herein lies the less obvious but probably the most important

\(^5\) These activities include fishing for subsistence and for sale.
component of the overall problem of increasing agricultural output in Western Samoa. Whilst the more visible techno-organizational and other physical obstacles which constrain needed increases in the production of food and crops for both export and agri-based processing industries are easily recognisable, and in fact, widely known or understood, the inter-relationships between subsistence and cash, and between these and other activities of the Samoan farmer, and their implications on the farmer's decisions as regards increasing the total or type of agricultural output, are not widely known or understood. Similarly, the inter-relationships between the subsistence and commercial value or importance of the major Samoan agricultural products, where these are produced for both export and for local consumption (as subsistence food or for the local exchange markets), and their implications on the Samoan farmer's production decisions and actions, are relatively obscure.

However, during Western Samoa's last two Five Year Plans (1965-70, 1971-75), those responsible for Western Samoa's agricultural development planning and its implementation concentrated almost all of their resources on promoting commercial activities associated with the production of export crops. This orientation in Government projects arose from, on the one hand, the need to accelerate the transition from subsistence to commercial activities in order to obtain increased output from specialisation and the efficient division of labour that come with commercialisation, and on the other hand, the need to earn foreign exchange. Consequently, scant attention was focussed on improving the production processing and
marketing of traditional staple foods for subsistence consumption and
the domestic exchange markets. Likewise, no importance was attached
to the complex and changing inter-relationships existing between
subsistence and commercial activities (and crops), and the implica-
tions of these on the farmers' response to the need to increase
agricultural output for food, export and agri-based industries.

1.3 Significance of the Study

In Western Samoa today, the general milieux of political,
socio-cultural, economic and technical problems provide a complex
and confusing background against which agricultural development needs
to be studied. Radical social reform is unacceptable but adaptations
are occurring within the traditional social system (Sutter, 1971:26);
technical agricultural production problems are increasing but many of
their solutions are known or can be found; overcoming these problems
requires capital resources and knowledge of the "new technology" - many
of which Western Samoa is deficient, but finance can be secured for
their acquisition.

In addition, whilst some aspects of the traditional Samoan
social system limit economic development, it must also be acknowledged
that the traditional Matai system whereby the economic, political and
social activities of most of the Samoan people are firmly rooted in
the Aiga and the village unit, has many virtues. It would be
desirable to retain them if possible, even if modified to some extent,
for the purposes of development. Within the Aiga under the Matai
system, care is provided for the young, the old, the sick, and the
handicapped as well as the unemployed. There is no need for costly orphanages, homes for old people, institutions for the handicapped or the provision of unemployment benefits and old age pensions in Western Samoa (McKay, 1968). The Government has established a National Provident Fund, but as much as it assures economic security for those on wage employment in their old age, the NPF is also an important device for mobilising savings for investment in economic development. In any event, the modern wage sector still represents a minority and furthermore, wage employees continue to assist members of their Aiga according to Samoan custom and tradition when the need arises.

On a wider social scale, the communal ownership of land prevents the development of many problems, including that of landless people being exploited by a small minority land-owning class as is so often the case in many less developed countries. Each village and district has a council with authority, according to custom and tradition, to make and enforce regulations for the betterment of life in the villages and districts. Thus, the need and cost to the Government of a large police force to maintain law and order in the rural areas is kept to a minimum. Similarly, the establishment and operation of the women's committees has reduced the need to expand costly health services. Furthermore, the traditional Matai system is in many ways capable of adaptation for purposes of modern economic development. Impressive examples of self-improvement from such adaptations include the voluntary construction of village schools, hospitals, and roads, as well as electrification and piped water system, using village resources, together, where necessary, with technical advice and assistance from the Government (Lauterbach and Stace, 1963).
1.4 Objectives of the Study

This study is an attempt to obtain a clearer understanding of the framework within which development is taking place in the economy of Western Samoa. The following are its objectives:

(1) To define and describe the structure of the economy of Western Samoa, and with the help of a theoretical model, analyse the process of structural transformation and its implications on labour movements and agricultural output.

(2) To define a Samoan farm family and with the help of some theoretical models analyse the interactions of their subsistence monetary activities and the effects of these on the behaviour of the farm family towards (a) increasing agricultural output for subsistence consumption or for sale, and (b) the labour market.

(3) To describe the context within which a Samoan farm family operates and the implications of this on how Government resources can best be used to increase agricultural output to meet the requirements for food, export and agri-based industries.
CHAPTER 2

DUALISM IN WESTERN SAMOA

The major concern of this chapter is to resolve the definitional problems of dualism, and to establish the nature of its existence within the context of the economy of Western Samoa. Chapter 6 will deal more specifically with the theoretical interpretations of economic dualism and the interactions of the economies described in Chapters 4 and 5.

2.1 Dualistic Analysis in Perspective

Historically, the classical, neo-classical and Keynesian theories of economic growth evolved out of the analysis of the development process as experienced by modern capitalist economies of the developed countries. Contemporary economic analysis as applied to these economies consists of an integration of the "new economics" based on Keynes' work and classical economics.

This integration has resulted in a new consensus regarding the broad monetary and fiscal policy measures appropriate to the achievement of relatively high rates of economic growth in modern capitalist economies. (Ruttan, 1965:18)

However, the direct application of contemporary economic analysis in the form of change and growth models, whether they be the "Keynesian" or "neo-classical" frameworks (Jorgenson, 1961:321), to the problems of less developed countries has not been as effective as anticipated in providing the knowledge and insights with which
development practitioners (policy makers and planners) can solve the development problems of less developed countries. There are many reasons for this but the main one is that the economies of less developed countries differ considerably from those of developed countries with respect to the assumptions concerning their institutional frameworks and their behavioural relationships (Seers, 1962, 1963; Myint, 1967; Lewis, 1954).

The development economist's task is made difficult not because he must start afresh with a completely new set of tools or because he confronts wholly different problems, but because he must acquire a sense of the different assumptions that are appropriate to analysing a problem within the context of a poor country. (Meier, 1970:88)

Consequently, alternative theories of change and growth incorporating assumptions about the specific conditions prevailing in less developed countries have been propounded with the common objective of providing insights needed by development practitioners in solving the problems confronting less developed countries.

It appears that at this point of time, no one theory of change and growth has emerged as a worthy candidate for the basis of a "new development economics". Although all share the common problem of poverty, the existence of extreme diversity in the environments of less developed countries themselves precludes the development of a universally acceptable general theory of development.

The general concensus amongst development economists seems to be the need to avoid improper over-generalisation. One way of avoiding this is by developing a degree of generalisation which
adheres to a comparative analysis of development based on some common typology. Less developed countries may then be grouped according to certain common and over-riding characteristics. Although a comprehensive typology has not emerged, two types or approaches seem to have attracted most attention - the "growth stage" or "leading sector" approach, and the "two sector" or "dual economy" approach.

2.1.1 Growth stage or leading sector approach

In his review and evaluation of the potential contribution to agricultural development policy of some of these approaches¹, Ruttan concluded that the major contribution of growth stage theories was that they highlighted the very important and crucial role of the agricultural sector in the overall development process. However, the basic limitation of the growth stage approach is that "it substitutes a search for economic doctrine in the form of historical generalisations for the development of analytical power" (Ruttan, 1965:31-2).

With respect to general economic development and following Rostow's terminology, growth stage theories are considered useful so far as they suggest that aid/investment should be provided during the "pre-take-off" stage in order to get the economy of a less developed country to the "take-off" stage. On a sectoral level, this aid/investment should be invested in leading sectors, whether they be agriculture, mining, manufacturing, etc. Promoting the growth of the leading sector would stimulate - through forward, lateral and backward

---

¹ The List industrial fundamentalism approach; the Fisher-Clark industrial transformation approach; the Rostow leading sector approach; and the elaboration of these approaches as guides for agricultural development policy by Schultz, Johnston and Mellor, and others.
linkages - the economic growth of the other sectors of the economy. Once this is achieved, sustained economic growth becomes more or less automatic, and aid/investment becomes less of a necessity.

However, the identification of exactly what factors were responsible for "take-off" into sustained economic growth tended to be vague, ambiguous and incomplete. Moreover, growth stage theories suffer from over-generalisations so that they can be made to fit any past growth situation. In short, growth stage theories are not much help in solving specific development problems of particular economies.

2.1.2 Two-sector or dual economy approach

The existence of a dual economy is evident in most less developed countries. The following is Meier's succinct description of a dual economy and its implications on development.

Although only a relatively few countries have entered into a process of self-sustained growth most of the poor countries do exhibit some elements of modernisation in one sector or in part of their economies. In many countries, a modern economy had developed alongside a traditional indigenous economy, resulting in what is termed a 'dual economy'. The contrast in economic and social organisation between the advanced exchange economy and the backward indigenous economy is one of the most striking - and puzzling - characteristics of a poor country. Since the country's future development necessarily entails the spread of the modern money economy, any effort to accelerate the country's rate of development must deal with the problem of dualism. (Meier, 1972:121)

In attempts to analyse the problems of dualism, two main streams of dualistic thought can be distinguished - social dualism (Meier, 1972:122) and latter day dualism (Barber, 1970:35). The
latter I have called economic dualism for the sake of brevity and in order to emphasise the difference in the assumptions of the two approaches.

Social dualism is the earlier stream of dualistic thought which stems from the work of Boeke and other Dutch economists based on their analysis of Indonesian development. According to Boeke:

Social dualism is the clashing of an imported social system with an indigenous social system of another style. Most frequently the imported social system is high capitalism. But it may be socialism or communism just as well, or a blending of them. (Boeke, 1953:3)

Social dualism emphasises, on the one hand, the overriding importance of the socio-cultural aspects within the traditional indigenous society, and on the other, the predominance of economic factors within the imported modern society in moulding diverging patterns of behaviour.

According to Boeke, the traditional society was organised primarily to satisfy social needs rather than economic ones of its members. Because of this dominance of social over economic needs, members of a traditional society behaved in an economically "irrational" manner. By contrast, the actions of members of a modern society were motivated by the need for economic maximisation. Furthermore, Boeke believed that any fundamental change in the behaviour patterns of the indigenous society was unlikely, or if it was possible, it would take a considerable time. For these reasons Boeke considered that conventional economic analysis of the Western type would be inapplicable to the study of the indigenous social system.
Given these circumstances, Doekc concluded that there was very little possibility of effectively integrating the two social systems. Any attempts to advance the imported modern social system for purposes of promoting rapid economic development would lead to the disintegration of the values and the destruction of the institutions of the traditional society. Since Boeke considered that the two social systems were immutable, he advocated dual policies for their separate development.

The latter-day stream of dualistic thought concurred with Boeke's views on only one fundamental point - the adoption of an economic method of analysis which recognised that a significant dichotomy, or dualistic state, prevailed within the economic structures of most less developed countries. Other points emphasised by Boeke, including those mentioned above, were rejected as erroneous, over-generalisations and exaggerations (Higgins, 1968 Revised Edition; Itagaka, 1968:148). In spite of these criticisms, Boeke's contribution is considered important in that it focussed attention on the problem of dualism:

... but it is appropriate to emphasise that Boeke discovered and analysed a complex of problems which scholars before him had passed by unaware. His great merit was that by positing his theory of dualism he directed the attention of scholars ... to a terra incognita, and in so doing helped to create a basis for the better understanding of economic life in the underdeveloped areas of the world. (Wertheim, 1961:29)

Economic dualistic thought focusses its attention more on purely economic features and less upon sociological aspects,
particularly with respect to the effects of a dual economy on the pattern of development. Proponents of economic dualism consider members of indigenous societies to be as rational in their economic behaviour as people in modern societies. The seemingly irrational economic actions of indigenes are attributed to hitherto widespread misconceptions. One of these was the mistaken assumption that a highly monetised economy existed in less developed countries (Fisk, 1974).

Recent micro-analysis of traditional societies suggests that indigenes do act rationally but within a broader socio-economic context (Fairbairn, 1964; Lockwood, 1965). With such a wider and more complex framework, the inter-connections between monetary and non-monetary activities and the effects of traditional institutional arrangements contribute towards the underlying rationale of economic responses by indigenes which may be perceived as puzzling by those economists whose frames of reference are of a highly interdependent monetised economy.

Two approaches to the analysis of economic dualism can be distinguished. One is the classical approach which stems from and follows Lewis' pathbreaking article "Economic Development with Unlimited Supplies of Labour" (1954). "A Theory of Economic Development" by Fei and Ranis (1961) is also of this approach. The Neo-Classical approach is associated with the work of Jorgenson "The Development of a Dual Economy" (1961). The main difference between these approaches is in the assumptions of conditions governing the supply of labour to the advanced sector. Fei and Ranis, and Lewis assume, like the Classical economists, that in a less developed
country an unlimited supply of labour is available at a fixed real wage. On the other hand, Jorgenson makes the neo-classical assumptions that "the productivity of labour in agriculture is always positive so that labour is never redundant. Secondly, it is assumed that the real wage rate is variable rather than fixed; wage rates in the backward sector are assumed to be proportional to those in the advanced sector" (Jorgenson, 1970:330).

In Chapter 6 further discussion of these two approaches and their relevance to the conditions existing in Western Samoa will be pursued. Here our purpose has been to place dualistic analysis in perspective to the other theories of change and growth.

2.2 Dualism in Western Samoa

Expressions of dualism appear to permeate not only Samoan traditional concepts of authority and thought but also its present political status and current economic structure.

On dualism in Samoan traditional society, McKay (1968) had this to say:

Concepts of dualism pervade much of Samoan thought. Unitary authority is rare. A chief, having secured his own family's approval, must then obtain his orator's support for his judgements, as they in turn will need his backing for theirs. A district chief sits symbolically opposite rather than over his circle of supporting chiefs. The Aiga groups supporting Tupua and Malietoa are the largest in numbers, and at most times high office has been shared between their two leaders. In any issue of special importance the people's representatives must refer back to their electors who are termed the puletua, i.e. (broadly) 'the authorities at home'. The issue of a command is never complete until the person commanded has answered with cheery consent.
And so a dualism runs throughout; there are Tupua and Malietoa; Pule and Tumua; the Government and the puletua; chiefs and orators; and of course men and women. (McKay, 1968:12)

In his major work on the political evolution of Western Samoa from rudimentary independence in relative isolation to independent nationhood, Davidson (1967) referred to the existence, side by side, of two forms of political authority which are still current today:

Although the Samoans had gradually come to accept the need for a central government organised on modern lines, their commitment to a system of district and village government based on custom had continued virtually undiminished. (Davidson, 1967:262)

Economic dualism in Western Samoa is obvious but is difficult to define. The difficulty arises because in dualistic analysis the relevant sectors can be defined in a variety of ways (Barber, 1970:36). For instance the relevant sectors have been variously defined as the capitalist versus the subsistence (Lewis, 1954); the agricultural versus the industrial (Fei and Ranis, 1964); the modern versus the traditional (Hirschman, 1958); or the monetised exchange sector versus the subsistence sector (Fisk, 1964).

2.2.1 The evolution of the dual economy

Prior to Samoan-European contact the Samoans produced all that they required for sustenance. The lack of trade and the absence of methods for preserving food suggest that Samoans were indeed self-sufficient. Moreover, the traditional exchange of gifts based on a
system of inter-personal reciprocity (rather than trade) suggests that Samoans produced a surplus of what they required for sustenance.

The Europeans when they came brought exotic goods with them and introduced the concept of trade to the Samoans. Initially, trade was through barter but was soon replaced by the use of money and a pricing mechanism. This development facilitated and expanded trade. Trade was further accelerated with the improvement of communications, within Samoa itself and between it and the outside world.

Initially, cash was obtained by producing and selling a surplus of what the Samoans were already producing for subsistence purposes - coconut oil then copra. Later, new cash crops were introduced with mixed results - rubber, cotton, coffee, cacao, bananas, etc. An additional source of cash income was introduced to the Samoans in the form of wage employment. Wage employment became available on commercial plantations, in commerce, and, later, in colonial government administrations and church missions. Since then the Samoan economy has more or less developed into a dual economy of wage-earners within the modern monetary sector and the self-employed farmers within the subsistence based village agricultural sector.

However, within an extended family, some members may work for wages on a permanent basis whilst others may be self-employed on family lands. On occasion members working on family lands may take on casual wage employment. On the other hand, members who are permanently employed in the wage sector may also work on the family lands, as for example during holidays or weekends. For these reasons,
in practice, the wage earners are not wholly divorced from the subsistence based sector nor the self-employed farmers from the modern monetised sector.

Economic production within the modern monetary sector is based on the organisation, financing and administration of productive resources using economic concepts and institutions imported from abroad. Such an economy is heavily dependent on external trade and investment. The medium of exchange is money and the major objective of production is the maximisation of profit. For the individual his income is his own to be disposed of as he wishes. In short, the characteristics of this sector resemble those of more advanced countries. In contrast, the organisation of production within the village agricultural sector is undertaken using traditional techniques with management by an administrative authority based on tradition and custom. The incomes, either in cash or kind, of the individual members of an extended family are usually pooled and distributed according to custom. Traditional techniques require very little capital; land and labour being the major resources used for production.

In this conception of economic dualism which is based on the differences in the conditions of production between the relevant sectors, the identification of the modern monetary sector is not difficult to grasp. The problem arises in the conceptualisation and definition of the village agricultural sector. Its description given above is an ideal one, and does not fit the present status of the village agricultural sector. It is relevant to a time and place
when Samoa was isolated from the rest of the world. Then, there was a low man-to-land ratio and a limit to the demand for material goods and services above what was sufficient to provide for subsistence. The major objective, then, was probably to provide sufficient food and adequate shelter with perhaps a surplus for traditional exchanges of gifts and ceremonial goods.

Today, the agricultural sector is in a state of transition. Contact with the rest of the world has enormously expanded the range and variety of goods and services now available to the Samoans. The rise in demand for these has been met by the production of cash crops, in addition to the normal production for subsistence purposes. Initially, the production of cash crops was obtained by the mobilisation of surplus labour and land resources, using in the main the traditional technology; and latterly by the use of land and labour in combination with the "new technology" in the form of fertilisers, fungicides, insecticides, etc. Thus, within the agricultural sector itself, a dualism has arisen as between non-monetary (or subsistence) production and monetary (or commercial) production.

2.2.2 Concepts of dualism appropriate to Western Samoa

In a temporal sense an economy in the process of development can be regarded as progressing from a purely subsistence stage, through a subsistence monetary two-phase stage with subsistence and then monetary activities dominant, and finally a purely monetary stage. However, this natural evolutionary process is often by-passed by the imposition of a modern monetary sector within the economy of a less
developed country. Under these circumstances, and in a spatial sense, a modern monetary sector may be found as "enclaves" existing side by side with an indigenous sector in a stage of transition.

It is now uncommon to find an economy in a purely subsistence stage. A pure monetary economy does not as yet exist. In practice, economies are usually subsistence-monetary with either one or the other of these activities dominant (Fisk, 1964).

The economies of most developed countries are highly monetised, although some degree of subsistence production exists, particularly in the rural sectors of their economies. In less developed countries the proportion of subsistence production is quite high (Abercrombie, 1965). Thus, in most less developed countries the subsistence and monetary sectors coexist and this is sometimes referred to as a dual economy.

In Western Samoa today the modern monetary sector of the economy is represented by the commercial, government, manufacturing, tourist and missions sectors (Fairbairn, 1973). On the other hand, the agricultural sector is in part wholly monetary but is largely subsistence-monetary. What is collectively called the "other agriculture" - WSTEC\(^2\) and other European type plantations - operate within the modern monetary sector. Village agriculture represents the subsistence-monetary sector. Thus, when one refers to the "subsistence sector" one is technically considering the mixed subsistence-monetary sector but referring to the subsistence production within it.

\(^2\) Western Samoa Trust Estates Corporation.
An additional distinction between "other agriculture" and village agriculture within Western Samoa is the fact that "other agriculture" usually employs labourers for wages. Also very little, if any, subsistence production takes place within "other agriculture". In most cases, farmer operators within "other agriculture" have access to credit, either from the trading bank or from business firms which buy their produce.

The overall agricultural sector is composed of "other agriculture" employing 5.6 per cent of the economically active male population, and village agriculture with 71 per cent. In terms of land area "other agriculture" controls about 8 per cent in contrast to 80.5 per cent by village agriculture. "Other agriculture" is thus relatively small.

Economic dualism in Western Samoa can thus be conceived of as operating at two levels (see Figure 2.1). In the first place, the demarcation of the relative sectors can be based on whether modern technologies or traditional ones are used. Following this conception of dualism we can define the relevant sectors in the economy of Western Samoa as the traditional village agricultural sector and the modern sector. In Western Samoa the word "modern" can just as well be replaced with the word "wage", since most production within the traditional village agricultural sector is undertaken by self-employed farmers and all that outside of it by wage earners.

---

3 Including the "other agriculture" component of the agricultural sector.
FIGURE 2.1
THE TWO LEVELS OF ECONOMIC DUALISM
IN WESTERN SAMOA

Notes:
(1) The demarcation between the Modern Monetary and the Traditional Village Economies is based on the differences in their production technologies and distribution of income.

(2) The division between monetary and non-monetary activities arises because of the subsistence-commercial nature of the Samoan family farm.
In another conception of economic dualism, the relative sectors can be defined as the monetary and non-monetary or subsistence sectors. The modern or monetary sector contains individuals who are dependent for all or a major part of their livelihood on a cash income. For this reason they can be regarded as operating wholly within the monetary exchange sector. Within the traditional village agricultural sector, on the other hand, the majority of the individuals are self-employed, depending on subsistence production for a major part of their livelihood, supplemented with a cash income from the sale of cash crops or their services. When defined in this way, dualism reaches right down into the traditional village agricultural sector. It can be used to measure the extent of monetisation (the extent of monetary to non-monetary activities) within this sector.

In one estimate of national income for Western Samoa the value of the subsistence component of the overall agricultural sector was considerable (Table 1.3, Chapter 1). In this case it was estimated to be $11.3 million. In contrast, the monetary component was only $2.3 million, most of which derives from the traditional village agricultural sector. These were only crude estimates.

As is the case in most developing nations with a large non-monetised sector, these GDP estimates are particularly speculative and all information (in Table 1.3) ... are to be used and regarded with great caution. (GWS, Department of Economic Development, 1974:16)

Nonetheless, the estimates provide a general indication of the very substantive value of subsistence production within the village agricultural sector.

4 In practice this is not the case in Western Samoa since many wage earners supplement their income with some subsistence production.
2.2.3 Dualism and development in Western Samoa

The first report of the 1974-79 economic development plan entitled "National Goals, Development Priorities and Public Expenditure Policies" expresses, in some detail, the national goals and development priorities of Western Samoa.

The report implicitly recognised the existence of dualism, based on economic production conditions, between the traditional village agricultural sector and the modern wage sector of the economy.

Despite the fact that the economic development of villages has been a focal point of public sector interest for a period of years the economic status of rural Samoans dependent upon village agriculture remains much like it was a decade ago. The conditions of life are typified by low productivity, low incomes relative to the urban area in Apia, subsistence oriented production and consumption, and substantial underemployment of human resources. (GWS, Department of Economic Development, 1974:55)

It explicitly recognises, on the other hand, the intersectoral connections between the traditional village agricultural sector and the modern wage sector:

The number of people expected to look for jobs during the plan period who will go into agriculture will be determined, as in the past, by the rate of expansion of productive outlets in other sectors - village agriculture absorbing the residue ...

Changes in the structure of employment will continue over the plan period, reflecting the sectoral development of manufacturing, construction, commerce and tourism ... The 1971 census indicated that almost all unpaid or own-account workers (22,700) worked less than 15 hours a week, and 66 percent of the labour force worked less than 35 hours a week. There is, therefore, a considerable underutilisation of Samoan labour. The potential for increasing productivity
(particularly in the subsistence agricultural sector) through movement of those already in the labour force into more productive employment is vast. (GSW, Department of Economic Development, 1974:25)

To sum up, the report considers that the traditional village agricultural sector represents, firstly, a reservoir of labour for the more productive modern wage sector within the economy; and, secondly, a potential source of employment for some two-thirds of the Samoan population, provided its productive capacity can be increased.

The report places great emphasis on the need to increase the productive capacity of the traditional village agricultural sector. This is understandable since the economy of Western Samoa is dependent upon agriculture as a major source of employment, foreign exchange earnings and food.

In considering the traditional village agricultural sector the report recognises the existence of a large subsistence component of the sector's income but dwells almost exclusively on projects and actions whereby the monetary component of the sector's income can be expanded. Thus to stimulate the productive capacity of the sector, the report envisages the expansion of credit facilities; the introduction of an income tax holiday for agricultural and related production enterprises; the extension of agricultural access roads; the creation of an agricultural store to guarantee the availability of necessary imports at reasonable prices to farmers; and the provision of water supply. These are in addition to the continuation and expansion of agricultural projects included in Appendix 1.
Understandably, from the point of view of earning foreign exchange, all of these action proposals are concerned with expanding the monetary component of the sector's income by the increased production of commercial crops for export and the domestic cash markets. The production and marketing of traditional staple foods and other subsistence needs are rarely, if ever, mentioned. Apart from the assertion that revitalisation of the banana industry is "needed both to maintain a sufficient supply for local consumption and to increase export earnings" (page 61), it appears that the report is tacitly assuming that the process of producing for export would automatically fulfill the requirements for the production and distribution of traditional subsistence food crops for domestic consumption (on the farm and market). This may have been true for bananas in the past, and for coconuts even now, but for reasons which will become obvious later, bananas can no longer be grown by the majority of Samoans.

It is quite obvious therefore that whilst it recognises the existence of a large subsistence component in the income of the traditional village agricultural sector, the report concentrates on how to expand the monetary component to the exclusion of the subsistence component which is of more critical importance to the rural Samoans. In other words, the report recognises the existence of dualism within the traditional village agricultural sector as between monetary and non-monetary (or subsistence) activities but completely ignores the very important role of subsistence production and the implications of its interconnections with monetary production.
Subsistence production by Samoans is directly competitive with export supply. This applies not only to the utilisation of land and labour which could alternately be used for cash cropping, but also to output of these products for which a cash market exists. (Fairbairn, 1963:4)

From this discussion so far, it is patent that the conventional national income accounting technique of sectoralising the economy into monetised segments, as it is applied to more advanced economies (where insignificant subsistence production can be ignored), is inadequate when used in economies where subsistence production is of major significance. In order to get a more accurate picture of the national income in a less developed economy, additional supplementary information is needed for estimating the substantive subsistence component of total income within the indigenous sector.

In Western Samoa today the social, political and economic activity within the village, based on custom and tradition, goes on almost independently of the rest of the economy. To be denoted as the village agricultural component of the overall agricultural sector may be necessary for purposes of national income accounting. In practice the village agricultural component is in fact an independent economy in its own right, not a segment of a larger economy. It functions according to modern economic concepts and expectations when allowed to do so by its own sets of rules - rules based on custom and tradition which differentiate its economic processes from the rest of the economic system. In Western Samoa, the village agricultural sector is, indeed, the traditional village economy (Lockwood, 1971).
CHAPTER 3

THE TRADITIONAL SOCIETY

The major concern of this chapter is to outline the Samoan traditional society, for it provides the framework within which problems of economic development must be analysed and relevant proposals and action programs for their solution implemented.

In so far as Samoan society is in a state of flux, this chapter considers the adjustments the traditional society has undergone, consciously planned or otherwise, in response to the impact of the monetary system and the other Western influences.

In the villages and districts where 79.4 per cent or 116,366 of the total population reside (1971 census), village and district government based on Samoan custom and tradition continue to impose a strong controlling influence on the lives of each individual. Today, even within the villages included in the Apia "urban area" (where the balance of the population lives), the traditional authority of the Matai exerts a considerable degree of influence. Wherever it is found to be functioning, the traditional authority of the Matai often supplements or complements but sometimes opposes that of the

---

1 Detailed descriptions of Samoan traditional society may be found in Davidsom (1967) and Gilson (1970) from which much of this outline was drawn.

2 There is not in Western Samoa a population which meets the requirements of the generally accepted definition of "urban". The Apia urban area is the closest approximation to it. It is composed of 50 villages more or less loosely tied together (Population Census, 1966:3).
Government which is based on Western political and administrative concepts (Davidson, 1967:262-315). Table 3.1 shows that, in 1966, 96.6 per cent of the population of Western Samoa was under the authority of the Matai.

Thus, without a knowledge of the major characteristics of the traditional society, its organization and its operation, an understanding of the functioning of the traditional village economy, and indeed the Samoan economy as a whole, would be incomplete if not impossible.

3.1 Organization and Operation

The basic social unit in Western societies is the biological or nuclear family, whereas in Samoan society the extended family forms the basis of the social system.

The main type of agricultural production units in Western societies are usually family operated farms where the owner-operator has security of tenure over the land, either as a freehold or leasehold property. As such it can be legally alienated, mortgaged, or taken in payment for debts. On the other hand, the major unit of agricultural

---

3 In the Apia urban area the central government is represented by the Police in the maintenance of law and order and by the Public Works, Health and other government functional departments which perform many of the functions normally associated with a city council which Apia lacks. In the rural areas the Prime Minister's, Agriculture, Education, Health, Public Works, Lands and Survey, and other departments deal directly with the Matai authority but on matters within their own areas of responsibility.
### Table 3.1

**Percentage of the Total Population in Each Five-Year Group Under Matai and Not Under Matai in Western Samoa in 1966**

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Under Matai</th>
<th></th>
<th></th>
<th>Not Under Matai</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Male</td>
<td>Female</td>
<td>Total</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>All Ages</td>
<td>96.6</td>
<td>96.8</td>
<td>96.5</td>
<td>3.4</td>
<td>3.2</td>
<td>3.5</td>
</tr>
<tr>
<td>0-4</td>
<td>97.3</td>
<td>97.5</td>
<td>97.1</td>
<td>2.7</td>
<td>2.5</td>
<td>2.9</td>
</tr>
<tr>
<td>5-9</td>
<td>97.3</td>
<td>97.5</td>
<td>97.1</td>
<td>2.7</td>
<td>2.5</td>
<td>2.9</td>
</tr>
<tr>
<td>10-14</td>
<td>96.7</td>
<td>96.9</td>
<td>96.5</td>
<td>3.3</td>
<td>3.1</td>
<td>3.5</td>
</tr>
<tr>
<td>15-19</td>
<td>95.4</td>
<td>95.9</td>
<td>94.9</td>
<td>4.6</td>
<td>4.1</td>
<td>5.1</td>
</tr>
<tr>
<td>20-24</td>
<td>96.2</td>
<td>96.1</td>
<td>96.4</td>
<td>3.8</td>
<td>3.9</td>
<td>3.6</td>
</tr>
<tr>
<td>25-29</td>
<td>96.3</td>
<td>96.5</td>
<td>96.1</td>
<td>3.7</td>
<td>3.5</td>
<td>3.9</td>
</tr>
<tr>
<td>30-34</td>
<td>96.4</td>
<td>96.0</td>
<td>96.9</td>
<td>3.6</td>
<td>4.0</td>
<td>3.1</td>
</tr>
<tr>
<td>35-39</td>
<td>96.4</td>
<td>96.5</td>
<td>96.4</td>
<td>3.6</td>
<td>3.5</td>
<td>3.6</td>
</tr>
<tr>
<td>40-44</td>
<td>95.7</td>
<td>95.9</td>
<td>95.5</td>
<td>4.3</td>
<td>4.1</td>
<td>4.5</td>
</tr>
<tr>
<td>45-49</td>
<td>96.9</td>
<td>97.0</td>
<td>96.2</td>
<td>3.1</td>
<td>3.0</td>
<td>3.3</td>
</tr>
<tr>
<td>50-54</td>
<td>96.3</td>
<td>96.5</td>
<td>96.1</td>
<td>3.7</td>
<td>3.5</td>
<td>3.9</td>
</tr>
<tr>
<td>55-59</td>
<td>96.3</td>
<td>96.2</td>
<td>96.4</td>
<td>3.7</td>
<td>3.8</td>
<td>3.6</td>
</tr>
<tr>
<td>60-64</td>
<td>96.2</td>
<td>95.8</td>
<td>96.6</td>
<td>3.8</td>
<td>4.2</td>
<td>3.4</td>
</tr>
<tr>
<td>65-69</td>
<td>96.5</td>
<td>96.9</td>
<td>96.1</td>
<td>3.5</td>
<td>3.1</td>
<td>3.9</td>
</tr>
<tr>
<td>70-74</td>
<td>96.4</td>
<td>97.2</td>
<td>95.8</td>
<td>3.6</td>
<td>2.8</td>
<td>4.2</td>
</tr>
<tr>
<td>75+</td>
<td>96.8</td>
<td>95.2</td>
<td>96.8</td>
<td>3.2</td>
<td>4.8</td>
<td>3.2</td>
</tr>
</tbody>
</table>


Production in the Samoan society is, ultimately, the extended family. Under the direction of its head or Matai the extended family operates the customary lands appurtenant to its traditional title in the interests of all family members. This effectively prohibits the individual use and development of land. Lately, however, this rigid
traditional communal use of land is being relaxed but within the Matai system as will explained under Section 3.2.

Today, under the existing laws, customary land is vested in the Matai as custodian on behalf of present and future members of the family. Thus, land cannot be alienated, mortgaged or used for payment of debts. However, the leasing of customary land is permitted, but only between Matai.

Several extended families, each under the authority and control of a Matai, may comprise a village which in itself is a self-contained economic and socio-political community. Formerly, Samoa lacked a central national government, although it had well established Political Districts. Since contact with the West, the need to establish a central government to protect their interests against outside interference and exploitation was quickly recognised by the Samoans. Through their stubborn resistance to foreign domination and active agitation for self government, the Samoans pressured both the German and New Zealand administrations into fostering the development of a national central government.

Today, with imposition from outside the traditional political system but endorsed by the Samoans themselves, several villages make

---

4 Farm Families as I have defined them under Section 6.2.3, Chapter 6, are also called aiga. These aiga may be headed by a Matai or an un­ titled person. All, however, come together under the authority of the senior Matai of the larger extended family group. The word aiga, therefore, refers to several levels of family organization. Its exact meaning is understood from the context in which it is used. Its usage in this study refers to the extended family under the senior Matai.

5 Refer to Figures 3.1 and 3.2 and Section 3.1.3.
FIGURE 3.1

MAP OF UPOLU ISLAND SHOWING POPULATION BY POLITICAL AND FAIPULE DISTRICTS, 1966
FIGURE 3.2
MAP OF SAVAI'I ISLAND SHOWING POPULATION BY POLITICAL AND FAIPULE DISTRICTS, 1966

POLITICAL DISTRICT BOUNDARIES
FAIPULE DISTRICT BOUNDARIES
up a Faipule District, the equivalent of an electorate in Western
countries. From the Faipule Districts, members of parliament or
Faipule are elected (through ballot or consensus) from Matai by Matai.
The Faipule represent their districts in the parliament of the central
government which is patterned on the Westminster model. The seat of
central government is in Apia, the only town and commercial centre.

3.1.1 The extended family or aiga

Traditionally, the basic social and work unit in Samoan
society is the extended family or aiga which may consist of several
households. However, for a Samoan individual, residence is not
restricted to any one particular aiga. After marriage, a couple has
the right to decide with which aiga they may reside. Usually, but
not always, they live with the husband's aiga. Single individuals
are also free to stay with the aiga of either their parent's or the
aiga of their other kindreds (in his village or other villages within
his district or other villages in other districts). These kindred
aiga represent, for the individual, alternative places of residence.
By the same token and since descent in Samoa is traced through both
parents, any individual can participate in the election of a Matai
of his aiga as well as those of his kindred aiga.

The head and leader of the aiga is the Matai on whom the
traditional title of the aiga is conferred. The Matai title is not
necessarily passed on from father to son, or to brother. Since

6 Households here are equivalent to farm families as I have defined
them under Section 6.2.3, Chapter 6, and not as defined in the
descent is traced through both parents, any Samoan can be elected to a Matai title by members of his aiga and kindred aiga all of whom have the right to participate in the election process. However, the Matai's authority applies only to members resident within his aiga irrespective of their places of origin and the circumstances under which they became members of his aiga. Moreover, in order to ensure harmony among members of his aiga, the Matai usually consults them for their opinions. Nevertheless, the responsibility for the final decision on any matter affecting the aiga as a corporate group rests, ultimately, with the Matai.

Today, besides organizing and directing his aiga's daily work and other affairs as well as representing it in the village council, the Matai must also take part in the gatherings of Alii ma Faipule (Matai, officials and representatives of the district) at the district level. At the national level, the right to stand for Parliament and the right to vote are restricted to Matai. Moreover, the right to lease customary land is confined to Matai.

The Matai also has the pule or authority over family lands. Pule is not ownership but trusteeship. It gives the Matai both the right and the responsibility to control and use the family lands for the benefit of its present and future members.

Under these circumstances the Matai's duty is to manage his aiga's available resources - land and labour - for the purpose of producing sufficient food and other subsistence goods as well as a surplus of saleable commodities which would earn a monetary income to be used

7 Includes surplus family labour which may be hired off the family farm for a monetary wage or payment in kind.
for the purchase of food supplements and to meet other needs of the aiga. Today, both subsistence and commercial or saleable commodities are produced by the application of labour (fructified by traditional and modern capital goods) to the family lands, the sea and the forest.

The patterns of labour and land utilisation are described in Section 3.2. The types and importance of subsistence and market commodities are considered in Sections 4.4.1 and 4.4.2, respectively, in Chapter 4.

3.1.2 The village community or nu'u

Apart from the advantage of aiga combining or exchanging expert knowledge and skills to undertake large-scale and specialized tasks of an economic nature, the social and political relations among aiga create a need for coordinating and regulating their activities. The central political authority which maintains village community order and responsibility is the village council within which all aiga comprising a village are represented by their Matai. The village is thus the basic territorial unit of socio-political and economic organization.

The stability and continuity of a village council and the immediate execution of its decisions depends largely upon the principle of chiefly hierarchy and upon the membership of every villager, excluding pre-adolescents, in some formal status group which cross-cuts all domestic households. (Gilson, 1970:19)
The Matai title of an aiga is identified with a village in which it has its principle ancestral lands. It is formally alluded to in the village's honorific phrases of address or fa'alupega. In a village each Matai title is ranked in relation to others. Often titles related to each other through ties of common descent form sub-groups in a village. Within a sub-group, the Matai may discuss among themselves issues of common interest to their aiga as well as village matters which are of joint interest to them. Where there is dissension, the views of the Matai Sili or senior Matai usually prevail. In the village council the Matai Sili is recognized as the leading representative of his sub-group. However, his rank may be lower than those of the village Matai outside his sub-group.

It is rare in a village to find a single Matai with absolute authority and influence. Generally, there may be one or more Matai who are recognized as having the highest rank in the village chiefly hierarchy. However, there are other chiefs of relatively high rank whose agreement and support are essential before any effective decision can be made. This prevents the creation of autocracy and, at the same time, ensures that government by the village council is not a loose and indecisive confederation of Matai. By the same token, attitudes or opinions on village issues which are motivated by individual or personal gain at the expense of the common interests of the village are usually rejected. Failure to do so usually results in dissension which, if unresolved, leads to divisions, the development of village factions, and, ultimately, the lack of effective decision.

making by the village council on matters which affect the village as a whole.

The relative rank of village titles is institutionalized in the fixed formalities observed in the council meetings or *fono*. When meeting the *Matai* must sit in specific positions within the meeting house in accordance with their status and rank. The meeting opens with the recitation of the *fa'alupega* which acknowledges all the *Matai* in the village (whether they are present or not) to be followed by the serving of the kava or 'ava (a ceremonial drink) to those present. The meeting is then open for business to be followed by a meal.

In all of these formal proceedings (the recitation of the *fa'alupega*, the manner and order in which the kava and food is served, and the turn to speak) the *Matai* of higher ranks generally have precedence over those of lower rank. It is through this repetitive observation of formalities which instils in each villager and reveals to any visitor, the relative status, rank and privileges of the *Matai* in a village.

The village council governs all village affairs. The contributions by individual *aiga* in the form of money, labour and food towards a village project (the building and maintenance of a village church, the pastor's house, a school, a piped water system, an electrification scheme, or a plantation road) are set by the village council. The council may specify quotas of food crops to be planted by each *aiga* or each able-bodied adult. The preparations (food, entertainment, accommodation, etc.) for the reception of official guests are
also matters for the council's deliberations. Rules and regulations governing individual behaviour (e.g. drunkenness, fighting, stealing, failure to meet quotas or contributions, etc.) and the determination of punishments for offenders are also made by the council. Punishments include fines (monetary or food), the destruction of property (usually crops), exclusion from village affairs, and banishment.

The other traditional status groups in the village include the aumaga (the untitled men or taulele'a), the aualuma (single women including those who are widows and divorced but excluding married women with husbands) and faletua ma tausi (wives of chiefs and untitled men). During the New Zealand administration the spread of health services required the participation of all women which brought the two traditional women groups together under a single women's committee or komiti a tina. The members of the aumaga and aualuma have rank and authority parallel to those of the Matai of their respective aiga, whilst members of faletua ma tausi take their ranks from that of their husbands.

The functions of the aumaga are to serve the Matai in their meetings by preparing and serving the kava, food, etc., the performance of which provides a learning process which prepares the untitled men for the day when some of them become Matai. In addition, the aumaga implements the decisions of the council on village projects which call for heavy physical work.

Among other duties, the aualuma usually entertains official guests. The faletua ma tausi organizes activities including mat weaving. The komiti a tina generally concerns itself with the
maintenance of hygiene and health standards in the household and assists the district nurse in the performance of her duties. In short, each group has its recognized position, responsibilities and functions within the village community. Occasionally, the council may instruct these groups on the work they must do, but in large measure each group is left to organize the details of their activities and to resolve their own disciplinary problems.

In matters of village government two other formal relations need to be mentioned - the two categories of Matai titles and the position of the church within the village.

Although all Matai have the same responsibilities with respect to their own aiga, in the fono and in public affairs beyond the boundaries of the village, the Matai have different functions depending on whether they have the status of an alii (chief) or a tulafale (orator).

The alii is the titular leader whilst the tulafale is the executive agent who performs for the alii certain duties which propriety prevents an alii from performing. These tulafale duties include the making of formal speeches on behalf of the alii with whom his title is associated or on behalf of his village, the organization and ceremonial distribution of food, and, generally, being master of ceremonies where the occasion demands. The relative functions of alii and tulafale are complementary and are sometimes combined in a single Matai title - that of tulafale-alii' (orator-chief). In terms of relative influence between alii and tulafale
(and to a certain extent among all Matai), this differs from village to village depending upon genealogy, time and circumstances, and the personality of the titleholder.

Like the komiti a tina, the church is an imposition from outside the traditional village society. The Christian pastor or faife'au is generally a Samoan trained in a local mission seminary. He is not allowed to hold any chiefly titles or secular offices. The other name by which he is called, the feagaiga (meaning a contract, treaty, understanding or agreement), literally describes his position within the village. It conveys the fact that pastor and village have a contract whereby they serve one another in reciprocal or complementary ways.

The pastor provides religious services and elementary schooling. In return, the village must provide food, furnished accommodation and voluntary cash contributions as payment for the support of the pastor and his family. Generally, the village owns the church building and the pastor's house which is occupied by the pastor of the day, since, besides replacement upon death, retirement or resignation, a village reserves the right to terminate a pastor's tenure and approve the appointment of a replacement.

The status of a pastor in the village is that of an important guest. He may cultivate some land and dispose of the produce therefrom for his own personal use but the land belongs to the village. On ceremonial occasions the pastor is honoured with the first share of the food or exchange goods but he is not allowed to sit in the fono or in any way interfere in the secular affairs of the village unless
by invitation. Nevertheless, the church has allowed the Samoans to express their love of ceremony and to entrench themselves in church affairs to the extent that material support for the pastor and church can become a heavy economic burden on a village congregation or an individual aiga.

The size and impressiveness of church buildings, pastors' houses and the amount of a village congregation's monetary contributions to a national church fund have become status symbols, subjects of village pride and inter-village rivalry. Within the village, cash and material donations for the support of the pastor and other church funds are pronounced publicly on an aiga basis giving rise to inter-aiga rivalry.

On the other hand, the church has given Samoa its written language and made almost 100 per cent of its population literate in the Samoan language. As found elsewhere, the church has provided, and continues to provide, valuable formal education services supplementing that by the Government. With the endorsement by the Samoans themselves of Christian principles in the fono and in public life the church has become an important factor in the continuing stability and validation of the village council of Matai and the Samoan social system generally.

3.1.3 The district or itumalo

Traditional authority had always been more tenuous at the political district level than at the village level. Under the impact of modern change - as for example the division into faipule districts
and the subsequent expansion of services by the Government’s various departments - what stability there existed at the political district level disintegrated further.

Today, political districts assemble very rarely, only on matters which transcend the interests and authority of the individual faipule districts. For instance, the discussion of succession to a high ranking Matai title possessing authority and influence which extends throughout one or several political districts.

The focus of attention is now centred on the faipule district. The Faipule (member of Parliament) performs his functions and, during election time, actively campaigns against his political opponents at this level. Moreover, some of the departments of the central government now accept the faipule districts as the territorial units for the organization of their relations with the people in the rural areas. On their part, the Samoan people have come to realize that any assistance forthcoming from the central government would most likely be granted through the efforts of their Faipule at the faipule district level.

3.2 Traditional Land Use

Traditionally, the Matai have the authority to direct the use of land by members of their aiga and to dispose of the produce or the income derived therefrom as they see fit. Today, however, adaptations to this rule have emerged in a wide range of tenurial arrangements wherein an individual finds considerable freedom to use and develop land and to dispose of the fruits of his labour as he wishes.
3.2.1 Types and uses of customary land

The types of customary land are largely unchanged since they were defined by Keesing (1930) and later Farrell and Ward in Fox and Cumberland (1963). Keesing recognised five types: village house lots, plantation plots, family or title sections, village lands, and district lands. The use and cropping pattern of these types of land, however, are changing.

(i) Village house lots

As with all Samoan customary land, the house lots or sites within a village are not properly surveyed or registered. Natural features, like a tree or a large rock, provide some of the landmarks which define their boundaries. Coconuts and breadfruit are normally grown on these lots. Lately, however, food crops including taro or talo, ta'amu, bananas and sometimes vegetables are also grown. However, the advantage of immediate accessibility to these gardens is often negated by the need for their protection against the scavenging of unenclosed livestock (pigs and poultry) and the smallness of their size.

(ii) The plantation plots

Just behind the village (and sometimes on both sides of villages relocated away from the coast on main roads), are the plantation plots, an area considered by Farrell and Ward to be the coconut zone. Here, the coconut is the main crop, although cacao and bananas may also be found interplanted amongst them. Other economically useful plants are also grown here, notably the breadfruit, pandanus
and sugarcane. A large village communal pig enclosure or several small ones belonging to individual aiga, with fences erected from rock and stones, may also be found in this area. In a few villages, cattle may be seen grazing under coconuts, enclosed in barbed wire fences or else tethered singly with lengths of rope. In short, the features of this type of land are very much the same as they have been described by Farrell and Ward, although with a few significant changes.

Lately, much of this area has been replanted to coconut under the Government's coconut planting and replanting scheme. Moreover, stimulated by the ever mounting pressure of population of land, the increased use of fertilizers, and the necessity of providing easy access for disease control services by the Department of Agriculture, bananas are increasingly being inter-planted under coconuts. Mainly due to population pressure on land and also because of diseases which have restricted the planting of bananas, taro inter-planted under coconuts is also expanding.

(iii) The family sections or mixed crop zone

Further inland and higher up the hillsides are the family or title sections, the area more recently described by Farrell and Ward as the mixed crop zone and the taro zone. Here staple food crops like taro, yams and bananas are grown to be replaced by either a permanent crop (cacao or coconut) or a period of fallow. The length of the fallow period depends upon the fertility of the soil and the intensity of population pressure on land. Fallowed land is replanted with taro or bananas with further establishment of permanent plots of
cacao or coconut, or plantings of other economically useful plants, or another fallow.

Repetition of this pattern has extended the areas under permanent plantation crops and the accelerated movement inland of the mixed crop and taro zones. However, this pattern could not continue indefinitely. Already, in some villages with limited land reserves, the encroachment by the ever-widening belt of plantation crops, mainly coconuts, has pushed the family sections further into the hills where the cooler wet climate and the acid nature of the heavily leached soils do not support good taro growth. Today, this type of land is still distinctive but with notable changes in its size and cropping pattern.

At the time of the study by Farrell and Ward (1962, but fieldwork in 1959) bananas had become an important cash crop and an established staple food. In addition, diseases were absent or had just been introduced, but had not spread. For most Samoans then, banana production under the traditional long fallow system provided a source of cash income and subsistence food. But, as noted by Ward (1959), this development was quickly depleting both the fertility of the soil and the reserves of agricultural land in many villages, notably in the more densely populated districts of both Upolu and Savai'i. Indeed, some districts of Upolu which opened up earlier with the construction of the first roads in the government's road construction program had exhausted their land reserves as reflected in the decline of their total banana export output. Ward concluded, correctly, that if this pattern continued unchanged, the banana industry would eventually come to an end once all agricultural land reserves were exhausted.
However, Ward did not foresee that the ravages of the bunchy top and leaf spot diseases would quickly spread through the existing banana plantations and prevent any further expansion under the traditional long fallow system. This, in fact, is what happened in the late 1950s and early 1960s, even as more of the large land reserves of the island of Savai'i were being opened up for further agricultural exploitation. It was left to the hurricane of 1966 to destroy completely the remnants of diseased and abandoned banana plantations throughout the country. This set the stage for the government's efforts to rehabilitate the banana industry involving the use of fertilizers, proper disease control methods, and, generally, a higher standard of husbandry.

Today, the growing of bananas is restricted by law under the provisions of the Bunchy Top Act, 1965. Agronomically, bananas can no longer be grown successfully without proper disease and pest control and the use of fertilizers. Currently, these inputs which represent the "new technology" are provided by the government under its banana production project. Under these circumstances the production of bananas on areas where accessibility is convenient is encouraged whilst their re-establishment on "old land" is made possible by the use of fertilizers. Furthermore, and largely for the same reasons, the inter-cropping of bananas under sparsely populated and fully grown coconuts is allowed, but not amongst cacao or any of the other low growing food crops. Clean weeding, with herbicides or other means, is the responsibility of the banana grower and is generally compulsory.

The leading role of the banana in the land use pattern as described by Ward and as outlined above, has therefore been radically
changed. Although the banana is still important in the Samoan diet and the preliminary evidence suggests that it is still profitable as a commercial crop, for many Samoans its importance as a source of both a cash income and subsistence food has substantially diminished because of the considerable production costs involved (refer Appendix 2). Whereas in the past any Samoan small holder could grow bananas, today banana production is confined to the few who have access to the "new technology", in either of two ways. Firstly, a small holder can grow bananas if he can get fertilizers and disease control services on credit from the Department of Agriculture under the banana production project. Secondly, a small holder can grow bananas provided he can obtain a loan with which to purchase the necessary inputs. In both cases approval by the Department of Agriculture is required.

In contrast to bananas, taro and coconuts are increasing in relative importance as alternative sources of cash income and subsistence food for the Samoan small holder. In some villages bananas are not grown at all or if they are they are grown by a small number of growers. Taro has become once again the main subsistence food grown in both the mixed crop and taro zones. To an increasing number of small holders, taro now offers a source of cash income as markets within Samoa and overseas expand. Since it is still being grown under the age-old method of long fallow cultivation, taro production maintains the land use pattern described above. The coconut, rather than cacao, is the main cash crop responsible for the continuing and accelerated encroachment by the plantation areas into the mixed crop and taro zones.
(iv) The village lands

Beyond the family sections are the village lands which belong to the village as a whole and not to individual aiga. Individuals connected with the village may extend their cultivations into the village forest lands, if sanctioned by the village council. Whether titled or untitled, individuals who clear the forest have the right of use, but the land is held in trust for the individuals' aiga by its Matai. Individuals may clear any likely looking place. This has led to the lack of continuity and the fragmented disposition of individual aiga holdings although it provides an aiga with a variety of soil on which a variety of crops are grown.

In the distant past, this traditional approach to the use of village land worked reasonably well with individuals or aiga possessing more or less similar resources. It was common then for the aumaga to clear the forest to form a talaloa where individual aiga were allowed to plant their crops on portions of it which became part of their family sections.

Today, the communal clearing of land to form a talaloa is seldom, if ever, done. The growth of individualism at the expense of communalism, the increasing inequality in resources available to individuals for the development of village lands, and the economic importance of the timber milling industry have given rise to problems which highlight the inadequacy of the traditional policy governing the use of village forest lands on an equitable basis. The resolution of these problems by up-dating the traditional approach to the use of village forest lands lies with the village council which continues to
be responsible for the major decisions on the use of village lands. On top of these problems within the village are the inter-village disputes over village boundaries which are vague and ill-defined. With the added motive of obtaining extra income in royalties from the timber milling operations on village forest lands, inter-village disputes in which adjoining villages claim the same territory, are increasing.

(v) The district lands

Finally, the lands claimed by the traditional political district councils represent district lands. These were of political significance in the past. These lands are usually high in the mountains, beyond the village lands. In the past they were used for pig and pigeon hunting and for the collection of forest products. Today, however, they have acquired added value with the development of a timber industry. If the boundaries of village lands were ill-defined and obscure, those of district lands are even more tenuously demarcated.

3.2.2 Main patterns of customary land use

Traditionally, the Matai worked all the land belonging to the title he holds jointly with the taulele'a of his aiga, but under his direction and authority. Today, a wide range of tenurial arrangements whereby customary land and labour are combined for agriculture production exist.

Sutter (1971) has outlined three types of customary land use. Briefly, these are:
(a) semidirected to non-directed farming by a taulele'a on family lands allotted by the Matai,

(b) individual Matai plantations organized along the lines of the commercial plantations often made by Europeans in the Pacific, with wage-labour, etc., and

(c) village cooperative development projects.
(Sutter, 1971:26)

Sutter's three types can be further broken down into more or less the following categories:

(i) As of old, the extended family works as a single production unit. The Matai directs the work of the members of the extended family on all family lands. The decisions on production activities and the distribution of the total product of the farm are made by the Matai, but often in consultation with senior members of the extended family.

(ii) Individual members of the extended family (taulele'a or Matai where there are several lesser Matai in a family) working on their own or occupied family lands allotted to them by their Matai or on fresh lands they obtain by cutting down the forest. In this category, the individual family members are free to manage their own economic affairs but are expected to render tautua (support and service) in the form of money, food or labour to their Matai should the need arise.

(iii) Matai working with other Matai or taulele'a on a communal basis. Here cooperation may take several forms. Small rotating credit associations of the kind that Geertz (1962:243, as quoted in Lofti Shiaveh, 1973:31) has described is the most common form. Members may be a mixture of unrelated taulele'a and Matai drawn from the same village.
The most common objective is the pooling of their labour and capital resources (e.g. knives, axes, planting tools, etc.) which they apply to their individual holdings on a rotating basis (by the day or by the hour). Larger communal cooperation involving the major inhabitants of a village exist. Where these are found, usually they are initiated by Matai who have considerable skill and knowledge of the market economy, or by influential agricultural extension officers (and sometimes other public servants including doctors and teachers).

Generally, the commodities produced are for sale and are guaranteed a market. Labour is pooled and credit, if required, may also be obtained through the "initiators". Participants in these communal central plantations continue to work on their own lands under one or the other of the arrangements described herein.

The weakness of these large communal cooperative projects is the lack of continuity. Sustained support falls off once an objective (financing of a school, church, etc.) has been achieved, or because disagreement arises over the use and/or distribution of earnings from such projects, or because of friction amongst participants caused by an unrelated problem (e.g., a case over a Matai title or a dispute over land). This stems mainly from the absence of expert advice on principles of commercial cooperatives which needs to be built into mere social cooperation. Without an understanding of these commercial principles, social cooperatives become vulnerable to pitfalls of cooperation. Sutter (1971) is quoting Crocombe in pointing out these problems of cooperation:

(1) To ensure success, it may be necessary for the members to be "accustomed to wage or
salary employment, familiar with cash cropping, and have the support of a reasonably efficient governmental organization" for cooperative development 3/.

(2) "It might appear that a society (like that in Samoa) is better adapted to cooperation than a society with minimal structuring, but I think not ... When a Samoan operates in the cooperative structure, he carries over so much of the idiom associated with parallel roles in the traditional structure that the (commercial) cooperative principles cannot function" 3/. Social cooperation and commercial cooperatives are quite different. Aptitude in one does not ensure skills in the other.

(3) "I know no major successful group enterprise in the Pacific which is on the traditional lands of ... The participants ... Traditional lands are inevitably associated with the assertion of superior rights or status" rather than with the roles of equality which commercial cooperation demands 4/. (Sutter, 1971:18)

(iv) Individual Matai or taulele'a working the land on commercial lines. For these individuals the major or only source of income is derived from their plantation activities. They have the motivation and skills in the market or monetary economy (often gained by Western-type education and/or experience). They are able to accumulate capital or have access to funds (loans) which they invest in the expansion and maintenance of their holdings. Given these, they are able to use customary land essentially as freehold. They encourage individual members of their aiga to make their own plantations or hire them (and others) as wage workers. At the same time they participate in village affairs in which they become very prominent because of their leadership qualities and/or their economic wealth. Occasionally, some may
become "isolates" because of disagreement with village councils on land use policy (land disputes) or for some political reason (e.g. a court case over a Matai title).

(v) An individual Matai or taulele'a with an alternative secure source of income from self-employment in a business or from permanent employment either in government or private enterprise. Labour is hired to manage and work the land, mainly for commercial purposes. These people may live in the villages (where they have access to customary land) or they may live in town. They may finance cultivations from part of their wages or profits or a bank loan. In all other respects they are more or less the same as the individuals described in (iv) above.

These patterns of land use reflect two main trends. An increasingly individualistic approach to land and a greater variety of land tenure and land usage patterns than existed in former times. In addition to the adaptations occurring to customary land use and the organization of labour under the authority of the Matai and the village council, the Samoans have become more amenable to a more active role by the government regarding customary land. Today the government has been empowered by law to take customary land for a variety of public purposes and to supervise leases of customary land. Nonetheless, the government exercises great restraint in applying these powers.

3.3 The Lands and Titles Commission of Inquiry

Appointed late last year, 1974, this Commission is enquiring into the whole question of lands and titles.
Since independence, there has been a rapid increase of new matai titles, created mainly for purposes of gaining entry into national politics. For the same political reasons and because of the natural increase in population, the splitting or sharing of matai titles is also rising. Titles and land problems are intimately connected under Samoan custom and tradition. In view of these problems concerning titles, and the land problems mentioned under Sub-Section 3.2.1 (iv) above, the deliberations and the recommendations of the Commission when they become available will be of vital importance for policy makers.
CHAPTER 4
THE TRADITIONAL ECONOMY

This chapter describes the economic activities undertaken within the traditional society. Assessment is made of the available productive resources-land, labour and capital. Production for subsistence purposes and for the market by the farm family is also analysed; as are the effects of the traditional social and organizational institutions on production. Assessment, in a general way, is also made of the efforts by the Government to promote economic development within the traditional village economy, and the response of the village population to such efforts.

4.1 The Intrusion of Monetary Activities into the Traditional Village Economy

Whilst Samoa was isolated from the rest of the world, in particular the Western world\(^1\), the aiga produced most of its own food and other subsistence requirements. Evidence suggests that taro and other aroids were cultivated under a long fallow system. The Samoan people had also developed the skills and wherewithal with which to catch fish and wild pigeons as sources of protein. The coconut tree provided an important source of food and was used for a variety of purposes, from fuel for cooking to house building. Although simple in construction, the Samoan house or fale was ideally suited to the environment and the climate.

\(^1\) There is evidence suggesting Tonga and possibly other island groups were in contact with Samoa prior to the arrival of the first Europeans.
As described in Section 3.1 of Chapter 3, the political, economic and social structure of Samoan society was highly developed. There was no need for the Samoans to unite in a central government to protect their common interests against outside exploiters. The village provided the basic territorial socio-political and economic unit whilst the aiga formed the basic unit for economic production and of the social system. The village council coordinated and controlled the inter-aiga economic, political and social relationships which are essential in a multi-aiga setting as found in the Samoan village.

Since pressure on land was minimal, kept in check by wars and other natural causes, the Samoans were able to expend a minimum of effort in obtaining food and other subsistence requirements from the land, sea and forest. Fresh food must have been abundant since Samoans never had recourse to methods of food preservation, for example the drying or smoking of fish. Moreover, it seemed that self-sufficiency removed the need for trade to develop although reciprocity formed the basis of ceremonial and other exchanges which took place amongst the Samoans.

Given these circumstances, the Samoans were able to devote considerable time to entertainment and ceremonial activities from which they derived enjoyment and satisfaction, as they still do today. Indeed, Samoan society must have been one of "primitive affluence" in splendid isolation. The arrival of the white man broke this idyllic isolation and, although Samoan traditional culture has withstood the impact of the West, it has incorporated into itself many of the foreign innovations from outside.
The Samoans have accepted many things that foreigners have brought, the teaching of the Christian religion, the political and administrative techniques of the modern world, the products of modern industry, but they have made them part of their own way of life. (Davidson, 1967:3)

The catalyst for the acquisition of these and for purposes of furthering modern economic development and growth has been, and is, money.

In order to obtain new goods and services and to establish and operate new institutions imported from the rest of the world for the development of their resources, the Samoans had to learn new skills and knowledge including, at a very early stage after Samoan-European contact, participation in the monetary exchange system.

Whereas the *aiga* was the basic unit of production before European-Samoan contact, today the economic production unit is the farm family as defined in Chapter 5 Sub-Section 5.2.3. From here on, when the term *aiga* is used its intention is to convey social and political, as well as economic unity. When the term farm family is used, it refers to a social unit of economic production.

4.2 The Need for Cash

The initial need for cash was probably for the purchase of luxury items, valued mainly for their novelty. However, the Samoans accepted the superiority of certain imported equivalents of what they themselves produced. Consequently, trade quickly expanded to cover such items as imported steel tools and weapons of war which replaced the Samoan equivalents made of stone and wood including axes and knives.
Likewise, for clothing, the Samoan tapa cloth or *siapo* was quickly discarded for cotton prints and other types of imported cloth.

Later, cash was needed to purchase imported foodstuffs. The demand for these derived from their convenience value rather than any superiority in quality (taste and nutritive value). Imported foodstuffs were not only readily available from village stores but they were also storable and convenient to prepare, e.g. flour, rice, tinned meat and fish. Furthermore, these became acceptable as exchange goods for ceremonial and other social functions. In cases where *fa'alavelave* (social commitments) were unexpected these imported goods had a distinct advantage over traditional perishable foods which were not always available because of the absence of organized trade in traditional food crops in the villages. If home grown specifically for ceremonial purposes, traditional food required a considerable amount of work and advanced planning and planting.

Today, the need for cash is motivated by a demand for a host of imported European goods which Pitt (1970:269) has conveniently classified under six types: food, clothing, household implements, furniture and fittings, capital goods, and houses. Cash itself has also become acceptable as an exchange "good" in ceremonial and other village communal activities which require the use of money for purchasing raw materials. In short, in addition to the need for cash with which to acquire food and other goods for normal daily use within the farm family, cash is also required for direct use or for the acquisition of goods and services which fulfill *aiga* and village communal obligations.
Ceremonial exchanges usually involve the use of money, food or cloth in addition to the traditional fine mats, tapa cloth, etc. Religious obligations require monetary subscriptions for the building of a church or a pastor's house besides donations of money, food and household furnishings towards the support of the pastor and his family. For medical services monetary subscriptions may be required for the building of a hospital and living quarters for the doctor or nurses. Educational monetary expenditure may include subscriptions towards the erection of a school building and teachers' quarters in addition to the payment of school fees and the cost of school uniforms and educational materials. In some villages the establishment and maintenance of electrification schemes and piped water systems have added to the need for cash, as has the cost of travel and transport of goods between the village and Apia or elsewhere.

4.3 The Productive Resources

Among the micro-economic and other related studies of Samoan village economies undertaken in the past are those by Farrell and Ward (1962), Ward (1959, 1962a, 1962b), Fairbairn (1963, 1967, 1970, 1973), Lockwood (1965, 1970, 1971) and Pitt (1970). As noted by these researchers, the main productive resources available to the Samoans were land, labour and a minimal of both traditional and European capital\(^2\) required by the traditional technology.

These studies also indicated that, although there were localized exceptions, in general, an ample amount of land was still

\(^2\) Refer Appendix 1 in Pitt (1970) and Tables 11a, 11b, 11c and 11d in Lockwood (1970).
available. Labour was also considered to be adequate whilst the simple implements required for agricultural production under the prevailing traditional system of long fallow were considered to be easily available.

Nevertheless, considerable variation in the available resources and their use for the production of cash crops did exist from village to village. The physical factors varied in their effects on production according to the differences in location, aspect and slope, climate, soil, water supply, accessibility and linkages with the market sector. Differences in local tradition and prejudice, and the quality of leadership of the Matai were also found to be important in their effects on the use of available productive resources (Farrell and Ward, 1962; Davidson et al., 1950; Lockwood, 1970).

On the basis of these differences in resources and their use, and in conjunction with other relevant factors, Ward (1962b) contrasted agriculture found in Western Samoa within a framework of ten regions (Figure 3.1). According to Ward these differences will become greater as the population of Western Samoa increases, as the dependence upon commercial agriculture grows, and as the need for overall planning becomes more pressing. (Ward, 1962:290)

It is significant that almost all of the fieldwork upon which these studies were based was undertaken either prior to independence in 1962 or prior to the initiation of formal development planning by the Government of Western Samoa in 1965 (except for part of Fairbairn's 1973 study, see Chapter 5). It is also of considerable
significance that during the period in which these studies were made, the production of bananas for export and for subsistence consumption dominated the land use pattern with far reaching results (Ward, 1959). Other notable changes since the times of these studies have been the effects on labour resources and income in the subsistence-based traditional village economy arising from rapid expansion and diversification of the monetary economy and from an accelerated increase, up to now, in net emigration.

Since these studies, independent research of a similar nature on Samoan village agricultural economies has not been undertaken. The impact of the Government's development projects on the use of available resources and the response of Samoan farmers at the village level to the recommended use of the "new technology" and improved methods of crop and livestock husbandry, have not been a subject for comment by an independent study. Thus, in addition to the above-mentioned research, Government reports (and other official reports prepared for the Government by aid agencies like the United Nations), and the experience of the author as an extension officer with the Department of Agriculture from 1965 to 1971, form the basis for the following discussion.

4.3.1 Land

Lockwood (1971) found that land was not a limiting factor to increasing output:

Clearly land is not yet a limiting factor on village output. Both subsistence food and cash crops could be expanded either by clearing forest or by using land already cleared more intensively. (Lockwood, 1971:189)
It is significant to note that two of the four villages (Table 4.1) studied by Lockwood\(^3\), were those surveyed by Fairbairn for his studies; whilst all four villages fall roughly within three of the four regions recently defined by Wander (1971).

The main disparities in population growth in Western Samoa were caused by migratory movements. If density is taken as an indicator of the force of an area to attract and support people, then, according to Wander, there were four main regions in Western Samoa with distinctly different growth conditions:

(a) Apia urban area, with more than 5,000 inhabitants per mile of coast line in 1966;

(b) Northwest Upolu (covering the faipule districts of Vaimauga East, Faletaua West, Sagaga (Le Usoga), Sagaga (Le Falefa), A'ana Alofi I, II, III and Leauva'a village in the district of Gaga'emauga I, with densities well over 1,000 persons per mile of coastline;

(c) The rest of Upolu, with densities of about 300 persons per mile of coastline in 1966;

(d) Savai'i, with an average density of about 250 persons per mile of coastline in 1966. (Wander, 1971)

The demographic and other characteristics of Northwest Upolu are so distinctly different that both Wander and Ward consider it as a separate region. The rest of Upolu and Savaii regions, which are distinguished purely on demographic characteristics by Wander, can be further differentiated into district agricultural regions as considered

\(^3\) Since Lockwood’s study was undertaken, a road has linked Uafato village to the main road to Apia, thus probably making it rank equally in terms of effective linkage with the market sector, to Taga or even Poutasi villages. Poutasi is also now linked to Apia via the Tiavi cross-island road which cuts the previous travelling time between Apia and Poutasi by about one hour.
### TABLE 4.1
THE AVAILABILITY OF LAND FOR BUSH FALLOW CULTIVATION IN 1966

<table>
<thead>
<tr>
<th>Villages Surveyed</th>
<th>Utuali'i</th>
<th>Poutasi</th>
<th>Taga</th>
<th>Uafato</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cleared areas not under long term tree crops (acres)</td>
<td>134</td>
<td>318</td>
<td>416</td>
<td>105</td>
</tr>
<tr>
<td>Reserves of forest land</td>
<td>nil</td>
<td>Large</td>
<td>Large</td>
<td>Small</td>
</tr>
<tr>
<td>Usual fallow period (years)</td>
<td>6</td>
<td>8</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Cleared area which potentially could be maintained in production (acres)a</td>
<td>40</td>
<td>60</td>
<td>90</td>
<td>63</td>
</tr>
<tr>
<td>Area in production in May 1966 (acres)b</td>
<td>18</td>
<td>50</td>
<td>60</td>
<td>33</td>
</tr>
</tbody>
</table>

**Notes:**  
- a Assuming plots were kept in continuous use for the following periods before being abandoned to bush fallow: Utuali'i, Poutasi and Taga - 18 months; Uafato - 36 months. The cleared areas could have been greatly enlarged in Poutasi and Taga, and slightly enlarged in Uafato by cutting down the forest.  
- b Includes the areas planted in taro and ta'amu up to the end of May 1966 and rough estimates of the remnants of the banana plots which could be productive after recovery from hurricane damage.

**Source:** The Samoan Village Economy, Brian Lockwood, 1971:189.

by Ward if criteria additional to population density are taken into account and if more recent changes such as the development of Asau in Savai'i as a deep sea port and as the centre of a timber milling industry are considered (Figure 4.1). With respect to the Apia urban area, Ward (1962a) considered it under the heading "Apia and Suburban Agriculture" in his analysis of agriculture outside the village and commercial systems.
A regional view of Western Samoa is important from an agricultural development viewpoint, since regions with high population densities would have less available land to allow the economic production of subsistence and cash crops under the traditional system of long fallow cultivation. Lockwood's study revealed that Utuali'i, which is typical of the villages within Northwest Upolu, had very little land available for bush fallow cultivation (Table 4.1). With more intensive cultivation, extra production could be obtained. But as Lockwood suggested the extra labour entailed in obtaining increased output proved less economically attractive than earning a monetary wage. In Utuali'i village, wage employment was less difficult to find. The monetary income from such employment was used to purchase traditional staples from the nearby market at Apia or else imported substitutes like bread, rice or flour either from Apia or the local village store.
Lockwood's village studies and Ward's analysis of specific agricultural regions and agricultural production systems suggest that with additional confirmatory surveys distinction between villages, or even regions, with large and small reserves of land available for bush fallow can easily be made.

On this basis, a logical policy implication would be to promote the production of subsistence food and cash crops (e.g. taro and yams) that can still be grown profitably under the more extensive long fallow system in those villages or districts which have adequate land resources (e.g. Southwest Upolu and much of Savai'i). Conversely, for those villages or districts where land resources are limiting (e.g. Northwest Upolu and other populous areas of Savai'i and Upolu), the use of fertilizers for rehabilitating the depleted soils and specialization in the intensive use of this and other scarce resources for overcoming other problems (e.g. diseases, pests and water shortages) in the production of subsistence and cash crops seem to be the logical policy implications. Here, bananas, which in any case require the use of chemicals and strict supervision of plantings for purposes of disease and pest control if they are to be grown successfully and profitably, represent the ideal subsistence and cash crop (refer Appendix 2).

In addition to land resources, factors including climate, soil structure and fertility can also be considered as criteria for selecting not only subsistence food and cash crops but other cash crops as well, or their combinations, that are best suited to specific regions within Western Samoa. Hence the drier regions of Northwest Savai'i and Northwest Upolu have a comparative advantage
over other wetter regions for the production of cacao because of the losses caused by the black pod disease which is more prevalent under wet conditions. On the other hand, provided adequate land is available for bush fallow, the wet regions have a distinct advantage over the drier regions in the production of root crops like taro. If such regional specialization can be achieved, considerable savings can be obtained from the point of view of the economy as a whole.

4.3.2. Labour

Lockwood (1970) summarised the results of his and two previous surveys of village labour use, presented in Tables 4.2 and 4.3, respectively. These data confirm the existence of underemployment and the predominance of subsistence activities over cash earning activities in rural Western Samoa.

However, the rapid population growth and the net emigration of young adults has led to a very high increase in the dependency ratio in the country as a whole. An even more disturbing feature of the expanding dependency ratio is revealed when a regional view (which takes into account inter-regional migration) is considered. Since fertility, out-migration (internal migration) and emigration (external migration) in the Rest of Upolu and Savai'i are greatest, they have the highest dependency ratio (Table 4.4). This has very significant implications on agricultural production for the market. It means that an increasing proportion of the average product per labour unit in the remoter rural areas must be expanded on subsistence consumption, leaving less surplus to be sold on the expanding domestic
### Table 4.2

The average number of hours spent a week per adult male in the main productive activities\(^a\): March-June 1966

<table>
<thead>
<tr>
<th>Villages</th>
<th>Utuali'i</th>
<th>Poutasi</th>
<th>Taqa</th>
<th>Uafato</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsistence Activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food production:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taro and Ta'amu</td>
<td>11.1</td>
<td>13.2</td>
<td>13.7</td>
<td>8.8</td>
</tr>
<tr>
<td>Gathering Coconuts</td>
<td>0.2</td>
<td>1.2</td>
<td>0.2</td>
<td>0.3</td>
</tr>
<tr>
<td>Fishing</td>
<td>1.1</td>
<td>2.4</td>
<td>2.0</td>
<td>7.5</td>
</tr>
<tr>
<td>Other <em>aiga</em> subsistence tasks</td>
<td>0.8</td>
<td>0.1</td>
<td>1.5</td>
<td>0.4</td>
</tr>
<tr>
<td></td>
<td>13.2</td>
<td>16.9</td>
<td>17.4</td>
<td>17.0</td>
</tr>
<tr>
<td>Village level subsistence tasks</td>
<td>0.5</td>
<td>8.1</td>
<td>3.2</td>
<td>7.4</td>
</tr>
<tr>
<td></td>
<td>13.7</td>
<td>25.0</td>
<td>20.6</td>
<td>24.4</td>
</tr>
<tr>
<td>Cash earning activities</td>
<td>2.2</td>
<td>8.1</td>
<td>4.7</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>15.9</td>
<td>33.1</td>
<td>25.3</td>
<td>26.3</td>
</tr>
</tbody>
</table>

**Note:**  
\(^a\) The labour survey covered all tasks observed to be of particular importance in maintaining the material well-being of the villagers. The estimates include not only the actual times taken to complete various tasks such as weeding or planting, but also the time taken to reach the place of work and to return again to the village. It should be pointed out that there was more than usual taro planting activity during the period surveyed and no activity at all associated with banana production.

**Source:** The Samoan Village Economy, Brian Lockwood, 1971:191.
### TABLE 4.3

**COMPARISONS OF LABOUR SURVEYS**

**1950, 1961 AND 1966**

<table>
<thead>
<tr>
<th>Hours per Week</th>
<th>1950&lt;sup&gt;a&lt;/sup&gt;</th>
<th>1961&lt;sup&gt;b&lt;/sup&gt;</th>
<th>1966&lt;sup&gt;c&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Routine agricultural tasks mainly associated with subsistence food crops</strong></td>
<td>11</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td><strong>Fishing</strong></td>
<td>6</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Copra production and other cash-earning activities (excluding wage labour)</strong></td>
<td>8</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td><strong>Other subsistence tasks</strong></td>
<td>n.a.</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>25</td>
<td>24</td>
<td>25</td>
</tr>
</tbody>
</table>

**Notes:**

- **a** Part of an agricultural census carried out by officers of the New Zealand Department of Agriculture in 1950 and summarised by Bryan H. Farrell in his chapter "The Village and its Agriculture" in Fox and Cumberland, 1962, pp. 196-197. These figures do not include (apparently) the time spent in walking to and from the place of work.


- **c** Averages of the four villages surveyed from Table 46 (Table 4.2 in this study).

**Source:** *Samoan Village Economy*, Brian Lockwood, 1971:191.
TABLE 4.4

CHANGES IN DEPENDENCY RATIO OF THE POPULATION
BY REGION, 1951-1976

(Children under 15 years and old people
65 years and over per 100 persons between
15 and 65 years)

<table>
<thead>
<tr>
<th>Year</th>
<th>Apia</th>
<th>Northwest Upolu</th>
<th>Rest of Upolu</th>
<th>Total Upolu</th>
<th>Savai'i</th>
<th>Western Samoa</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951a</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>97</td>
<td>99</td>
<td>97</td>
</tr>
<tr>
<td>1956a</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>102</td>
<td>110</td>
<td>104</td>
</tr>
<tr>
<td>1961a</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>110</td>
<td>118</td>
<td>112</td>
</tr>
<tr>
<td>1966a</td>
<td>95</td>
<td>116</td>
<td>130</td>
<td>115</td>
<td>126</td>
<td>118</td>
</tr>
<tr>
<td>1971b</td>
<td>A 92</td>
<td>112</td>
<td>128</td>
<td>111</td>
<td>126</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td>B 92</td>
<td>107</td>
<td>118</td>
<td>107</td>
<td>115</td>
<td>109</td>
</tr>
<tr>
<td>1976b</td>
<td>A 97</td>
<td>105</td>
<td>110</td>
<td>104</td>
<td>114</td>
<td>107</td>
</tr>
<tr>
<td></td>
<td>B 97</td>
<td>102</td>
<td>103</td>
<td>101</td>
<td>103</td>
<td>102</td>
</tr>
</tbody>
</table>

Notes:  
- a Census.
- b Projections: A allows for migratory movements; B disregards migratory movements (for details see Table 1, footnote (b)).


and export markets (Wander, 1971b). Since Wander's study, net emigration to New Zealand alone has accelerated so that Wander's projections for 1971 and 1976 would be gross under-estimates (see evidence of accelerated emigration since 1966 in Chapter 5).

4.3.3 Producers' capital

The implements required for the traditional production of crops were simple and easily acquired at the time of most of the
research mentioned above. Then, the most important implements included the axe, the bushknife and a range of digging implements. Farrell and Ward (1962) have described these implements in detail. In addition, some producers had copra driers and other capital items including canoes and fishing gear. Further information on these is contained in Fairbairn (1973), Lockwood (1970), and Pitt (1970).

Today the use of a variety of new tools and material inputs is spreading. The Government's efforts at rehabilitating the banana industry have demonstrated the value in the application of the inputs of the "new technology". Fertilizers, weedicides, fungicides and sprayers are now widely accepted as essential producers' capital. Although primarily used for the production of bananas, the inputs of this "new technology" are spreading to other crops. Chemical weed control in cacao plots and on fallowed land immediately before the planting of taro is now not uncommon.

With the increase in the need for the inputs of this relatively expensive "new technology", their regular supply and the provision of credit for their purchase have become essential services. This is reflected in the increase in the amounts of fertilizers imported (Table 4.5) and in the numbers and amounts of loans approved (Table 4.6).

Since the Department of Agriculture is not a trading organization and because private firms do not import any fertilizers and stock only very limited amounts of weedicides and sprayers, an Agricultural Store Corporation has been established to import and sell inputs of the "new technology" to the public. The Development Bank was recently established to provide credit.
### TABLE 4.5
TYPES OF FERTILIZERS, LANDED PRICE AND QUANTITIES IMPORTED

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Superphosphate</td>
<td>Ca(\text{H}_2\text{PO}_4)_2</td>
<td>25.40</td>
<td></td>
<td>54.0</td>
<td>10.8</td>
<td>29.5</td>
<td>22.6</td>
<td>49.6</td>
<td>7.4</td>
<td></td>
</tr>
<tr>
<td>Sulphate of Ammonia</td>
<td>((\text{NH}_4)_2\text{SO}_4)</td>
<td>37.20</td>
<td></td>
<td>-</td>
<td>2.9</td>
<td>8.8</td>
<td>1.5</td>
<td>29.5</td>
<td>1.3</td>
<td>20.1</td>
</tr>
<tr>
<td>Muriate of Potash</td>
<td>KCl</td>
<td>37.90</td>
<td></td>
<td>15.7</td>
<td>2.0</td>
<td>17.7</td>
<td>11.8</td>
<td>39.8</td>
<td>11.3</td>
<td></td>
</tr>
<tr>
<td>Blood and Bone</td>
<td></td>
<td>37.20</td>
<td></td>
<td>-</td>
<td>-</td>
<td>0.9</td>
<td>0.9</td>
<td>-</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Urea</td>
<td>(\text{NH}_2\text{CO}\text{NH}_2)</td>
<td>74.00</td>
<td></td>
<td>1.0</td>
<td>7.8</td>
<td>45.2</td>
<td>20.6</td>
<td>20.0</td>
<td>11.8</td>
<td>24.6</td>
</tr>
<tr>
<td>Borax</td>
<td>(\text{Na}_2\text{B}_4)</td>
<td>2.75(^b)</td>
<td></td>
<td>-</td>
<td>28 lb</td>
<td>28 lb</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Cocoa <strong>Fertilizers</strong></td>
<td></td>
<td>13.13.20</td>
<td></td>
<td>60.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4.9</td>
<td>4.9</td>
<td>-</td>
</tr>
<tr>
<td>Banana <strong>Fertilizers</strong></td>
<td></td>
<td>10.5.20</td>
<td></td>
<td>60.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1045.9</td>
<td>987.0</td>
<td>1571.3</td>
</tr>
<tr>
<td>Unspecified(c)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>235.7</td>
<td>633.4</td>
<td>786.6</td>
<td>-</td>
<td>-</td>
<td>33.0</td>
</tr>
</tbody>
</table>

Notes:  
\(a\) Prices for 1970, prices vary from year to year.  
\(b\) Landed price per lb.  
\(c\) Ready-mix (NPK) of different mixtures.  
\(d\) Fertilizers are imported by the Department of Agriculture, not by private firms.

## TABLE 4.6
### CLASSIFICATION OF LOANS APPROVED BY THE DEVELOPMENT FUND

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Loans</td>
<td>$</td>
<td>No. of Loans</td>
<td>$</td>
<td>No. of Loans</td>
</tr>
<tr>
<td>Mixed Farming</td>
<td>12</td>
<td>11,507</td>
<td>129</td>
<td>63,344</td>
<td>11</td>
</tr>
<tr>
<td>Cattle</td>
<td>1</td>
<td>1,000</td>
<td>22</td>
<td>35,868</td>
<td>4</td>
</tr>
<tr>
<td>Bananas(^a)</td>
<td>4</td>
<td>7,516</td>
<td>86</td>
<td>37,965</td>
<td>4</td>
</tr>
<tr>
<td>Taro</td>
<td>1</td>
<td>300</td>
<td>89</td>
<td>30,683</td>
<td>8</td>
</tr>
<tr>
<td>Fishery</td>
<td>-</td>
<td>-</td>
<td>21</td>
<td>8,491</td>
<td>8</td>
</tr>
<tr>
<td>Market Gardens</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>160</td>
</tr>
<tr>
<td>Pineapple</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>5,000</td>
</tr>
<tr>
<td>Poultry</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>7,000</td>
<td>1</td>
</tr>
<tr>
<td>Piggery (^b)</td>
<td>-</td>
<td>-</td>
<td>18</td>
<td>5,263</td>
<td>6</td>
</tr>
<tr>
<td>Others(^c)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
<td>20,323</td>
<td>368</td>
<td>195,614</td>
<td>43</td>
</tr>
</tbody>
</table>

**Notes:**

a Up to 1975, most of the credit for banana production was obtained from the Department of Agriculture under the provisions of the Banana Production Project (refer Sub-Section 4.4.2 (iii)).

b Including cacao, coconut, loa (Annatto).

4.4 Production

At the time of the studies mentioned above, agricultural production was mainly concerned with the establishment of permanent tree crops of coconuts, cacao and a scattering of breadfruit trees and other economically useful plants which usually received very little care once established, and the production of food crops including bananas, taro and yams. The latter were undertaken using the traditional long fallow system of cultivation.

Traditionally, the care and maintenance of these crops varied considerably. Apart from the use of DDT to protect against scab moth damage to the skin of the banana fruit, chemicals such as fertilizers, weedicides, fungicides, and the equipment for their application, were rarely used, if at all (Ward, 1959:127; Lockwood, 1971:207). All of the studies commented on the relatively poor efforts by the Government to raise productivity through the provision of education and material assistance.

The institution of the first of the five-year development plans in 1965 changed official pre-independence and early post-independence policy from a preoccupation with political and social welfare development and consolidation to one which equally emphasized the need for economic development (see Section 5.1.2, Chapter 5). Since 1965, the Government's development plans have included projects designed to increase the production of Western Samoa's three major export crops and to diversify and expand the agricultural export base.

In spite of the increase in Government assistance over the period 1965-1970, Fairbairn summed up the conclusions of his 1973
study by commending the Government's policies and measures for the
development of industry, tourism and selected areas of agriculture,
but, at the same time, emphasizing the need for the Government to
pursue policy measures which would stimulate the performance of the
agricultural sector:

The overriding need lies in the field of agriculture - the need to raise productivity by strengthening
the present governmental effort in the field of
extension services, the implementation of a more
flexible land tenure system and the introduction
of new techniques of production and crop varieties
to the village growers. Other areas of the economy
which need to be strengthened are general banking
and credit facilities, the system of 'feeder' roads
in the rural sector and institutional linkages
designed to facilitate cooperation between the
central government and outer districts.
(Fairbairn, 1973:160)

The latest Government publication on economic development
has the following objectives with respect to agricultural development:

Government's first priority is to increase the total
output of this sector by improving production on
land presently under cultivation and utilising yet
unused land and sea resources in order to:

(a) provide sufficient food for a fast growing
    population and expanding tourist industry;
(b) increase exports of agricultural products;
(c) provide sufficient raw materials for agro-
    based industries.
(GWS: Department of Economic Development, 1974:58)

Production in the villages is undertaken for two main
reasons: to meet the subsistence needs by the production of food
and other commodities which are not marketed but consumed or used by
the farm family; and to meet the various needs for cash of the farm
family by the production of a surplus of cash crops which are sold
on both the domestic and export markets. In addition, the need for cash by the farm family may also be met by the sale of its labour, and remittances from relatives abroad and in Apia (see Section 4.5 below).

The relative proportions of labour time devoted to these activities have been discussed under Section 4.3.2 above, whilst the relative proportions of income derived from various productive activities are discussed under Section 4.5 below.

4.4.1 Subsistence production

The meaning of the term "subsistence" as used in this study is synonymous with such terms as "non-market", "non-cash", "non-exchange", or "non-traded"; all of which are used to define production which does not enter the market.

In Western Samoa, current subsistence production encompasses a wide range of traditional commodities which have been exhaustively listed by Pitt (1970:268), under six types: food, clothing, household implements, furniture and fittings, capital goods and houses. Lockwood (1971) has described in considerable detail the most important of these types of Samoan goods, viz. food, household durables and housing.

A measure of the significance of subsistence production is reflected in the monetization factor of household incomes discussed in Section 4.5 below. Since Lockwood's findings included components of subsistence income from buildings, household durables and fish,
his estimates of the monetization factor of 30 per cent in the more remote villages and 70 per cent in villages nearer Apia are considered more representative.

According to the population census the number of traditional thatched houses is declining in absolute numbers, from 16,141 in 1961 to 15,438 in 1966; and in relative importance from 80.3 per cent in 1961 to 73.4 per cent in 1966. The 1971 census is unavailable but a survey of household living conditions in 1971 indicates these trends are continuing (Table 4.7).

However, most Samoan households occupy more than one dwelling. Each household may have one or more separate cooking houses and all of these are mostly thatched. There is, therefore, a considerable number of houses with a substantial component of materials obtained from the use of subsistence resources.

Fish is the major source of protein for the villagers. The economically active persons engaged in fishing as a principle occupation are included in "other agriculture". However, a considerable number of economically active persons engage in part-time fishing for subsistence purposes. Figures for 1971 are unavailable, but for 1966, out of a total of 35,292 economically active persons, 11,394 reported having a secondary occupation. Of these 11,394 persons, some 10,187 indicated fishing as their secondary occupation, with 8,740 being male and 2,654 female.

4.4.2 Market production

The commodities produced for market sale include copra, cacao, bananas, taro and other root crops, fish, handicrafts and
### TABLE 4.7

**KIND OF HOUSES IN WESTERN SAMOA**

<table>
<thead>
<tr>
<th>Kind of Houses (or Fale)</th>
<th>1961</th>
<th>1966</th>
<th>1972</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Urban</td>
<td>Rural</td>
<td>Average</td>
</tr>
<tr>
<td>Traditional thatched fale</td>
<td>80.2</td>
<td>73.4</td>
<td>50.8</td>
</tr>
<tr>
<td>Fale with modifications</td>
<td>4.5</td>
<td>5.5</td>
<td>23.6</td>
</tr>
<tr>
<td>Open European house (Fale'apa)</td>
<td>5.6</td>
<td>8.3</td>
<td>8.3</td>
</tr>
<tr>
<td>Closed European house</td>
<td>9.7</td>
<td>12.8</td>
<td>17.3</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Total houses</td>
<td>n.a.</td>
<td>n.a.</td>
<td>301</td>
</tr>
<tr>
<td>Households included</td>
<td>n.a.</td>
<td>n.a.</td>
<td>168</td>
</tr>
<tr>
<td>Houses per household (average)</td>
<td>n.a.</td>
<td>n.a.</td>
<td>1.79</td>
</tr>
</tbody>
</table>

**Note:** a Figures for 1961 and 1966 are population census figures whilst those for 1972 were from a household survey.


Vegetables. By far the most important of these are copra, cacao, taro and bananas. For most farm families, the portions of these crops which enter the market are a surplus of what they require for subsistence purposes. In other words, subsistence requirements have priority on the amount of a subsistence-commercial crop produced on the farm.

These and other village-produced commodities are rarely traded for cash between villages or between families within a village.

---

4 A study by Rhee (1974) established that the value of taro exports exceeded the value of banana exports in 1972 and 1973 (for New Zealand only).
When exchanges of these commodities take place they are based on social or family connections and reciprocal obligations which perpetuate mutual security (Lockwood, 1969:99). In contrast each village has one or more stores from which rice, flour, biscuits and other imported commodities can be bought for cash. The same stores buy the copra and cacao from the villagers. Export bananas are bought by the Produce Marketing Division (PMD) of the Department of Agriculture whilst taro exports are bought by both the PMD and private shippers. Sales of other village-produced commodities are by the villagers direct to consumers at the market in Apia.

Village surveys of labour use and sources of income considered elsewhere in this chapter, indicate that the cash earning farming activities take up about 20-33 per cent of the total labour time of male adults spent on productive activities and earn about 20-33 per cent of total income per consumption unit.

In 1971, it was estimated that 80 per cent of the copra and 60 per cent of the cacao for export were produced by the villagers (GWS: Department of Economic Development, 1972:2). A recent study (Rhee, 1974) suggests that in 1973 about 85 per cent of the taro produced for export to New Zealand alone came from village growers. With the current transient state of the banana export industry, it is difficult to establish what percentage of banana export comes from the village growers.

5 Estimates of volumes of exports are fairly reliable. Those for subsistence and domestic market consumption, if available, must be treated with caution.
4.4.3 The effects of social and organizational institutions on production

The formal social groups within a village have been described in Section 3.1.2 of Chapter 3. Added to these formal groupings are the various church groups, e.g. Boys' Brigade (au-a-tama or autalavou). All of these groups are capable of undertaking community projects which may raise the level of demand above the aggregate demand of individuals.

The level of demand, and productive activity, was raised by a need for various community facilities and for social and political prestige, status and power. These motives for additional subsistence output varied between aiga and villages and over time. The extent to which they affected the level of output depended usually on the strength of village leaders and institutions ... At any one time the main factor which determines the level of community and social demand is the strength, unity and influence of the village leaders and institutions (Lockwood, 1971:193-4)

Lockwood recognizes two forms of community and prestige demand which is additional to that of individuals within the aiga. The first is a constant demand for village output or a "sort of running cost". These include the maintenance of paths, the malae or village "green", the bathing pool, and the other village capital stock of churches, schools and piped water systems. The second involves occasional but substantial demands on village output. These include investments of both labour and cash on capital works such as the construction of a guest-house or non-traditional dwelling at the aiga level and the construction of a church or a school at the village level.
(i) **Social co-operation successful in achieving short term economic objectives**

To meet the cash demands, the fono may levy a tax on each individual or aiga. On the other hand, the fono may decide to raise the necessary funds by organizing the establishment of a central plantation or by placing a Sa on a crop. Money may also be obtained from outside the village by staging concerts or dances in Apia and by holding a Tusiga-igoa and dedication ceremony.

The individual aiga may meet the cash demands on them with their income from the sale of agricultural products. On the other hand, the aiga may obtain cash from outside the village by engaging some of its members in wage employment or by requesting members of the aiga permanently employed and resident in Apia or New Zealand to provide funds.

The church groups and women's committee may also undertake money raising activities to meet cash needs of their own projects. From within the village these may include mat-weaving or thatch-making for sale. Other money-raising activities include the holding of dances or concerts.

6 The prohibition for a time of the sale (and limited consumption) of a crop - usually coconuts - which is reserved specifically for earning cash for a project.

7 A tusiga-igoa is a special day when relatives resident outside the village are invited to visit the village, to write their names and pledge whatever money they wished, and to be feasted by the village. A dedication ceremony is held at the completion of the project. Relatives are again invited, feasted, and bring with them gifts of money to help pay the debts incurred by the project.
Given their lack of knowledge of the principles of economic cooperation, the Samoans have shown remarkable resourcefulness in utilizing social co-operation in raising funds with which to finance their village capital stock. There may be idle surplus land but given that there is a deficiency of opportunities to obtain the necessary information and inputs of the "new technology" with which to overcome problems of marketing uncertainties, soil exhaustion, and diseases and pests, the Samoans have acted rationally in channelling their labour into non-agricultural methods of fund-raising, which, for them, are more certain of success, less costly in terms of their labour and their time, and far more satisfying.

(ii) Social co-operation requiring principles of economic cooperation to achieve long-term objectives

When the technical information and inputs of the "new technology" are provided, social co-operation by one or the other of these social groups has been successfully used in mobilizing surplus land and labour to raise agricultural output, only to be curtailed once a target has been achieved or because of some dispute over non-economic but related matters. The following are three such examples by social groups using the essential inputs from the "new technology" under technical advice from the Department of Agriculture.

The first concerns a village which had a very influential and highest ranking chief who provided strong and stable leadership. With his endorsement the village council agreed to the establishment of a village central banana plantation. There was no forest land available. Suitable land was offered by one of the Matai. A village
plantation committee was appointed under the chairmanship of one of the leading Matai. Old and neglected cacao trees were removed and bananas planted on 10 acres of land, using village labour with fertilizer and leafspot control services provided on credit by the Department of Agriculture.

From this central plantation quality bananas were exported, reject bananas were sold at low prices to villagers, the use of the "new technology" was demonstrated, and "clean" planting material was obtained. A considerable sum of money was accumulated in a savings bank account with the chairman of the plantation committee and the highest ranking chiefs as trustees.

Next the village council approved the expansion of banana production on an individual basis. The planting material was supplied from the central plantation and the Department provided other essential inputs and services on credit. The central plantation was left to be managed by the plantation committee, using paid labour since individual aiga became involved in the establishment and maintenance of their own plots.

The village council was advised to use the income from the central plantation to purchase a truck with which to earn more money by trucking their own bananas into Apia to purchase sprayers, fertilizers and fungicides with which they themselves could carry out leafspot spraying at lower cost than that charged by the Department. Unfortunately, at this stage, the highest-ranking chief became ill and subsequently died.
In the ensuing process of selecting a successor, divisions within the village developed between supporters of various candidates, one of which was the plantation committee chairman. Opponents of this man took him and his committee to court on a charge of misuse of village funds from the village central plantation. By this time, too, most aiga had established and substantially expanded their banana plantations. The central plantation was abandoned. The earnings from it became a pawn in the political struggle that took place amongst the candidates and their supporters for the highest title in the village. These funds were frozen pending a court ruling and a village council decision. Meanwhile, no truck was bought and the individual plantations continued to depend on departmental assistance.

Another example is that of a village where the village council was ineffective. However, strong and stable leadership was provided by the Pastor who had a well-organized Boys' Brigade. Suitable land was obtained and the Pastor and members of his Boys' Brigade established 10 acres of bananas. Again, the co-operating group was advised to invest part of the earnings from the plantation in sprayers, fungicides, weedicides and fertilizers. Unfortunately, by this time the Agricultural Advisory Officer went on overseas training. On his return he found that amongst other things, the earnings from the plantation were used to pay off the balance of the debts incurred during the building of the church, to make improvements to the Pastor's house, and to purchase a pick-up which

8 In Western Samoa, members of the Boys' Brigade are not confined to adolescents. Young men in their early and late twenties were also included.
was hired to the Department. Meanwhile, the plantation continued to depend on departmental assistance.

A third example concerns a village where the two most important Matai held important full-time public positions. One of the Matai and his immediate family lived in Apia whilst the other came home to the village on the weekends. The most effective full-time leadership in the village was found amongst the women's committee whose president was the wife of the Matai who came home on the weekends.

Suitable land was found and members of the village women's committee established about 5 acres or more of bananas. The women's committee was advised to purchase inputs of the "new technology" and to hire a man to be trained in the spraying of bananas against diseases and pests. Unfortunately, the Matai living in Apia became ill. The Matai who was home on the weekends conferred on two of his nominees the title held by the Matai who took ill. Under custom and tradition, he was able to do this although it was alleged this would have been prevented if the current holder had not been indisposed (and subsequently died). The village was therefore divided, and since the women took their status from that of their husbands or the Matai of their aiga, the women's committee also became divided over the title dispute.

At about this time, the aumaga had been away in Apia where they were building a traditional Samoan guest-house for a High School. Because of their prolonged absence, planting of traditional staple foods had been neglected so that on their return there was a general
food shortage in the village. The division in the village enabled many villagers short of food to use the fruits of the banana plantation. For this and other reasons, the banana plantation was abandoned and the funds in the bank frozen.

In all of these projects, the "accounting" responsibilities and the decisions as to how the funds were to be used were left to the social co-operating group. The Department's functions were limited to the provisions of material assistance and technical advice. Although some agricultural officers do try to give advice as to how the earnings can best be reinvested for purposes of increasing output and incomes, they have no specialized training in the principles of economic co-operation. Nor has the Government established any special department to promote the establishment of economic co-operatives beyond the position of a registrar of co-operatives whose function is mainly concerned with the registration of co-operative societies established within the country.

These examples are illustrative of how social co-operation by the various groups in the village can be used to foster development projects. They also demonstrate that social co-operation which is subject to the unity and continuity of good leadership can be easily disrupted by social and political problems of the kind mentioned above. These are problems which must be distinguished from the operation of economic co-operative activities. They can only be overcome if social co-operating groups learn and practice the principles of economic co-operation. Only then can Samoans learn to divorce their economic roles from dispute over responsibilities associated with their social and political roles.
The seeds of economic co-operation are already found amongst the informal small rotating "credit" associations. What needs to be done is for the Government to supplement its purely technical agricultural production advisory services with some expert services on farm management and on the formation and operation of economic co-operatives.

Finally, all of these examples demonstrate that land-tenure problems are not in themselves the constraints to agricultural production that they have been reputed to be. Rather, the constraints to agricultural production are associated with the inability to dissociate purely economic activities from problems arising from social and political issues.

4.4.4 The effects of the Central Government's activities on production

The Department of Agriculture is the functional department responsible for implementing the agricultural development policies and programs of the Central Government. It was established under the Agriculture, Forests and Fisheries Ordinance 1959, under which the principle functions of the Department are stated as:

(a) To promote and encourage the development of all phases of the planting, agricultural, pastoral, and horticultural industries in Western Samoa including the banana, coconut, cocoa, coffee and other fruit and vegetable production industries with a view to maintaining and improving the quality and quantity of the products derived from those industries;

(b) To promote the conservation and prudent utilization of forests of Western Samoa and to regulate the supervision of the cutting,
hewing, sawing, and other methods of conversion of timber or other forest products and the disposal of logging and other industrial waste and debris therefrom;

(c) To regulate fishing in Western Samoa and the territorial waters belonging thereto or any part thereof, and to promote the economical and orderly taking and conservation of fish and the control of any industry engaged in the processing of fish and fish products. (GWS: 1959, Agriculture, Forests and Fisheries Ordinance, No.6)

In addition, the Department is charged with the administration of various ordinances and the development projects\(^9\) which fall within its areas of responsibility. An agricultural Advisory Committee advises the Economic Development Board which ultimately approves the agricultural, forests and fisheries projects proposed by the Department for inclusion in the Five Year Development Plan.

Theoretically, the District Field Assistants (DFAs) of the extension division are the official representatives of the Department in the villages. The extension division was decentralized in 1965, with each DFA assigned to a district with an average of about 10 villages.

Included amongst the general responsibilities of a DFA are those formerly held by the Pulefa'ato'aga\(^{10}\) who become redundant, in part, because it was envisaged that the DFA would take over his functions. However, amongst other things, the DFA became engrossed with local matters and less involved in national development programs.

---

\(^9\) Which are included in the national Five Year Development Programs.

\(^{10}\) A District Official nominated by the faipule district and appointed by the Department of Agriculture to undertake various crop inspections in cooperation with village councils.
in promoting the production of bananas leaving him little time to work with the village councils, as the Pulefa'ato'aga used to do, in organizing the planting of subsistence staple foods sufficient to meet the needs of each farm family.

Moreover, although the DFA is meant to be responsible for all agricultural extension activities within his district, in practice the major part of his time is occupied with the implementation of the banana project. Meanwhile, coconut, livestock, cacao and other project staff communicate directly with farmers on technical matters related to their specific projects.

(i) Preoccupation with cash crops for export

The current research, development projects, and extension activities of the Department emphasise the production and marketing of cash crops for the export market. Coconuts, bananas and taro are also subsistence crops and are sold on the domestic market, but it is that part of these crops exported which has been, and still is, of major concern to the Department and Government.

Thus we have a Copra Marketing Board, a Cocoa Marketing Board, a Produce Marketing Division, all of which are concerned with the marketing of that part of these crops which is exported. Similarly, the research, the extension, and the development project activities of the staff of the Department, as reflected in the contents of its annual reports, are mainly concerned with the promotion of the production of specific crops for export.
On the other hand, the farm families operate mixed crop/livestock farms. They are concerned with the production of both subsistence food crops (and other traditional commodities) and commercial crops. For the subsistence-commercial Samoan farm family, the production of edible and saleable banana fruit on the local market is more important and profitable than the production of quality fruit for the export market.

The focus of the Department's current research and extension activities on livestock and poultry is the accumulation of knowledge and the establishment of livestock feeds and breeding stock which promote the establishment of large-scale individual livestock and poultry production units. How livestock and poultry production can be adapted and incorporated into the traditional village agricultural smallholder systems also requires study.

With respect to fisheries, clearly the problem is that the Department is over-extending itself by establishing too many village fisheries associations. Amongst other things, the Department should limit the number of associations to a level which its staff and other resources can effectively service. It can do this by concentrating on Samoans who are better motivated because they depend on fishing for all or the major part of their income.

(ii) Shortage of staff and other resources

One basic cause of failure of the banana and fisheries projects is the shortage of inputs of the "new technology", of technical staff and of other resources, e.g. transport. The relatively successful projects were those which did not require any of the inputs
of the "new technology" (merely an extension of the traditional technology), e.g. coconuts. But rather than limiting the production of bananas, and other agricultural commodities to levels which available resources dictate by regional/district specialization based on comparative advantage, the Department allowed their production to continue indiscriminately on a nationwide basis.

(iii) Commodity-specific nationwide approach

The approach used in promoting the production and marketing of exportable or import-substitutable products is commodity-specific and nationwide. In other words, the staff in charge of a project is concerned only with promoting the production or the marketing of a specific commodity throughout the country. For example, coconut planting and replanting is promoted by the staff of the coconut project, the cacao multiplication project by a separate project staff, the banana production project by the extension division, and livestock and poultry activities by a separate livestock extension staff. What happens is that project staff of all of these projects contact Samoan farmers strictly on matters concerned with their projects.

This commodity-specific or specialized approach by the Department at the village level is unnecessary, wasteful of resources, and can be harmful. In the first place, the average Samoan farmer is a mixed crop/livestock farmer and has little knowledge of agricultural science (the "new technology") or else his knowledge is very rudimentary. On the other hand, most of the DFAs have had training in general agriculture. All DFAs receive in-service training in general agricultural topics. Many DFAs are graduates
with Diplomas in Tropical Agriculture from the South Pacific Regional College of Tropical Agriculture which teaches a three-year general tropical agricultural course. Hence, the technical information that the average Samoan farmer requires in order to raise the productivity of any of his traditional agricultural activities can be adequately and satisfactorily provided by the DFA. Should the DFA fail to resolve a problem, he can always refer it to his superior officer or a specialist at headquarters.

Secondly, the current specialist approach at the field level is wasteful of available skills and other departmental resources. Much of the knowledge and skills of a DFA is wasted if his advice is to be confined to matters pertaining to a specific commodity. Transport and administration are duplicated and time is wasted since specialist staff on different commodities cover the whole of the country. 11

Finally, this specialist and unco-ordinated approach is harmful to both the farmers and to the DFAs themselves. DFAs tend to promote "their crop" to the exclusion of "other crops". This is harmful to the farmer when it accelerates the encroachment of coconuts onto land reserved for subsistence food production. Overplanting of bananas relative to available resources is a major problem in itself, but it has also contributed to the decline of

11 For instance, it is not uncommon for two DFAs to converge on the same farm family but on separate matters both of which could have easily been resolved by one or the other of the DFAs.
cacao production. Furthermore, farmers sometimes become confused because of a multiplicity of DFAs converging on them and sometimes giving contradictory advice on general aspects of agriculture.

For some DFAs, e.g. on coconuts, their responsibilities provide very little intellectual challenge. On the other hand, the covering of as much as 10 villages on one crop makes inordinate demands on his time and energies. Moreover, to say that coconut DFAs are better performers because of the success of their project is unfair to DFAs working on bananas and other crops faced with more complex problems.

(iv) The nature of the advice

The main type of advice provided is technical in nature with no farm management and a minimum of economic content. Advice on economic co-operation is unavailable. Different DFAs provide technical advice on different commodities. This advice is unco-ordinated.

(v) Conclusions

It is a combination of these factors which has led to the general lack of success in raising the productivity of land and labour through the introduction of the inputs and knowledge of the "new technology". It stems, primarily, from the failure to consider each farm family as a subsistence-commercial production unit operating

---

12 In North-west Upolu and Aleisa, cacao was removed and replaced by bananas. When bananas were abandoned, the farmers were left with no bananas and no cacao.
within the framework of Samoan society and the failure to recognize the need to select a combination of crop and livestock activities which maximizes each farm family's utility, given its available resources of land and labour, the the technical and material resources the Government can provide. This reflects the concentration on technical training relative to the teaching of relevant development economics, farm management, and the principles of economic co-operation.

4.5 Income

Detailed estimates of income per consumption unit and incomes per household are presented in Tables 4.8 through to 4.11. Table 4.8 contains estimates of income per consumption unit obtained by Lockwood (1971) for the period 1965/66 in a sample survey covering four villages. Tables 4.9, 4.10 and 4.11 summarize estimates of income per household in a 1971/72 household sample survey by the Samoan Government (GWS: Department of Statistics, 1972).

Any comparisons of the results of the two surveys must be treated with caution because of the time gap, differences in the villages selected, and the fact that the subsistence consumption value of fish was excluded in the 1972 household survey. Moreover, the objectives of Lockwood's selection of villages for his survey

13 Household is defined as "a group of persons living together and provide themselves with food and other essentials for living" which is close to my definition of a farm family (see sub-section 6.2.3 in Chapter 6).
14 The result of Lockwood's sample survey of four rural villages can be compared with those for the rural part of the 1972 household survey.
15 Its exclusion has the effect of inflating the monetisation factor.
### TABLE 4.8

**INCOMES \(^a\) PER CONSUMPTION UNIT FOR FOUR VILLAGES**

<table>
<thead>
<tr>
<th></th>
<th>Utuali'i</th>
<th>Pontasi</th>
<th>Taga</th>
<th>Uafato</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subsistence Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food</td>
<td>£ 11.8</td>
<td>£ 23.8</td>
<td>£ 30.6</td>
<td>£ 28.6</td>
</tr>
<tr>
<td>Buildings</td>
<td>£ 1.6</td>
<td>£ 1.5</td>
<td>£ 1.0</td>
<td>£ 1.0</td>
</tr>
<tr>
<td>Household durables</td>
<td>£ 1.5</td>
<td>£ 2.0</td>
<td>£ 1.9</td>
<td>£ 1.2</td>
</tr>
<tr>
<td>Tools and equipment</td>
<td>£ 0.4</td>
<td>£ 0.6</td>
<td>£ 0.5</td>
<td>£ 0.5</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>£ 15.3</td>
<td>£ 27.9</td>
<td>£ 34.0</td>
<td>£ 31.3</td>
</tr>
<tr>
<td><strong>Cash Income</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture and fishing</td>
<td>£ 15.8</td>
<td>£ 14.6</td>
<td>£ 13.6</td>
<td>£ 7.5</td>
</tr>
<tr>
<td>Handicrafts</td>
<td></td>
<td>£ 2.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wages</td>
<td>£ 10.6</td>
<td>£ 8.1</td>
<td>£ 1.6</td>
<td>£ 2.2</td>
</tr>
<tr>
<td>Remittances from Apia</td>
<td>£ 0.2</td>
<td>£ 1.6</td>
<td>£ 0.8</td>
<td></td>
</tr>
<tr>
<td>Remittances from aboard</td>
<td>£ 9.4</td>
<td>£ 2.9</td>
<td>£ 2.5</td>
<td>£ 1.0</td>
</tr>
<tr>
<td>Gifts</td>
<td>£ 0.2</td>
<td>£ 0.3</td>
<td>£ 0.1</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td>£ 0.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>£ 36.0</td>
<td>£ 25.8</td>
<td>£ 20.0</td>
<td>£ 13.7</td>
</tr>
<tr>
<td><strong>Total Income:</strong></td>
<td>£ 51.3(^b)</td>
<td>£ 54.3(^b)</td>
<td>£ 54.0</td>
<td>£ 45.0</td>
</tr>
</tbody>
</table>

**Monetization Factor**

<table>
<thead>
<tr>
<th></th>
<th>Utuali'i</th>
<th>Pontasi</th>
<th>Taga</th>
<th>Uafato</th>
</tr>
</thead>
<tbody>
<tr>
<td>70%</td>
<td>50%</td>
<td>37%</td>
<td>30%</td>
<td></td>
</tr>
</tbody>
</table>

\(^a\) 12 months, December 1965 - November 1966, and includes fish as part of subsistence food.

\(^b\) Aggregate of imputed value of subsistence income and cash income; intended only for inter-village comparisons.

### TABLE 4.9

**SUBSISTENCE INCOME BY KIND\(^a\) PER HOUSEHOLD**

($ per month)

<table>
<thead>
<tr>
<th>Kinds of Subsistence</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Northwest Upolu</td>
</tr>
<tr>
<td></td>
<td>$</td>
<td>$</td>
</tr>
</tbody>
</table>

1. Consumption Value of:

(a) Taro 605 851 1,110 762 2,723 40.3
(b) Banana 568 159 1,133 269 1,561 23.1
(c) Coconut 75 238 354 264 856 12.7
(d) Cocoa 52 88 94 197 379 5.6
(e) Taamu 56 127 210 244 581 8.6

2. Consumption Value of:

(a) Pigs 79 42 115 175 332 4.9
(b) Chickens 122 71 88 115 274 4.1

3. Others 31 11 3 27 41 0.7

Total Amount in $: 1,588 1,587 3,107 2,053 6,747 100

<table>
<thead>
<tr>
<th>No. of Household Included</th>
<th>168</th>
<th>54</th>
<th>51</th>
<th>60</th>
<th>165</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Household in $</td>
<td>9.45</td>
<td>29.39</td>
<td>60.92</td>
<td>34.22</td>
<td>40.89</td>
</tr>
</tbody>
</table>

\(a\) Excludes fish.

### TABLE 4.10
MONETARY INCOME BY SOURCES PER HOUSEHOLD
($ per month)

<table>
<thead>
<tr>
<th></th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>Northwest Upolu</td>
</tr>
<tr>
<td>$</td>
<td>%</td>
<td>$</td>
</tr>
<tr>
<td>1. Wages and Salaries</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16,280</td>
<td>77.0</td>
</tr>
<tr>
<td>2. Cash Remittance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) Within W. Samoa</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>209</td>
<td>1.0</td>
</tr>
<tr>
<td>(b) From New Zealand</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2,516</td>
<td>11.9</td>
</tr>
<tr>
<td>(c) From A. Samoa</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1,034</td>
<td>4.9</td>
</tr>
<tr>
<td>(d) Others</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>74</td>
<td>0.4</td>
</tr>
<tr>
<td>3. Cash Income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(a) From land</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>350</td>
<td>1.7</td>
</tr>
<tr>
<td>(b) From livestock</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>0.1</td>
</tr>
<tr>
<td>(c) From fishing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>93</td>
<td>0.4</td>
</tr>
<tr>
<td>(d) From handicrafts</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20</td>
<td>0.1</td>
</tr>
<tr>
<td>(e) From shop</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>246</td>
<td>1.2</td>
</tr>
<tr>
<td>4. Others</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>274</td>
<td>1.3</td>
</tr>
<tr>
<td>Total Amount</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>21,114</td>
<td>100</td>
</tr>
<tr>
<td>No. of Households:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>168</td>
<td></td>
</tr>
<tr>
<td>Average Household:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>125.70</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 4.11
THE MONETIZATION FACTOR OF HOUSEHOLD INCOMES

<table>
<thead>
<tr>
<th>Average Income per Household per Month</th>
<th>Urban Total</th>
<th>Northwest Upolu</th>
<th>Rest of Upolu</th>
<th>Savai'i</th>
<th>Rural Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subsistence $</td>
<td>9.45</td>
<td>29.39</td>
<td>60.92</td>
<td>34.22</td>
<td>40.89</td>
</tr>
<tr>
<td>Monetary $</td>
<td>125.70</td>
<td>100.91</td>
<td>70.12</td>
<td>61.48</td>
<td>77.05</td>
</tr>
<tr>
<td>Total $</td>
<td>135.15</td>
<td>130.30</td>
<td>131.04</td>
<td>95.70</td>
<td>117.94</td>
</tr>
<tr>
<td>Monetization Factor %</td>
<td>93</td>
<td>77</td>
<td>53</td>
<td>64</td>
<td>65</td>
</tr>
</tbody>
</table>

Source: Tables 4.9 and 4.10.

differed from that of the larger 1972 household survey which involved 165 rural households from 9 villages, stratified to take into account the variations between regions defined by Wander (1972).

Notwithstanding these differences, there is a noticeable trend towards an increase in the monetization factor for rural households due to the rise in wages and remittances. Another reason for presenting Lockwood's findings is that they included components of subsistence income from buildings and household durables which were quite significant.

The more recent and larger 1972 household survey is more useful in explaining current trends. It shows the significant contributions of wages and remittances to total income. On the average, for rural households, remittances represented 29.3 per cent of money income and 19.1 per cent of total income, with wages comprising 41.6
per cent of money income and 27.2 per cent of total income.

A conclusion of this survey was that money income and subsistence income are intercorrelated:

Higher monetary income correlated negatively with land-tenure and subsistence income. Households with none or little subsistence income are found in highest monetary income groups. A lack of land induces the need for other sources of income. (GWS: Department of Statistics, 1972:32)

"Land-tenure" is interpreted to mean available land and "lack of land" can be interpreted to mean high population pressure on land.
CHAPTER 5

THE MONETARY ECONOMY

Of the two distinct economies within the economic system of Western Samoa as defined in Chapter 2, the monetary economy is by far the more dynamic.

The introduction of the monetary economy into Western Samoa made possible international trade which opened up greater opportunities for the expansion of production and exchange. It facilitated the process of economic growth by raising the productivity of both land and labour through the introduction and development of new technologies and methods of economic organization including "specialization, division of labour, and the formation and use of sophisticated forms of capital" (Fisk, 1974:2).

Since these processes cannot take place within the non-monetary subsistence component of the traditional economy, one of the major prerequisites for the process of development in Western Samoa is to accelerate the expansion of the monetary economy.

The major concern of this Chapter is to examine the available data in order to obtain insights into the extent, the expansionary trends, and the significant characteristics of the monetary economy and the various sectors comprising it.

5.1 The Growth and Structure of the Monetary Economy

The growth of the monetary economy is usually assessed in terms of the national income. However, most systems of national income
accounts normally measure effectively only that part of economic activity which is monetized and valued at market prices.

In general, subsistence output or non-marketed production which does not enter the monetary exchange market is insignificant in a developed economy and is therefore not taken into account. But for an underdeveloped economy the value of non-marketed production is significant and if it is not effectively estimated the national income aggregate undervalues the total income of the community or nation state.

Ian Fairbairn (1963; 1973) has undertaken comprehensive studies of the national income of Western Samoa. In his original doctoral dissertation, Fairbairn (1963) considered Western Samoa's national income for selected years over the period 1947 to 1958. In his second study, Fairbairn (1973) rewrote his original thesis and supplemented it with estimates of gross national product for 1969 and 1970. By adjusting the estimates of the earlier years to make them comparable with the results of 1969 and 1970, Fairbairn was able to:

undertake an inter-temporal comparison aimed at the identification of any significant changes in national income (and the overall economy for that matter) which may have occurred in the period 1947-1970. (Fairbairn, 1973:139)

It is significant that Fairbairn's original study concerning the period 1947-1958 was undertaken before Western Samoa gained its independence (in 1962) and before it embarked on its first five year development program (1965). His selection of the years 1969 and 1970 for additional analysis coincided with the end of the first five
year development plan period 1965-1970. Thus, in effect, the additional analysis and comments included in Fairbairn's second study provides an independent source of "assessment" of the impact of Western Samoa's first five year development plan, insofar as this can be revealed in an analysis of its national income.

5.1.1 Total and per head income

Over the period 1947 to 1958 the values of gross national cash income and private cash income per head for selected years estimated by Fairbairn are as indicated in Tables 5.1 and 5.2 respectively. Fairbairn also estimated the total subsistence output for a single year, 1958, to be £4,955,500. After adjustments for population, Fairbairn derived a per head income of £48 cash and £47 subsistence from 1958 estimates of national income. This compared favourably with estimates of income per head of other less developed countries for the same year or earlier (Table 5.3).

It was also established that the gross national cash income rose at an annual average rate of 7.1 per cent over the period 1947 to 1958 (Table 5.4). However, when these figures were analysed further, by taking into consideration for a corresponding period, the annual average rise of 4.0 per cent for consumer prices and 3.2 per cent for population, Fairbairn came to a disquieting conclusion. Although its level of income per head compared favourably with other less developed countries, Western Samoa's income per head was declining by about 0.2 per cent over the period 1947 to 1958 (Fairbairn, 1973:111).
<table>
<thead>
<tr>
<th>TABLE 5.1</th>
</tr>
</thead>
<tbody>
<tr>
<td>GROSS NATIONAL CASH INCOME</td>
</tr>
<tr>
<td>(£'000)</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Samoan Income</td>
</tr>
<tr>
<td>European Labour Income</td>
</tr>
<tr>
<td>European Surplus and Transfer Income</td>
</tr>
<tr>
<td>Total Gross Private Income</td>
</tr>
<tr>
<td>Plus: Government Trading Surpluses</td>
</tr>
<tr>
<td>Less: Transfer Income</td>
</tr>
<tr>
<td>Gross Income Valued at Factor Cost</td>
</tr>
<tr>
<td>Plus: Indirect Taxes</td>
</tr>
<tr>
<td>Less: Subsidies</td>
</tr>
<tr>
<td>Gross Income Values at Market Price</td>
</tr>
</tbody>
</table>

### TABLE 5.2

**INCOME PER HEAD (£)**

<table>
<thead>
<tr>
<th>Year</th>
<th>All Samoans</th>
<th>Rural Samoans</th>
<th>Europeans</th>
<th>Combined Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947</td>
<td>17.9</td>
<td>17.8</td>
<td>108.4</td>
<td>25.9</td>
</tr>
<tr>
<td>1950</td>
<td>18.9</td>
<td>17.8</td>
<td>99.5</td>
<td>26.1</td>
</tr>
<tr>
<td>1952</td>
<td>22.9</td>
<td>22.2</td>
<td>107.1</td>
<td>30.9</td>
</tr>
<tr>
<td>1954</td>
<td>25.9</td>
<td>24.9</td>
<td>138.9</td>
<td>36.6</td>
</tr>
<tr>
<td>1956</td>
<td>22.9</td>
<td>21.2</td>
<td>136.8</td>
<td>33.8</td>
</tr>
<tr>
<td>1958</td>
<td>26.7</td>
<td>25.5</td>
<td>154.6</td>
<td>38.9</td>
</tr>
</tbody>
</table>


### TABLE 5.3

**PER HEAD INCOME OF SOME LESS DEVELOPED COUNTRIES**

<table>
<thead>
<tr>
<th>Country</th>
<th>Year</th>
<th>Gross National Product at Market Price: £ stg</th>
<th>National Income: £ stg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ghana</td>
<td>1958</td>
<td>88.2</td>
<td>78.4</td>
</tr>
<tr>
<td>Nigeria</td>
<td>1956</td>
<td>25.4</td>
<td>23.4</td>
</tr>
<tr>
<td>Rhodesia and Nyasaland, Federation of</td>
<td>1958</td>
<td>56.5</td>
<td>50.0</td>
</tr>
<tr>
<td>Jamaica</td>
<td>1958</td>
<td>126.8</td>
<td>108.8</td>
</tr>
<tr>
<td>Ceylon</td>
<td>1958</td>
<td>45.1</td>
<td>41.9</td>
</tr>
<tr>
<td>Malaya, Federation of</td>
<td>1957</td>
<td>93.0</td>
<td>77.8</td>
</tr>
<tr>
<td>India</td>
<td>1958</td>
<td>-</td>
<td>22.8</td>
</tr>
<tr>
<td>Fiji</td>
<td>1953</td>
<td>72.0</td>
<td>65.8</td>
</tr>
</tbody>
</table>

### TABLE 5.4

GROSS NATIONAL INCOME
ANNUAL GROWTH RATE

<table>
<thead>
<tr>
<th>Period</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1947-1954</td>
<td>8.6</td>
</tr>
<tr>
<td>1947-1956</td>
<td>6.2</td>
</tr>
<tr>
<td>1952-1958</td>
<td>7.3</td>
</tr>
<tr>
<td>1947-1958</td>
<td>7.1</td>
</tr>
</tbody>
</table>


In addition to establishing the tendency for population to outstrip the growth in real national income, Fairbairn also revealed the disturbing fact that the upward monetary trend in national income was due to buoyant prices attributed to post-war years associated with World War II and the Korean War rather than any significant permanent rise in production of Western Samoa's three main crops - cocoa, copra and bananas. Together these commodities comprised about one-third of the national income. Finally, it was also evident that over this period the level of subsistence output per head had also declined. The reasons behind the stagnation of agricultural export production and the decline of subsistence output per head over the period studied are discussed under section 5.1.2 below.

In his second study, Fairbairn (1973) also estimated Western Samoa's gross domestic product at factor cost for 1969 and 1970, presented in Table 5.5. The estimates showed that for the two years the aggregate gross domestic product rose from $15,558,600
### TABLE 5.5

GROSS DOMESTIC PRODUCT AT FACTOR COST

($'000)

<table>
<thead>
<tr>
<th></th>
<th>1969</th>
<th>1970</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Agriculture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copra</td>
<td>1,121.6</td>
<td>1,071.4</td>
</tr>
<tr>
<td>Cacao</td>
<td>992.1</td>
<td>589.2</td>
</tr>
<tr>
<td>Bananas</td>
<td>431.8</td>
<td>422.0</td>
</tr>
<tr>
<td>Other</td>
<td>611.6</td>
<td>634.0</td>
</tr>
<tr>
<td>Total:</td>
<td>(3,157.1)</td>
<td>(2,716.6)</td>
</tr>
<tr>
<td>(b) Commercial Services</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trading</td>
<td>1,802.6</td>
<td>1,864.7</td>
</tr>
<tr>
<td>Transport</td>
<td>793.0</td>
<td>880.0</td>
</tr>
<tr>
<td>Building and Construction</td>
<td>150.0</td>
<td>250.0</td>
</tr>
<tr>
<td>Rentals</td>
<td>4,200.0</td>
<td>4,400.0</td>
</tr>
<tr>
<td>Other</td>
<td>989.4</td>
<td>1,189.0</td>
</tr>
<tr>
<td>Total:</td>
<td>(7,935.0)</td>
<td>(8,583.7)</td>
</tr>
<tr>
<td>(c) Manufacturing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>535.9</td>
<td>614.8</td>
</tr>
<tr>
<td>(d) Tourism</td>
<td>187.4</td>
<td>246.6</td>
</tr>
<tr>
<td>(e) Government</td>
<td>2,723.2</td>
<td>3,147.7</td>
</tr>
<tr>
<td>(f) Missions</td>
<td>1,020.0</td>
<td>1,048.1</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td>15,558.6</td>
<td>16,357.5</td>
</tr>
</tbody>
</table>


... to $16,357,500, or by 5.1 per cent. Unfortunately, due to lack of basic data, Fairbairn could not calculate the extent of the subsistence component of the gross domestic product. Nevertheless, he tentatively estimated subsistence production per head for 1970 to be $70, comprising $50 in foodstuffs and $20 in other subsistence activities.  

---

1 Based on discussions with officers of the Department of Agriculture and personal observations.
With a population of 147,800, this gave a total subsistence output value of $10,346,000 with 90 per cent of it attributed to the rural villages. On the basis of these estimates Fairbairn derived a figure of gross domestic product per head of $110 cash and $70 subsistence.

By appropriately adjusting the figures for the earlier years, Fairbairn was able to compare aggregate domestic product for selected years over the 1947-70 period. Table 5.6 summarizes Fairbairn's findings.

In monetary terms aggregate domestic product rose from $5,373,800 in 1947 to $10,409,600 in 1958 and to $16,357,500 in 1970, so that over the whole twenty-three year period the gross domestic product trebled. Significantly, the expansion has been most rapid during the 1950s with a rate of 3.8 per cent per year from 1958 to 1970.

Economic changes are, however, more satisfactorily assessed in real terms (figures within brackets in Table 5.6). After adjustments for price changes, corresponding values of gross domestic product were estimated to be $6,160,300 in 1957, $7,946,200 in 1958 and $9,347,000 in 1970. The annual growth rate over the period 1952 to 1958 was 6.5 per cent whilst that for the period 1958 to 1970 was 1.3 per cent. Without imputed rent for owner-occupied dwellings, the values of aggregate gross domestic product were reduced further to $5,310,300 for 1952, $7,750,500 for 1958 and $6,832,800 for 1970. This gave a negative growth rate of -1.0 per cent per year for the period 1958 to 1970 implying a continuing deterioration of living standards over this period.
### TABLE 5.6
GROSS DOMESTIC PRODUCT, SELECTED YEARS
($'000)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6 yrs</td>
<td>Anl</td>
</tr>
<tr>
<td>Agriculture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12 yrs</td>
<td>Anl</td>
</tr>
<tr>
<td>1,691.8</td>
<td>2,460.2</td>
<td>3,640.6</td>
<td>2,716.6</td>
<td></td>
<td>48</td>
<td>6.7</td>
</tr>
<tr>
<td>(2,120.8)</td>
<td>(2,779.0)</td>
<td>(1,552.3)</td>
<td></td>
<td></td>
<td>-45.0</td>
<td>-6.0</td>
</tr>
<tr>
<td>34.4%</td>
<td>35.0%</td>
<td></td>
<td></td>
<td></td>
<td>16.6%</td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-28</td>
<td>-4.1</td>
</tr>
<tr>
<td>176.0</td>
<td>99.6</td>
<td>77.6</td>
<td>614.8</td>
<td></td>
<td>493.0</td>
<td>16.0</td>
</tr>
<tr>
<td>(85.9)</td>
<td>(59.2)</td>
<td>(351.3)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4%</td>
<td>0.7%</td>
<td>3.8%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12 yrs</td>
<td>Anl</td>
</tr>
<tr>
<td>3,020.2</td>
<td>3,651.0</td>
<td>5,153.0</td>
<td>8,583.7</td>
<td></td>
<td>41</td>
<td>5.9</td>
</tr>
<tr>
<td>(3,147.4)</td>
<td>(3,933.6)</td>
<td>(4,905.0)</td>
<td></td>
<td></td>
<td>25.0</td>
<td>2.0</td>
</tr>
<tr>
<td>51.1%</td>
<td>49.5%</td>
<td>52.5%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tourism</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>246.6</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(140.8)</td>
<td>0.0</td>
<td>31.0(^b)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.5%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8 yrs</td>
<td>Anl</td>
</tr>
<tr>
<td>283.8</td>
<td>655.0</td>
<td>1,166.8</td>
<td>3,147.7</td>
<td></td>
<td>78</td>
<td>10.0</td>
</tr>
<tr>
<td>(564.7)</td>
<td>(890.7)</td>
<td>(1,798.7)</td>
<td></td>
<td></td>
<td>101.0</td>
<td>6.0</td>
</tr>
<tr>
<td>9.2%</td>
<td>11.2%</td>
<td>19.2%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Missions</td>
<td>202.0</td>
<td>280.2</td>
<td>371.6</td>
<td>1,048.1</td>
<td>33</td>
<td>4.8</td>
</tr>
<tr>
<td>(241.5)</td>
<td>(283.7)</td>
<td>(598.9)</td>
<td></td>
<td></td>
<td>111.0</td>
<td>6.4</td>
</tr>
<tr>
<td>3.9%</td>
<td>3.6%</td>
<td>6.4%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td>5,373.8</td>
<td>7,146.0</td>
<td>10,409.6</td>
<td>16,357.5</td>
<td>46</td>
<td>6.5</td>
</tr>
<tr>
<td>(6,160.3)</td>
<td>(7,946.2)</td>
<td>(9,347.0)</td>
<td></td>
<td></td>
<td>17.5</td>
<td>1.3</td>
</tr>
<tr>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Without Imputed Rent:</td>
<td>(5,310.3)</td>
<td>(7,750.5)</td>
<td>(6,832.8)</td>
<td></td>
<td>46</td>
<td>6.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-12.0</td>
<td>-1.0</td>
<td></td>
</tr>
</tbody>
</table>

a Values at constant prices are within brackets, based on a price index of 116 in 1952, 131 in 1958 and 175 in 1970 with 1951 as base year.

b Value of tourism in 1969 was $187,400. Assuming the price index for 1969 equal to that of 1970, it follows that the annual growth rate is 31 per cent.

Fortunately for Western Samoa, over this period a considerable and rising amount of net income was obtained from overseas sources, mainly private cash remittances from Samoan emigrants to New Zealand. Nevertheless, after accounting for all other components of national income and adjusting for price changes and population growth, Fairbairn found that over the period 1958 to 1970 the real national income per head was declining by an average of 0.7 per cent per year compared to 0.2 per cent per year over the period 1951 to 1958.

Fairbairn's findings, then, established that in real terms national income per capita had deteriorated even further over the period 1958-1970.

Since 1970, isolated estimates for gross domestic product have been made (as in Table 1.3 in Chapter 1), but by different researchers presumably following different procedures so that further comparative treatment would probably be misleading. However, the most recent official publication on the economy of Western Samoa states:

The combination of inflation, population growth and a moderate rate of expansion in aggregate output has resulted in little or no observable growth in per capita GDP in real terms.

(GWS: Department of Economic Development, 1974:2)

5.1.2 Sectoral differentiation and development

A macro-economic analysis of the growth of the aggregate national income relative to the growth of the population provides only a partial understanding of the forces interacting within the
monetary economy. It is essential to undertake a micro-economic inspection of the various sectors comprising the monetary economy in order to obtain an adequate understanding of the problems and prospects for development; for each sector is different in its properties and all vary in their importance. Whilst some sectors may generate and influence the overall pattern of expansion of the monetary economy, in others the level of activity may be more of a response to the general process of expansion itself.

Prior to independence in 1962, the development of the economy of Western Samoa was primarily dependent on the earning capacity of its internal resources. Land and labour were the only resources and with the use of the traditional technology, which required very little or no outside capital investment, the production of the three major agricultural export commodities - copra, cocoa and bananas - provided the only opportunity of generating money income and the expansion of the monetary economy.

After independence in 1962, Western Samoa gained access to foreign entrepreneurial, technological and financial (grants and loans) aid. It also encouraged the entry of foreign investment capital but with controls. With the availability of outside capital and technology Western Samoa was able to pursue a more diversified development of its monetary economy. This is reflected in the structural differentiation and development taking place within the monetary economy.

Over the period 1947 to 1958, the value of commercial services, agriculture and government expanded throughout, but their
relative importance remained much the same. Only the government sector gained significantly in importance, moving from 9.2 per cent in 1952 to 11.2 per cent in 1958. Manufacturing which was small and insignificant declined even further in relative importance. Tourism was negligible (Table 5.6).

The expansion of agriculture which enabled it to maintain its relative share of total GDP (34 per cent in 1952 and 35 per cent in 1958) was due mainly to the rapid expansion of income from cacao and bananas. But for reasons discussed elsewhere (Section 3.2.1, Chapter 3) this expansion was considered a transitory phenomenon. This prediction was vindicated by the decline in subsequent production of both cacao and bananas as indicated in Table 5.7. The same table also reveals that copra production was stagnant. This was due largely to a high percentage of palms past their peak productive age, damage by the rhinocerous beetle, and rising consumption from a rapidly increasing population.

Agriculture's share of GDP would rise substantially if subsistence output is included. But the level of subsistence output per head was also considered to be declining. The logic behind this conclusion revolved around the existence of regional variations in population pressure of land and other resources. In villages where available land reserves for bush-fallow cultivation was adequate, it was assumed that the level of subsistence output was at least maintained. However, many villages were experiencing intensive population pressure on land, particularly in North-west Upolu, due to considerable land alienation and in-migration from outer regions. Villages in these areas typically faced problems of soil exhaustion.
<table>
<thead>
<tr>
<th>Year</th>
<th>Copra Qty</th>
<th>Copra Price</th>
<th>Copra Value</th>
<th>Cacao Qty</th>
<th>Cacao Price</th>
<th>Cacao Value</th>
<th>Bananas Qty</th>
<th>Bananas Price</th>
<th>Bananas Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1951</td>
<td>110</td>
<td>106</td>
<td>116</td>
<td>78</td>
<td>172</td>
<td>134</td>
<td>111</td>
<td>74</td>
<td>8</td>
</tr>
<tr>
<td>1952</td>
<td>132</td>
<td>122</td>
<td>161</td>
<td>60</td>
<td>168</td>
<td>100</td>
<td>10</td>
<td>86</td>
<td>9</td>
</tr>
<tr>
<td>1953</td>
<td>87</td>
<td>126</td>
<td>109</td>
<td>91</td>
<td>171</td>
<td>156</td>
<td>45</td>
<td>90</td>
<td>41</td>
</tr>
<tr>
<td>1954</td>
<td>106</td>
<td>134</td>
<td>142</td>
<td>58</td>
<td>269</td>
<td>157</td>
<td>49</td>
<td>95</td>
<td>47</td>
</tr>
<tr>
<td>1955</td>
<td>133</td>
<td>128</td>
<td>171</td>
<td>78</td>
<td>191</td>
<td>148</td>
<td>80</td>
<td>90</td>
<td>72</td>
</tr>
<tr>
<td>1956</td>
<td>105</td>
<td>116</td>
<td>121</td>
<td>81</td>
<td>138</td>
<td>112</td>
<td>53</td>
<td>90</td>
<td>47</td>
</tr>
<tr>
<td>1957</td>
<td>111</td>
<td>108</td>
<td>120</td>
<td>75</td>
<td>146</td>
<td>109</td>
<td>59</td>
<td>98</td>
<td>57</td>
</tr>
<tr>
<td>1958</td>
<td>78</td>
<td>118</td>
<td>92</td>
<td>103</td>
<td>204</td>
<td>209</td>
<td>158</td>
<td>99</td>
<td>156</td>
</tr>
<tr>
<td>1959</td>
<td>130</td>
<td>155</td>
<td>202</td>
<td>98</td>
<td>171</td>
<td>167</td>
<td>140</td>
<td>100</td>
<td>140</td>
</tr>
<tr>
<td>1960</td>
<td>112</td>
<td>130</td>
<td>147</td>
<td>91</td>
<td>133</td>
<td>120</td>
<td>101</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1961</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1962</td>
<td>99</td>
<td>98</td>
<td>97</td>
<td>129</td>
<td>152</td>
<td>195</td>
<td>136</td>
<td>104</td>
<td>141</td>
</tr>
<tr>
<td>1963</td>
<td>118</td>
<td>110</td>
<td>130</td>
<td>105</td>
<td>133</td>
<td>140</td>
<td>123</td>
<td>104</td>
<td>128</td>
</tr>
<tr>
<td>1964</td>
<td>118</td>
<td>115</td>
<td>137</td>
<td>109</td>
<td>111</td>
<td>121</td>
<td>115</td>
<td>106</td>
<td>123</td>
</tr>
<tr>
<td>1965</td>
<td>96</td>
<td>130</td>
<td>125</td>
<td>73</td>
<td>105</td>
<td>76</td>
<td>86</td>
<td>110</td>
<td>95</td>
</tr>
<tr>
<td>1966</td>
<td>108</td>
<td>112</td>
<td>122</td>
<td>66</td>
<td>153</td>
<td>101</td>
<td>11</td>
<td>111</td>
<td>12</td>
</tr>
<tr>
<td>1967</td>
<td>55</td>
<td>126</td>
<td>69</td>
<td>76</td>
<td>162</td>
<td>122</td>
<td>17</td>
<td>118</td>
<td>20</td>
</tr>
<tr>
<td>1968</td>
<td>98</td>
<td>143</td>
<td>140</td>
<td>63</td>
<td>170</td>
<td>107</td>
<td>17</td>
<td>124</td>
<td>21</td>
</tr>
<tr>
<td>1969</td>
<td>113</td>
<td>119</td>
<td>134</td>
<td>74</td>
<td>206</td>
<td>151</td>
<td>39</td>
<td>120</td>
<td>47</td>
</tr>
<tr>
<td>1970</td>
<td>774</td>
<td>136</td>
<td>101</td>
<td>60</td>
<td>146</td>
<td>87</td>
<td>34</td>
<td>120</td>
<td>41</td>
</tr>
<tr>
<td>1971</td>
<td>138</td>
<td>109</td>
<td>151</td>
<td>70</td>
<td>154</td>
<td>108</td>
<td>34</td>
<td>120</td>
<td>41</td>
</tr>
<tr>
<td>1972</td>
<td>145</td>
<td>71</td>
<td>103</td>
<td>46</td>
<td>163</td>
<td>75</td>
<td>13</td>
<td>120</td>
<td>15</td>
</tr>
<tr>
<td>1973</td>
<td>108</td>
<td>114</td>
<td>123</td>
<td>29</td>
<td>306</td>
<td>89</td>
<td>5</td>
<td>120</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Department of Economic Development (Based on Customs figures), in GWS: Department of Economic Development, 1974:A.20.
from over-cultivation, and overfishing of lagoons. Moreover, villages were increasingly reliant on wage-employment and market goods. The combination of these factors implied that in these villages subsistence output must decrease so that, on balance, the subsistence output per head certainly declined over the period 1952-1958.

Whilst the growth rate of aggregate GDP in real terms declined further over the period 1958 to 1970, the structure of the economy changed significantly with the emergence of tourism and manufacturing as major sectors, rapid expansion in government services and a further deterioration in agriculture. Table 5.6 indicates that agriculture's share of GDP slumped from 35 per cent in 1958 to 16 per cent in 1970. In contrast, the share of government services rose from 11.2 to 19.2 per cent, manufacturing from 0.7 to 3.8 per cent, tourism from negligible proportions to 1.5 per cent and rising rapidly; and missions from 3.6 to 6.4 per cent over the same period. Commercial services also rose from 49.5 per cent in 1958 to 52.5 per cent in 1970. The annual growth rates over the period were: agriculture -6.0 per cent, commercial services 2.0 per cent, government 6.0 per cent, missions 6.4 per cent, manufacturing 16.0 per cent and tourism 31.0 per cent.

The diversification of the monetary economy with the emerging importance of tourism and manufacturing and the rapid expansion of supporting government services, reflects the policies embodied in the first five year plan, 1965-1970, of the Government of Western Samoa. The decline in the income from agriculture was caused by a drop in production due to a multiplicity of problems and the failure in the short term, of the Government to resolve these problems (as discussed in relevant sections of Chapter 4).
Since 1970, the trends in sectoral differentiation and development within the monetary economy as noted by Fairbairn have continued with intensity. Directly comparable figures in GDP estimates are not readily available but inspection of other indicators can reveal the performance of some of the sectors of the monetary economy identified in GDP accounts as well as other components of the national income.

5.1.3 Other indicators of the growth of the monetary economy

The balance of payments for the years 1970-74 is presented in Table 5.8. It indicates that the large and persistent deficit in the trade balance is due to the static value of exports and the continuing rise in the value of imports. This trend reflects the lack of growth in agricultural export commodities within the traditional economy, \(^2\) and the increases in imports of essential consumer goods and of select capital goods for development purposes within the monetary economy.

The rising value of travel is indicative of the growing importance of tourism. The increasing value of unrequited transfers is indicative of the expansion of personal remittances (private) from emigrants resident abroad. It also reflects the rise in foreign assistance (official). Considerable private and official non-monetary

---

\(^2\) As noted elsewhere, much of the agricultural exports come from the traditional village economy, although it represents only a small proportion of total production by the traditional economy. Subsistence commodities and commodities produced for sale on the local market by the traditional economy are not taken into account.
### TABLE 5.8
SUMMARY BALANCE OF PAYMENTS, 1970-1974
($'000,000)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Goods and Services:</td>
<td>-5.64</td>
<td>-4.28</td>
<td>-10.69</td>
<td>-9.68</td>
<td>-8.06</td>
</tr>
<tr>
<td>Trade Balance</td>
<td>-6.32</td>
<td>-4.91</td>
<td>-12.18</td>
<td>-10.32</td>
<td>-8.40</td>
</tr>
<tr>
<td>Exports (f.o.b.)</td>
<td>3.47</td>
<td>4.70</td>
<td>3.49</td>
<td>4.13</td>
<td>7.20</td>
</tr>
<tr>
<td>Travel</td>
<td>0.92</td>
<td>1.22</td>
<td>1.42</td>
<td>1.80</td>
<td>1.64</td>
</tr>
<tr>
<td>Other Services</td>
<td>-0.24</td>
<td>-0.59</td>
<td>0.07</td>
<td>-1.16</td>
<td>-1.30</td>
</tr>
<tr>
<td>Unrequited Transfers:</td>
<td>1.99</td>
<td>2.26</td>
<td>2.90</td>
<td>5.00</td>
<td>5.05</td>
</tr>
<tr>
<td>Private</td>
<td>1.70</td>
<td>1.76</td>
<td>2.08</td>
<td>2.60</td>
<td>3.00</td>
</tr>
<tr>
<td>Official</td>
<td>0.29</td>
<td>0.50</td>
<td>0.82</td>
<td>2.40</td>
<td>2.05</td>
</tr>
<tr>
<td>Non-Monetary Capital:</td>
<td>4.00</td>
<td>2.38</td>
<td>6.25</td>
<td>4.31</td>
<td>2.58</td>
</tr>
<tr>
<td>Private</td>
<td>2.96</td>
<td>1.68</td>
<td>5.52</td>
<td>3.58</td>
<td>1.50</td>
</tr>
<tr>
<td>Official</td>
<td>1.04</td>
<td>0.70</td>
<td>0.73</td>
<td>0.73</td>
<td>1.08</td>
</tr>
<tr>
<td>SDR Allocations</td>
<td>-</td>
<td>-</td>
<td>0.14</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Currency Realignment</td>
<td>-</td>
<td>-</td>
<td>-0.24</td>
<td>-0.46</td>
<td>-</td>
</tr>
<tr>
<td>Losses</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Errors and Omissions</td>
<td>0.09</td>
<td>0.08</td>
<td>-0.09</td>
<td>-0.03</td>
<td>-</td>
</tr>
</tbody>
</table>

Overall Payments
Balance (+) surplus
(-) deficit 0.44 0.27 -1.73 -0.86 -0.43

---

a Estimates as of mid-year.
b Current domestic value in the country of origin plus 10 per cent for imports have been used in the absence of c.i.f. values.

capital inflows are further evidence of the expansion in the various sectors of the monetary economy.

The trade deficits during the years 1970 to 1974 have, therefore, been partly offset by earnings from tourism, remittances from Samoan emigrants living abroad, foreign aid, and both private and official capital inflows. But, whilst these obtained an overall balance of payments surplus for 1970 and 1971, they did not for 1972 and 1973.

In addition to remittances from Samoan emigrants permanently resident abroad, there are also a considerable number of temporary visitors from Western Samoa to American Samoa and New Zealand who invariably return with cash (earned by working or given to them by their relatives) on their persons. There are no available statistics on the number of visitors to American Samoa but Table 5.9 indicates the number of continuing residents (for permanent residence) and visitors on three month permits to New Zealand.

The population census statistics on labour movement over the period 1966 to 1971 also indicate a shift of labour from the stagnant traditional economy into the monetary economy (Table 1.8, Chapter 1).

5.2 Government Policy for Advancing the Monetary Economy

Of major importance was the establishment of a Department of Economic Development (1965) which, amongst other things, administers

3 See Sub-section 4.4.4 in Chapter 4 for policy on advancing the agricultural sector. Also Appendix 1.
TABLE 5.9  
STATISTICS OF SAMOAN EMIGRANTS TO NEW ZEALAND

<table>
<thead>
<tr>
<th>Year</th>
<th>Visitors on Three Months Permits (Numbers)</th>
<th>Continuing Residents Quota per year agreed upon by the New Zealand and Western Samoan Governments (Numbers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961-62</td>
<td>n.a.</td>
<td>819 Unspecified</td>
</tr>
<tr>
<td>1962-63</td>
<td>652</td>
<td>863 &quot;</td>
</tr>
<tr>
<td>1963-64</td>
<td>734</td>
<td>661 &quot;</td>
</tr>
<tr>
<td>1964-65</td>
<td>1,051</td>
<td>584 &quot;</td>
</tr>
<tr>
<td>1965-66</td>
<td>1,136</td>
<td>868 &quot;</td>
</tr>
<tr>
<td>1966-67</td>
<td>1,006</td>
<td>1,308 &quot;</td>
</tr>
<tr>
<td>1967-68</td>
<td>752</td>
<td>799 1,000</td>
</tr>
<tr>
<td>1968-69</td>
<td>1,209</td>
<td>650 &quot;</td>
</tr>
<tr>
<td>1969-70</td>
<td>1,308</td>
<td>1,497 1,500</td>
</tr>
<tr>
<td>1970-71</td>
<td>2,600</td>
<td>1,462 &quot;</td>
</tr>
<tr>
<td>1971-72</td>
<td>2,429</td>
<td>1,429 &quot;</td>
</tr>
<tr>
<td>1972-73</td>
<td>2,364</td>
<td>1,597 &quot;</td>
</tr>
<tr>
<td>1973-74</td>
<td>5,000</td>
<td>1,498 &quot;</td>
</tr>
</tbody>
</table>

a Visitors on tourist visas.  
b For permanent residence in New Zealand.  

Source: Immigration Officer, New Zealand High Commission, Western Samoa, personal communication.

the Enterprises Incentives Act (1965, amended 1969). Under the EIA, incentives, including exemption from income tax for a maximum period of up to ten years, full or partial freedom from import duties on raw materials and equipment, and the other concessions relating to the payment of dividends and profit, were provided with the objective of stimulating both overseas and domestic investment in
local industries. By 1974, some 37 enterprises had been established under the provisions of the EIA (Table 5.10).

### Table 5.10

**Enterprises Granted Incentives**

**By Year and by Sector, 1966-1974**

<table>
<thead>
<tr>
<th>Year</th>
<th>Number&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Sector</th>
<th>Number&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>1966</td>
<td>6</td>
<td>Foodstuffs</td>
<td>11</td>
</tr>
<tr>
<td>1967</td>
<td>3</td>
<td>Hotels and Recreation</td>
<td>8</td>
</tr>
<tr>
<td>1968</td>
<td>1</td>
<td>Clothing and Footwear</td>
<td>6</td>
</tr>
<tr>
<td>1969</td>
<td>0</td>
<td>Construction Materials</td>
<td>3</td>
</tr>
<tr>
<td>1970</td>
<td>1</td>
<td>Forestry and Wood Products</td>
<td>3</td>
</tr>
<tr>
<td>1971</td>
<td>7</td>
<td>Manufacturing and Miscellaneous</td>
<td>6</td>
</tr>
<tr>
<td>1972</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1973</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1974</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total:</td>
<td>37</td>
<td>Total: 37</td>
<td></td>
</tr>
</tbody>
</table>

<sup>a</sup> Firms represent the occasion of one original incentive granted; extensions and additional incentives for existing enterprises are excluded from these data.


Currently the Government's basic objectives for the development of the industry and tourist sectors are:

(a) To foster an attractive investment climate for domestic and selective amounts of foreign capital.
(b) To co-ordinate and direct industrial expansion so as to achieve balanced development compatible to both the resources endowment of this nation and established national goals and priorities.

(c) To develop a selective utilisation of Western Samoa's resources for tourist purposes in a manner consistent with the cultural and environmental preservation of the nation.

(GWS: Department of Economic Development, 1974:87)

5.2.1 Manufacturing industries

The potential in the manufacturing industry is constrained by Western Samoa's lack of minerals and raw materials, its geographical isolation from the metropolitan centres, its small domestic market, the shortage of entrepreneurial and technical skills amongst its labour force, the lack of basic data \(^4\) and the inadequacy of national planning on the sector and sub-sector levels (Fairbairn, Jofre and Kruck, 1973). Because of these constraints, most of the manufacturing enterprises established thus far have been confined mainly to the processing of agricultural products and the production of a few light consumer and durable commodities.

On the other hand, Western Samoa's attraction for industrial investment lies in its political stability, relatively cheap and plentiful labour, the absence of industrial strife, and non-discriminatory treatment by the Government. Furthermore, the Government is planning to extend an already established Industrial Estate, reserved

---

\(^4\) Including data on subsistence production and private income.
for industrial sites, to be followed with plans of eventually transforming it into an Industrial Free Zone. Another development which, amongst other things, would help create a favourable climate for industrial investment is the Government's pursuit of more relevant plans which represent the realities which the country faces. In this regard, the Government has terminated the Second Five Year Plan (1971-75) and intends to upgrade its planning by formulating a detailed Third Five Year Plan (1975-79) based on the concept of a "rolling plan". As such, the Third Five Year Plan will be reviewed each year to assess current relevance of projects, administration and implementation of projects and the overall direction of the Plan and adjustments required for the attainment of its basic objectives. At the time of the review period the matter of project priority will also be reassessed. The Rolling Plan concept will ensure that the Plan is not a rigid and static historic document but allows a flexible and vital program of development. (GWS: The 1975 Budget Statement:6)

To accomplish this, the Government is engaging the Asian Development Bank whose experts, in collaboration with economists of the United Nations Development Program and staff of Government departments responsible for their departments' respective projects, are expected to draw up detailed objectives and to undertake feasibility studies and cost-benefit analyses of projects for priority ranking and implementation purposes. These Government actions and intentions are, amongst other objectives, aimed at providing added incentives to industrial development.

5 Wherein industries will be established and given special concessions.
5.2.2 Tourist industry

Although it is now second only to agriculture in terms of gross foreign exchange earnings, the Western Samoan Government recognizes that present tourist expenditure has a high import content. This, together with the Government's concern that an open door policy on tourist development may secure rapid economic growth but at the risk of a premature and destabilizing breakdown of the social institutions and the traditional values of Samoan society, precludes an unconditional exploitation of the economic potential of tourism. Another factor influencing the Government's present stance on tourist development is its concern over the possibility of losing economic control of the industry to overseas interests.

The official guideline statements on the development of tourism are thus aimed at active encouragement but with proper controls and restraints, and the recognition of the need for regional co-operation with other South Pacific Island States:

(a) Increasing the number of visitors, visitor expenditures and expanding the tourist market for Western Samoa through promotion and advertising.

(b) Encouraging local and overseas investment in hotel opportunities for local participation in the tourist industry through shareholding, training and employment, and the supply of goods and services.

(c) Assisting Samoan citizens to make known their views concerning the environmental and cultural impact of tourism in the light of full socio-economic information about the industry.

(d) Guiding the impact of tourism on the nation so that the Samoan culture and way of life is enhanced while scenic and historical attributes of the environment are maintained.
Negotiating with other countries of the South Pacific to further regional co-operation in developing and promoting the tourist and travel industries.

To this end, and from the same source,

A tourism development policy (including legislation), is now being formulated to ensure the orderly development of tourism in the future and to provide a general infrastructure control. (GWS: Department of Economic Development, 1974:92,94)

5.2.3 Timber industry

Within three years of operation of the Potlach\(^6\) mill, the second and by far the larger of the two timber mills in the country, Western Samoa became a net exporter of forest products. The impact of local timber production on export earnings, import substitution, and local consumption is illustrated by the statistics in Tables 5.11 and 5.12. Furthermore, there is potential for increased timber production and in the utilization of domestic raw materials for a wide range of forestry products including fruit cases, poles (for fencing, Samoan housing and electric power lines), charcoal, particle board, etc., which, if developed, should make Western Samoa almost self-sufficient in her needs for forestry products. Currently, the timber industry employs some 500 people, and as Tables 5.11 and 5.12 show, it earns and saves considerable amounts of foreign exchange. In addition, it provides incomes to landowners on land unsuited for agricultural purposes.

\(^{6}\) An American-owned timber milling company, Potlach (W. Samoa) Inc.
### TABLE 5.11
IMPOR TS AND EXPORTS OF FOREST PRODUCTS
1970-1973
($'000)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of Imports</td>
<td>510.0</td>
<td>398.0</td>
<td>434.0</td>
<td>277.0</td>
</tr>
<tr>
<td>Percentage of Total Imports</td>
<td>5.2</td>
<td>4.1</td>
<td>3.3</td>
<td>1.9</td>
</tr>
<tr>
<td>Value of Exports</td>
<td>5.0</td>
<td>197.0</td>
<td>559.0</td>
<td>549.0</td>
</tr>
<tr>
<td>Percentage of Total Exports</td>
<td>0.1</td>
<td>4.4</td>
<td>16.4</td>
<td>13.7</td>
</tr>
</tbody>
</table>


### TABLE 5.12
PRODUCTION, IMPORTS, EXPORTS AND CONSUMPTION
OF SAWN TIMBER
(1,000 cu. ft)

<table>
<thead>
<tr>
<th>Year</th>
<th>Domestic Production</th>
<th>Imports</th>
<th>Exports</th>
<th>Domestic Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>1970</td>
<td>111.7</td>
<td>207.6</td>
<td>1.6</td>
<td>317.8</td>
</tr>
<tr>
<td>1971</td>
<td>503.2</td>
<td>131.5</td>
<td>182.1</td>
<td>452.7</td>
</tr>
<tr>
<td>1972</td>
<td>1,057.9</td>
<td>151.1</td>
<td>400.6</td>
<td>808.5</td>
</tr>
<tr>
<td>1973</td>
<td>1,124.3</td>
<td>48.8</td>
<td>270.0</td>
<td>903.1</td>
</tr>
</tbody>
</table>

Forest inventories (Table 5.13) indicate that Western Samoa has a productive forest area of about 130,000 acres and a volume of 200 million cubic feet of merchantable timber. Thus, without proper replanting in addition to the present rate of agricultural encroachment that is occurring, it is estimated that the productive forest area will disappear within 40 years. The Government is therefore deeply conscious of the fact that the long-term viability of a sustained timber industry hinges largely on the success of its re-afforestation programs. This involves replanting on Samoan customary land which is not without difficulties. On top of land tenurial problems, most Samoans thus far show more interest in replanting logged areas with coconuts and other short-term export and food crops rather than the long-term timber species (GWS: Department of Agriculture, Forests and Fisheries, 1972:40).

**TABLE 5.13**

FOREST AREA AND MERCHANTABLE TIMBER VOLUME

<table>
<thead>
<tr>
<th>Productive Forest</th>
<th>Non-Productive Forest</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Area (Acres)</strong></td>
<td><strong>Volume (million cu. ft)</strong></td>
</tr>
<tr>
<td>Upolu</td>
<td>51,731</td>
</tr>
<tr>
<td>Savai'i</td>
<td>77,580</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td><strong>129,311</strong></td>
</tr>
</tbody>
</table>

The Government is therefore considering action to define areas that need to be reafforested and will undertake a clear delineation of customary forest lands by clarification and demarcation of boundaries through surveying. Through its Department of Agriculture, Forests and Fisheries, the Government will undertake the production of seedlings and will collaborate with Potlach in replanting. Over the 1974-79 period, some 5,000 acres of line enrichment planting (judicious planting of millable trees) in Savai'i and 20,000 seedlings for tree planting in Upolu will be undertaken using exotic timber species which would yield more timber per acre than the native species. It is envisaged that some 140 job opportunities will be generated by the replanting program above.

5.2.4 Fisheries

The seas surrounding Western Samoa are also a valuable natural resource. The considerable potential in commercial fishing and the establishment of canneries as sources of food, income and employment for the Samoan people is well documented, and confirmed by the existence of a fish canning industry which is the backbone of the economy of nearby American Samoa. Possibilities of establishing canneries in conjunction with overseas interests are presently under investigation.

5.2.5 Government

A Government survey undertaken in 1969 indicated that the investors in most of the industries established up to that time were confined to overseas interests and a handful of local European
Samoans, with only token participation by indigenous Samoans (Fairbairn, 1973:121). Since then indigenous Samoan participation has not improved because of their continued weak economic position. Accordingly, besides the development of the supporting infrastructure and the essential social services, the Government of Western Samoa has become actively involved as a major shareholder in some of the recent commercial ventures, as, for example, the multi-million tala Tusitala Hotel which is owned 25 per cent by Naviti Investment Limited of Fiji and 75 per cent by the Government, and the national Polynesian Airlines in which, again, the Government is a major shareholder.

Further evidence of the Government's determination to develop its industrial sector to the advantage of its people was its request for a UNIDO Team to re-evaluate current policies (as, for example, the provisions under the EIA) and to assess potential industries and to recommend new directions for action. The Team, comprising I.J. Fairbairn, Economist and Team Leader, Raul Jofre, Industrial Engineer, and P.H. Kruck, Industrial Development Officer, have submitted their findings to the Government of Western Samoa in the form of a final report, "A Survey of Industry and Its Potential in Western Samoa", which is expected to form the basis for more detailed planning and actions to be incorporated in the Third Five Year Plan.

5.3 Future Trends

Thus, notwithstanding the extent to which the prevailing constraints to industrial and tourist development hamper their growth, the recent upsurge in these industries and the associated expansion
in Government services, commerce, building and construction, transport and communications, has meant that between 1966 and 1971, the percentage of the working or economically active population in village agriculture declined from 68.1 per cent to 60.5 per cent, whilst all other sectors of the economy, including other agriculture, showed increases (Table 5.14).

<table>
<thead>
<tr>
<th>Table 5.14</th>
<th>Working Population&lt;sup&gt;a&lt;/sup&gt; by Industry, 1966 and 1971</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1966 Census</td>
</tr>
<tr>
<td></td>
<td>('000)</td>
</tr>
<tr>
<td>Village Agriculture</td>
<td>24.03</td>
</tr>
<tr>
<td>Other Agriculture&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2.13</td>
</tr>
<tr>
<td>Manufacturing and Construction</td>
<td>1.36</td>
</tr>
<tr>
<td>Commerce</td>
<td>1.77</td>
</tr>
<tr>
<td>Transport and Communications</td>
<td>0.84</td>
</tr>
<tr>
<td>Services</td>
<td>5.16</td>
</tr>
<tr>
<td>Total:</td>
<td>35.29</td>
</tr>
</tbody>
</table>

<sup>a</sup> Persons of age 10 and over gainfully engaged in industry.

<sup>b</sup> Includes forestry, fishing and mining.


This shift of the economically-active labour force from the village agricultural sector to the other sectors of the economy is compounded by the rapid rise in emigration with migrants drawn mainly
from the working age group. Thus the number of people who need to participate in village agriculture will be determined to a very large extent by the rate of expansion of the other sectors of the economy and that of out-migration. This will also determine the need for the production and marketing of traditional staple foods for subsistence and for the domestic and export cash markets.

Although the current economic conditions in New Zealand may dampen the outflow of migrants, the current plans and future intentions of the Government of Western Samoa with respect to the provision of incentives for private investment and its own planned social and infrastructure development projects suggest that the structural transformation of the country's economy will continue to accelerate in the immediate future. Consequently, the withdrawal of labour from the village agriculture sector will continue to show an upward trend.
Chapter 2 established that the economic system of Western Samoa has a distinctively dual structure at two levels. On the macro-economic level, dualism derives from the differences in the conditions of production and distribution. On this basis, the economic system is partitioned into a subsistence-based traditional economy (Chapter 4) and a modern monetary economy (Chapter 5). At the micro-economic level, dualism arises because the production by members\(^1\) of the extended family within the traditional economy is a dualistic combination of subsistence (or non-monetary) and monetary productive activities (Chapter 2, Sub-sections 2.2.1 and 2.2.2).

This chapter considers some theoretical models as frameworks for interpreting the interactions between the relevant sectors of these dualisms and the implications of their interactions on the process of development.

6.1 Interaction at the Macro-Economic Level: Structural Transformation within the Economy

In economic dualistic analysis the basic difference between the classical and neoclassical approaches arises out of the diametrically opposite assumptions taken by their proponents with respect to

\(^1\) Some members of the aiga may also participate (as wage earners) within the modern monetary economy, and vice versa.
the marginal product of labour in the traditional subsistence-based agricultural sector.

The classicists assume that the marginal product of labour is zero or even negative. This being so, there is "excess" labour in the traditional agricultural sector. The surplus labour is not evident as open unemployment but is concealed as disguised unemployment. It could be withdrawn and used as a source of savings to generate economic development in the non-agricultural sectors without depressing production in the agricultural sector (Meier, 1973:187). In contrast, the neoclassicists assert that the marginal product of labour is positive. Consequently, any withdrawal of labour from the agricultural sector will lead to a fall in agricultural production.

The controversy over the nature of the marginal productivity of labour in the rural areas arises from the confusion surrounding the meaning of disguised unemployment or underemployment. One interpretation of disguised unemployment is that the marginal productivity of labour is zero so that, ceterus paribus, labour can be withdrawn without any reduction in agricultural output. The neoclassicists argue that this has untenable implications on the utility function of traditional farmers if one considers them to be utility maximisers (Winkelman, 1972).

In the main, disagreement over the meaning of disguised unemployment has arisen because of the application of marginal analysis to the unit of labour in underdeveloped economies as if conditions there were the same as in developed economies. The wage-labour system as it exists in developed economies (and the monetary
sector of underdeveloped economies) generally involves a considera-
tion of unitary jobs with set monetary remuneration per unit of time
worked (hours, days, weeks, etc.) by a unit of labour (usually an
adult individual).

In some underdeveloped economies the prevailing situation
in the subsistence based farming sector is that the labour of an
extended family is rewarded by the total product of the family
farm. The family labour supply comprises children and adults of
both sexes, and very often they have specialised and well-defined
tasks to perform. The family members share the total product of
the farm according to custom and tradition. Withdrawal of one member
of the family without any fall in the family's income does not mean
that marginal productivity of labour is zero. It means, however,
that he has performed the specialised task required of him, or else
other members of the family have to work harder.

A distinction must also be made between the amount of work
done and the number of labourers. If this distinction is drawn
there may be an over-abundance of labourers but the amount of labour
time actually engaged stops at a point before its marginal product
is zero. This type of under-employment is most commonly associated
with over-populated economies where the average product per capita
is not far above the physical subsistence level. This type of
economy is what Lewis (1954) had in mind when he assumed the
availability of surplus labour.

---

2 Subsistence as used here is to define the minimum required for
physical survival.
The evidence from village labour surveys by Fairbairn (1967) and Lockwood (1971) indicated a considerable underemployment of the rural labour potential in Western Samoa. However, underemployment of this kind derives from a situation in which only a portion of the labour potential is utilized to produce the required level of consumption and capital goods as determined by the prevailing forces of custom and tradition. Fisk has described this situation as one of "subsistence affluence":

A condition in which population pressure on land resources is relatively light, productivity per unit of applied labour (as distinct from available labour) is very high, and most subsistence agriculturalists are able to produce as much as they can consume (with satisfaction) of their main essential requirements, and to sustain an adequate level of living by their traditional standards at the cost of as little as fifteen or twenty hours labour a week. (Fisk, 1971:368)

Under conditions of "subsistence affluence" the marginal product of labour is fairly high. Production is limited not because the marginal product of labour approaches zero, but because of a lack of effective demand required to motivate further production.

6.1.1 Lewis' modified classical growth model

Since a labour surplus exists in Western Samoa, the classical approach to economic dualistic analysis seems to be the appropriate one to take. For this reason Lewis' (1954; 1958) modified classical growth model for underdeveloped economies with surplus labour supplies provides a useful framework for examining the structural transformation and economic expansion that is taking place within Western Samoa's economic system.
Although Lewis works with the assumption of disguised unemployment where marginal productivity of labour is zero or negative, this is not essential to his argument.

Whether marginal productivity is zero or negligible is not, however, of fundamental importance to our analysis. The price of labour, in these economies, is a wage at the subsistence level ... The supply of labour is therefore 'unlimited' so long as the supply of labour at this price exceeds the demand. (Lewis, 1954:142)

The crucial condition for the model is the existence of a dualistic structure and that average income in one of the sectors is low.

Lewis starts his analysis by partitioning the underdeveloped economy into a capitalist sector and a subsistence sector. The capitalist sector is defined as "that part of the economy which uses reproducible capital, and pays capitalists for the use thereof" (Lewis, 1954:146). The rest of the economy does not use reproducible capital and is defined as the subsistence sector. Because labour is combined with capital in the capitalist sector, output per head there is high. In contrast, a combination of high birth rates and traditional techniques limits per capita real income in the subsistence sector to a level not far above the minimum for physical survival.

Next, Lewis postulates that the wage which capitalists must pay for labour is a function of what labour can earn outside the capitalist sector (i.e. subsistence earnings). For economies in which the majority of the population are self-employed peasant farmers, the level of subsistence earnings is equivalent to the average product per farmer. In practice, labour can only be induced to move from subsistence into capitalist employment when the capitalists offer a wage rate which exceeds subsistence earnings by a margin
sufficient to cover transfer and other costs. The size of the margin will depend on local circumstances, although Lewis estimates it to be 30 per cent or more. Under these circumstances, the labour supply available to the capitalists is perfectly elastic at a low and constant real wage.

Having established these conditions, Lewis then proceeds to elaborate the interactions of the two sectors of a dual economy. He emphasises that the key to the process of economic expansion is the use of the capitalist surplus. This is either consumed or saved. Lewis postulates that saving is done mainly by capitalists simply because they have more to save from the high profits they earn. This saving increases relatively to national income because capitalists' incomes rise relatively to national income. As profit maximizers, capitalists re-invest their savings in capital formation which provides the driving force in the expansion of the economic system. As the capitalist sector expands from the creation of new capital it absorbs more labour from the subsistence sector. This process can be repeated so long as there is surplus labour available at a low and constant real wage.

Lewis illustrated all these diagrammatically, as summarized in Figure 6.1. The horizontal axis represents the quantity of labour and the vertical axis the wage and marginal product. OA represents the subsistence earnings in the subsistence sector and OW the real wage rate in the capitalist sector. WS is the perfectly elastic supply of labour. Beginning with a given fixed amount of capital, the initial demand for labour is represented by the marginal productivity schedule for labour, \( N^D \). Assuming profit maximization,
capital will be applied to the point $P$ where the wage equals the marginal productivity of labour. At a wage $OW$, the initial quantity of labour engaged by the capitalist sector will be $OL$. Beyond $OL$, workers are absorbed into the subsistence sector. $N_1 PLO$ represents the total product in the capitalist sector which is shared between capitalists and workers employed in the capitalist sector. $OWPL$ represents the workers' share in wages and $WPN_1$ the capitalists' surplus or profits.

If part of the initial profit $WPN_1$ is re-invested, it expands the amount of fixed capital. This raises the schedule of marginal productivity for labour to $N_2 D_2$. Repetition of this
process raises the demand for labour from $N_2^D$ to $N_3^D$ and so on over time until the absorption of surplus labour is complete.

However, Lewis considers that this process might be prematurely terminated before the surplus labour is completely absorbed. This happens if a rise in real wages reduces capitalists' profits to a level at which profits are all consumed leaving no savings for re-investment in capital accumulation. The rise in real wages may be due to increasing productivity in the subsistence sector, or a rise in the average product in the subsistence sector because the absolute number there is reduced without a fall in total output, or because the terms of trade turn against the capitalist sector. The workers in the capitalist sector may themselves agitate for higher wages in order to maintain a higher standard of living. Capitalist employees may raise wages as a matter of conscience, or else the Government may introduce minimum wage legislation. Irrespective of how it happens, if the real wage rises, the capitalists' surplus will be reduced causing a fall in the rate of capital accumulation and an end to the economic expansionary process before the surplus labour is completely absorbed.

Notwithstanding how this process will turn out, Lewis perceives economic expansion as a long-term process through time and as a process which takes place through two distinct and separate stages. The initial stage is when the subsistence sector becomes progressively absorbed by the capitalist sector. The second and final stage emerges when the absorption of the subsistence sector is completed, so that the supply of labour becomes highly inelastic.
When capital catches up with labour supply, an economy enters upon the second stage of development. Classical economics ceases to apply; we are in a world of neoclassical economics, where all factors of production are scarce, in the sense that their supply in inelastic. Wages are no longer constant as accumulation proceeds; the benefits of improved technology do not all accrue to profits; and the profit margin does not necessarily increase all the time. (Lewis, 1958:26)

6.1.2 Modifications of the assumptions of the Lewis Model appropriate for the Western Samoan economy

Lewis' analysis highlights some very important relationships between the relevant sectors of dual economies, but in several respects it does not reflect the conditions in the economy of Western Samoa. To begin with, the excess labour in rural Western Samoa is due to under-employment which arises from a condition Fisk has described as "subsistence affluence". In contrast, Lewis has in mind the type of disguised unemployment which arises from conditions of abject "subsistence poverty" where the marginal productivity of labour is very low.

Moreover, the farm family is the basic production unit in Western Samoa. (See Sub-section 6.2.3 below.) The family labour supply comprises children and adults of both sexes each of whom performs some special and well-defined task. Under these circumstances, and in view of the relatively high productivity of labour and land in Western Samoa, the adult male may often engage in wage

---

3 Where population pressure on land is so intense that additional labour on the land makes very little addition to output.
employment outside the farm for prolonged periods without a reduction in the total product of the farm. This is possible when his services are not so urgently required on the farm or because others in the farm family work a little longer or harder. Moreover, because of the geographically small size of the country and improvement in communications, members of many families may work for wages in town but live in the village with their families. More recently, it has become possible for family members to obtain work permanently or temporarily in New Zealand and in American Samoa and to remit part of their cash incomes to their families in Western Samoa.

For these reasons Lewis' division of the relevant sectors into subsistence and capitalist is not wholly adequate to the circumstances existing in Western Samoa. The distinction between the modern monetary and the traditional economies (which emphasise the differences in the social, political and economic organization prevailing within each sector) are more appropriate for the economic system of Western Samoa. Furthermore, whilst the traditional economy comprises a unitary sector, the monetary economy is comprised of various sub-sectors as described in Chapters 4 and 5.

Lewis also undertakes the analysis of the major properties of his model under the assumption of a closed economy. The second part of his article (1954) deals with an open economy but mainly from the position of an economy requiring in-migration of labour or

---

4 For instance, a man can plant taro and bananas which are then left to be maintained (mainly weeding) by others in the farm family, usually women and children. Furthermore, he could time his absence to coincide with the breadfruit harvest.
investment overseas of surplus capital resources in order to obtain further economic expansion. In Western Samoa the economy is open to foreign trade and the inflow of overseas investment and cash remittances. It is also open to emigration and, until recently, an increasing number of temporary migrant workers visited New Zealand (and American Samoa) under the guise of non-working tourists on visitors' permits of up to three months duration.

Finally, the Lewis Model implicitly assumes that the average product of the farmer can only improve. This may be a valid assumption for economies where the average product is near the minimum for survival. However, in Western Samoa, evidence suggests that the average product per capita in the rural areas has been fairly high but is deteriorating because of rising population pressure on land; diseases and pests; and other problems. In some villages, land has become inadequate for the maintenance of the average product at its former levels under the traditional technology. Furthermore, the introduction of exotic diseases and pests has also reduced or prevented the production, by traditional methods, of some of the cash and subsistence crops for many families.

In other words, the once productive traditional economy of Western Samoa has and is going through a regressive process from one of subsistence affluence (and low aspirational levels) to one of subsistence poverty (and high aspirational levels). According to Fisk

5 In material terms in the real world, conceptions of "affluence" and "poverty" are relative. What we consider as significant levels of "affluence" and "poverty" depends very much on what type of society and which stage of development we are concerned with. (Refer Nakajima, 1970:177-179.)
... rural people can be found at all levels below subsistence affluence, down to the point where even the full utilisation of the land and labour resources of the group, at the level of technology with which they are endowed, is insufficient to provide everybody with a reasonable level of living, and equilibrium is established by the grim Malthusian controls of famine, malnutrition and disease.

This range of conditions from subsistence affluence to subsistence poverty is not confined to the pure subsistence situation. In the mixed subsistence-cum-monetary operations of the groups with which present day planners are concerned examples are found at all levels from extreme poverty to great affluence. (Fisk, 1973:4)

In Western Samoa, the rate of regression from subsistence affluence to subsistence poverty varies from district to district, village to village and even from family to family. The difference between affluence and poverty is not great but it is noticeable and becoming quite significant. As far back as 1956, Ward had this to say of the North-western Upolu region:

Although most of the soils of North-western Upolu are of moderate natural fertility, they have probably been subjected to longer and more intense cropping than those of any other region, and they are now generally exhausted and lack available potash and other plant nutrients ...

It is in this region, then, that the need for detailed surveys of village land as a basis for agricultural planning and for new agricultural techniques is most urgent. (Ward, 1962b:292-3)

In Lockwood's study (1971), the evidence suggests that, of the farm villages surveyed, Utuali'i which is situated in North-western Upolu, had the lowest average product per labour unit applied within the
traditional economy. Because of this and other reasons, wage-employment in the monetary economy offered a better alternative in maximizing the total family income (see Chapter 4, Sub-section 4.3.1).

6.1.3 The interactions of the monetary and traditional economies in Western Samoa

Having revised some of the assumptions of the Lewis Model to fit the conditions in Western Samoa, it can now be used to analyse the interactions between the components of the dual economy and the effects of these on the progress of structural transformation and economic expansion over time.

(i) Under conditions of subsistence affluence

First, assume surplus land is available to all villages. Generally, most farm families are aiga of the traditional economy operating as single production units, in a state of "subsistence affluence". The aiga's real income is obtained from subsistence production and the production of cash crops on the farm and wage-employment off the farm (but within Western Samoa). The technology within the traditional economy is constant.

The economy is open to foreign trade and the monetary economy becomes the driving force in the economic system. Some limited initial capital, technology and entrepreneurial skills are obtained from abroad. These are combined with labour drawn from the traditional economy to establish the production processes within the monetary economy.
What will be the wage rate which will induce a Samoan to accept wage-employment in such a dualistic economic system? According to Lewis, the entrepreneurs must offer a real wage rate which is equivalent to the average product of the peasant farmer plus an incentive margin. As a member of an aiga a Samoan would accept wage-employment only if it would maximize the real income of his aiga, and provided the work is not too strenuous or unpleasant for him.

The aiga's income is obtained partly from production on the farm within the traditional economy itself and partly from wage-employment within the monetary economy. Before a member of the aiga can accept wage employment he must rationally weigh the gains in real income to his aiga from working for wages against the losses in real income (income foregone) to his aiga, because of his absence from the farm, and his own welfare in terms of loss of social satisfaction, the lack of flexibility in hours of work and the loss of freedom in controlling the pace of work.

Fisk has written perceptively on the economic trade-offs between these two alternative sources of income and the problems involved in comparing them precisely (1972; 1973). According to Fisk, the absence of an effective exchange market for subsistence goods and services (including labour) complicates the task of pricing them (because of variable commodity prices between districts due to variable costs of transport, marketing, etc.) in terms which can be aggregated for purposes of comparison with the monetary wage. Besides economic trade-offs between the two income sources, there are also other considerations such as duration, intensity, strenuousness and general unpleasantness of the work for the individual. For
these and other reasons, Fisk proposes an alternative model based on
the trade-offs between "satisfactions and dissatisfactions". 

Whether we use Lewis' monetary equivalents or Fisk's units
of satisfaction and dissatisfaction, the fact remains that the real
wage rate must include a sufficient margin which represents a net
gain (in units of satisfaction or in monetary terms) to the aiga and
for the individual before wage-employment becomes acceptable. In
any case the size of the margin is less important than the analytical
relationship, namely, that the monetary wage is a function of income
foregone on the farm.

There are no detailed records of employment in Western Samoa
but a reading of the historical evidence in Stace (1956), Clare
(1962), and the respective chapters by Lewthwaite and Cumberland in
Fox and Cumberland (1962) on the wage labour situation indicates
that whilst the Samoans were in a state of "subsistence affluence"
in relative isolation (implying also lower aspirational levels due
to the undeveloped linkages with the monetary economy and therefore
the limitations in exotic goods and services to which they were
exposed), they steadfastly refused to accept plantation wage-employment
in the monetary economy.

The earliest productive processes in the monetary economy
of Western Samoa were commercial plantations and trading enterprises
owned by Europeans. Plantation establishment and maintenance required

6 Lewis assumes away variations in intensity and strain of work,
problems of regularity and leisure, as well as problems of
family consumption. These are taken into account by Fisk.
cheap labour. The Samoans, who were in a state of "subsistence affluence" refused to accept low wage employment on plantations.

European enterprise was doomed to continuing frustration by Samoan communalism and the bounty of nature unless labour were imported. (Lewthwaite, 1962:142)

Beginning in 1867, Micronesian labour was imported and numbered 1,200 by the late 1870s, but were repatriated at the end of their contracts and replaced by Melanesians. In 1883, Melanesian labour was tapped and within two years 800 were working in plantations in Samoa.

In the 1900s the subsistence affluent Samoans continued to refuse plantation labour employment, although the evidence suggests they readily accepted less strenuous, more prestigious and better paid employment in the Government, the missions and the trade sectors of the monetary economy. The limited range of exotic goods for which Samoans had any need, and for which they required money, were obtained by the sale of surplus coconuts as copra.

Hitherto a veneer of Christianity and an avid devotion to cricket, which had been introduced in 1884, had, it is true, been supplemented by copra production, and trading stores, established in virtually every important village, supplied loincloths, dress materials, umbrellas, lamps, kerosene, tobacco and sweets. But the economic incentives of the papalagi had made remarkably little impact; von Hesse-Wartegg, travelling through Southern Upolu in 1902, found many Samoans living just as they did before their discovery by Europeans. (Lewthwaite, 1962:149)

For example, Government positions of Pulefa'ato'aga and pulenu'u, employment as pastors and teachers in mission schools, and general employment in the trade sector.
The German Administration (1900-1914) had to compel each Samoan landowner to plant 50 coconuts annually (within the traditional economy). For plantation labour the administration turned to China. In 1903 the first shipload of Chinese men arrived. By 1914 there were 2,184 Chinese and 877 Melanesians out of a total population of 39,000. The German Administration also restricted Samoan land alienation by Europeans to a "plantation district" in the immediate vicinity of Apia and North-western Upolu. This deprived the Samoans living there of much of their customary lands (but in later years provided them with conveniently accessible plantation wage-employment).

The New Zealand Administration (1914-1962) confiscated German-owned plantations, managed part of them as the New Zealand Reparation Estates (now the Western Samoa Trust Estates Corporation), returned some to over-crowded villages, and leased the rest to New Zealand and other European settlers. But on humanitarian grounds and for other reasons, the New Zealand Administration progressively repatriated indentured labour. By 1926 the number of Chinese and Melanesians had fallen to 1,017. Recruitment was terminated in 1934. In 1945 only 365 alien plantation workers, most of them aged, remained. Thus throughout the 1920s, 1930s and during the Second World War, acute shortages of labour, forcing up wages to prohibitive levels, were a perpetual problem in the plantation sector of the monetary economy. When Samoan labour was obtained it was reputed to be "costly, unsatisfactory and unprocurable for any definite or prolonged period". But whilst they ignored employment on plantations, the

---

Samoans readily accepted employment where conditions and remuneration were considered acceptable. During the Second World War years

Hundreds went to work in American Samoa, and many more found congenial and well-paid employment in construction work in Western Samoa. (Lewthwaite, 1962:174)

Meanwhile, in the traditional economy, the New Zealand Administration set about improving the social services (health and education) and the general infrastructure (mainly roads). In the fields of economic development, it substituted active encouragement for compulsion in promoting the expansion of copra production. It promoted a greater diversification of the traditional economy by introducing such crops as limes, peanuts, cacao, rubber and cotton. However, only banana production for export found favour amongst the Samoans who were already growing this crop as a staple food under long fallow cultivation. The expansionary "wave" of banana plantings (which provided a valuable catchcrop for financing the establishment of cacao plots) was closely followed by the establishment and expansion of cacao plantings in the traditional economy. All this, however, was undertaken using the traditional technology, as described in Chapters 3 and 4, and by Ward (1959).

Price fluctuations, land and labour shortages affected the plantation sector of the monetary economy more than the subsistence-based traditional economy with its surpluses of both land and labour. And, as white pioneer settlers left Samoa or died

See Stace (1956:17) for an explanation of the close botanical and financial associations between cacao and bananas.
without being replaced, the plantation sector of the monetary economy declined even further. By 1956, more than half the cacao exported, four-fifths of copra exports, and 95 per cent of bananas shipped that year came from the traditional economy (Cumberland, 1962:239).

The motivating forces behind the Samoans' growing interest in commercial agricultural production and wage-employment emerged from the need to feed a rapidly expanding population (resulting from improved health services combined with high birth rates), the expansion of educational services and the development of roads and motorized transport. In various ways, these eroded the Samoans' isolation from Apia and the outside world, and raised their aspirational levels. Cash, earned from wage-employment or agricultural production of a surplus for sale, was needed to purchase materials for construction of churches, schools, etc. and to pay for school fees and the purchase of a wider range of goods and services obtainable from Apia.

But, so long as the average product per worker on the farm exceeded the wage-rate offered by the plantation owners, the Samoans preferred to earn the cash they needed on the farm. Of course, other more remunerative, congenial and prestigious job opportunities in the Government service and trading firms were actively pursued.

(ii) Under conditions of growing subsistence poverty

We now assume land becomes limited for some villages, so that relatively intense population pressure causes a decline in the...
average productivity per worker (under conditions of constant traditional technology). The farm families as identified in Sub-section 6.2.3 below become the production units with incomes obtained from the production of subsistence and cash crops on the farm, hiring out of family labour for work outside the farm but within Western Samoa, and cash remittances from relatives in Apia or abroad. The technology within the traditional economy is constant. Exotic diseases and pests are introduced.

Furthermore, the monetary economy expands and diversifies (with the emergence of other sectors including tourism, manufacturing, building and construction, and transport and communications). Traditional export production supercedes plantation export production in the agricultural sector. Substantial amounts of capital, technology and entrepreneurial skills are obtained from overseas. These are then combined with labour from the traditional economy to establish the production processes within the monetary economy.

Given these new conditions, the response of the Samoan worker within the traditional economy to wage-employment within the monetary economy will depend on the wage rate offering and the level of the average subsistence earnings on the farm, other things being equal. That is, the wage remains the function of income foregone on the farm.

The North-western Upolu region usually preceded other regions in adopting activities promoted by the administration in Apia because of better linkages and greater exposure to incentive factors arising from its proximity to Apia. For example, banana
and cacao production was initiated in North-western Upolu and then spread to other regions following the construction and progress of the roads (Ward, 1959). With much of the customary land alienated and additions of migrants from other regions seeking wage-employment, better educational opportunities, and the "bright lights", intense population pressure on land developed rapidly and accelerated the depletion of soils in North-western Upolu. This caused the average productivity of labour to decline (given that the area of family lands could not be extended).

The introduction of exotic diseases and pests, especially of bananas, greatly reduced the total product of the family farms, thus further lowering the average product of labour. Diseases and pests spread throughout Western Samoa so that the level of "subsistence earnings" declined everywhere despite the fact that many villages still had surplus land and labour. On the other hand, the wage level in the monetary economy increased over time as Table 6.1 indicates.

Consequently, it became more profitable for some of the members of the farm families within North-western Upolu (and some families in other regions who were short of land) to accept conveniently accessible casual employment in the monetary economy. This facilitated the rapid transition from complete dependence on an indentured labour force to an almost exclusive employment of Samoan men and women as casual labour for commercial and industrial purposes.
TABLE 6.1
WAGE RATE CHANGES BETWEEN 1942 AND 1954

<table>
<thead>
<tr>
<th>Type of Labour</th>
<th>Average Rates per Day&lt;sup&gt;a&lt;/sup&gt;</th>
<th>March 1942 $</th>
<th>May 1945 $</th>
<th>Sept. 1954 $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casual Labour in Commercial Employment In Apia</td>
<td></td>
<td>0.30</td>
<td>0.50</td>
<td>0.86</td>
</tr>
<tr>
<td>Casual Labour - Public Works Department</td>
<td></td>
<td>0.30 - 0.50</td>
<td>0.50</td>
<td>1.00</td>
</tr>
<tr>
<td>Plantation Labour - N.Z.R.E. Multifanna&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td>0.19 - 0.26</td>
<td>0.40</td>
<td>0.66</td>
</tr>
<tr>
<td>Plantation Labour - Privately Owned</td>
<td></td>
<td>0.19 - 0.26</td>
<td>0.30 - 0.40</td>
<td>0.50 - 0.60</td>
</tr>
<tr>
<td>Working Foreman - Public Works</td>
<td></td>
<td>1.00</td>
<td>0.90 - 1.20</td>
<td>3.00+</td>
</tr>
<tr>
<td>Stevedoring Foreman</td>
<td></td>
<td>1.00</td>
<td>1.60 - 2.00</td>
<td>2.80</td>
</tr>
</tbody>
</table>

<sup>a</sup> Rates in shillings and pence converted to $WS.

<sup>b</sup> Including rations and shelter.

**Notes:** Current minimum wage for casual labour is $WS1.50 per day.

**Source:** Stace, 1956.

Generally, the quality of Samoan labour was considered satisfactory.

Most plantation employers interviewed during this survey expressed satisfaction with their Samoan labourers "on the job" ... 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. (Stace, 1956:33)

However, because there is always the alternative of returning to the village and working on the family lands rather than being
destitute if out of a job, much of the casual work force is comprised of uncommitted labour so that there is a high rate of turnover. This is undesirable from the point of view of employers who are perpetually training new recruits. On the other hand, the knowledge, skills and new experiences gained by the worker whilst on the job should improve his performance in the traditional economy when he returns there.

Estimates of labour employment in 1956 compiled by Stace (1956:36-37) and Cumberland (1962:240) suggest that by this time possibly 4,000 to 5,000 Samoans were being employed as casual labourers in the plantation sector whilst some 3,000 more Samoans found employment with the trading companies and various Government departments. Wage rates in operation during 1953-54 indicate that the Government was the pace-setter in fixing casual rates. However, in the absence of legislation to fix minimum wages, the commercial companies and plantation owners were able to pay less because, generally, the supply exceeded the demand.

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. (Stace, 1956:33)

Wages obtainable in New Zealand and American Samoa are considerably greater than the average product of labour on the farm and the costs involved in movement, but statistics are not available. Thus, emigration "quotas" to New Zealand and American Samoa have always been filled to the extent that long waiting lists exist. Table 5.9 in Chapter 5 details some information on emigration and indicates the rapid increase in emigration to New Zealand.
Stace (1956:34) noted that a "tendency for skilled workmen 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" was evident at the time of his survey. However, recent available information on employment status in Western Samoa of New Zealand-bound emigrants indicates that 19 per cent were in private employment, 9 per cent in Government employment, and 72 per cent were never gainfully employed (as wage earners).

Although this information does not reveal educational qualifications it does show that the trend noted by Stace is modified in that by far the greatest number of emigrants now come from outside of Government and private employment. It would also be reasonable to assume that, under present conditions, there would be no difficulty in refilling job vacancies arising from emigration by local recruits with the necessary qualifications. However, more information on the level and kind of skills involved is required before any firm statement can be made on the question of a "brain drain".

Time has also proven incorrect Stace's view that Samoans migrate to New Zealand to escape "the demands of the aiga and the obligations of Samoan social life". The evidence shows that Samoans in New Zealand continue to observe, with some pride, their customs and traditions. With higher incomes, they find themselves in an eminently better economic position to fulfill their responsibilities and obligations to their immediate families and their aiga.

11 Obtained from the Immigration Officer, New Zealand High Commission in Western Samoa by personal communication, 1975.
Confirmatory evidence of this is the substantial and increasing value of cash remittances entering Western Samoa sent by members of the aiga living or visiting New Zealand and elsewhere. (Refer Section 4.5, Chapter 4.)

Finally, since independence in 1962, foreign capital investment has been actively sought by the Western Samoan Government with which to develop its manufacturing (including timber milling) and tourist industries, and for the expansion of its development programs with respect to the infrastructure, social services and agriculture. These have, in turn, stimulated the expansion of the commercial, building and construction, and communications and transport sectors.

Consequently, the demand for labour has rapidly increased, raising wage rates\(^\text{12}\). Given that the average product per member of the farm family has declined, there has been a marked shift of the labour force from the traditional economy into the expanding monetary economy. This shift is exacerbated by the accelerated increase of emigrants to New Zealand and elsewhere.

6.2 Interaction at the Micro-Economic Level: Transition from Subsistence to Commercial Production

There is a complex and very important nexus of interrelationships between subsistence and commercial production, and between these activities of a Samoan farm family and its obligations to the aiga.

\(^{12}\) The Labour and Employment Act 1972, and an Apprenticeship Act 1972, under which minimum wages are set, are being enforced by a newly established Labour Department. The minimum wage for casual labour set in 1974 is $1.50 per day.
and village, and the implications of all these on the productivity of the family farm.

This section is concerned with an analysis of these interactions at the micro-economic level. It involves an analysis of the subsistence and commercial activities of a Samoan farm family as a production unit operating within the context of Western Samoan society.

The Fisk and Nakajima models are first presented. Samoan farm families and family farms are defined. The models are then used to analyse the subsistence-commercial activities of Samoan farm families striving to maximize their utility within the framework of traditional Samoan society.

6.2.1 The Fisk model

Fisk's model is diagrammatically represented in Figure 6.2. It concerns a self-subsistent non-monetary family farm in isolation and considers the factors which determine the level of production within such a production unit in isolation and when it comes into contact with the monetary economy.\(^{13}\)

(i) The assumptions of the model

(1) The land available to the farm family is constant. It may not be fully utilised for cultivation and varies in quality

---

13 Fisk's model can be conceptually applied to a population unit or subsistence group of a substantial size, e.g. on a country basis (1973:8-10), a district basis (1963:469-470). Here attention is focussed on the farm family as the subsistence production unit.
FIGURE 6.2
FISK'S MODEL OF A SELF-SUBSISTENT NON-MONETARY FAMILY FARM IN ISOLATION

Subsistence Output

so that output is subject to diminishing returns as more labour is applied.

(2) The level of technology and capital are assumed to be constant and given. There is only one variable input, labour, which is represented on the horizontal axis.

(3) The subsistence output comprises a range of subsistence goods and services and is represented by the vertical axis.

(4) The curve O-T represents the production function under which the different quantities of subsistence goods and services can be produced with varying levels of labour input.

(5) The farm family size increases at a constant rate (so that the age and sex structure is unchanged).

(6) The level of subsistence output which is the minimum required to sustain the physiological production power of the farm family's labour force and below which the potential labour supply of the farm family will decline is set at G.

(7) Subsistence output at which the farm family produces adequate subsistence goods and services for its own consumption so that further production is pointless is set at D - the "demand ceiling".

These assumptions enable Fisk to state the following relationships. The production of subsistence goods and services becomes a function of labour applied, A. The labour potential to the family farm, Lp, is a function of the number of members or size, N, of the family farm. The level of this labour potential is
determined by the age and sex structure of the family members and by
the social norms governing working conditions. Since these are
assumed to be constant, the potential supply of labour available
per farm family will be a constant function of the family size.
That is

\[ L_p = F(N) \]

where

\[ L_p \geq A > 0 \]

Similarly,

\[ G = g(N) \]
\[ D = d(N) \]

so that radials \( O-G_1-G_2-G_3 \) and \( O-D_1-D_2-D_3 \) can be drawn as shown in
Figure 6.2. These radials describe all possible values of \( G \) and \( D \)
as the population of the farm family varies.

Having established the model, Fisk then proceeds to demon­
strate the importance of differing levels of population pressure on
land resources in determining the degree of affluence (and/or poverty)
of the self-subsistent farmer. He also shows the effects of technology
and the application of capital investments under these circumstances,
and the importance of these effects on development planning.

(ii) The workings of the model

Firstly, the model shows that with a family size corres­
ponding to the potential supply of labour \( L_p \), the farm family can
use \( O L_p \) units of labour to produce \( O S_1 \) units of subsisitence output.
However, in isolation and under the conditions assumed, there is no
incentive to produce above the "demand ceiling" set at $OD_1$. Thus
the actual labour input will in fact be $OA_1$ rather than $OLP_1$. There
is therefore a substantial amount of the available labour potential
that is in excess, amounting to $OLP_1$ minus $OA_1$ or $A_1LP_1$ labour units.

After contact with the monetary economy, this excess labour
can be used to produce an agricultural surplus, $D_1'S_1'$, or for other
new forms of production (including off-the-farm wage-employment),
without reducing the supply of subsistence goods and services, $OD_1$.
"All that is necessary to draw this labour into productive use is
a level of incentive sufficient to make it worthwhile." (Fisk,
1973:8). The implications for planning are to establish suitable
economic linkages between the subsistence-based farm family and the
monetary economy in order to raise the family's demand for goods
and services for which money is needed.

As the family size progressively increases, the corres-
ponding supply of available labour rises to $LP_2$, $LP_3$ and $LP_4$. At
$LP_3$ the maximum level of consumption obtainable from existing land,
capital and technology falls below the desirable level ($LP_3D_3 >$
$LP_3S_3$) but is above starvation point ($LP_3S_3 > LP_3G_3$). At $LP_4$,
starvation sets in and the farm family size is reduced by the
Malthusian controls of famine and disease.

Fisk goes on to suggest that during the early stages after
contact with the exchange market, the subsistent affluent peasant
will continue his subsistence production almost unchanged using only
some of his excess labour to earn a cash supplement by wage labour
or by the production of a cash crop. For various reasons Fisk considers that

a peasant (other than the lucky few on the outskirts of the main towns) tends almost invariably to commence operations on the market either by engaging himself or one of his family in wage labour for a limited period, or by utilising some of his spare labour on the farm to produce a purely cash crop (such as coffee, cocoa or rubber) in small quantities over and above his own subsistence requirements ... (so that) ... the cash and self-subsistence activities are almost entirely separate and in effect the production and consumption in the subsistence region O-C-A is quite separate from that in the monetary triangle C-S\textsubscript{1}-D\textsubscript{1}, and the production function will in most cases also be different. (Fisk, 1973:11)

The other important policy implication revealed by Fisk's model concerns the effects of changing technology and the additions of capital. Figure 6.3 illustrates these effects.

The production curve, O-T, is a function of the quantity and quality of land available for cultivation, and of the level of technology and other factors affecting the response of the land in forms of output per unit of labour input.

Labour-saving innovations, e.g. iron axe heads in place of stone, have little effect on the level of output at which the marginal productivity of labour approaches zero. This type of technology is represented by the change in the production curve from O-T\textsubscript{1} to O-T\textsubscript{2}.

---

14 Fisk (1973:1041,17-18) is concerned with the early stages after contact based on evidence from Papua New Guinea. In Western Samoa, the conditions giving rise to these reasons are not the same as will be explained under Sub-section 6.2.3.
FIGURE 6.3
THE EFFECTS OF CHANGING TECHNOLOGY
ON THE PRODUCTION FUNCTION

On the other hand, production-increasing innovations, such as the introduction of fertilizers, high yielding crop varieties, etc. can raise the overall productivity of the land so that the marginal productivity of labour approaches zero at a higher level of total production. This is represented by a change from $O-T_1$ to $O-T_3$ in the production curve.

The former type of innovation requires less expense and can often be easily financed with resources from within the farm. The latter type of innovation is often costly. It requires substantial money input for which subsidies or credit may be necessary. This must be obtained from outside the farm, usually from within the monetary economy.

(iii) The usefulness of the model

Fisk's model is therefore useful in indicating (1) the level of non-monetary production likely to be sustained, (2) the amount of excess labour that can be used for cash earning activities, and (3) the scope for purely supplementary cash activities (or production) which varies between production units (or farms) with differing levels of population pressure on their land resources.

It also indicates the need to develop economic linkages between the subsistence-based farm and the market sector in order to lift the "demand ceiling" and thereby encourage the participation of indigenes in the monetary economy during the early stages of development. Finally, it is helpful in demonstrating that simple labour-saving technological improvements would obtain greater results if applied to areas where population pressure is light rather than areas of
high population density. For the latter areas, more costly production-increasing innovations would prove more effective in raising output.

Fisk's model, however, does not indicate how much of the excess labour will be applied to cash earning activities by the family farm. Nakajima's models of subjective equilibrium of family farms under different situations attempt to do this.

6.2.2 The Nakajima models

Nakajima assumes that a family farm always strives to maximize its utility which is the function of income and family labour used. For a family farm which behaves rationally subjective equilibrium is achieved when its utility function is maximized subject to its income equation. At this point, the marginal product of labour equals the marginal valuation of labour.

Model 1: A pure commercial family farm without a labour market

This commercial farm where output is all sold is Nakajima's simplest and basic model.

(i) The assumptions of Model 1

(1) Only one product is produced and is all sold at price, \( P_x \).

(2) The income from the sale of the product together with the exogenously determined "asset income", \( E \), from non-farm assets provide a family monetary income, \( M \), over one year.
(3) $M_0$ is the minimum subsistence income.\footnote{This "minimum subsistence standard" of the whole family is considered by Nakajima to be $S_m = P_m + g(E, C)$, where $P_m$ stands for the minimum physiological requirements (below which, death); $E$, economic well-being variable; and $C$, cultural variable.}

(4) Available land is fixed at $B$ acres.

(5) The potential or physiological maximum amount of labour, in hours, per year, the family can supply is $\tilde{A}$, but only $A$ is used.

(6) The only factors of production used are family labour and land.

(7) The level of technology is represented by a production function, $F(A, B)$.

(8) There is no labour market.

(ii) The workings of Model 1

The utility function is

$$U = U(A, M)$$

where

$$\tilde{A} \geq A \geq 0, \ M \geq M_0 > 0$$

The nature of the utility function is defined by the following assumptions

$$U_A < 0, \ U_M > 0$$

$$\tilde{A} \geq A \geq 0, \ M \geq M_0 > 0$$

$$U_A < 0, \ U_M > 0$$
\[ \frac{2}{\partial A} \begin{bmatrix} U_A \\ U_M \end{bmatrix} > 0 \]  \hspace{1cm} (4)

\[ \frac{-U_A}{U_M} = +\infty \text{ when } A = \bar{A} \]  \hspace{1cm} (5)

\[ \frac{2}{\partial M} \begin{bmatrix} -U_A \\ U_M \end{bmatrix} > 0 \]  \hspace{1cm} (6)

\[ \frac{-U_A}{U_M} = +0 \text{ when } M = M_0 \]  \hspace{1cm} (7)

The income equation for the family farm is

\[ M = P_x F(A,B) + E \]  \hspace{1cm} (8)

In the production function, the marginal productivity of labour is assumed to be non-negative and decreasing, i.e.

\[ F_A \geq 0, \quad F_{AA} < 0 \]  \hspace{1cm} (9)

Given these assumptions and information, it is possible to maximize \( U \) of utility function (1) subject to the income equation (8), to obtain

\[ P_x F_A = \frac{-U_A}{U_M} \]  \hspace{1cm} (10)

and to determine the equilibrium values of \( A \) and \( M \) using the simultaneous equations (8) and (10). The amount of output, \( F \), can be determined by the production function.

The assumptions and relationships of this model are represented diagrammatically in Figures 6.4(a) and 6.4(b).
FIGURE 6.4
NAKAJIMA'S MODEL OF A PURE COMMERCIAL FAMILY FARM
WITHOUT A LABOUR MARKET (MODEL 1)

[Diagram description]

Quantity of Family Income

Marginal Productivity and Marginal Valuation of Family Labour

(a)

(b)
Considering Figure 6.4(a) first, the vertical axis represents the quantity of family income, M, and the horizontal axis the quantity of family labour, A. The horizontal line $M_0M_0'$ is the minimum subsistence standard income, whilst OE represents the amount of "asset income", E. The production possibility curve, which in this case is the "family income curve", is represented by curve $L_1$. Curves $I_1$ and $I_2$ are two indifferent curves which have the properties of approaching the minimum subsistence standard income line, $M_0M_0'$, and the physiological maximum labour line, $AH$, asymptotically. Indifference curves comprising the family's indifference map cut the curve $L_1$. The point of subjective equilibrium is reached when an indifference curve just touches the curve $L_1$, as at point Q.

In Figure 6.4(b), the vertical axis represents the marginal productivity and marginal valuation of family labour, and the horizontal axis the quantity of labour. Curve $L_3$ is the "marginal productivity-of-labour curve" and is derived from the slope of the "family income curve", $L_1$. Curve $L_2$ is the "marginal-valuation-of-labour" curve and is derived from the slopes of the indifference curves which cut or just touch (at the point of equilibrium) the curve $L_1$. The point of equilibrium in Figure 6.4(b) is at $Q'$, the point of intersection of curves $L_3$ and $L_2$, where the marginal productivity equals the marginal valuation of labour.

At the point G, the marginal productivity of labour is expressed by the slope of curve $L_1$ at G (Figure 6.4(a)) or by the length KT (Figure 6.4(b)) whilst the marginal valuation of labour is given by the slope of an indifference curve which cuts $L_1$ at G (Figure 6.4(a)) or by the length ST (Figure 6.4(b)).
(iii) The usefulness of Model 1

Nakajima uses this simple model to demonstrate the effects on the family farm's subjective equilibrium of changes in (1) asset income, (2) price of the farm product, (3) farm size, and (4) family size. The effects of technological innovations and seasonality on subjective equilibrium of the family farm are also analysed. Of these, the effects of asset income and of technology are of interest as they explain what is happening in many family farms in Western Samoa.

1. The effects of Asset Income, E

A rise in E raises the family income, M, by shifting up the family income curve, \( L_1 \), without affecting its shape. It follows that the marginal valuation of family labour curve, \( L_2 \), is also shifted up without a change in its shape. However, the marginal productivity of labour curve, \( L_3 \), is not affected.

An increase in E therefore has the effect of reducing the amount of family labour used. This reduces farm output and farm income vis-a-vis everything else being equal (see Figure 6.5).

2. The effects of Technology

Like Fisk, Nakajima makes the same distinction between "labour-saving" and "production-increasing" technical innovations. Fisk, however, goes further by indicating the implications of these innovations for policy and development planning, and for this reason his exposition of the effect of technology, as considered above, is more useful.
FIGURE 6.5
THE EFFECT OF A RISE IN ASSET INCOME ON A
FARM FAMILY'S SUBJECTIVE EQUILIBRIUM
Model 2: The pure commercial family farm with a competitive labour market

This model is obtained by modifying Model 1.

(i) The assumptions of Model 2

(1) The existence of a labour market is assumed enabling the family farm to engage outside labour or hire out family labour at a given wage rate, \( W \).

(2) Asset income, \( E \), is ignored.

(3) All other assumptions of Model 1 are retained.

(ii) The workings of Model 2

For Model 2, the equation for the farm family's income is

\[
M = x F(A'; B) + W(A-A')
\]  \( (11) \)

where

\( A' \) represents labour input on the farm from whatever source

\( A \) is the amount of family labour utilized on the farm or elsewhere, and

\( W \) is a given wage rate.

\[
A' > A \geq 0
\]  \( (12) \)

so that when \( A' > A \), labour is engaged; \( A' = A \), no labour is engaged or hired out; \( A' < A \), labour is hired out.

Maximizing \( U \) of equation (1) subject to equation (11), we have
The labour input used on the farm, \( A' \), is determined from equation (13). Equations (11) and (14) determine \( A \) and \( M \).

Equation (13) is an equilibrium condition for a "firm" maximizing profit whilst equation (14) is the equilibrium condition of a "labourer's household" maximizing \( U = U(A, M) \) subject to its income equation \( M = WA \). This implies that as an economic unit, the farm family behaves, initially, as a firm maximizing profit (expressed by \( P^F - WA' \)) and, then, as a labourer's household (with non-labour income amounting to \( P^F - WA' \)) maximizing utility. In other words, "profit maximization" is a prerequisite to "utility maximization".

Model 2 is represented diagrammatically in Figure 6.6. The slope, \( WW' \), of the "wage-line" (CQR in Figure 6.6(a) and CRQ in Figure 6.6(b), represents the wage rate, \( W \). The "wage-line" becomes the "family income curve" not the production possibility curve, \( L \), as is the case in Model 1. Here, the marginal productivity curve, \( L'_2 \), corresponds to the production possibility curve, but the marginal valuation curve, \( L'_3 \), corresponds to the "family income curve" which, in this case, is the "wage-line" and not the production possibility curve as in Model 1.

In the diagram, \( A'_{0} \) is the value of \( A' \) in equilibrium, so that \( A'_{0} = A' \) in equation (11).
FIGURE 6.6
NAKAJIMA'S MODEL OF A PURE COMMERCIAL FAMILY FARM WITH A LABOUR MARKET

(a) (b)
(iii) Usefulness of Model 2

In Western Samoa, the labour market is available to many farm families, particularly those close to Apia and other emerging centres of growth. According to the workings of Model 2, family labour is hired out if the wage level, OW, is higher than the subjective equilibrium values of the marginal product and marginal valuation of labour in the absence of a labour market (the point of intersection of curves $L_2$ and $L_3$). If OW is lower, outside labour is hired in.

Model 4: The subsistence-commercial family farm with family labour and two products

Nakajima's Models 3 and 4 are of semi-commercial family farms (consuming part of their output). The only difference in the two models is that the family farm in Model 3 produces a single product and in Model 4 two products. Model 4, with two products, is more useful analytically for the discussion of family farms in Western Samoa which produce several products.

(i) The assumptions of Model 4

(1) Portions of the two products consumed on the farm amount to $X_1$ and $X_2$, the suffixes 1 and 2 denoting each of the two products. The farm family's income therefore comprises two parts, income in kind, $X_1$ and $X_2$, and money income, M.

(2) Asset income is ignored.
(3) A labour market is non-existent so that only family labour, $A$, is used.

(4) All other assumptions of Model 1 are retained.

(ii) The workings of Model 4

The utility function of the farm family is

$$U = U(A, X_1, X_2, M)$$

(15)

where it is assumed that

$$U_A < 0, U_1 > 0, U_2 > 0, U_M > 0$$

(16)

The family income equation is

$$M + P_1 X_1 + P_2 X_2 = P_1 F(A_1, B_1) + P_2 G(A_2, B_2)$$

(17)

where

$$A = A_1 + A_2$$

(18)

$$B = B_1 + B_2$$

(19)

Maximizing (15) subject to (17) through (19) we obtain

$$P_1 F A_1 = P_2 G A_2 = - \frac{U_A}{U_M}$$

(20)

$$P_1 F B_1 = P_2 G B_2$$

(21)

$$U_1 / U_M = P_1$$

(22)

$$U_2 / U_M = P_2$$

(23)
where

\[ U_1 = \frac{dU}{dX_1}, \quad U_2 = \frac{dU}{dX_2} \]

and where

\[ \frac{U_1}{U_M} \text{ and } \frac{U_2}{U_M} \] are the marginal valuation of \( X_1 \) and \( X_2 \), respectively.

From the simultaneous equations (17) through (23), the values of \( A, A_1, A_2, B, B_1, B_2, X_1, X_2, \) and \( M \) in equilibrium can be determined. Then, by substituting in the appropriate equation, the outputs \( F \) and \( G \), the quantities to be sold \( (F - X_1) \) and \( (G - X_2) \), the total income \( (M + P_1X_1 + P_2X_2) \) can be obtained.

(iii) **The usefulness and/or limitations of Model 4**

Whilst it was possible to theorize and to demonstrate the effects of price changes and other factors on the workings of subjective equilibrium with Model 1, Nakajima admits that to do this with the more complex model 4 would be exceedingly difficult and makes no attempt to do so. However, for Western Samoa, Model 4 represents a useful framework for the analysis of subsistence commercial productive activities of a family farm.

6.2.3 **The interactions of subsistence and cash activities within the Samoan family farm**

In Western Samoa, the first problem which one encounters in a discussion of the family farm and the workings of its subjective equilibrium is what one defines as a farm family. In Lockwood's study, the *aiga* was considered as the household unit:
The aiga forms the primary economic and social unit of the village community. For these reasons, it was clear that the aiga would have to be the 'household' for the purposes of the survey. (Lockwood, 1971:16)

But Lockwood recognized that semi-independent households existed. He surveyed these separately and compounded the results to give a "complete record of the activities of the whole aiga".

Here we are attempting to analyse the subjective equilibrium of family farms within the context of Samoan traditional society using the formal models presented above. For this reason, the aiga is considered to be a farm family only if it operates all its lands, labour and other resources as a single production unit (a family farm) under the management of the matai. But as will become obvious below, other types of farm families operating family farms as single production units also exist.

(i) Farm families and family farms in Western Samoa

The types of land use patterns found in Western Samoa as described under Sub-section 3.2.2, Chapter 3, imply that basically there are three levels of farm families that operate family farms within the Samoan village traditional economy. These are the nuclear family, the sub-extended family, and the extended family. Individuals always belong to one or the other of these families either as members of a nuclear family or as kindred.

These farm families give rise to four types of family farms in Western Samoa. They are distinguished from each other by being operated by (1) a nuclear family, (2) a nuclear family with kindred,
(3) a sub-extended family comprised of more than one nuclear family and kindred, and (4) a single extended family or aiga comprised of various numbers and combinations of (1), (2) and (3), but operated as a single unit of production. This typology of farm families and family farms is illustrated in Figure 6.7.

(1) The management and operation of family farms

A family farm of type 4 represents the traditional aiga or extended family production unit. It operates directly under the authority of the Matai, who is senior in rank (if there are more than one Matai in the aiga). Increasingly, family farms of types\(^\text{16}\) 1, 2 and 3 are replacing type 4. These represent recent adaptations that have been forced upon the traditional system by the rapid increase in population and other factors. The senior Matai retains pule over the lands but he allocates them to each farm family which cultivates them under the direction of a family head. The farm family head is an individual who is either an untitled person or a Matai of lower rank.

The senior Matai himself may head one of these farm families, in which case he may actively direct the activities of members of the family or else delegate it to a senior member. Alternately, as is the case with many elderly senior Matai, each farm family may be required to take turns in providing the senior Matai and his wife with food, labour services and other needs.

\(^{16}\) Usually referred to as "individuals" to whom the Matai has allotted land for their own use.
FIGURE 6.7

TYPES OF FARM FAMILIES AND FAMILY FARMS IN EXISTENCE IN THE TRADITIONAL VILLAGE ECONOMY

Family Farm
Type 4

Family Farm
Type 3

More than one nuclear family with or without children

Family Farm
Type 2

One nuclear family with or without children

Family Farm
Type 1

One nuclear family with or without children

Sub-extended Family

Nuclear Family

Extended Family

Kindred

Kindred

Kindred
Unencumbered by day to day planning of productive activities, the senior Matai occupies himself with affairs of the aiga as a corporate unit and with village matters.

(2) Security of tenure and independence of family farms

Since the senior Matai who has pule over the land is head of a family farm of type 4, it operates in complete security of tenure and independence. Families operating family farms of the types 1, 2 and 3 do not have security of tenure since the pule over the aiga lands is vested in the senior Matai. Nevertheless, these family farms operate as single production units and with varying degrees of autonomy with respect to the management of their economic affairs.

For instance, the head of each farm family is free to decide what crops to cultivate on the lands allotted to him by the senior Matai in order to obtain a subsistence and cash income to meet the needs of members of his farm family. In the village, one visible manifestation of this independence is that members of each farm family (which may occupy several houses) prepare their own food in a common cookhouse(s) and have their meals together. However, the heads of each of these farm families are expected to serve and support the senior Matai who, as the head of the aiga, represents them in village affairs.

(3) The farm family as a part of the aiga and village

The senior Matai must uphold the prestige of the aiga and look after the general welfare of its members. For instance, if a
member of the aiga breaks a village regulation, the village council not only fines the senior Matai but verbally castigates him for failing to control a member of his aiga. To pay such a fine, heads of the aiga's farm families are expected to provide support in the form of labour, food or cash contributions on request from the Matai. The senior Matai also arbitrates in intra- and inter-aiga disputes involving members of his aiga.

At the aiga level, all resources of the farm families are combined under the direction of the Matai in such matters as the construction of the aiga's guest house or fale-talimalo, the entertainment of its guests, and the fulfilment of various social functions. For instance, when there is a death or a wedding within the aiga, the senior Matai consults with each family head to consider what requires to be done and to allocate to each family the manner of their contribution.

At the village level, the senior Matai may specify the nature and extent of each farm family's share towards the aiga's contribution to a village capital project, the entertainment of official visitors to the village, or the payment of a fine. How to fulfill its share is the responsibility of the head of each farm family.

(4) Current trends

The current trend is for farms of types 1, 2 and 3 to increase at the expense of type 4. Generally, there are no restrictions or discriminatory treatment placed upon any of the
four types of family farms in their relationships with the central Government. For this reason, and the fact that all of these farms are operated as single production units, analysis of subjective equilibrium can be applied to each type of family farm.

(ii) Farm family activities and their interactions

To maximize their utility, all four types of family farms must take into account the need to contribute part of their labour and income (cash or in kind) to aiga and village level community activities. The extent to which they are required to make these contributions varies from place to place and depends mainly on the leadership qualities of their senior Matai and of the Matai in the village council.

(1) The disposition of family labour

Following Nakajima's terminology, let the physiological maximum or potential amount of labour the family can supply be $\bar{A}$, and the amount of labour expended on aiga and village communal activities be $A_C$. Then the amount of family labour available, $A_M$, for use in earning a family income, $M$, is $\bar{A}$ minus $A_C$, where $A_M > A_C$.

However, in the context of Western Samoa, a variety of other activities reduce the level of $A_M$ even further. For instance, the production of subsistence commodities like thatches, blinds, floor and table mats, etc., which are needed for the building and

---

17 In hours or days per week, per month or per year, whatever unit and time period that is convenient to use.
the replacement of houses and household durables may absorb a significant proportion, $A_H$, of the family labour. In most families walking to and from the gardens, carting of water and firewood, cutting of lawns, and the preparation of meals can absorb a considerable amount $A_U$, of family labour. Fishing may also absorb a part, $A_F$, of the family labour supply.

If all family labour required for these other activities is taken into account then the amount of family labour available that can be used for subsistence-commercial agricultural productive activities and for wage employment, $A_M'$, is represented by

$$A_M' = \bar{A} - A_C - A_F - A_H - A_U$$

where

$$A_M' = \bar{A} + A_C + A_F + A_H + A_U > 0$$

and

$$A_M > 0, \ A_C > 0, \ A_F > 0, \ A_H > 0, \ A_U > 0$$

and where

$\bar{A}$ = the physiological maximum or potential family labour

$A_C$ = family labour expended on aiga and village communal activities

$A_F$ = family labour expended on fishing

$A_H$ = family labour expended on such activities as building and maintenance of houses and the replacement of household durables

$A_U$ = family labour expended on miscellaneous activities like carrying water, collecting firewood, cutting lawns, etc.

$A_M$ = family labour available for subsistence-commercial agricultural activities and for wage-employment.
(2) The sources of income for the family farm

The main sources of income in cash and in kind for a rural household are agriculture (and livestock), wage-employment, cash remittances from relatives resident abroad or in Apia, and fishing. Of these, fishing contributes only 0.6 per cent to the total money income and therefore can be regarded as a purely subsistence source of income. Cash remittances are exogenously determined. Agricultural income is a mixture of subsistence and cash incomes whilst wages are in cash (refer Section 4.5, Chapter 4).

(3) The types of activities for which farm family labour is required

The evidence from (1) and (2) implies that three main types of farm family labour use may be classified as: (a) communal activities requiring $A_C$ of family labour, (b) farm family subsistence activities requiring $A_F$, $A_H$, and $A_U$ of family labour, and (c) farm family subsistence-commercial farming activities and wage-employment for which $A_M$ of labour is available.

If $A_F + A_H + A_U$ are denoted as $A_S$, then the main uses of family labour can be re-expressed as

$$\bar{A} > A_C + A_S + A_M > 0 \text{ where } A_C < A_S < A_M > 0$$

18 Defined as a "group of persons living together who provide themselves with food and other essentials for living". This closely approximates my definition of a farm family.

19 Subsistence-commercial activities involve the production of commodities which are all sold and commodities which are partly sold and partly consumed on the farm.
Finally, the labour requirements of communal activities requiring $A_C$ of family labour generally depend on the leadership of the senior Matai and of the Matai in the village council. The labour requirements of the activities included within $A_S$ of family labour and for which part or all of $A_M$ of family labour is to be used can be directly influenced by the head of each farm family. All of these may be summarized diagrammatically in Figure 6.8.

**FIGURE 6.8**

THE MAIN TYPES OF ACTIVITIES FOR WHICH FARM FAMILY LABOUR IS REQUIRED

![Diagram of the main types of activities for which farm family labour is required.](Image)
6.2.4 Interpretation of the activities of a Samoan farm family using the models

The concern of this sub-section is to use the models of Fisk and Nakajima to interpret the interactions of the activities of a Samoan farm family as established in the preceding sub-section.

(i) The Fisk model

(1) The need to separate subsistence and monetary activities

Fisk's separation of a subsistence from a monetary enterprise on the grounds that the pricing and valuing in monetary terms of the "end products" of a subsistence enterprise is problematical can be used to analyse the activities of a Samoan farm family.

All those activities producing output which do not enter the market can be regarded as purely subsistence activities in the Fiskian sense, since pricing and valuing them can be impracticable. For a Samoan farm family these subsistence activities require further differentiation into communal aiga and village activities which are initiated by the Matai (demanding $A_C$ of family labour) and the farm family subsistence activities which are controlled by the head of the farm family (requiring $A_S$ of family labour).

(2) The need to work with the Matai and heads of farm families

In order to maximize the amount of family labour, $A_M'$ which can be used for farm family subsistence-commercial productive
activities, \( A_C \) and \( A_S \) must be reduced. To minimize \( A_C \) requires consultation with the Matai. To minimize \( A_S \) requires working directly with the head of the farm family. This is one reason why official efforts to raise agricultural output within the traditional economy must be directed at the Matai as well as the head of each farm family.

(3) The need to improve the productivity of subsistence activities

One way of reducing \( A_S \) is to improve the efficiency of productive activities associated with fishing, the production of household durables and other subsistence commodities. Communal action to install piped water systems and to build access roads for vehicular transportation not only cut down time involved in travelling and labour expended on carting of water and produce, but they also serve to raise the level of demand.

(4) The need to use the right technological innovation

Fisk's model also suggests that Samoan farm families in villages and/or districts where population pressure on land is high, as in North-west Upolu, will benefit most from the application of production-increasing innovations such as fertilizers. For farm families in areas where population pressure on land is light, as in Savai'i and the rest of Upolu, labour saving technological innovations such as the use of weedicide sprays would be more profitable.
(ii) The Nakajima models

Nakajima's models of subjective equilibrium can be used to analyse how much of $\Lambda_M$ will be used by the farm family for earning an income through subsistence-commercial activities and from wage-employment.

As noted in Section 4.5, Chapter 4, a 1972 household survey indicated that the main sources of income for a rural household (or farm family) are agriculture (including livestock), wage employment and cash remittances.

(1) The effect of non-farm asset income, $E$

Nakajima's analysis in his Model 1 indicates that a rise in $E$ increases total farm family income but reduces the amount of family labour used on the farm. This depresses farm output and therefore income from the farming activities.

Cash remittances can be considered as "non-farm" asset income since they are determined exogenously. The 1972 household survey indicated that for rural households in Western Samoa, cash remittances represent, on the average, 29.3 per cent of money income or 19.1 per cent of total income (money plus subsistence). The implications are that family farm output must be depressed. If this effect is aggregated for all farms, the implication is that the rise in remittances from abroad is a contributory factor to the reduction or stagnation of total agricultural output from the traditional economy.
(2) The wage labour effect

The evidence contained in Section 6.1 of this chapter indicates that wage rates are rising due to the expansion of the monetary economy and minimum wage legislation whilst the marginal productivity of labour is declining because of population pressure on land, diseases and pests, and other problems. The 1972 household survey indicated that, on the average, wages and salaries represented 41.6 per cent of money income and 27.2 per cent of total income for rural households.

Nakajima's analysis with his Model 2 shows that if the wage level, \( W^* \), rises above the marginal product of labour at the point of subjective equilibrium in the absence of a labour market (the point of intersection of the marginal product and the old marginal valuation of labour curves), the point of subjective equilibrium will change in such a way that family labour will be hired out.

This seems to be the most plausible explanation for the current shift of labour from the traditional economy into the monetary economy (and abroad). It lends support to the Lewis argument propounded in Section 6.1 above.
CHAPTER 7

FOOD SHORTAGES - TOWARDS A SOLUTION

This chapter establishes the connection between local food shortages and the structural transformation that is taking place within Western Samoa's dual economy and considers why Western Samoa should maximize its food production and minimize its food imports. It further analyses the production and marketing structure of staple foods, identifies the specific problems, and then suggests a rationale for a program toward a solution of local staple food shortages.

7.1 The Basic Cause of Food Shortages

The genesis of food shortages in Western Samoa derives primarily from the interaction of the monetary and the traditional economies of its developing economic system. A macro-analysis of this interaction undertaken in Chapter 6 (Section 6.1, Sub-sections 6.1.1 and 6.1.2), shows that because of pests and diseases, population pressure on land and other problems, the average productivity of labour within the traditional economy is declining whereas the wage level within the expanding monetary economy is rising. Furthermore, the evidence suggests that the wage level has probably exceeded the average productivity of labour.¹

This may be conceptualized diagrammatically in Figure 7.1. The vertical axis represents the wage and the average product of labour.

---

¹ It must certainly have exceeded the average productivity of labour in districts, villages and farm families where population pressure on land is serious.
The horizontal axis represents time. MW represents the wage curve and SP the average product curve over time.

The current situation in Western Samoa is somewhere beyond point T where the monetary wage exceeds the average product of labour. Evidently this excess of wages over the average product of labour is sufficient to make the movement of labour out of the traditional economy and into the monetary economy profitable enough to compensate for the costs of movement, the loss of leisure, the

2 At the micro-economic level, this movement of labour out of the family farm into the wage sector is explained by the Nakajima models (see Sub-section 6.2.4).
lack of flexible working hours, the loss of freedom to vary the pace of work, and the other factors noted by Fisk (1973).

The economic system of Western Samoa is therefore undergoing an economic transformation, with labour moving out of the traditional economy into the monetary economy. In recent years, this movement of labour out of the traditional economy has accelerated because of the expansion in the monetary economy and emigration abroad. For instance, Table 5.14 in Chapter 5 indicates that the working population in the traditional economy (village agriculture) is declining absolutely and relative to the monetary economy over the period 1966 to 1971. The opposite situation holds with all the sub-sectors of the monetary economy. In nearby American Samoa, there has been a much more rapid absorption by the monetary economy of labour from the traditional economy (compounded by emigration to Hawaii and the mainland USA). In consequence, export and local markets for traditional staple foods have emerged and expanded rapidly over the last ten years.

Faced with a declining productivity of labour and a declining labour force (and in consequence a higher dependency ratio), the traditional economy has not been able to produce an adequate surplus of traditional foods for the domestic and export market.

3 The monetary wages in New Zealand and American Samoa are considerably higher than the local wage in Western Samoa so that emigration is actively pursued from within both the monetary and traditional economies.

4 Unfortunately, no statistics are available for the local market except for a study by Lockwood (1969) based on field work in 1966. Statistics on exports are available from various sources but they are fragmentary and rather confusing. A start has been made to rectify this situation by Rhee (1974).
markets in addition to the production of traditional foods for subsistence and cash crops for export. Official assistance to raise agricultural productivity has failed because of a combination of factors expressed in Chapter 4, Sub-section 4.4.4.

Referring specifically to staple foods, local shortages have arisen because the need to control the production and marketing process of taro and the need to co-ordinate this with the production of bananas has not been recognized or fully appreciated by the Department of Agriculture. Both crops are consumed as subsistence food. Both are cash crops. But their production requirements differ. Whereas taro can be produced under the traditional technology, bananas can only be produced using the "new technology". Whilst some villages or districts have adequate land resources for the production of taro under the extensive system of long fallow cultivation, others do not. These factors strongly suggest that specialization of taro production using the traditional technology in districts with surplus land and of bananas under the "new technology" in land-deficient districts can be developed without causing any hardship to Samoan farmers. Rather, such specialization will result in a better utilization of scarce resources to the benefit of both the farmers and the nation.

7.2 The Need for Self-Sufficiency

There is an expansionary trend in the money supply within the Western Samoan economy due to the growth in the wage sector generated by capital inflow and foreign aid, the recent high prices for both copra and cacao, and the increased inflow of cash remittances
from overseas Samoan emigrants. Under conditions of excess liquidity, the occurrence of recent and current shortages in traditional staple food supplies led to both domestically generated and imported inflation.

Local shortages led to high prices for traditional staple foods, and a sharp rise in imports such as rice, flour and other essential foodstuffs. The rise in food imports added to imported inflation and exacerbated balance of payments problems. Official measures to counter balance of payments problems through restrictions and control of foreign exchange allocations, coupled with the irregularity in shipping and the rising costs of ocean freight and imported goods due to inflation in exporting countries, have resulted in general shortages of imported essential foods as well as other goods.

Increasing traditional staple food production will directly overcome local food shortages and help resolve Western Samoa's balance of payments and inflation problems by reducing food imports and increasing the supply of exportable subsistence-commercial crops, e.g. bananas, copra, taro. Furthermore, if this increase is obtained through raising the average productivity of both labour and land, the select instances of excess population pressure on land can be defused whilst the withdrawal of labour from the agricultural sector to fill the employment opportunities generated in the industrial sector is facilitated.

The alternatives open to the Government of Western Samoa for overcoming its food shortage problems are limited. It can increase traditional food production, or, if this is not possible, it can import substitutes such as rice and flour. The most likely
situation is that it will do both. However, as a developing nation relying heavily on imported capital equipment, raw materials and technology for its development, it is in Western Samoa's interests to produce rather than import its food requirements.

The development of a balanced and integrated economy requires capital formation and investment, both human (social services like education, health, family planning, etc.) and physical (infrastructural development of roads, power and water resources, communications, factories, etc.). Both of these require substantial amounts of imported capital equipment and materials, skills and knowledge. By maximizing domestic production and minimizing imports of basic foodstuffs, more of Western Samoa's limited foreign exchange reserves can be devoted to the acquisition of essential goods and services for capital formation.

The dependence on imports can also be problematical for Western Samoa for two reasons:

(1) There is no guarantee that Western Samoa will always receive imported food supplies in amounts or at times it needs them most; and

(2) It is never certain that Western Samoans on temporary "visitor" permits to New Zealand and American Samoa will continue to earn the "holiday pay" or that Samoans with relatives overseas will continue to receive the cash remittances upon which so many Samoans now rely for the purchase of imported foods, etc.

Dependence on imports is risky because of factors beyond Western Samoa's control. Good illustrations of these external factors
are the irregularity of shipping which Western Samoa experiences from time to time but never so seriously as in 1973-74, and the decision by the New Zealand Government to impose work permits as a condition for Samoan visitors to New Zealand to get work because of the worsening unemployment situation in that country. Should New Zealand's economy deteriorate further, the job security of relatives resident there may be jeopardised. If so, the volume of incoming cash remittances may diminish. 5

The available evidence also suggests that given a choice, most Samoan consumers (comprising 88.9 per cent Samoans, 10.1 per cent part-Samoans, 0.5 per cent Europeans and 0.5 per cent others) would probably prefer traditional staples to imported substitutes. Finally, Western Samoa has adequate resources, land and labour for the production of most of its food requirements.

Additional to these, the production of traditional foods and importables for the market represents additional sources of income for the farm family. The production of a variety of crops, livestock and fish for food also widens the available range of commercial productive opportunities. The Samoan farm family which has hitherto depended on the perennial tree crops - coconuts, cacao and bananas - now finds itself with a more flexible mixture of crop/livestock/fishing commercial enterprise from which it can select what is best to maximize its utility according to its resources of land, labour and capital. More importantly, the wider range of saleable commodities a farm family can produce presages a

5 This, in fact, is what is happening as reported in an article "Economy in Dire Straits", in the Samoa Times, July 11-17, 1975.
development of regional specialization based on comparative advantage. This should raise the productivity of both land and labour as well as the efficiency and effectiveness of limited support activities by the Government extension services as will be explained below.

Finally, the potential productivity of land and labour must be pursued vigorously in order to stem the flow of labour into Apia and its environs. Hitherto, the urban drift has not created serious problems of conspicuous unemployment, rising crime rates, overcrowded and sub-standard housing, and other urban problems. Fortunately, the existence and combination of certain factors peculiar to Western Samoa have kept these problems to a minimum. These factors include the expansion of the monetary sector, emigration to and remittances from New Zealand and American Samoa, the geographically small size of the country and therefore low cost of travel which allow for ease of mobility between village and town, and the influence of the aiga and the Matai system. However, as the current high rates of job creation, emigration, and remittances from abroad level off and decline, urban problems will intensify. One way to stem the "urban drift" is to make farming more profitable. Food production has an important role in maximizing the profitability of farming in the traditional economy.

6 In the Apia "urban area", inter-village feuds and fighting often require Matai intervention before satisfactory settlement is obtained.
7.3 The Production and Marketing Structure of Staple Foods

Here we are concerned only with traditional staple foods - taro, bananas, breadfruit, ta'amu, yams, etc., of which taro and bananas are the most important.

To begin with, there are two parties to any exchange transaction of traditional staple foods: a farmer/seller and a consumer/purchaser. However, because of the physical separation of the farmers from the consumers, a third party is usually involved as a buyer and a seller: the intermediary or middleman, of which there may be more than one depending on the extent of the geographical separation and other factors.

Others are also involved: public servants in research, marketing, advisory and extension, and credit institutions; the producers and merchants who trade in imported substitutes like flour and rice; owners and employers of transport services; and so on. Here attention is focussed on the main actors in the process of production and marketing of staple foods: farmers, intermediaries and consumers. The marketing structure of taro is represented diagrammatically in Figure 7.2, and bananas in Figure 7.3.

7.3.1 Consumers

It is the demand by consumers which generates and sustains the production and marketing process for staple foods. It is

---

7 The comments in this sub-section apply directly to consumers within Western Samoa. Some of the comments may be valid for consumers in New Zealand and American Samoa. However, the needs of consumers there may be affected by other factors as well, e.g. differences in incomes, ethnic status (Samoan, Tongan, Fijian, etc.), variety of substitutes including taro of different variety from Tonga, etc.
FIGURE 7.2
MARKETING STRUCTURE OF TARO

Farmer

Subsistence Market

Private Shippers in Western Samoa

Produce Marketing Division in Western Samoa

Commission Agents in New Zealand

Licensed Importers under the Control of the Taro Board and Department of Agriculture in American Samoa

Retailers in New Zealand

Consumers in New Zealand

Consumers in American Samoa

Consumers in Western Samoa

Export Markets

Domestic Market* (Apia mainly)

---

* Taro is also consumed as a subsistence food on the farm.
FIGURE 7.3
MARKETING STRUCTURE OF BANANAS

Farmer

Subsistence*  Market

Produce Marketing Division
in Western Samoa

Fruit Distributors
Ltd in New Zealand

Department of Agriculture
in American Samoa

Retailers in
New Zealand

Consumers in
New Zealand

Consumers in American Samoa

Consumers in Western Samoa

Export Markets

Domestic Market*
(Apia mainly)

* Bananas are also consumed as a subsistence staple food on the farm.
therefore important to know what consumers need. On taste and for social status reasons, most consumers prefer taro to imported substitutes like rice and potatoes or other traditional staples.

For those consumers who purchase their staples, they would also like to obtain taro at least as cheaply or cheaper than imported and other local substitutes. Moreover, consumers would like to be able to buy taro from conveniently located market places or stores at times when they need them. Secure and regular supplies are also important to the consumer.

The needs of consumers who produce their own staples are included in the discussion of farmers below.

7.3.2 Intermediaries

Several intermediaries or middlemen are involved in the production and marketing of staple foods for export (see Figures 7.2 and 7.3). Within Western Samoa, export bananas to New Zealand are marketed solely by the Produce Marketing Division (PMD) of the Department of Agriculture (WSDA). However, besides the PMD, private shippers are free to export taro and other traditional staple foods to New Zealand (Rhee, 1974). For the American Samoan export market, only the PMD is allowed to market bananas, taro and other staple foods.

In American Samoa, the intermediaries are the licensed importers under the control of the Taro Board and the Department of Agriculture (ASDA) - a public organization. In New Zealand, all intermediaries are private individuals or firms including Fruit
Distributors Limited (which is a monopsony for the import of bananas into New Zealand), Turners and Growers, etc., and the owners of the more familiar fruit shops and corner groceries which retail taro and bananas.

Intermediaries who or which are private individuals are motivated by a number of reasons, but the main one is the profit motive. However, besides the need to balance their books, public institutions like the PMD and the ASDA are motivated by other more important considerations as prescribed by law under which they were established and within which they must operate.

The PMD is concerned with promoting the welfare of the farmers which it serves by providing efficient marketing facilities and services (transport, etc.), stable prices, regular incomes and impartial treatment (for example, in the allocation of limited cases for taro shipments, etc.). In addition to promoting the welfare of the farmers there, the ASDA also indirectly controls the importation of staple foods and their prices, as well as the operation of the Pago Pago market place. As will become obvious below, these additional powers of the ASDA give it advantages of considerable importance over the WSDA in fulfilling the dual responsibilities of promoting the welfare of both producers and consumers of traditional staple foods.

In marked contrast to staple foods exported, sales to consumers within Western Samoa do not involve intermediaries. The farmers themselves are the sellers who sell directly to consumers.
The physical proximity of farmers to consumers in Apia and the availability of regular transportation makes it possible for the small individual farmers to market their own produce, albeit at high cost in time lost and inconvenience in the process. However, in the absence of intermediaries, sellers are willing to put up with this inconvenience and high cost. For some, this may be lessened by combining it with other motives for coming into Apia, like the purchase of a specific article paid for with proceeds from the sale of his produce.

There is only one organized market place within Western Samoa - Savalalo in Apia. Outside of Apia, there is very little trade in staple foods (and other village-produced commodities) between the villages or between families within a village. But each village has one or more stores from which rice, flour, biscuits and other imported commodities can be purchased. The Apia market not only serves residents within the Apia "urban area", but also a considerable number of residents in north-west and north-east Upolu who commute to Apia for work.

Hitherto, the sale of staple foods and other produce in Apia has been largely a spontaneous development. Since Lockwood's study (1969), but based on field work done in 1966, the Western Samoan Government has established the Savalalo central market place in Apia. This, and a brief early morning radio market report (which is of greater value to consumers than to farmers), represents the total official contribution to the marketing of staple foods and other produce in the local market.

8 Many farmers sleep overnight at the Apia market place returning to their villages only when their produce is sold.
In the absence of middleman participation in the marketing of staple foods and with the recurrence of staple food shortages in the face of expanding taro exports, Government action in co-ordinating the production of taro and other staple foods for both export and the local market has become a necessity. Government interference is further justified by the need to investigate the feasibility of establishing other markets in order to relieve the traffic congestion in Apia and the overcrowding of the Savalalo market and to cater for the emergence of the other growth centres with a growing proportion of their population dependent on the market for their foods.

7.3.3 Producers

A most important point to bear in mind whilst discussing the role of farmers or farm families in the production/marketing process of staple foods is that the same farm families produce staple foods for their own consumption. These staple foods may also be sold for cash on the domestic and export markets (e.g. bananas, taro and coconuts). In addition, the Samoan farm family produces other subsistence commodities and non-edible cash crops like cacao, besides participating in aiga and village communal activities.

9 Traffic congestion is a growing problem in Apia, and the buses, etc., transporting sellers and their produce to the Savalalo market is one of the main causes.

10 For example, Salelologa and Asau in Savai'i, and densely populated north-west and north-east Upolu areas.
The point that needs emphasizing here is that there is no such person as a taro grower or a banana grower. There are only farm families undertaking many activities which include the production of taro, bananas and other staple foods.

Most farm families plant some of their own staple foods for consumption. A 1972 household survey showed that for an average rural household the value of subsistence income per month was $40.89. In percentage terms, this is made up of 40.3 per cent taro, 23.1 per cent bananas, 8.6 per cent ta'amu, 12.7 per cent coconuts, 5.6 per cent cacao with pigs, chickens and others making up the balance. For urban households, the average value of monthly subsistence income was $9.45. Of this, taro made up 38 per cent, bananas 35.8 per cent, coconut 4.7 per cent, cacao 3.3 per cent and ta'amu 3.4 per cent (see Table 4.14, Section 4.5 of Chapter 4).

Many farm families, however, are finding it difficult to grow staple foods for subsistence consumption and surplus for sale because of one or more of the reasons enumerated under the following sub-section.

7.3.4 The problems

(i) Land shortage

North-west Upolu from Apia to Palelatai and from Apia to Palevao in Anoama's East are good examples (see Figure 3.1 in Chapter 3). Here, much of the land has been alienated to WSTEC and other freehold or leasehold property owners. Moreover, north-east Upolu is rugged country whilst north-west Upolu is the
plantation belt and a significant amount of the Samoan customary land has been planted to cacao and coconuts. At the same time, the population of these areas has expanded from in-migration from the outer regions of relatives seeking opportunities for wage-employment and education in Apia.

Consequently, the population-to-land ratio has increased. What land remains for the cultivation of food crops is marginal land or else land with soils depleted of nutrients from overcropping so that it is now very difficult to grow food crops successfully using the traditional long fallow system.

Outside of north-west and north-east Upolu are other individual villages which are in a similar situation. Even in villages where there is an abundance of land, there may be found individual farm families which are short of land.

(ii) Increased cash cropping

In many villages encroachment by commercial plantation crops like coconuts and cacao has reduced the amount of land available for food production. For some villages and farm families, there may be a lot of land but all or most of it may be unsuitable because the best land is covered with plantation crops. Thus, in Faleasi'u'uta, Sale'imoa and Satapuala villages in north-west Upolu, much of the cacao plots were removed in order to plant bananas which were not only more profitable but provided a secure source of subsistence food.
In addition, the expansion of plantation crops has widened the distance between the villages and the food crop areas making the production of food crops that much more time-consuming.

(iii) Diseases and pests

Bananas can no longer be grown without the use of chemicals for disease control and fertilizers. These must be imported, are in very short supply and are expensive. Few can afford to buy them.

To be profitable, bananas must be grown on a commercial scale rather than for subsistence purposes. The application of the inputs of the "new technology" must be adequate and regular. Credit needs for capital investment and maintenance are substantial and these are not available to all farm families.

(iv) Traditional technology

Taro and other root crops can still be grown under long fallow, particularly by farm families in villages where there is adequate land. For example, south-west Upolu from Lefaga to Faleali'i and most of Savai'i. In villages where land is short, taro cannot be grown profitably without the use of fertilizers. This is difficult and expensive for the farm family if the production of taro is purely for subsistence purposes. Coconuts and cacao are established without the use of fertilizers and other inputs of the "new technology".
(v) Poor marketing organization

Unlike cacao, copra or bananas, the taro export and Apia markets are limited. There is therefore a need to find out how much taro is required, in each market, and to organize and advise farmers accordingly so that they will produce the right amount at the right time and for the right market.

For instance, Rhee (1974) has shown that either too much or too little taro is exported to New Zealand. In order to maximize total revenue to producers of taro exports to New Zealand, fortnightly shipments must be limited to 2,700 cases. Similar studies for the Apia and American Samoan markets must be undertaken.

In the villages, rice, flour and other imported goods can be bought at the village store but taro and other traditional commodities are not marketed. There is only one market place at Apia which services Apia residents as well as a significant number of wage earners who are resident within north-west and north-east Upolu.

(vi) "Rural-urban" drift

With the expansion of the monetary economy and emigration abroad, many farm families are relying more and more on wages and less on subsistence agricultural production. This is not a bad thing in itself. Amongst other things, wages and remittances add to the incomes of farm families. It also expands the markets for

---

11 Current exports are less than 100,000 cases per year whereas the New Zealand market can absorb 1,000,000 cases (see Chapter 4, Sub-section 4.4.2).
staples and other traditional foods. This widens the range of income-earning opportunities for farmers remaining on the land.

The problem arises when farm families do not and are not helped to avail themselves of these opportunities through specialization and proper market organization. If the supply of staple foods is inadequate to meet the demand (or irregular), food imports will rise, adding to balance of payments and other problems.

7.3.5 Towards a solution

From the preceding analysis of the production and marketing structure of staple foods, and identification of the problems, the following rationale is offered as the basis for a program towards the solution of staple food shortages.

(i) The need for specialization

Specialization is one way of raising the productivity of land and labour and of exploiting the comparative advantages between regions. Comparative advantages arise from differences in climate, soils, and other characteristics of the environment which suit the agronomic and physiological requirements of different crops. Differences in population pressure on land may also give rise to comparative advantages between regions as to the type of agricultural system of cultivation that can be practised.

In Western Samoa, this latter type of comparative advantage seems to fit in with the climatic and agronomic requirements of taro and bananas. For instance, in villages and districts (e.g. north-west
and north-east Upolu) where land resources are limiting, the use of fertilizers for rehabilitating the depleted soils and specialization in the intensive use of this and other scarce resources for the production of subsistence and cash crops seem to be the logical policy implications. Here, bananas, which, in any case, require the use of chemicals and strict supervision of plantings for purposes of disease and pest control if they are to be grown successfully and profitably, represent the ideal subsistence and cash crop.

Being relatively free of diseases and pests, taro can still be grown profitably under the extensive long fallow system of cultivation. Moreover, taro grows best under wet conditions. For these reasons, south-west Upolu and other wetter regions of Savai'i represent good taro planting areas.

If regional specialization in the production of these two staples are pursued as suggested, the subsistence and cash needs of farm families will be guaranteed. Limited resources of fertilizers, etc., required for banana production will be concentrated in areas where the best results would be obtained. On the other hand, labour-saving technologies like weed sprays can be encouraged in areas where taro is grown.

The Government (through the Department of Agriculture and the Development Bank) can concentrate its limited resources on producing taro and bananas in specific areas rather than spreading and dissipating them ineffectively on a nationwide basis. In consequence, the assimilation of new techniques by farmers should improve substantially, thereby obtaining and accelerating the rise in productivity of both land and labour.
Transport costs into Apia for bananas, if produced within the north-west and north-east Upolu regions, will be reduced. Furthermore, concentration of specific crops in particular regions will allow the establishment of both central packing (or processing) stations and facilitate the formation and development of economic co-operatives all of which would obtain benefits from economies of scale and improved quality of product. As more resources become available and if markets exist, the banana growing areas can be expanded.

In addition to land resources, factors like climate, soil fertility, etc., can also be considered as additional criteria for selecting not only subsistence-commercial crops but also other cash crops, or their combinations, that are best suited to specific regions within Western Samoa. For example, the drier regions of north-west Savai'i and north-west Upolu have a comparative advantage over other wetter regions for the production of cacao because of the greater losses caused by the blackpod disease which is prevalent under wet conditions. On the other hand, provided adequate land is available for bush fallow, the wet regions have a distinct advantage over the drier regions in the production of below-ground root crops.

(ii) **The need for market organization**

The export for taro needs to be rationalized. In order to maximize income to growers, the amount of taro exported must be controlled. This can best be done if a central marketing authority

---

12 The Government is at present considering the need to establish a general Produce Marketing Board.
controls the marketing of taro as it does the marketing of bananas.

If a central marketing authority is established, this, together with regional specialization in the production of taro and bananas, will facilitate the forward planning of times for plantings by districts, villages and farmers. This guarantees that regular supplies of the exact quantities of taro required for export are available at the right time.

For the local market, the Department of Agriculture (or the Produce Marketing Board, if established) should administer the Savalalo market place in Apia so that, like its counterpart in American Samoa, it could monitor the local demand for food crops. Once this has been established, as has been the demand for exports of taro to New Zealand, farmers can be organized and advised about what, when, and how much to plant to ensure adequate and regular supplies of various food crops reach the Savalalo market.

In the villages, the development of village markets for traditional commodities should be encouraged. The best policy for achieving this is by making use of established institutions in the villages. For example, in villages where women's committees possess committee houses, these can be used as a village market place in addition to other uses they now have. Village sellers can leave their products for sale with the committee members on duty. If sold, the committee takes a percentage of the price for payment. If unsold, the producer-owners can repossess their commodities at the end of the day.
This removes any social problems associated with the direct exchange of commodities for cash which may arise because of the tradition of reciprocity between persons well known to each other (and may even be related) as they are in a village.

(iii) The need for research

Marketing studies of the kind Rhee (1974) has pioneered are urgently required for taro exports to American Samoa, and for the Apia market. Feasibility studies for establishing other domestic markets in the emerging centres of growth like Asau and Salelologa on the island of Savai'i must also be studied.

Improving the efficiency in the production of subsistence food crops and other subsistence commodities represents considerable potential savings in labour and land. One estimate of subsistence production amounts to $11 million compared with the value for exports of cash crops of $2.3 million.

Research has been done on uses of composts for vegetable production, and fertilizer and time of planting for taro production, but these have not been extended to the field. Likewise, research on extending the productive season of the breadfruit was begun long ago but has not received adequate attention. Crop rotation (including pasture for livestock) for maintaining and improving soil fertility under the traditional long fallow system needs to be investigated since a considerable number of farmers still use this system for the production of taro and because fertilizers are expensive. There is also a need for investigation into methods and
forms in which the storability of traditional subsistence foods can be prolonged. Research also needs to be done on sugarcane, pandanus, and other traditionally important plants. Most households use pandanus mats and some 80 per cent to 90 per cent of Samoan houses are thatched. If the production of these types of subsistence commodities can be improved, part of the labour and land at present used for their production can be diverted to the production of food and cash crops.

These are a few examples, but they serve to highlight the Government's preoccupation with commercial export crop production and neglect of the need to improve the production and marketing of subsistence food crops and other subsistence commodities.

In conclusion, it must be stressed that the solutions suggested, if implemented, involve a considerable amount of Government interference or control in what, how much, where and when to plant food crops, etc., if current food shortages are to be overcome. The fact is that the freedom of Samoans to grow sufficient of what they want as their forefathers did in the past when they were in a state of "subsistence affluence" is lost for ever. Expanding population pressure of land; rising aspirations and expectations; out-migration to New Zealand and inter-migration between regions; the growing sophistication of the economy and the expansion of the monetary sector; changing production and market conditions; and the need for imported technology and material resources for the control of new diseases and pests and for the rehabilitation of depleted soils; these have lost the Samoans their freedom to produce what they want under the traditional long fallow system of production.
In developed economies, considerable Government control in the production and marketing of many agricultural commodities exists. If Western Samoa is to develop as these nations have, then Samoan farmers must accept greater Government interference, whether it is in the form of incentives or restrictions, provided it serves the public or national interest. Indeed, Samoans have already accepted significant Government controls but these are concerned with products of international trade - cacao, copra, and imported goods.

So far as Western Samoa is concerned, the existence of the pule of Alii ma Faipule in the villages can be a major obstacle or a most useful ally in obtaining the controls necessary for implementing solutions which would prevent the recurrence of food shortages. In the past, the support and co-operation of the Alii ma Faipule in the districts and villages have always been forthcoming in instituting changes which affected their lives but which they understood to be necessary and relevant to the times. For this reason, their help in implementing the solutions necessary for overcoming current food shortages can be obtained provided the Government adequately explains to them the changing conditions under which the production and marketing of the various traditional staple foods and cash crops have to be undertaken.
The main theme of this study is the attainment of a better understanding of the economic system of Western Samoa and its operation, with the foreknowledge that such an understanding would clarify the economic problems within their proper context and lead to better answers for their resolution. The conclusions and comments which follow are organized more or less into the order in which the specific objectives of the study were stated at the end of Chapter 1.

8.1 Economic Dualism and the Interactions of the Relevant Sectors in Western Samoa

The economic system of Western Samoa can be conceptualized as a dual economy at two levels. The economic dualistic approach can be used to analyse the structural transformation of the economy at the macro-economic level, and the transitional process from subsistence to commercial production within the farm family at the micro-economic level.

8.1.1 Structural transformation within the economy

(i) The Lewis model

The crucial condition is the existence of a dualistic structure and that the average income in one of the sectors is low, e.g. capitalist and subsistence sectors as defined by Lewis.
The use of sophisticated forms of capital and of modern

techniques for production within the capitalist sector makes it

more productive than the subsistence sector which uses non-

reproducible capital and a traditional technology. Therefore, the
capitalist sector makes more profit and re-invests part of it in

further capital formation. Its productive processes absorb labour

from the subsistence sector. This process is repeated so long as

there is surplus labour or until the subsistence earnings in the

subsistence sector equal the real wage rate in the capitalist sector.

(ii) Western Samoa: the economy

(1) The relevant sectors

The relevant sectors are the traditional and the monetary
economies. The traditional economy comprises the village agricultural
sector. The monetary economy consists of "other agriculture",
commercial, manufacturing, tourist and government sectors. The
demarcation between the two economies is based on their differences
with respect to the conditions of production and distribution within

each.

(2) From subsistence affluence to subsistence poverty

There are no detailed records of employment in Western Samoa

but the historical evidence considered suggests that, over time, the

earnings in the traditional economy were high but have declined,

whereas the wage rate in the monetary economy has risen. Population

pressure on land, diseases and pests, and other problems noted below

have caused a decline of agricultural exports which are mainly produced
by the traditional economy. The rise in the wage level results from increasing productivity of labour (in the commercial services and, more recently, tourism and manufacturing, rather than in the "other agriculture" sectors of the monetary economy) and minimum wage legislation by the Government.

The historical evidence on labour employment indicates that whilst Samoans were in a state of "subsistence affluence" they refused to accept wage labour employment so that Chinese and Melanesian labour had to be imported. Only in the last three decades have the Samoans accepted wage labour employment in the monetary economy.

Within the last ten years, this movement of labour has accelerated under the Government's active encouragement of manufacturing and tourism, together with its own expansion of infrastructural development and social services. This labour shift out of the traditional economy has been exacerbated by emigration abroad.

(3) Conditions applying to Western Samoa not considered in Lewis' model

(a) The situation with respect to a traditional economy existing in a state of "subsistence affluence".

(b) Social costs involved in movement of labour from the traditional economy to the monetary economy.

(c) An open economy where labour emigration abroad is actively pursued because of high wages there.

(d) The effect of remittances from abroad on farm family incomes.
8.1.2 The transition from subsistence to commercial production within the farm family

At the micro-economic level, the relevant sectors of economic dualism arise from the division between the subsistence (non-monetary) and the commercial (monetary) activities of the farm family.

(i) The Fisk model

The Fisk model concerns a subsistence production unit in subsistence isolation and what may happen after contact with the monetary economy in the early stages of development. It demonstrates:

(1) The level of subsistence production likely to be sustained whilst in isolation.

(2) The amount of surplus labour that can be used for cash earning activities after contact with the monetary economy.

(3) The scope of cash activities which varies between farm families with differing levels of population pressure on their land resources.

The policy implication of (2) is that there is a need to develop economic linkages between the subsistence-based family farm and the market sector in order to lift the "demand ceiling" and thereby encourage the participation of indigenes in the monetary economy during the early stages of development. The policy implication of (3) is that simple labour-saving technological innovations would obtain greater results if applied to farm families (or districts) where population is light rather than those with high population.
density. For the latter, production-increasing technological innovations including fertilizers, better crop varieties and irrigation would obtain the greatest benefit.

Fisk's model, however, does not indicate how much of the excess labour will be applied to cash earning activities by the family farm. Nakajima's models of subjective equilibrium of family farms under different assumptions attempt to do this.

(ii) The Nakajima models

The basic assumption by Nakajima is that a farm family behaves in an economically "rational" manner when it achieves subjective equilibrium by maximizing its utility subject to its income equation (which, for a family farm or firm-household complex, contains the production function). The utility function of the farm family is a function of its labour, \( A \), and its income, \( M \).

Amongst other things, Nakajima's models demonstrate the effects of asset income and the existence of a labour market on the subjective equilibrium position of a family farm.

(1) The effect of asset income, \( E \)

A rise in \( E \) raises the family income, \( M \), by shifting up the family income curve, \( L_1 \), without affecting its shape. The marginal valuation of family labour curve, \( L_2 \), is also shifted up but the marginal productivity of the labour curve is not affected. An increase in \( E \) therefore has the effect of reducing the amount of family labour used, an effect which is similar to "income effects"
in the theory of consumer choice by the household. The reduction in family labour used reduces the total farm output (refer Figure 6.5 in Chapter 6).

(2) The effect of wages

Nakajima's Model 2 shows that if there is a labour market the family income equation becomes the "wage-line" (CQR and CRQ in Figure 6.6) and not the production curve $L_1$. A rise in the wage level reduces the amount of family labour used on the farm and increases the amount of family labour hired out. Consequently, total farm output is reduced (refer Figure 6.6 in Chapter 6).

(iii) Western Samoa: the farm family

All Samoan farm families are subsistence-commercial with an average monetization factor of about 65 per cent. Before their activities can be analysed, what constitutes a farm family and a family farm in Western Samoa must first be clarified.

(1) Farm families and family farms

Four types of farm families which operate family farms within the traditional economy can be identified: (1) the nuclear family without kindred; (2) the nuclear family with kindred; (3) the sub-extended family with more than one nuclear family and kindred (an amalgamation of 1 and 2); and (4) an extended family or aiga comprised of various numbers and combinations of 1, 2 and 3.

Type 4 always has the greatest security of tenure since the senior Matai in whom the pule over family lands is vested must
be its head. Although types 1, 2 and 3 may not have as much security of tenure as type 4, they have a considerable degree of autonomy with respect to the management of their own economic affairs.

(2) Uses of farm family labour

The type of activities for which farm family labour is expended may be expressed as

\[ A_M = \bar{A} - A_C - A_F - A_H - A_U \]

where

\[ \bar{A} > A_M + A_C + A_F + A_H + A_U > 0 \]

\[ A_M < A_C + A_F + A_H + A_U > 0 \]

\[ A_M > 0, A_C > 0, A_F > 0, A_H > 0, A_U > 0 \]

and where

\[ \bar{A} \] = the physiological maximum or potential family labour

\[ A_C \] = family labour expended on aiga and village communal activities

\[ A_F \] = family labour expended on fishing

\[ A_H \] = family labour expended on such activities as building and maintenance of houses and replacement of household durables

\[ A_U \] = family labour expended on miscellaneous activities like carrying water, collecting firewood, etc.

\[ A_M \] = family labour available for subsistence-commercial agricultural activities and for wage labour employment
If the sum $A_F + A_H + A_U$ is denoted as $A_S$ then

$$\overline{A} - (A_C + A_S) = A_M$$

where

$$\overline{A} \geq (A_C + A_S) + A_M > 0$$

$$A_M < (A_C + A_S)$$

All activities undertaken with $A_C$ and $A_S$ of labour can be regarded as subsistence activities. Labour requirements for subsistence activities requiring $A_C$ of labour depend on the senior Matai and Matai of the village council. Subsistence activities requiring $A_S$ of labour and any subsistence-commercial activities undertaken with part or all of $A_M$ of labour depend on the head of the farm family (refer Figure 6.8 in Chapter 6).

If $A_M$ is to be maximized, both $A_C$ and $A_S$ must be minimized. This infers that official development efforts must be directed at both the Matai and the heads of family farms.

(3) The Fisk model and its implications

In Western Samoa the "demand ceiling" would be fairly high. However, the development of regular transport, secure markets with stable prices, and other economic linkages of a similar nature would be desirable for the production and marketing of traditional staple food crops and other traditional commodities (refer Chapter 7).

The effect of technology implies that family farms with high family labour:land ratios should be encouraged to use production-
increasing technology whilst family farms with low labour:land ratios should be encouraged to use labour-saving technologies (refer Chapter 7).

The separation of subsistence from subsistence-commercial activities by Fisk infers that improving the productivity of subsistence activities would allow more labour and land to be released for subsistence-commercial production.

(4) The Nakajima analysis and its implications

In Western Samoa today, considerable numbers of farm families receive cash remittances from relatives abroad. The implication is that this "asset income" contributes to a reduction of output by a family farm. If aggregated for the country as a whole, the reduction of agricultural output as a result of remittances may be quite significant.

The movement of labour out of the traditional economy into the monetary economy is largely due to the rise of the wage levels above the subjective equilibrium point of many farm families, particularly in areas where the population pressure on land is high. The reduction of labour input on the farm reduces farm output. When this effect is aggregated, it explains, in part, the fall in production of export crops and other agricultural commodities.

8.2 The Relevant Development and Extension Approach

One outcome of structural transformation and transition from subsistence to commercial production is the emergence of domestic
and export markets for staple foods. The traditional economy which produces most of its own food and cash crops for export is now required to produce staple foods for sale to the expanding monetary economy and the export markets. But the necessary re-adjustments in the production and marketing process of staple foods by the Government and the farm families in the traditional economy in response to these additional income-earning opportunities have been deficient.

To increase export production to earn foreign exchange and to expand staple food production to keep pace with growing local and export market demands, the productivity of land and labour must be raised. The Department of Agriculture's attempts to do this within the traditional economy by the introduction of the capital inputs and the techniques of the "new technology" have, so far, met with limited success.

8.2.1 The current commodity-specific approach

The current development projects for raising the productivity of labour and land are commodity-specific. They are applied indiscriminately on a nationwide basis. The main type of advice provided is technical in nature with no farm management and a minimum of economic content. In the main, they apply to export crops. With respect to technical services and material assistance provided under the various projects, their provision is often inadequate and/or irregular. Consequently, the application of such inputs as fertilizers, fungicides, etc., is sub-optimal.¹

¹ As in the case of the Banana Production Project and Village Fisheries Associations.
The extension advice associated with these projects at the village level is thus mainly technical and commodity-specific. Different District Field Assistants (DFAs) advise the same farm family on different commodities at different times. This advice is unco-ordinated.

Since all DFAs have general agricultural technical training, this commodity-specific and unco-ordinated extension approach does not make the best use of their technical skills and knowledge. It also wastes limited resources and time by the duplication of transport and covering of too large an area by one DFA but on a specific commodity. It "forces" a DFA to be preoccupied with the production of a specific commodity for which he is responsible. It prevents him from considering how the production of "his" commodity fits in with the other activities of a farm family operating a family farm which has various resources of land\(^2\), labour and capital.

This extension approach discourages DFAs from considering the demands of other alternative cash crops, of subsistence crops and of communal village and aiga activities of family labour and/or land resources. It prevents the production of agricultural commodities on the basis of comparative advantages accruing to certain farms, villages or districts arising from such factors as population pressure on land, climatic conditions, the agronomic and physiological requirements of crops, pests and diseases, and so on.

\(^2\) For instance, a DFA on coconuts would probably see only parts of the family farm (which is fragmented) on which coconuts are to be grown without bothering to see the rest of the other parts of the farm, since they may be scattered over a fairly wide area.
It is a combination of these factors which has led to the very limited success of the Department's efforts to raise agricultural production within the traditional economy. It stems, primarily, from the failure to consider each farm family as a subsistence-commercial production unit operating within the framework of Samoan society and the failure to select a combination of crop/livestock activities which maximizes the utility of each farm family, given its available resources. This reflects the current emphasis on technical training and extension communications training relative to the teaching of relevant development economics and farm management.

8.2.2 The whole-farm approach

The analysis of all the activities of a Samoan farm family using the Fisk and Nakajima analyses demonstrates the merits of replacing the current commodity-specific and unco-ordinated development and extension approach with a generalist but analytical whole-farm approach at the farm level. The whole-farm approach can combine the Fisk and Nakajima analyses as demonstrated above. This approach formed the basis of the analysis of staple food shortages and possible solutions undertaken in Chapter 7.

Under a whole-farm approach, all project advice and assistance should be channelled through the DFA at the field level. This does not mean there will be no specialization. Senior officers with higher qualifications should also have general administrative responsibilities but they should be encouraged to pursue specialization according to their qualifications and the areas of their interests. They can be specialists to whom DFAs will refer problems which they are unable to resolve.
If DFAs become generalists, they will have to take on more responsibilities in terms of the range and quality of advice they must provide. On the other hand, they will cover a much smaller area and all the disadvantages of the commodity-specific approach will be removed. This should then enable them to undertake village and farm family surveys to obtain the data which are required as a basis of their recommendations and advice on the type and/or combination of crop/livestock activities which would achieve subjective equilibrium for the farm family.

The whole-farm approach also requires that DFAs must be trained in development economics, farm management and principles of economic co-operation, besides the technical training they now receive.

8.3 A Practical Application - Towards a Solution of Staple Food Shortages

In the analysis of the production and marketing of staple foods, the identification of the problems and the solutions suggested incorporated concepts which are fundamental to a whole-farm approach.

8.3.1 Specialization

Specialization in taro or banana production is recommended because: (1) Samoan farm families can obtain both subsistence food and a cash income from the production of one or the other of these staples, (2) the differences in their agronomic requirements give farmers with adequate land in the wetter regions a comparative advantage in the production of taro under the long fallow system of cultivation, and (3) the limited supply of the inputs and services
of the "new technology" required for banana production needs to be restricted to a smaller area in order to obtain their optimal utilization.

One implication of both Fisk's and Nakajima's analyses is that in order to obtain the best results from production-increasing technologies like fertilizers, they need to be applied to areas with high population densities, like north-west Upolu.

Finally, to achieve this kind of specialization requires working with farmers and Matai whose co-operation can be obtained provided changes in the production conditions of the different crops and their implications are fully explained to them. This can only be done with a whole-farm approach, not a commodity-specific approach.

8.3.2 Marketing improvements

The greatest need is to establish economic linkages which would remove the market uncertainties and excessive marketing costs entailed in the production of taro by farmers. This requires the need to quantify the demands for taro in the local market and for the American Samoan markets. Once the demands are established a central marketing authority must then inform farmers producing taro when and how much to plant to ensure regular and adequate supplies reach the markets. Perhaps through a quota system, but this requires further study (see Appendix 3).

Marketing within the village of staple foods and other subsistence commodities can be developed by de-personalizing the exchange process in order to remove social problems associated with the tradition
of reciprocity. This can be done by selling through a third party, e.g. women's committees or co-operatives.

8.3.3 Research

This recommendation takes into account the subsistence-commercial nature of the activities of farm families in the Fiskian sense. Research into subsistence activities or the products of these activities is needed to improve the productivity of both land and labour used for their production.

In the production of these subsistence commodities can be improved, some of the labour and land used for their production can be diverted to the production of food and cash crops.


FARRELL, B.H. and WARD, R.G. (1962). "The Village and its Agriculture". In Fox and Cumberland (eds), 177-238.


GOVERNMENT OF WESTERN SAMOA, Annual Reports:


Annual Statistical Abstracts, Department of Statistics, various years.

The 1975 Budget Statement, by the Minister of Finance, 1975.

Trade, Commerce and Shipping of Western Samoa, by the Collector of Customs, various years.
GOVERNMENT OF WESTERN SAMOA, Special Reports:

DEPARTMENT OF AGRICULTURE.

DEPARTMENT OF ECONOMIC DEVELOPMENT.

DEPARTMENT OF LEGISLATIVE ASSEMBLY.
(1959). An Ordinance to Constitute and Establish the Department of Agriculture, Forests and Fisheries and to Make Certain Provisions in Regard to Agriculture, Forests and Fisheries.

DEPARTMENT OF STATISTICS.

PRIME MINISTER'S DEPARTMENT.


LEWTHWAITE, G.R. (1962). "Land, Life and Agriculture to Mid-Century". In Fox and Cumberland (eds), 130-176.


__________ (1973). "Control of Banana Black Leaf Streak Disease in Western Samoa", Trop. Agric. (Trinidad), 50 (1), 75-84.


__________ (1962b). "A Regional View of Samoan Agriculture". In Fox and Cumberland (eds), 1962, 290-309.


### APPENDIX 1

**SUMMARY OF AGRICULTURAL AND NATURAL RESOURCES PROJECTS**

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Project Number</th>
<th>Program Category</th>
<th>Total Costs*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coconut Planting and Replanting</td>
<td>1</td>
<td>Crops</td>
<td>280,000</td>
</tr>
<tr>
<td>Coconut Hybridization</td>
<td>2</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Cocoa Multiplication</td>
<td>3</td>
<td>&quot;</td>
<td>85,000</td>
</tr>
<tr>
<td>Cocoa Research Institute</td>
<td>4</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Banana</td>
<td>5</td>
<td>&quot;</td>
<td>800,000</td>
</tr>
<tr>
<td>Small Crops Development</td>
<td>6</td>
<td>&quot;</td>
<td>80,000</td>
</tr>
<tr>
<td>Fruit Tree Propagation</td>
<td>7</td>
<td>&quot;</td>
<td>45,000</td>
</tr>
<tr>
<td>Beef Cattle Lemafa/Togitogina</td>
<td>8</td>
<td>Livestock</td>
<td>400,000</td>
</tr>
<tr>
<td>Beef Cattle Expansion</td>
<td>9</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Dairy Development Avale/Vala/ Women's Committees</td>
<td>10</td>
<td>&quot;</td>
<td>225,000</td>
</tr>
<tr>
<td>Pig and Poultry Multiplication</td>
<td>11</td>
<td>&quot;</td>
<td>100,000</td>
</tr>
<tr>
<td>Broiler Production</td>
<td>12</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Swine Production</td>
<td>13</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Animal Feed Production</td>
<td>14</td>
<td>Livestock Industry</td>
<td>90,000</td>
</tr>
<tr>
<td>Feedmill</td>
<td>15</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Abattoir</td>
<td>16</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Dairy Plant</td>
<td>17</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Animal Health Services</td>
<td>18</td>
<td>&quot;</td>
<td>500,000</td>
</tr>
<tr>
<td>Village Fisheries Development</td>
<td>19</td>
<td>Fisheries</td>
<td>350,000</td>
</tr>
<tr>
<td>Commercial Fisheries Development</td>
<td>20</td>
<td>&quot;</td>
<td>425,000</td>
</tr>
<tr>
<td>Taiwan Fisheries</td>
<td>21</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Turtle</td>
<td>22</td>
<td>&quot;</td>
<td>15,000</td>
</tr>
<tr>
<td>Fish Processing Plant</td>
<td>23</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Forestry Development (including: reaforestation, silvicultural research, forest inventory Savan, delimitation of customary forest lands, forestry training)</td>
<td>24</td>
<td>Forestry</td>
<td>525,000</td>
</tr>
</tbody>
</table>

(contd. over)
<table>
<thead>
<tr>
<th>Project Title</th>
<th>Project Number</th>
<th>Program Category</th>
<th>Total Costs*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timber Pressure Impregnation Plant and Charcoal Production</td>
<td>25</td>
<td>Forestry</td>
<td>375,000</td>
</tr>
<tr>
<td>Food Processing Agri-related</td>
<td>26</td>
<td>Agri-related</td>
<td>575,000</td>
</tr>
<tr>
<td>Agricultural Research (Alasfua)</td>
<td>27</td>
<td>&quot;</td>
<td>350,000</td>
</tr>
<tr>
<td>Agricultural Research (UNDP/FAP)</td>
<td>28</td>
<td>&quot;</td>
<td>200,000</td>
</tr>
<tr>
<td>Agricultural Access Roads</td>
<td>29</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Strengthening of Extension and Communication</td>
<td>30</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Agricultural Store</td>
<td>31</td>
<td>&quot;</td>
<td>400,000</td>
</tr>
<tr>
<td>Engineering Centre</td>
<td>32</td>
<td>&quot;</td>
<td>300,000</td>
</tr>
<tr>
<td>Post Entry Quarantine</td>
<td>33</td>
<td>&quot;</td>
<td>35,000</td>
</tr>
<tr>
<td>Hydrological Investigation</td>
<td>34</td>
<td>&quot;</td>
<td>100,000</td>
</tr>
<tr>
<td>Land Settlement Scheme</td>
<td>35</td>
<td>Lands</td>
<td>#</td>
</tr>
<tr>
<td>Customary Land Investigation and Utilization</td>
<td>36</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>National Parks (Robert Louis Stevenson, Lake Lanuto'o)</td>
<td>37</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Sanctuaries</td>
<td>38</td>
<td>&quot;</td>
<td>#</td>
</tr>
<tr>
<td>Development Bank</td>
<td>39</td>
<td>&quot;</td>
<td>1,650,000</td>
</tr>
<tr>
<td>Possible Other Projects and Projects yet to be Estimated#</td>
<td>40</td>
<td></td>
<td>9,995,000</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td></td>
<td></td>
<td><strong>$17,500,000</strong></td>
</tr>
</tbody>
</table>

* Tentative cost figures only, including foreign capital grand aid and loans, but not technical assistance.

# Cost figures yet to be determined (dependent on feasibility studies, etc.)

APPENDIX 2
A SIMPLE ANALYSIS OF THE ECONOMICS OF BANANA PRODUCTION IN WESTERN SAMOA, 1972

All costings are based on the first two years of production only. Plantations which are well maintained should continue to produce good fruit for up to 10 years.

A. EXPENDITURE PER ACRE OVER 2 YEARS

1. Establishment (excluding land clearance costs):
   Planting distance = 6' x 11' = 660 plants/acre
   (i) Planting material at $2.00 per 100 $13.20
   (ii) 660 holes at 3¢ each 19.80
   (iii) Pre-plant chemical dip for weevil, borer and nematode control 2.12
   (iv) Fertilizer (10.5.20) at 1/2 lb per plant 9.90
   (v) Weed control - 4 pts weedfree 2.50
   (vi) Labour - (a) prepare planting material 1.80
        (b) fertilizer 1.80
        (c) weed control 4.50
   TOTAL $55.62

2. Maintenance (chemicals):
   (i) Leafspot control chemicals (Benlate, M/Oil emulsifier) 70.00
       (2 week interval - 52 applications/2 years)
   (ii) Weevil borer control (1 pt Dieldrin/12 months) 2.00
   (iii) Fertilizer (3 lb/plant/year) 118.80
   (iv) Buncy top control (kerosene) 2.00
   (v) Weed control (4 pts Weedfree/acre/application) 47.50
       (4 week interval for the first 6 months and 6 week interval thereafter)
   (vi) Scabmoth control (CCT 25% emulsion) 2.00
   TOTAL $242.30

3. Maintenance (labour at $1.60/day):
   (i) Leafspot control 5.60
   (ii) Weevil, borer control 3.60
   (iii) Weed control 40.00
   (iv) Fertilizer (12 applications) 22.00
   (v) Scabmoth (3 two-hour sessions/week for 18 months) 100.00
   (vi) Packing (39 ships at 23 cases/ship at 10 cases/man/day) 144.00
   TOTAL $315.20
TOTAL EXPENDITURE IN 2 YEARS

<table>
<thead>
<tr>
<th>Description</th>
<th>Cost ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establishment</td>
<td>$55.62</td>
</tr>
<tr>
<td>Maintenance (a) chemicals</td>
<td>242.30</td>
</tr>
<tr>
<td>Maintenance (b) labour</td>
<td>315.20</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$613.20</strong></td>
</tr>
</tbody>
</table>

4. Capital Equipment:

- 1 Misting machine: $160.00
- 1 Knapsack sprayer: $30.00
- 1 Scabmoth injector: $13.00

**TOTAL** $203.00

B. INCOME PER ACRE OVER 2 YEARS

Assumptions

(a) 660 plants per acre
(b) 3 bunches per plant (i.e. at 12, 17, and 22 months after planting)
(c) Loss of 10% from bunchy top and wind toppling

Total fruit production at 35 lb exportable fruit per bunch:

\[ 35 \times 660 \times 9/10 = 62,370 \text{ lb} \]

Total case production at 56 lb fruit per case:

\[ 62,370 \div 56 = 1,114 \text{ cases} \]

Income at $1.30 per case = $1,448

Profit per acre over 2 years: $1,448 - $613 = $835

The corresponding economics for plantations producing different sizes of bunches are shown in the following table:

<table>
<thead>
<tr>
<th>Average Bunch Size (lb)</th>
<th>Expenditure ($)</th>
<th>Income ($)</th>
<th>Profit ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>613</td>
<td>827</td>
<td>214</td>
</tr>
<tr>
<td>25</td>
<td>613</td>
<td>1,034</td>
<td>421</td>
</tr>
<tr>
<td>30</td>
<td>613</td>
<td>1,240</td>
<td>627</td>
</tr>
<tr>
<td>35</td>
<td>613</td>
<td>1,448</td>
<td>835</td>
</tr>
<tr>
<td>40</td>
<td>613</td>
<td>1,655</td>
<td>1,042</td>
</tr>
<tr>
<td>45</td>
<td>613</td>
<td>1,862</td>
<td>1,249</td>
</tr>
<tr>
<td>50</td>
<td>613</td>
<td>2,068</td>
<td>1,455</td>
</tr>
<tr>
<td>60</td>
<td>613</td>
<td>2,482</td>
<td>1,869</td>
</tr>
<tr>
<td>70</td>
<td>613</td>
<td>2,896</td>
<td>2,283</td>
</tr>
</tbody>
</table>

With little maintenance, some plantations are producing 10-20 lb fruit per bunch. There are two plantations with good maintenance which are producing about 60-70 lb fruit per bunch.

APPENDIX 3
FAIR TARO CASE ALLOCATION PROPOSAL

Preamble

As experienced in both the Mission to the Districts and the follow-up to the Mission, all the districts visited share the same complaint about unfair and unreliable allocation of taro cases. Since this problem was common in all the districts so far visited, no doubt it would also be prevalent in the districts to be visited. It appears therefore that something should be done to eliminate or reduce complaints.

The Present Situation

The present situation is that taro supplies are much greater than demand (markets).

The grower grows taro both for his family and for export. Assurance for disposal of surplus taro is not guaranteed by the Produce Marketing Division. But the Fagufag District Programme of the 2AP exhorts growers to till the soil and plant taro, etc. The Government (P.M.D. and 2AP) are not co-ordinated at all in advising and servicing the farmer.

The grower is encouraged by the Government (2AP) to plant taro but when he harvests his taro he finds that Government (P.M.D.) cannot buy his surplus taro. He becomes very angry with the Government and very often he stops planting taro. Fluctuations of taro supplies result.

Unfortunately, the Department of the Government which gets the blame is the Department of Agriculture. The growers are not aware that the Fagufag Programme of the 2AP is a 2AP programme and not an Agricultural Department programme.

The Present P.M.D. Policy

The P.M.D. lets it be known to both DFAs and growers that shipments are allocated to districts in turn. But neither the DFA nor the district growers are advised in advance when the district can ship, and how much taro can be shipped.

There is no set schedule for shipments by district to which P.M.D. is committed.

District growers know that many growers in and around Apia (Aleisa, Faleasi'u-uta, Tanumalala) ship continuously and are not subject to specific shipments.
P.M.D. has its own reasons for pursuing the present unsatisfactory policy but it is not explained to growers and I fear the growers will not be satisfied with the explanations.

Unfortunately, the Department as a whole gets blamed, not just P.M.D..

Something definitely has got to be done, and the following proposal is strongly recommended as it is considered by growers to be logical and fair.

The Desirable Situation

1. P.M.D. commits to paper immediately a schedule of:

   (a) Shipments per year or the balance remaining.

   (b) Allocate shipments to district.

   (c) Allocate total cases to districts, when shipments quota become known.

2. The D.F.A. and District Committees presently being set up work together to allocate total cases per village within the districts.

3. The D.F.A. and Village Committees work together to allocate cases to individual growers.

   If this procedure is implemented, growers will be able to plan their taro planting so that harvesting will coincide with their turn to ship. That is, growers will know when they will be able to ship taro. And since taro export statistics of the last two years shown on the average over 800 cases are shipped per boat, the growers can be assured of how many cases they can ship. The Faipule districts of course are well-established.

   This procedure actually enables growers and the Department to work together in the true sense of the word, and in fairness to all growers.

   Note that this system can be applied more easily to shipments for New Zealand. Shipments for Pago are less regular and a schedule per district would be more difficult to operate, but I would expect, not impossible.

   Statistics of number of shipments and taro exports for 1969 and 1970 are attached for general information.

Source: Part of a report on the "Missions to the Districts" by the writer, 1971, on file in the Department of Agriculture.
$ - unless otherwise indicated, the dollar sign represents the Western Samoan tala.

£ - this symbol represents the Samoan pound before the introduction of the tala.

\$WS1.00 = £WS0.50 or £WS0.10.0