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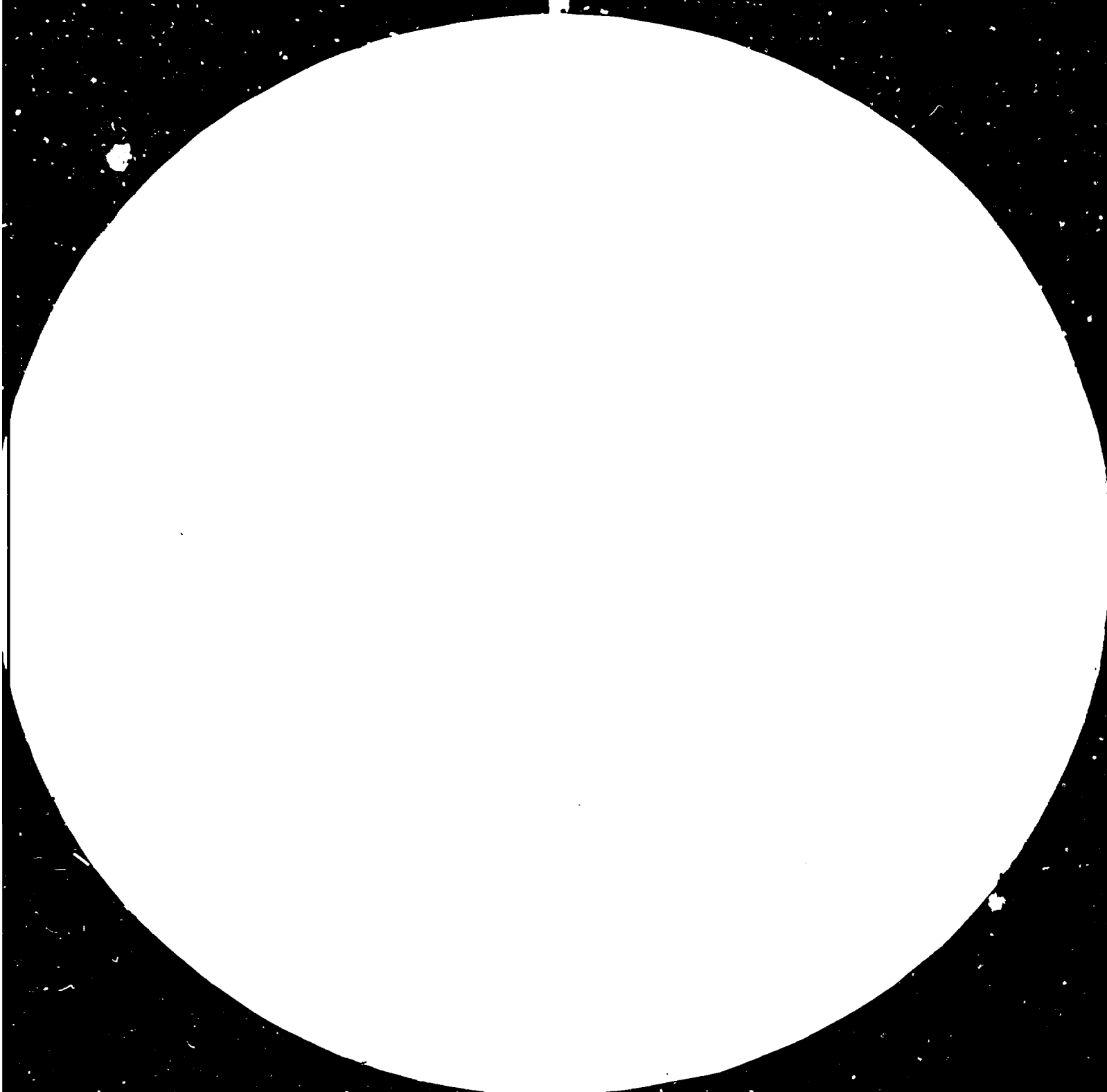

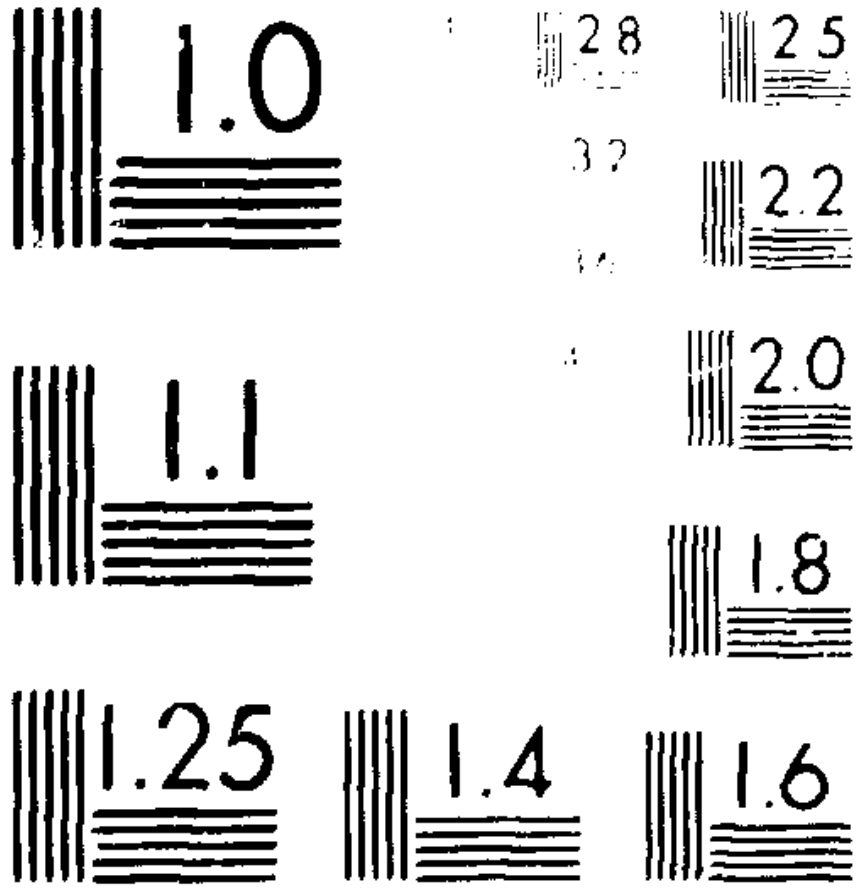
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FIJI

AGRO-INDUSTRIAL DEVELOPMENT*

Christian A. Newman

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WORLD BANK/UNIDO
CO-OPERATIVE PROGRAMME

REPORT No.29
March 1983

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PREFACE

This report is based on the findings of a mission which visited Fiji between 5 April and 13 May 1982. The mission's team consisted of Messrs. Christian A. Newman, mission leader (World Bank/UNIDO Co-operative Programme), Mudiayi Ngandu (World Bank) and consultants Messrs. Lawrence B. Darrah, Ralph Lattimore and Ian Matthews. The coordination and support of the mission's work in Fiji was achieved through the Central Planning Office (CPO), Government of Fiji.

The primary objective of the mission was to focus on the strategic aspects of how to stimulate and integrate more agro-industrial activity into Fiji's economic development program and secondarily, to identify specific priority investments (for further feasibility study) in the context of increasing export earnings and reducing food imports. In pursuing these objectives the mission concentrated on providing the Government with recommendations for a practical program aimed at implementation and an integrated assessment of the strategic impact on Fiji of particular policies concerning agro-processing and related investments.

In response to the Government's request, the mission undertook in-depth studies of selected agro-industrial opportunities to assess their production potentials and constraints, the dynamics of demand projections and the existing marketing and distribution systems at various levels. In carrying out these tasks, the mission compiled extensive background information which was either integrated into the report or added to it in the annexes.

The Government excluded timber, fish, rice, livestock and dairy products from the mission's terms of reference because ongoing studies already focused on them or other donors had already examined these items.

CURRENCY EQUIVALENTS (May 1982)

Currency Unit - Fijian Dollar

F$1 - NZ$1.40
F$1 - US$1.07
F$1 - Yen 258.0
F$1 - Canadian $1.31
F$1 - Australian $1.12

WEIGHTS AND MEASURES

Metric system, except where otherwise indicated.

PRINCIPAL ABBREVIATIONS AND ACRONYMS USED

ACP	-	African, Caribbean and Pacific (Trade group of countries)
BAF	-	Bunker Adjustment Factor
BCC	-	Budget Coordinating Committee
BIDC	-	Business Industrial Development Committee
CAP	-	Common Agricultural Policy
CER	-	Closer Economic Relations
CMA	-	Central Monetary Authority
CPO	-	Central Planning Office
DP 8	-	Development Plan 8
DSC	-	Development Sub-Committee
EDB	-	Economic Development Board
EDF	-	European Development Fund
EEC	-	European Economic Community
EPC	-	Effective Protection Coefficient
FAB	-	Fijian Affairs Board
FDB	-	Fiji Development Bank
FEA	-	Fiji Electricity Authority
FNPF	-	Fiji National Provident Fund
FSC	-	Fiji Sugar Corporation
GATT	-	General Agreements on Tariffs and Trade
GSP	-	Generalized System of Preferences
IAC	-	Industries Assistance Commission, Australia
ITC	-	International Trade Center
JETRO	-	Japanese External Trade Organization
MAF	-	Ministry of Agriculture and Fisheries
MSC	-	Macro-economic Sub-Committee
NLDC	-	Native Land Development Corporation
NLTB	-	Native Land Trust Board
NMA	-	National Marketing Authority
NPB	-	Net Private Benefit
NPC	-	Nominal Protection Coefficient
NSB	-	Net Social Benefit
OECD	-	Organization for Economic Cooperation and Development
PFL	-	Pacific Forum Line
SDR	-	Special Drawing Rights
STABEX	-	Stabilization Fund for Exports (EEC/Lome Convention)
SPARTECA	-	South Pacific Regional Trade and Economic Cooperation Agreement
TFPL	-	Tropical Food Products Limited
UNCTAD	-	United Nations Conference on Trade and Development

SUMMARY AND RECOMMENDATIONS

Macro-economic Performance

1. Recent macro-economic developments emphasize Fiji's vulnerability to fluctuations in external demand conditions for major visible trade exports (sugar, fish, molasses and gold) and invisible trade exports (tourist earnings). Real GDP growth, terms of trade and employment fluctuate with external developments in export markets. Favorable weather and other conditions on the production side tend to enhance or curtail the supply response of the economy.

2. In 1979 and 1981, favorable external demand and domestic supply conditions generated a real GDP growth of 11.2 per cent and 4 per cent, respectively, while a reversal of these conditions resulted in a 2.6 per cent decline in real GDP in 1980. Prospects for 1982 are estimated at less than 1 per cent real growth in GDP as the external demand for Fiji's exports is expected to weaken.

3. In the past, government expenditure policies, especially capital expenditure programs, have had stabilizing effects. Although capital-expenditure programs picked up the slack in private investment between 1979 and 1981, the lack of growth-augmenting capital projects in the pipeline for 1982 and 1983 has become a major constraint as the ongoing projects are near completion. Except for these ongoing projects, no new capital-expenditure projects are planned for 1982 and 1983 [1/]. The Government has had some success in restraining current expenditures, particularly wages between 1977 and 1981 under the Tripartite Forum wage guidelines. However, in 1982 restraining wages and salaries has been difficult, given the weaker bargaining position of the Government at the negotiating table in an election year

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1/ A few projects, mainly in the sugar industry, remain at the embryonic stage.

and the increasing pressures to provide larger budgetary allocations to social services in the urban areas.

4. The long-term strategy in stabilizing fluctuations in the domestic economy is to broaden the economic base and diversify the export of agricultural and processed products and to some extent import-substitution products. The mission is of the opinion that only a few of the proposed projects in the Eighth Development Plan (DP 8) have gotten off the ground and that their impact will not be felt for some time owing to their long gestation period and the weak project-preparation capacity in the centralized agencies and line ministries 1/.

5. With total expenditures and net lending outpacing total revenue and grants between 1979 and 1981, budgetary deficits surfaced. The overall deficit rose from 3 per cent of GDP in 1979 to an estimated 5 per cent of GDP in 1981 and is expected to increase in 1982. In order to avoid crowding out potential private investors from domestic credit markets, deficits have been financed from a judicious mix of foreign borrowing on concessional terms and domestic borrowing from non-inflationary sources, namely the Fiji National Provident Fund and insurance companies. Total government expenditures as a percentage of GDP increased from 21 per cent in 1975 to 31 per cent in 1981. This trend is of concern to the authorities, and greater emphasis has been placed on involving the private sector in the development of agriculture and associated agro-industries.

6. With domestic expenditures exceeding incomes, the external current account deficit increased from 8 per cent of GDP in 1979 to 14 per cent of GDP in 1981, declining to

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1/ Recently the Central Planning Office (CPO) set up a project preparation and evaluation unit. Under a European Economic Community (EEC)-funded program, a team of experts will assist CPO staff and staff from relevant key ministries in these areas for a total of three expert-years.

4 per cent in 1980, which was an export boom year. In 1982, the rapid growth in imports, which was characteristic of the 1979-1982 period, is expected to slow down slightly as the large public-sector development projects are completed. However, the expected strong performance of the tourist sector and the lower freight costs because of lower import volumes will not compensate for the decline in export earnings resulting from lower prices for most of Fiji's exports and the expected decline in the public and private capital inflows. However, this external current account balance deficit is still lower than the 1981 level, when Fiji borrowed SDR13.5 million from the International Monetary Fund (IMF) under CFF arrangements. It is also temporary in nature, as it is due to an export shortfall in sugar receipts. With Monasavu coming on stream in early 1983, imports of petroleum would be reduced considerably, by as much as 20 per cent, thus resulting in foreign-exchange savings with positive effects on the trade balance. Furthermore, the 1981 slower growth in imports of capital and manufactured goods and chemicals, associated in the past with the completion of large development projects, is likely to continue since no such projects are envisaged. Given Fiji's reasonable debt-service ratio and access to international capital markets, the country is in a good situation to borrow its way out of short-term balance-of-payments difficulties.

7. In view of the DP 8 objective to develop export-oriented agro-industries, a review of the exchange rate and protection policy is desirable, and the former may also alleviate balance of payments pressures. The upward revision in interest rates in December 1981 narrowed the differential in interest rates between Fiji and Australia and New Zealand but did not close it, thus still leaving room for potential capital outflow between Fiji and its neighbors.

8. The Economic Development Board reviewed incentives for potential private domestic and foreign investors in 1981 and 1982. Although fiscal incentives turned out to be as generous in Fiji as in other economies in the Pacific Islands, non-fiscal incentives, i.e. availability of industrial land and provision of water and electricity on a regular basis, were less than adequate. The mission found that the administration of incentives needed improvement and suggested a number of procedural reforms, including the strengthening of public-sector support services in charge of agricultural and agro-industrial development through better co-ordination, staff training, research and better demarcation of responsibilities. In addition to this, the mission found that there was a bias favoring import substitution over export promotion, reflected in the higher level of import protection (see Chapter Three).

Agriculture and Agro-Industrial Development

9. Fiji's agricultural sector has the potential to significantly increase its output of unprocessed and processed products. Agricultural and agro-industrial expansion can be achieved in a way which is consistent with the country's other aspirations: indigenous Fijian ownership of land by nationals, availability of commercial rental land and mixed foreign-domestic private ventures. This requires that the key decision-making groups be involved early in the planning process. Fiji itself provides perhaps the two best examples in the tourism and sugar industries of how this can be achieved.

10. Future, non-traditional, agro-industrial expansion may also contribute significantly to national economic growth, provided the existing bottle-necks on further expansion are removed. Availability of and access to land need to be improved, and the efficiency of the organization of agricultural production (basic research, extension, marketing) needs to be enhanced.

11. To the extent that some of the proposed agricultural and agro-industrial projects are labor-intensive and located near the provincial towns and other urban areas where unemployment is concentrated, they could help to alleviate unemployment. Conversely, specific agricultural and agro-industrial activities may be located in rural areas where unemployment or migration to urban areas is high.

12. The agricultural and agro-industrial sector in Fiji has strong natural protection (proximity to Australia and New Zealand, especially compared to other large exporters in the South Pacific, e.g. Malaysia and Thailand), and historical and geopolitical ties with Australia and New Zealand present tangible trade opportunities. Yet the high levels of import protection and import-substitution industries provide a disincentive to export expansion in non-traditional exports.

13. Many key resources necessary for the expansion of agricultural and agro-industrial output are scarce in Fiji, e.g. rental land and managerial labor. This requires that an appropriate balance be maintained between import protection and export promotion.

Agro-industrial Opportunities

14. Six commodities were chosen as potentially viable agro-industrial undertakings 1/. The six commodities offer a readily exploitable market potential of F$5 million annually, in addition to new marketing opportunities for ginger, producing an incremental F$4 million over planned expectations. Indicative incremental strategies aim at achieving a total of F$9 million within five years.

1/ Import-subsitution products should be competitive in quality with present imports. Similarly, the quality of export products should equal that of competing products.

15. Three of the commodities are import substitutes, namely maize, onions and garlic. Each is considered to have a relatively inelastic demand and a projected cost/price structure that should enable domestic production to easily replace imports.

16. The other three commodities are export-oriented, namely pineapple (primarily for processing), pawpaws and mangoes (primarily for sale as fresh fruits). Each (as well as the products thereof) is considered to have a relative elastic demand and a projected cost/price structure that should enable Fiji to penetrate important export markets in the Pacific area.

17. A national commitment is necessary to facilitate the development of these industries. Detailed feasibility studies are needed for pineapple, pawpaws and mangoes; action programs should be developed for maize, onions and garlic. The Plan of Action in Chapter Seven (paras. 7.190-7.197) recommends the approach to be taken in conducting feasibility studies and in developing action programs that will be supplemented by packages of technology for the six commodities chosen.

18 For each product there is an urgent need for sharply increased and continuing research to identify, select and develop good-quality, high-yielding, pest- and disease-resistant varieties or lines for use by farmers engaging in commercial production. Storage facilities need to be developed for onions and garlic. The need for increased research and extension activities calls for an intensive training program as set out in Annex 6.2.

19. Packages of technology covering all aspects of production, including production timetables and farmer-marketing operations, will have to be developed by research workers in co-operation with extension workers.

20. The extension service should deliver the packages of technology and ensure the adoption of the recommended practices by farmers, supervise the production and marketing operations and be available as resource persons to assist with problems as they arise.

21. The extension service should formulate the marketing strategy required for each product prior to encouraging farmers to undertake commercial production (see Chapter Seven).

Market of Selected Products

22. The new market opportunities will become accessible to Fiji, at least initially, only on the basis of large-scale, centrally co-ordinated production schemes supplying directly the processing, manufacturing or marketing units on a contract basis for agreed quantities, quality, price and delivery.

23. Garlic and Onions. The efficient wholesale and distribution system set up for imported garlic and onions can be readily adapted to handle locally grown products. Bulk deliveries are essential to enable the existing system to deal simultaneously with local and imported produce during the extended transition period.

24. Maize. The existing transport system that delivers feed mixes from the mill to farmers can be used on the normally empty return trip to pick up grain in bulk from central collecting stations within the production areas.

25. Pawpaws and Mangoes. Immediate markets were identified in Australia, Canada, Japan and New Zealand. Successful penetration will be dependent upon high standards of quality, packaging and prompt delivery, as well as improved air-cargo carrying facilities.

26. Ginger. Overall prospects are better than predicted in DP 8, subject to realignment of priorities for individual ginger products and a satisfactory resolution of differences between the two joint-venture companies. Priority should be given to exploiting identified opportunities in the EEC using African, Caribbean and Pacific (ACP) duty-free access to secure marketing advantage over Australia.

27. Canned Pineapple. This commodity can have a clear price advantage over Australia and Malaysia in major export markets. Examination of alternative marketing and distribution options indicate best results from a joint venture with an established multi-base food industry, operating in export markets.

Institutional Changes

28. It is further recommended that the following measures be given high priority:

(a) The mandates and role of government ministries and statutory bodies should be modified, where possible, to separate regulatory and policy activities from promotional and support activities;

(b) Central agencies (including CPO, the Central Monetary Authority (CMA) and Customs) should closely monitor and evaluate the structure of incentives within the context of development and policy planning;

(c) The Economic Development Board should adopt a strategy (or an operating procedure) for the identification, evaluation, support and implementation of agro-industries that recognizes the competence and jurisdiction of other organizations and involves them in the process to the extent possible.

CHAPTER ONE

INTRODUCTION

1.01 The agro-industrial sector hinges on agricultural development which is the focus of the current Eighth Development Plan, 1981-85 (DP 8). The industrial development strategy of the Plan aims at the expansion of export-oriented and/or import-substitution industries based on local agricultural resources. The objectives pursued are: (i) export diversification; (ii) employment creation; (iii) improved income distribution; (iv) increased self-sufficiency in food; (v) regional development; and (vi) the externalities associated with accelerated agricultural and industrial growth, e.g. agricultural research base, better agricultural and agro-industrial extension services, and training.

1.02 In spite of Fiji's abundance of natural resources, e.g. forests, fish, fertile land, sufficient rainfall and other favorable agronomic parameters, Fiji's agricultural export commodity base is narrow. Sugar is the dominant foreign exchange earner, while the country's self-sufficiency ratio [1/] in food is surprisingly in the low range of 35 to 40 per cent. Yet, over the past 10 to 15 years, numerous agro-industrial opportunities have been identified. Few have succeeded but most have not been implemented because of the weak project preparation capacity in key ministries and agencies.

1.03 Private sector investment, mainly concentrated in the relatively lucrative tourism sector and related trade and other service industries, has been stagnant since 1977. While still

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1/ The percentage share value of imported food requirements in the total value of food consumption.

adhering to a market-oriented economic philosophy, the Government has by deliberate design and/or by default picked up the slack in private investment, increasing its share in total investment from about a third in 1976 to nearly a half in 1979 1/.

1.04 The bulk of public investment was in the form of traditional supporting infrastructure, e.g. roads, dams, water supply and drainage, and the development of the national sugar industry. However, during the last years of the previous Seventh Development Plan (1976-1980), the emphasis in the Government investment strategy gradually shifted toward the nonsugar agricultural subsector. Nevertheless, various forms of Government intervention in the agro-industrial sector were on an ad hoc basis, depending on the requirements of a particular investment project proposal for public support. The Eighth Development Plan identified, however, elements of an agro-industrial development strategy for the first time. This sector report is intended to assist the Government in the assessment of Fiji's agro-industrial development prospects from five perspectives as follows:

(a) the prospects for developing export and import-substitution agro-industries in the light of existing trade policies, other restrictions and opportunities under SPARTECA and LOME II trade agreements and within the institutional limitations regarding the rental land market, the domestic agricultural marketing system (transport, distribution network and storage) and the existing agricultural and agro-industrial support services (Chapters Two and Three);

(b) the adequacy of prevailing incentives in encouraging and/or discouraging selected existing agro-industries (resource allocation and administration of incentives), comparative advantage and the implications for potential new agro-industrial opportunities (Chapters Four and Five);

1/ The most recent year for which GDP data by type of expenditure are available.

(c) the identification of new agricultural and agro-industrial opportunities which can be produced efficiently in Fiji for export and domestic markets (the production cost analysis of Chapter Six);

(d) identification of suitable marketing strategies, considering the constraints and opportunities in potential export and domestic markets of new agro-industrial opportunities (Chapter Seven);

(e) analysis of the institutional changes required to promote desired activities through an efficient delivery of Government agricultural and agro-industrial support services (Chapter Eight).

CHAPTER TWO

THE AGRICULTURAL AND AGRO-INDUSTRIAL SECTORS

2.01 As a relatively small country highly dependent upon international trade in agricultural products, Fiji is influenced by technical, economic and policy factors in the rest of the world to a much greater extent than most countries. The first two subsections will deal with this environment as a backdrop for the subsequent discussion of Fiji's agricultural and agro-industrial sectors.

World Agricultural Trade Environment

2.02 International trade in agricultural products is largely guided by the domestic agricultural policies of larger agricultural trading countries in terms of quantity, trade prices and the conduct of business. The objectives which give rise to these policies have a strong degree of commonality among the major agricultural producing and trading countries. Two major objectives predominate. The first is to maintain a high degree of national self-sufficiency in food and agricultural production. This objective stems from the common desire to sustain the highest possible level of employment of agricultural resources, particularly labor and land, at the highest level of returns. This objective places high priority on maintaining rural settlement patterns and farmers' incomes.

2.03 A second common objective is to maximize export earnings from the agricultural and agro-industrial sector as a source of rural growth and foreign exchange earnings.

2.04 Countries tend to pursue these objectives through the following set of policies:

(a) high internal (domestic) prices for import substitute products supported by tariffs, import licensing and quotas;

(b) the application of implicit or explicit export incentives for products which can be technically produced in surplus quantities;

(c) incentives to attract foreign investments and technology for large-scale export products development; and

(d) the creation of governmental single buying, selling or investment agencies (statutory bodies) to increase national leverage in the world market or to counter-balance the perceived or actual bargaining power of transnational corporations.

2.05 While the above listed policies are also commonly used outside the agricultural sector, their impact on world agricultural markets is considerable, given the peculiarities of agricultural supply and demand. In particular, these actions tend to compound the high degree of instability which exists in world agricultural markets as a result of natural and economic factors. They tend to lower world agricultural prices making it harder for marginally efficient suppliers to compete in export markets. It also makes it more difficult to identify cost-saving import substitution possibilities at prevailing world market prices. Secondly, these policies tend to lead to erratic export behavior and battles for market shares, often at the expense of taxpayers and national treasuries in competing countries. Thirdly, these conditions sometimes lead to situations where world prices can remain below marginal social resource costs for long periods of time. This is the result of governments accepting a share of the costs and risks of exporting enterprises.

Forum and Pacific Rim Country Environment

2.06 Fiji is influenced by this world trading environment but it is especially sensitive to trade opportunities and policies

in the South Pacific Forum [1/] group and Pacific Rim countries [2/]. The latter group of countries includes some of the lowest cost suppliers of manufactured products including a range of agro-industrial products, namely Australia, Malaysia, New Zealand, the Philippines, Thailand and the USA, i.e. Hawaii. The group also includes two of the lowest cost suppliers of grains, oilseeds and livestock products (Australia and New Zealand). At the same time, many of these countries have some of the highest import barriers on manufactured goods.

2.07 This environment makes it especially challenging for Fiji in establishing agricultural and agro-industrial investment, production and trade policies. On the one hand Fiji faces competition from (sometimes highly subsidized) exports of agricultural and agro-industrial products and on the other it is confronted with low (and often, highly subsidized) import prices on manufactured goods, thus making it difficult to identify economic import substitution possibilities.

Implications for Fiji's Agricultural Market Development

2.08 It ought to be clear from the experiences of other countries that, while strong import protection including the protection of import-substitution industries combined with export subsidies can alleviate short-term balance of payments difficulties, this policy set comes with a high price tag. It tends to channel scarce

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1/ South Pacific Forum countries refers to all independent and self-governing countries in the South Pacific.

2/ Pacific Rim countries refers to countries which geographically delimit the Pacific rim. It includes all the Pacific Island countries, Australia, New Zealand, Hawaii and the Western coasts of the U.S. and Canada.

investible funds into high-cost industries and lower real disposable incomes for those industries not enjoying protection and export subsidies relative to the heavily protected and subsidized industries.

2.09 The second implication is that these policies have led many countries to specialize in particular lines of agricultural export development and, in turn, the product lines involved have tended to be highly standardized products. The production, scale of the processing and the distribution system are usually large and tend to be inflexible at least in the short run. If the Government of Fiji maintains a relatively open trading system with low rates of intervention, comparative advantage is a necessary condition for export market development, it is never a sufficient condition. In addition, market identification and assessment, technology development and adoption and cost analysis are crucial ingredients in guiding agricultural and agro-industry development. (See Chapters Six, Seven and Eight).

Fiji's Agriculture

2.10 The recent performance of Fiji's agricultural sector has been well documented in recent publications [1/]. Only the highlights, those of direct concern to this report, are included here.

Agricultural Resources

2.11 Fiji has approximately 1 million ha of land suited for agriculture and/or forestry use, with little or no improvements required. In 1980, 321,000 ha were under production or less than one third of the total cultivable land. Two major factors contribute

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1/ CPO (1980), CMA (1981), MAF (1982), World Bank (1980) and recent Annual Reports of FSC, CMA and NLTB.

to this excess capacity. First, 83 per cent of all land in Fiji is owned by Mataqali, including unimproved land (1.5 million ha). The Mataqali have leased around 400,000 ha of land outside the native reserve, which is not currently available on a commercial basis. Such land has been made available for long-term lease (25 to 30 years) if the entrepreneurs were able to show that the land would be used in the interest of the owners and the region. Second, there is a large area of usable land under all tenure classes (customary native ownership lease, freehold and crown) which is not currently in use or is severely underutilized. This land has been estimated at some half million ha (1980 World Bank Report, p. 23). Poor communication and lack of basic infrastructure in less developed regions of Fiji undoubtedly make access to some of this cultivable land difficult. Nevertheless, the record of agencies in charge of land administration, i.e. the Native Land Trust Board (NLTB), the Ministry of Land, the Ministry of Commerce and Industry is less than satisfactory. Making land available for agricultural and industrial use is a major constraint in regard to agro-industrial development in Fiji (see the assessment of NLTB in Chapter Eight).

2.12 Over 60 per cent of the land under production is concentrated in three groups: sugarcane, coconuts and pine trees. The distribution of farm size tends to be bimodal, i.e. there is a large group of farms between 3 and 10 ha in size and another large group in the 20-50 ha range.

2.13 It has been estimated that in 1980, 83.5 thousand people were employed in primary agriculture representing 44 per cent of the total labor force. Approximately 35 per cent of the total agricultural employment was on subsistence farms. Rural wages and incomes outside villages in the agricultural sector (including the value of home consumption) is generally considered

to be around 90 per cent of urban incomes. However, village incomes were around 50 per cent of urban incomes in 1977. The distribution of incomes between the self-employed and wage earners in the rural sector is less clear.

2.14 According to official statistics, mean daily wages in agriculture were F$7.44 in 1980 (see Table 2.1) but unofficially, farmers and agricultural workers quoted rates between F$3 and F$5 per day for unskilled labor depending on location [1/]. The latter rates approximate average rates obtained in the Agricultural Census of 1978. The reason is that rural wages in non-sugar agriculture are not covered under the Tripartite Forum annual negotiations. The presence of this lower wage non-union sector makes agro-industries wage competitive in world export markets and vis-a-vis presently imported agro-industrial products.

Table 2.1: DAILY MEAN WAGE OF WAGE EARNERS

	Agriculture			All industries	
Year	F$/day	% increase year ending	% of all industries	F$/day	% increase year ending
1970	1.97	10.7	80	2.47	6.5
1971	2.13	8.1	78	2.72	10.1
1972	2.39	12.2	78	2.08	13.2
1973	3.12	50.5	78	3.98	29.2
1974	4.49	43.9	92	4.89	22.9
1975	4.98	10.9	83	5.97	22.1
1976	5.03	1.0	75	6.68	11.9
1977	5.76	14.5	81	7.11	6.4
1978	6.67	15.8	85	7.89	11.0
1979	6.88	3.2	81	8.48	7.5
1980	7.44	8.1	80	9.28	9.4

Source: Current Economic Statistics, Bureau of Statistics, Suva, Fiji, 1982.

1/ These rates were typical of the rural areas outside the highly unionized Suva-Naussori urban corridor.

Output

2.15 Over the last decade, there has been a gradual shift in the relative importance of the subsistence sector (which includes subsistence fishing) to total primary agricultural output. In 1972 the subsistence sector amounted to 41 per cent of the total, falling by only 4 per cent to 37 per cent in 1981. This is somewhat surprising given the sharp rise in commercial economic activity over the period. This appears to indicate a strong commitment to the village way of life and a steady increase in the real market value of the output of subsistence agriculture (see Table 2.2). This in turn is a reflection of the "mixed" subsistence farmers' partial involvement in traditional food crops and in cash crops.

2.16 Real growth in the output of sugarcane, livestock and other primary products have all exceeded an annual average growth of 4 per cent over the decade 1972-1981. However, most of this growth in the livestock and other groups took place before 1978. Since then there has been a marked slowdown. This is due to a recent decline in growth and in some instances an absolute reduction in copra, beef, pork and egg production because of supply constraints (see Tables 2.2, 2.3 and Annex 2.2). Total milk production also declined from 1978 to 1980, although whole milk output increased.

2.17 As mentioned above, there are two principal types of farming activities in Fiji. The first consists of small-scale (mixed subsistence) production of highly valued staple crops, dalo, cassava and yaqona in combination with some coconuts and bananas. In 1978, the total area of these root crops was 13.5 thousand ha. The commercial crop sector is dominated by sugarcane (see Annex 2.3), coconut and rice with areas of 54, 67 and 10 thousand ha respectively in 1978. In the livestock

area there were 39,000 beef cattle, 18,000 dairy cattle, 122,000 goats, 69,000 pigs, 141,000 layers and 483,000 meat chicken. Smaller areas were devoted to a broad range of other crops including cereals, pulses, vegetables and fruit (Parliament of Fiji (1980)).

Consumption

2.18 On the available evidence, domestic consumption of food and agricultural products per capita has been relatively stable over the past six years (see Annex 2.4). There is a noticeable upward trend in the consumption of pork, poultry, eggs, flour, coffee and soap. The remaining products show little of this trend but there is a noticeable gap in the data for fruit and vegetables, including staple crops.

2.19 Food, beverages and tobacco accounted for 39 per cent of total private expenditure in 1979 with food itself accounting for almost 34 per cent.

2.20 There has been a shift away from the traditional diet of staple root crops, rice and fresh fish towards more conveniently packaged food as the population has gradually moved towards urban centers. At least part of this shift in dietary habits may cause a strong price effect. For example, imported canned fish was F$0.98/kilo in 1981 compared with local fresh fish of F$1.76/kilo. At the same time, staple root crop prices, e.g. for dalo, remain at par with temperate substitutes like potatoes.

Trade in Agricultural and Food Products

2.21 As previously mentioned, Fiji has a very low self-sufficiency ratio in food. In 1980, approximately 35-40 per cent [1/] of the value of food consumption was imported. Given Fiji's agricultural and fish resource base, this situation represents a serious anomaly.

1/ This is an estimate based on 1979 total private final consumption expenditure and the 1979 expenditure survey together with 1980 data on the value of food imports plus imports of intermediate products used in food production, specifically ISIC division 0-9, 22, 41 and 42.

Table 2.2: GDP, AGRICULTURAL ACTIVITY AT FACTOR COST, 1972-81
(in constant 1972 F$M)

ISIC	Activity	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	Av. annual growth (%)
1919	Subsistence	18.9	19.4	19.8	20.3	20.7	21.2	21.6	22.1	22.5	22.9	2.4
1915	Sugarcane	16.9	18.8	16.2	16.3	17.2	20.1	19.3	26.2	22.0	24.9	5.3
1116/7	Livestock	1.6	1.7	2.1	1.9	1.9	2.0	2.4	2.8	2.8	2.8	8.3
Other primary agr.		8.5	8.4	9.0	11.3	9.8	11.1	10.2	12.0	10.9	11.9	4.4
	Total primary agr.	45.9	48.3	47.1	49.8	49.6	54.4	53.5	63.1	58.2	62.5	4.0
12	Forestry	1.3	1.4	1.6	1.5	1.5	1.9	1.9	1.9	2.6	2.3	8.6
13	Fishing	0.5	0.5	0.6	0.6	0.6	0.6	0.7	0.8	0.7	1.0	11.1
	Total agr.,for., fish.	47.7	50.2	49.3	51.9	51.7	56.9	56.2	66.0	61.6	66.3	4.3
3118	Sugar manufacturing	11.0	10.9	9.9	9.9	10.7	13.1	12.6	17.1	14.4	16.2	5.3
	Total food processing	13.0	12.8	12.2	12.1	12.9	16.0	15.5	19.0	17.1	18.6	4.8
	Total GDP	214.2	233.4	235.0	233.9	238.3	262.1	264.6	294.2	286.6	297.8	4.3
	Growth total GDP		9.0	0.7	-0.5	1.9	10.0	1.0	11.2	-2.6	3.9	

Source: Mission calculation based on DP-8, Fiji Appendix E-1 and Current Economic Statistics, Table 3.3, Bureau of Statistics, Suva, Fiji, January 1982.

Table 2.3: GDP IN AGRICULTURE, ACTUAL AND PROJECTED

ISIC	Activity	Av. annual growth 1972-81	Annual growth rate 1980	1981	Projected annual av. 1980-85
		(in percentage)			
1119	Subsistence	2.4	1.8	1.8	1.4
1115	Sugarcane	5.3	-16.0	13.2	6.0
1116/7	Livestock	8.3	0.0	0.0	4.9
	Other primary agr.	4.4	-9.2	9.2	1.9
	Total primary agr.	4.0	-7.8	7.4	-
12	Forestry	8.6	36.8	-11.5	5.6
	Fishing	11.1	-12.5	42.9	9.8
	Total agr., fish. and forestry	4.3	-6.7	7.6	-
3118	Sugar manufacturing	5.3	-15.8	12.5	6.4
	Total food processing	4.8	-10.0	8.8	6.4

Source: Table 2.2 and DP 8, Fiji ,Table 4.1.

2.22 The following set of tables show Fiji's export, import, re-exports and trade balance in food and agricultural products, i.e. Annexes 2.5 to 2.8, by major commodity groups for 1980 and 1981. In 1980, Fiji had a food and agriculture trade balance of F$140 million. This was reduced to F$87 million in 1981 as a result of a F$45 million fall in sugar export receipts and an F$8 million increase in the import bill.

2.23 Export receipts are dominated by sugar products, fish and coconut products while the import bill covers a broad range of intermediate and final agricultural and food products.

Agricultural Prices

2.24 There is no comprehensive data available on prices at the farm or wholesale level [1/]. Recent livestock product prices are given in Table 2.4.

2.25 Support prices are established for copra, rice and beef at levels higher than the world market price. Farm prices for staple crops are generally considered to be around 50 per cent of the retail prices shown in Table 2.5.

2.26 Farm prices appear to be strongly influenced by the low level of technology employed and restrictions on the supply of farms. As shown in Chapters Six and Eight, these effects combine to induce a wide spread between market prices and the cost of production under the best practice conditions (see Table 8.1).

2.27 Retail food prices have increased at approximately the same rate as the increase in the CPI between 1979 and 1981. Agricultural export prices have declined markedly from 1979 and 1980 particularly for sugar and copra. The short term outlook for these products is not good. Sugar is likely to rebound in the next two years or so but the increasing capacity to produce high fructose corn syrup in Europe and North America may place

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1/ The lack of basic farmgate and wholesale prices on major agricultural commodities reinforces the need to strengthen the Economic Planning and Statistics Division of the Ministry of Agriculture and Fisheries (see attached Training Proposal).

a lower ceiling on sugar price rises in the future. Similarly, copra and coconut prices are not expected to rebound quickly given depressed world economic conditions. Furthermore, coconut production capacity may keep real prices low for an extended period. Bearing in mind the difficulty of attempting to forecast long-term world prices for these commodities with any precision, it would nevertheless be advisable to plan future agricultural development policies on the basis that on average real sugar and copra prices will remain in the vicinity of their current levels. At the same time, the uncertainty element dictates that basic production capacity ought to be maintained.

Agricultural Subsidies

2.28 The Ministry of Agriculture and Fisheries (MAF) and the National Marketing Authority (NMA) administer a range of subsidy programs for agricultural producers. The NMA performs a price support function by stabilizing farmgate prices of crops at harvest time. The aim is to prevent distress selling of (mainly) staple crops due to a lack of short-term market opportunities. The price level at which such product is purchased is set according to conditions in major markets and there is no attempt made to establish a support level prior to harvest time.

2.29 This program has the potential of being developed into a more effective price stabilization scheme on a national basis but it would require a significant effort with regard to marketing and storage by the MAF and the NMA. Considerable care is required to insure that such activities of the NMA do not stifle the efforts of individual producers to market their own crops (see Chapter Eight).

2.30 A price support operation is being carried out for copra given the current low world price situation. It consists of loans at concessionary interest rates for copra marketed. Loans are available up to the difference between an announced support price level and the world price.

Table 2.4: FARM PRICES OF LIVESTOCK PRODUCTS

	1977	1978	1979
Eggs (F$/dozen)	0.854	0.840	0.887
Poultry (F$/kg, dressed weight)	1.79	1.95	1.60
Beef (F$/kg)			
Steers and bulls	0.838	0.874	0.809
Cows	0.727	0.758	0.702
Pork (F$/kg carcass wt.)	1.560	1.682	1.610
Goatmeat (F$/kg)	1.420	1.510	1.510

Source: Bureau of Statistics, Suva, Fiji.

Table 2.5: SELECTED RETAIL FOOD PRICES, 1980 AND 1981

Item	Unit	1979	Retail price (Fiji cents) 1980	1981
White unsliced bread	400 g	20.9	25.6	27.5
Sharps	5 kg	143.2	163.2	173.1
Flour	5 kg	143.6	164.3	173.4
Rumpsteak	kg	224.6	247.3	285.9
Mince	kg	169.5	192.4	227.4
Lamb chops	kg	165.4	179.1	225.1
Pork leg	kg	286.1	319.5	351.0
Goat, chopped	kg	190.4	230.5	250.2
Chicken, whole	kg	216.0	244.5	261.0
Fish local	kg	176.3	-	175.9
King crab	kg	341.6	409.4	445.1
Canned fish	425 g	31.2	36.3	41.7
Cabbage	kg	45.5	42.8	60.7
Tomatoes	kg	135.9	138.2	126.6
Onion	kg	32.3	44.0	75.6
Dalo	kg	27.0	42.3	43.3
Cassava	kg	19.8	21.7	20.3
Potato	kg	29.0	45.2	41.5
Apples	kg	113.3	133.8	143.7
Banana	kg	28.5	33.8	34.1
Orange	kg	120.0	148.9	165.2
Pineapple	kg	45.5	43.1	39.5
Pineapple juice	425 ml	37.0	40.6	40.1
Coca Cola	275 ml	24.0	32.1	38.9
Yaqona, powdered	kg	415.1	459.0	455.4
Butter	250 g	37.7	89.2	93.0
Milk	600 ml	19.7	22.6	29.3
Eggs	600 g	96.7	121.8	122.5
Soya bean oil	750 ml	94.2	94.0	88.0
Sugar, brown	2 kg	45.5	47.0	51.1
Tea	200 g	72.4	67.8	68.4
Ice cream	1 l	38.4	42.4	55.2

Source: Bureau of Statistics, Suva, Fiji.

2.31 The Ministry of Agriculture subsidizes farm chemical use (50 per cent), fertilizer (25 per cent), fencing materials, drainage, seed cleaning and a range of other commodities. The effective subsidy rates on fertilizers are given in Table 2.6. In 1981, the budget cost for these programs was around F$1.6 million or less than 1 per cent of total Government expenditures (see Annex 2.9). The subsidy is paid only on fertilizer used outside the cane area and it effectively equalizes the prices of fertilizers in non-sugarcane areas. The price difference arises because the Fiji Sugar Corporation is able to buy bulk product cheaper than private importers, but it performs this function only for its own producers. The role of the FSC as a fertilizer wholesaler is limited only to sugarcane growers and does not extend to other DP 8 priority crops. A debate on this important policy question is underway.

2.32 Table 2.7 shows data on the personnel and budgetary resources of the relevant divisions in various Ministries and agencies which provide support services to agriculture and agro-industries. The imbalance existing between the resources allocated to research and extension within MAF is striking. Extension services are allocated over twice the budget and the personnel allocated to research. The implication is that the research division may have little to extend and therefore the back-up service for extension workers would be less than adequate. The mission is of the opinion that the research budget should be doubled to equal in size that of the extension division. Moreover, it is noteworthy that the Ministry of Commerce and Industry is only marginally involved in industrial support services (extension). While the Economic Development Board (EDB) remains unstructured and unable to provide assistance in project identification and in the diffusion of available market research, the National Marketing Authority (NMA) has been involved on its own in promoting new export agro-industrial products without any coordination with the other agencies.

Table 2.6: EFFECTIVE SUBSIDY RATES IN AGRICULTURE, 1981

Item	Effective subsidy rate --- (in percentage) ---
Fertilizer	
13-13-13	22
Urea	41
Superphosphate	20
Potash	22
Sulphate of ammonia	24
Blood and bone	24
Poultry manure	23
Average fertilizer rate	25
Agricultural chemicals	50

Source: Central Planning Office.

Table 2.7: BUDGETS AND PERSONNEL FOR MINISTRIES SUPPORTING AGRICULTURE AND AGRO-INDUSTRIES

	Budget		Grants/transfer		Personnel	
	1981	1982	1981	1982	1981	1982
	(F$ 000's)					
Ministry of Agriculture and Fisheries (MAF)						
Economic planning, statistics	353.6	400.9	-	-	50	50
Extension	4,670.1	5,253.5	858.5	507.8	250	250
Research	2,189.1	2,353.6	13.5	10.0	113	114
Drainage + irrigation	1,123.6	1,104.4	100.9	111.2	43	32
Animal health and production	288.8	316.9	-	-	137	139
Commerce and Industry						
Extension	169.5	149.4	-	-	8	8
Trade, market, development	132.8	85.1	-	-	7	7
Energy	-	245.7	-	-	8	12
Economic Development Board	350.0	350.0	-	277.4	24	24
N.M.A.	2,500.0	1,500.0	100.0	142.0 1/	-	-
FDB	21,000.0	23,700.0	3,300.0	3,350.0 1/	134	143
NLTB	-	-	1,110.0	1,447.8	-	-
NLDC 2/	-	-	-	60.0	-	-

1/ For 1981 and 1982, grants and transfers include $800,000 to cover interest subsidies for agricultural loans up to $20,000. The remainder is additional equity to FDB to allow it to borrow and maintain the prescribed 3:1 debt-equity ratio.

2/ The National Land Development Corporation (NLDC) is a subsidiary of the Native Land Trust Board (NLTB). NLDC is the commercial arm of NLTB. On the basis of the number of projects NLDC is presently involved in, its budget is much larger than that indicated in Table 2.7.

Fiji's Agro-Industrial Sector

2.33 A profile of agro-industries is presented in Annex 2.10 for 1978 [1/]. Agro-industries accounted for 58 per cent of industrial value-added in 1978 and 51 per cent of industrial employment. There are generally only a small (five or less) number of firms involved in each area of activity. Given some specialization along product lines within each category and some geographic dispersal, potential oligopolistic or monopolistic conditions could prevail. Government has imposed a price control scheme in an attempt to prevent excessive processing and marketing margins.

Ownership

2.34 Over the past five years there has been a marked change in the ownership structure of agro-industries in terms of the degree of Government involvement. A list of Government holdings including agro-industries is given in Table 2.8. This has developed due to the fact that viable agro-industrial investment opportunities were not taken up by private investors (local or foreign) because of the high initial risks involved, lack of information on potential opportunities, inertia, etc. In this sense Government involvement has been in support of private sector initiatives. However, Government intervention needs to be optimal from the point of view of the efficient delivery of supporting services and the removal of market failures or other obstacles such interventions aim at.

Agricultural Credit

2.35 The Fiji Development Bank is the principal source for medium- and long-term financing for agriculture and agro-industries. Lending to these sectors by commercial banks, though increasing in recent years, remains a small share of their total lending.

1/ Latest available data.

Table 2.8: COMPANIES IN WHICH FIJI GOVERNMENT HAS SHAREHOLDINGS

Company	% Government shareholding
Air Pacific	83.77
Fiji Air	26.00
Fiji Telecommunications	51.00
Fiji Can Company	25.00
Fiji Reinsurance Corporation	25.00
Fiji Sugar Corporation	96.00
Fiji Sugar Marketing Corporation	100.00
Home Finance	33.00
Pacific Fishing	25.00
Rewa Rice	100.00
Yagara Pastoral	100.00
Castle Trading	10.00
Tropical Food Products Manufacturing 1/	50.50
Fiji Development Bank	100.00
NMA Ginger Processing	100.00
Unit Trust (Management) Ltd. 2/	100.00
Fiji Citrus Products 3/	60.00
The Fiji Pine Commission	70.00

1/ Fiji Affairs Board together with privately owned Baltham International.

2/ Administered by FDB Nominees Ltd. which serves as secretariat to the Unit Trust.

3/ Government equity held by NMA and FDB exceeds 60 per cent, 43 per cent held by NMA and 17 per cent by FDB.

The Fiji National Provident Fund (FNPF) lends even less to agriculture and agro-industries as most of its assets are held captive for lending to the Government and statutory bodies.

The Fiji Development Bank (FDB)

2.36 The FDB's lending policies are guided by DP 8 objectives, e.g. diversification of the export base of the economy through the use of domestic raw materials, generation of employment and development of local entrepreneurship, particularly among Fijians. The latter objective has been broadened to include non-Fijians given the higher rate of default on loans to Fijian businesses in recent years, mainly due to management difficulties.

2.37 An important objective of the FDB is to assist new firms by taking up equity investment in them; however, not in excess of 25 per cent of the paid-in-capital. The FDB is seen as being a catalyst in stimulating investment in new areas of agriculture and industry. The FDB is required to dispose of such equity investment as soon as the new venture becomes profitable and a "fair price" can be obtained. The equity holding arm of the FDB is supposed to be the FDB Nominees Limited. In recent years, the FDB Nominees Ltd. has become a half-way house for existing public firms in financial difficulties rather than a public equity-holding firm in support of joint-venture (private-public) investments in new priority projects in agriculture and associated agro-industries. To enhance the effectiveness of the FDB Nominees Limited as an equity-holding umbrella for Government investment, the restriction concerning the 25 per cent share in paid-in capital as maximum of FDB's Nominees' equity needs to be relaxed. This would avoid the proliferation of equity-holding agencies (see Chapter Eight).

2.38 FDB's financing is mainly through domestic sources. The FNPF, the insurance companies and the commercial banks are the major purchasers of FDB bonds. The Government underwrites FDB bonds through the Sinking Fund in addition to increasing FDB's working capital. In the 1980/81 fiscal year, further drawdowns were made against lines of credit established by the EEC and the World Bank. The FDB revised its interest rate charges upward in January 1982, following the increase in interest and lending rates by commercial banks in November 1981. While the FDB does not fall under the Banking Act, it strictly adheres to the maximum lending rate of 13.5 per cent. Current interest rate charges range from 10.75 per cent to 11.5 per cent for agricultural loans, 12.5 per cent to 13 per cent for industrial loans and 13 per cent to 14.5 per cent for commercial loans with various subsidies provided on interest rates (0.5 per cent to 5.5 per cent) depending on the particulars of the loan.

Composition of Lending by Sector and Crop

2.39 Out of the F$15.5 million of loans approved in 1979/1980, agriculture and fishing received a total of only 38 per cent, with nearly half of that going to sugarcane growing. The share of industry and commerce in total lending amounted to 62 per cent, with transportation, 1/ tourism and commercial loans 2/ accounting for almost half of the allocation to commerce and industry (see Tables 2.9 and 2.10). FDB lending to agriculture and fishing improved from 38 per cent to 43 per cent in 1980/81, a larger share than in the previous fiscal year. However, the predominance of lending to sugarcane growing persisted.

1/ Mainly loans to taxi operators in urban areas; native Fijians for the most part.

2/ Commercial loans to indigenous Fijian businesses. The administration of this loan scheme was unsatisfactory.

Table 2.9: LENDING TO INDUSTRY AND COMMERCE, FIJI DEVELOPMENT BANK, 1979/80, 1980/81
(F$'000)

	1979/1980		1980/1981	
	Number of loans approved	Amount	Number of loans approved	Amount
Timber, mining and quarrying	44	1,644	31	2,045
Manufacturing	97	3,139	84	2,753
Construction	32	666	36	973
Tourism	19	1,153	17	519
Transportation	324	2,347	245	1,997
Commercial loans (Under Fijian Loan Scheme)	228	642	195	635
Investment	2	78	1	25
Total	746	9,669	609	8,947

Source: Fiji Development Bank, Annual Report, June 30, 1981, p. 8.

Table 2.10: LENDING TO AGRICULTURE AND FISHING, FIJI DEVELOPMENT BANK, 1979/80, 1980/81
(F$'000)

	1979/1980		1980/81	
	Number of loans approved	Amount	Number of loans approved	Amount
Beef	110	647	86	812
Dairy and pigs	33	332	32	310
Vegetables and rice	236	972	216	1,732
Poultry	17	380	14	175
Sugarcane Seaqaqa	127	796	189	1,255
Other areas	443	1,774	578	2,150
Fishing	252	332	237	426
Others	48	404	116	778
Subtotal	1,266	5,637	1,468	7,638
Drainage boards	6	230	5	280
Total	1,272	5,867	1,473	7,918

Source: Fiji Development Bank, Annual Report, 30 June 1981, p. 6.

In the 1979-1981 period, the slower growth in total lending by the FDB, compared with the 1977-1979 period, reflected the completion of such projects as Seaqaqa and Ulaisaivou (beef cattle). Moreover, the FDB became more selective and stringent in its lending policies in the transport sector and for commercial loans under the Fijian Loan Scheme [1/].

2.40 The high prices of sugar in 1979 and 1980 partially explain the dominance of sugarcane in the FDB lending to agriculture and fishing. The historic trading mentality and the basic inertia of the business community also account for this pattern of lending. In view of the export diversification thrust of DP 8 and the desire to develop resource-based industries, a better balance needs to be struck between the profit-making and development roles of the FDB.

2.41 Limited success has been achieved as projects financed by the FDB are now supervised and monitored more frequently and assistance is provided wherever necessary by the Management Advisory Division as well as the Agricultural and Industrial Divisions of the FDB. Too often, however, it is felt that assistance to FDB borrowers in the initial identification and preparation of projects fall outside the primary lending activities of the institutions. Such assistance is lacking in any systematic way although cooperation between the MAF extension service and the FDB on ad hoc basis partially compensates for it.

2.42 Closer cooperation between the MAF extension service and the FDB has proven valuable to the loan applicants. In fact, the field extension officers work with the farmers in preparing loan application forms, farm budgets and other relevant information required by the FDB. The FDB officer can in turn rely on the extension officers' knowledge about the farmers and their proposed

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1/ Commercial loans to indigenous Fijian businesses. The administration of this loan scheme was unsatisfactory.

projects to assess the merits of the loan under consideration. Up until now, however, mainly sugarcane growers seem to have benefitted most from this service. For agro-industrial projects such cooperation is lacking since the industrial support services of the Ministry of Commerce and Industry or the EDB do not coordinate with the FDB on such matters.

2.43 Annex 2.11 shows the growth of credit to the private sector by commercial banks and its sectoral distribution between 1977 and 1981. Three observations are pertinent. First, the trend in credit to the private sector has largely followed fluctuations in GDP, growing by 31 per cent in the 1979 "boom" year and slowing down to 23.1 per cent in the 1981 year of moderate growth. Second, in terms of sectoral distribution, the larger share of the wholesale and retail trade (35 to 37 per cent in total credit) to the private sector virtually remained the same throughout this period. Third, agriculture, forestry and fisheries had a much smaller share of the total, although it almost doubled from 6 per cent in 1978 to 10 per cent in 1981. It is noteworthy that sugarcane growing, as in the case of lending by the FDB, represented 66 per cent of the total credit to the subsector in 1980 and 67 per cent in 1981. The similarity in the lending behavior of commercial banks and the Fiji Development Bank calls into question the developmental role of the latter's institution whose risk aversion appears exceedingly high.

CHAPTER THREE

AGRICULTURAL TRADE POLICY AND EXISTING INSTITUTIONAL FRAMEWORK

3.01 Fiji has a relatively open economy which relies heavily on imports of a wide range of food, machinery, petroleum and manufactured goods. These imports are financed mainly by exports of sugar products and tourist receipts. Border taxes are generally used for two purposes: to generate Government revenue and provide support for or discourage selected industries and types of consumption. In 1981, customs revenues amounted to 42 per cent of total direct and indirect tax receipts. Duties are levied on both import and export items. Quantitative restrictions are used sparingly.

Export Policy

3.02 Small export duties are applied to trade in traditional commodities ranging from 2 per cent on sugar products to 1 per cent on gold. Their function is essentially one of revenue generation, their effect is to reduce the incentive to produce these commodities for export. Exports of copra are prohibited in an effort to encourage further domestic processing of this product. The impact of this policy in the face of low international copra prices (at present around F$120/tonne) is buffered by a domestic support price of F$280/tonne and loans on concessionary terms to copra producers and millers as long as the world price is below F$280/tonne. The program is beneficial to the copra industry as intended but it has a negative impact on other segments of the coconut industry. First, this policy has raised the domestic price of all coconut products by establishing a reserve price on those destined for copra production. This in turn has imposed a regressive tax on food for consumers. Second, the policy has disadvantaged coconut processors who buy fresh coconuts and use them without explicitly

first producing graded copra. One notable case is the production of desiccated coconut. The producers now pay a higher price for fresh coconuts (roughly equivalent to their alternative value of F$280/tonne of copra). They must sell, however, desiccated coconut and coconut milk at lower world market prices.

Import Policy

3.03 Border controls on food and agricultural imports are limited, for the most part, to customs and excise duties. Quantitative restrictions currently apply to selected dairy products and rice. Overall, customs and excise duties on imports average 12.4 per cent of the value of imports (see Table 3.1). There is a wide range of nominal tariff rates. Much higher tariffs apply to selected commodities to dissuade higher import levels and to stimulate domestic production using the infant industry argument. Import licensing has been reduced to a considerable extent but it still applies to some commodities for both price monitoring and control purposes.

3.04 The weighted average tariff rate is around 20 per cent. This is much higher than import duties as a percentage of the value of imports because duties not collected amounted to approximately F$20 million in 1981. These rebates include government imports, diplomatic goods and duty concessions to industry. In addition to this, import prices are further raised by quotas and licensing on a limited range of goods.

3.05 Tariffs on agricultural and food products are quite variable (see Annex 3.1). They range from 5 to 10 per cent for meat, fish, selected dairy products, fresh vegetables, wheat and rice to 80 per cent on breakfast cereals and biscuits. Bulk products tend to attract lower tariffs than more highly processed products. The average import duty on food is 8.7 per cent which is low by comparison with the nominal rates given in Annex 3.1. This implies that the higher nominal tariffs are effectively constraining imports of these items to low levels.

Table 3.1: IMPORT DUTIES AS A PROPORTION OF THE VALUE OF IMPORTS, FIJI, 1981

Section	Customs duties as % imports	Fiscal duties as % imports	Total duties as % imports
Food	2.7	6.0	8.7
Beverages and tobacco	6.1	113.9	120.0
Crude materials	1.6	7.3	8.9
Mineral fuels	0.3	5.4	5.7
Oils and fats	0.2	1.4	1.6
Chemicals	2.1	5.6	7.7
Manufactured goods	2.7	9.1	11.8
Machinery	3.0	15.7	18.7
Miscellaneous manufactured	2.9	17.7	20.6
Miscellaneous transactions	2.2	3.7	5.9
Total	2.1	10.3	12.4

Source: Current Economic Statistics, Bureau of Statistics, Suva, Fiji, January 1982.

3.06 The higher (20 per cent and up) tariff rates are having a number of effects. First, they raise the domestic price of these items and increase the incentive to produce and process them at home. The tariff thus acts as a major incentive to the import substitution sector. In the case of foodstuffs, the tariffs provide a strong incentive to the food packaging and food processing industries.

3.07 The tariffs have another major effect. High tariffs become built into the production cost structure of the industry, thus leading to a number of inefficiencies in the industries protected by the tariff. Because of the increased demand for factors of production resulting from the highly protected import substitution industries, factor prices are bid up, especially in the Suva-Naussori corridor where industry is concentrated. These demand pressures in factor markets combined with urban unionism also increase the production costs facing potential export-oriented industries, including agro-industries.

3.08 High tariffs tend to reduce or nullify other incentives designed to promote exports such as those currently being offered through the Economic Development Board (EDB). The disincentive to export is manifested in a number of ways. When highly protected import substituting industries bid up raw material prices, i.e. land, labor, etc., potential export-based industries find it difficult to compete for the same factor supplies. This effect will be compounded by the existence of fresh produce tariffs on the same items. But even if the same product is not involved, indirect effects can effectively stifle the incentive to process for export. For example, the available agricultural land base in the Naussori-Suva corridor is quite limited. The greater the demand for this land to produce fresh products and raw materials for processing by the import-substituting agro-industry (through tariff effects), the

smaller the available land base for the export-oriented industries. Second, in the presence of constraints on the supply of entrepreneurial and managerial talent, this resource could be bid away from export-oriented industries by the import-substitution sector. Witness the proliferation of import-based firms (trading firms) and high-cost import substitution industries in the Suva Naussori urban corridor.

3.09 One reason given for high tariffs on selected items in Fiji is to provide countervailing action to neutralize the effect of Australian and New Zealand export subsidies. This rationale has some validity but it is self-defeating in many cases. When Fiji applies high rates of duty to reduce imports of subsidized exports from another country, the action supports the domestic industry but prevents local consumers from capturing the benefit of the lower-priced imports, partly due to export subsidies. If the Government then offers export incentives to the same industry (or even a closely related industry) to stimulate exports of the same or a similar class of products (as the ones receiving import protection) the Government of Fiji is essentially entering into competition with the Treasuries of Australia and New Zealand which leads to a losing battle.

3.10 All South Pacific trading partners attempt to stimulate export earnings. The more extensive the incidence of higher export subsidies, the greater the need to raise them further to generate a given volume of export earnings. Every country concerned loses, but smaller, less industrialized countries like Fiji lose relatively more in a retaliatory trade war of this kind.

3.11 Two options are available to Fiji. The first is to negotiate bilateral reductions in export subsidies. The second is to focus export promotion efforts on those products which are not receiving high export subsidies.

Trading Arrangements

3.12 Fiji benefits from three major trading arrangements: the South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA) signed in 1980, the ACP-EEC Convention of Lome II and the Generalized System of Preferences (GSP).

3.13 A major area of uncertainty currently surrounds the implementation of SPARTECA. New Zealand and Australia are both high cost producers of an array of manufactured goods which are of potential interest to Fiji. In many instances, these industries have benefitted from high levels of protection for many years because they contributed to strategic employment goals at home. Fiji's relative labor costs and proximity to these high priced markets provides an incentive for manufacturers to locate themselves in Fiji under SPARTECA. Where Fiji exports of those products in the future are seen to compete with Australian and New Zealand producers, pressures will arise to restrict or modify the SPARTECA agreement.

Trade Policy Coordination between Line Ministries, Centralized Agencies and Statutory Bodies

3.14 Prior to the creation of the EDB in 1981, the Ministry of Commerce and Industry had jurisdiction over trade, industrial policies and associated regulatory functions. For instance, the Ministry of Commerce and Industry was responsible for granting all import licenses except for dairy products, rice, timber and gold [1/].

1/ The Ministry of Finance grants import licensing for gold, the Ministry of Forestry for timber and the Ministry of Agriculture for rice, dairy, poultry products, pork, and pork products. The function of licensing these products is, therefore, spread over a number of Ministries rather than consolidated under one roof, namely in the Ministry of Commerce and Industry which deals with trade.

The Permanent Secretary of the Ministry of Commerce and Industry used to chair the Business Industrial Development Committee (BIDC) of officials which consisted of the Ministry of Finance, Ministry of Agriculture and Fisheries (MAF), the Central Planning Office (CPO) and Customs and Excise. Besides approving private sector investment proposals through the BIDC, the Ministry of Commerce and Industry used to commission ad hoc inter-ministerial sub-committees to prepare studies on specific aspects of trade and industrial policies for presentation and recommendation to the cabinet.

3.15 Since the creation of the EDB, the demarcation line between the policy-making and regulatory functions of the Ministry in the areas of trade and industry on one hand and the investment and promotion activities of the EDB on the other have been blurred. The EDB took over most of the functions previously held by the Ministry of Commerce and Industry along with two-thirds of the Ministry's staff. The EDB was given a broadly-defined legal mandate which included regulatory as well as policy-making functions, e.g. initiating desirable incentive packages, granting of protection and allocating lots within industrial estates. The latter function is claimed by the EDB even though it is still exercised by the Ministry (see Chapter Eight).

3.16 The new budget process, now in its second year, offers a potential mechanism for serious debates on trade and industrial policy issues. Initially designed to formalize the budget preparation process, the new arrangement also attempts to define possible functions of Ministries and departments and their involvement in the policy-making process. Of relevance to the formulation of trade and industrial policies are the Development Sub-Committee (DSC) and the Macroeconomic Sub-Committee (MSC).

3.17 In its role as an advisory body to the Minister of Finance and to the Budget Coordinating Committee [1] (BCC), the MSC prepares current estimates and projections of the budget and major macroeconomic variables. Moreover, the MSC [2] provides advice on other economic policies based on studies it may initiate or on studies conducted by other bodies. It may invite additional representatives from other ministries for consultation on particular aspects of economic policy, although the Ministry of Commerce and Industry has rarely been consulted on trade and industrial policy issues. Consequently, there has been little in the way of debates on trade policy.

3.18 The Development Sub-Committee (DSC), which is chaired by the Permanent Secretary for Finance, and includes all Permanent Secretaries, in turn uses the MSC's findings, and BCC's budget recommendations for consideration by the Cabinet. Given the marginal involvement of the Ministry of Commerce and Industry in this policy-making process at the MSC or the DSC levels, its policy-making role on matters of trade and industrial policies is limited. The long-term issues of trade and industrial policy appear to be left in a "no man's land".

3.19 The existing ambiguity in the definition of responsibilities between the EDB and the Ministry of Commerce and Industry has further undermined the latter's ability to formulate trade and industrial policy initiatives and to monitor the extent to which broad objectives in these areas are observed,

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1/ The BCC is a committee of Senior Officials chaired by the Permanent Secretary for Finance and includes the CPO Director and the Secretary of the Public Service Commission. The CPO's major function within the BCC is to ensure that budget estimates are consistent with development priorities.

2/ The MSC is chaired by the General Manager of the CMA and includes among its members the CPO and the Bureau of Statistics.

i.e. the adequacy of protection, its impact on industrial development, etc. The new budget process theoretically provides for the involvement of line ministries such as the Ministry of Commerce and Industry in the policy-making process. In practice, however, the greatly enhanced role of the EDB and the predominance of the centralized agencies (the Central Monetary Authority (CMA), the CPO, the Bureau of Statistics) in these policy-making committees may have stifled initiatives from the ministries, resulting in a lack of policy coordination. The conflicting jurisdictional claims between the EDB and the Ministry of Commerce and Industry has created confusion in the minds of potential investors as to which agency provides certain kinds of incentives, i.e. import licensing and the allocation of lots within industrial estates (see Chapter Eight).

CHAPTER FOUR

STRUCTURE OF INCENTIVES AND THEIR ADEQUACY

Structure of Incentives

4.01 The existing structure of major fiscal and non-fiscal incentives is shown in Table 4.1. The Economic Development Board (EDB) administers the incentives' structure and also determines the eligibility criteria in its role as Chair of the Business Industrial Development Committee (BIDC) in consultation with the Ministry of Finance. The incentives aim at channelling domestic and foreign private investment into export-oriented industries using local natural resources and import substitution industries with strong forward and backward linkages. Other DP 8 industrial development objectives are (i) increasing the industrial sector's contribution to economic growth and employment creation; (ii) enhancing local equity participation and control in the sector; and (iii) fostering a more equitable distribution of personal and regional incomes. A special tax holiday to agricultural enterprises and a 100 per cent income tax exemption for agricultural activities emphasize the Government's desire to develop resource-based agro-industries.

Eligibility Criteria

4.02 The broad criteria used by the EDB and other agencies in granting incentives to potential investors reflect DP 8's industrial development objectives. Priority "A" is given to industries based on local primary commodities and those producing inputs required by primary and other sectors. Priority "B" is accorded to industries based on imported raw materials producing essential items for domestic and export markets while lowest

Table 4.1: THE INCENTIVES STRUCTURE

Fiscal incentives	
Special tax holiday to agricultural enterprises	Income tax exemption in any five years out of ten from commencement of production in selected agricultural activities 1/.
Company tax concessions	49 per cent rate for foreign firms, 37 1/2 per cent for domestic firms and special rates for specified industries, i.e. shipping.
Individual income tax	100 per cent exemption for individual income earned from specific agricultural activities 1/ and 85 per cent exemption from other farming activities.
Accelerated depreciation for new industries	20 per cent of depreciable capital expenditure on buildings, plant, equipment during five of eight years from date of expenditure.
Carry-forward losses	Approved enterprises carry forward losses incurred during tax concession period of six years afterwards 2/.
Import duty rebates	Mainly on machinery and raw materials most frequently used.
Export incentives	Range from a rebate of 30 per cent to 50 per cent of taxable export profit depending on local value added.
Tariff	In 1979, the average weighted tariff was estimated at 13.5 per cent of total imports. The maximum tariff rate was targeted on the average at 25 per cent.
Non-fiscal incentives	
Industrial estates, commercial sites, industrial buildings	Availability of land for industrial estates is a major constraint.
Subsidized loans, and grants	

1/ Non-sugar agriculture.

2/ Provided losses do not reduce income by more than half of what it would have been otherwise.

Table 4.1 contd.

Non-fiscal incentives contd.

Protection through quotas and licensing	Selectively and sparingly used. Direction points towards more frequent use of tariff.
Restrictions on competing local and foreign firms	Used to protect high priority domestic industries during "infant" stages.
Other infrastructural investment (road, telephone, electricity, water), managerial and technical assistance support (industrial extension support), financing of pre-feasibility and feasibility studies, promotional information, market research and other information services	Except for infrastructural support, remaining services are not provided systematically.

Source: EDB Investment Guide (January 1982) and various other sources.

priority is given to industries based on imported raw materials but producing non-essential items. These guidelines do not constitute quantifiable eligibility criteria for the incentives applicable to individual investment proposals and/or groups of firms in the same industry.

4.03 Additional criteria are used as a check list to assess the merit of the various investment proposals submitted to the EDB. The check list includes employment creation, contribution to domestic value added, local equity participation, use of local raw materials, etc. In the mission's opinion these broad criteria are not sufficiently refined to provide useful guidelines for appraising individual investment projects. Consequently, the application of the criteria is unduly discretionary and often ad hoc, resulting in a number of inconsistencies. For example, in some industries, every firm is granted the maximum concessions under the law without proper regard to the firm's profitability, market size and plant capacity utilization. This type of inefficiency is also known to have occurred at the industry level where the small size of domestic markets in Fiji allows only a limited number of firms. The tea blending, corrugated roofing and nail manufacturing industries are such cases [1/].

4.04 Without a follow-up of the firms which were granted various incentives, the EDB has no idea about the numbers of firms whose investment are in fact realized and the extent to which desired industrial objectives have been met. The incentives structure is therefore only loosely related to the observed behaviour of investors.

1/ See Young's UNIDO draft report on behalf of the South Pacific Commission, September 1977. P.L. Chen-Young, "Draft Report on Incentives for the Industrial Development of Fiji", SPC, November, Noumea, New Caledonia, 1977.

Use of Incentives and their Budgetary Costs

Use of Incentives

4.05 There is a lack of data on the number of firms benefitting from the different types of fiscal incentives and on the ones most frequently used. Incomplete data for the 1981 fourth quarter and Young's data for 1973 indicate that import duty rebates on machinery, equipment and raw materials are the most frequently used fiscal incentives. The reason is that these rebates, if granted in the early years of a project, lower the immediate costs of financing. Besides, import duty rebates are relatively easier to administer in terms of proper work and manpower involved. Not only do they have an element of certainty but they are also automatic as they become effective when the imported merchandise arrives at the port of Suva.

Budgetary Costs as Foregone Revenues

4.06 Fiji's budgetary cost of the total package of fiscal incentives was estimated at 3.2 per cent of total revenue in 1973 and then compared favorably with other countries as follows:

Table 4.2: FISCAL INCENTIVES AS A PERCENTAGE OF TOTAL REVENUE (FOREGONE REVENUE)

Country	as % of total revenue	Year
Fiji	3.2	1973
Costa Rica	8.5	1963
Mexico	2.8	1957
Panama	9.3	1961
Philippines	3.2	1963
Morocco	1.8	1965
Korea	2.2	1964
India	3.0	1961/62

Source: G.E. Lent, "Tax Incentives for Investment in Developing Countries" IMF Staff Papers, July 1967.

In recent years, the cost of fiscal incentives in Fiji as a percentage of total revenue has more than doubled, increasing from 3.2 per cent in 1973 to 7.6 per cent in 1980 and is estimated to have decreased to 6.7 per cent in 1981, i.e. below equivalent ratios for countries such as Costa Rica and Panama. Table 4.3 illustrates the steadily increasing trend for major income tax concessions between 1975 and 1979. The total cost of concessions for 1980 was arrived at by adding the income tax concessions in Table 4.3 (adjusted for the full year) to the 1980 concessions on import duties estimated by Customs and Excise. For 1981, income tax concessions were assumed to remain at the same level as in 1980 1/. Duty concessions on imports granted by Customs and Excise totalled F$14.4 million in 1980 and F$12.3 million in 1981 2/. These data include the import duty concessions granted to specific industries and on particular goods, i.e. breakfast foods, sanitary towels and life saving appliances as well as those granted to manufacturing as an ad hoc concession, usually at the discretion of the Minister of Finance. The concession to manufacturing, accounting for as much as 43 per cent of total import duty concessions in 1980 and 40 per cent in 1981, create uncertainty in the minds of importers and lead to the granting of dissimilar concessions to manufacturing firms in the same industry and therefore some inefficiency. The granting of this important duty concession needs to be systematized and the guidelines made less discretionary.

1/ This assumption is reasonable because of the fewer investment proposals submitted to the BIDC in 1981 compared with 1980 even though concessions became more generous. In addition, the Inland Revenue Commissioner held the same view in the light of the sluggishness of private investments in the Fiji economy.

2/ The figures are based on concessions claimed at the time of importation and exclude refunds for goods purchased from local stocks and refunds on duty paid on arrivals and concessions sought later.

Table 4.3: INCOME TAX CONCESSIONS COST TO GOVERNMENT IN TERMS OF REVENUE LOST
(F$)

	1975	1976	1977	1978	1979	1980 2/
1. Assistance to hotels						
Cash subsidies paid	568,894	4,398				
Special depreciation				79,450	258,373	
Investment allowance (Savings in tax)	48,813	142,261	268,716	336,081	722,754	358,967
2. Income tax concession for pioneer industries 1/	165,122	394,518	368,364	265,817		
3. Export incentives			2,138	10,322	184,263	4,261
4. Income tax concession for priority industries	4,334	15,807	23,188	192,649	190,878	19,133
5. Accelerated depreciation on building loans BIDC			481,448	745,869	972,072	1,020,677
Approvals of accelerated depreciation for all industries				286,715	954,483	455,394
6. Fuel economy investment						
Allowance		5,472		4,344	25,104	25,028
Total	787,167	562,456	1,153,874	1,153,355	3,307,927	1,883,460

1/ Incomplete as all returns have not been received and based on the first 8 months of 1980.

2/ Repealed in 1972,but those firms which were granted this concession continued to use it since it was allowed in any 5 years out of the first 8 years of operation.

Source: Ministry of Finance, Inland Revenue.

Adequacy of Existing Incentives

4.07 It is virtually impossible to isolate the effectiveness of each type of fiscal and non-fiscal incentive in attracting private investment. However, one can form an opinion on how generous the overall structure of incentives is in one economy relative to neighboring economies similar in structure, trading partners and potential sources of foreign private investment and external assistance. For Fiji, the reference countries are logically the other Pacific Islands economies on one hand and Australia and New Zealand on the other.

4.08 Skepticism about the effectiveness of incentives in attracting foreign investment is pervasive among Government officials in the Pacific Islands economies, including Fiji. This skepticism stems from the world recession associated with a retrenchment in private foreign investment in the area in recent years, the inertia and/or the relative higher returns in the resident and non-resident trading firms [1/]. The other stumbling block is the lack of project preparation and evaluation capability in the private and public sectors. Thus the emphasis given by G. Reuber and D. Lim [2/] on factors other than incentives as determinants of investments is relevant to Fiji's economy. This by no means implies that incentives are unimportant but rather that incentives combined with other factors, including the influence of prevailing economic conditions, account for investment behavior.

4.09 The overall level of incentives in Fiji appears as generous as in the neighboring Pacific Islands economies and

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1/ See for example CASD's "Impact of Foreign Direct Private Investment in the Fiji Economy", Center for Applied Studies in Development, University of the South Pacific, Suva, 1981.

2/ G. Reuber, "Private Foreign Investment in Development", Center for Applied Development Studies, USP, 1980.
D. Lim, "Taxation in Policies for Industrial Progress in Developing Countries".

slightly more generous than in Australia and New Zealand, particularly the overall rate of company tax [1/]. The mission's interviews with local and foreign businessmen suggest that there is general consensus on the overall adequacy of fiscal incentives offered but that inadequacies remain in the administration of fiscal incentives and in the provision of other non-fiscal incentives, i.e. the provision of reliable electricity, water, telephone services and local machinery repair facilities. Interviews with non-resident firms revealed a number of similar concerns but also some additional ones, namely wage escalation, industrial peace and the uncertainty about entitlement to incentives. Non-resident firms generally expressed satisfaction with the availability of foreign exchange and the constitutionally guaranteed right to repatriate profits and capital.

4.10 Resident and non-resident firms believe that the establishment of industrial estates with basic infrastructure and other services, i.e. electricity, water, etc., is a significant incentive for industrial development. For local businessmen, industrial estates were seen as a means of moving out of the backwater of the economy into more productive activities with Government backing. The scarcity of commercially available land has caused the price for industrial land to soar especially in the major towns with demand exceeding supply. This scarcity is a limiting factor on the future development of industrial estates. At present, Fiji has nine estates which are administered by the Ministry of Commerce and Industry and the Ministry of Lands.

1/ Dennis Rose observed that the Pacific Islands economies imposed lower company tax rates, i.e. 20 per cent to 42 per cent compared with 42 1/2 per cent to 45 per cent for Australia and New Zealand. New Zealand does, however, offer more generous export incentives and grants than other countries in the area. See Rose's study "Incentives in the South Pacific should they be Harmonized".

Investment funds in basic infrastructure are inadequate while construction standards and other design specifications for basic infrastructure on industrial estates may be too high for a developing country [1].

Desirable Features of an Efficient Administration for the Incentives Structure

4.11 First, criteria for evaluating investment proposals and the incentives to which one is entitled, need to be simplified and conveyed more clearly than presently done to potential investors. Where the size and complexity of the project justify it, financial analysis and/or cost benefit analysis [2] may be required, if not already prepared by the firm or the individual involved. Simplification of evaluation criteria will expedite the approval process from the EDB to the BIDC Committee of Officials, especially for small projects.

4.12 Second, the awarding of incentives ought to be predictable and automatic from the point of view of the investor once the proposal has been approved. Experience indicates that, where investors have to spend a great amount of time finding out about the particular incentives for which they qualify, the effectiveness of incentives is markedly reduced. Income tax reductions, exemptions and tax holidays can be built into the normal filing of annual income tax forms while concessions on import duties are most efficiently administered at the port of entry by the customs office. The streamlining of these administrative procedures requires close cooperation between Inland Revenue (Ministry of Finance), Customs and the EDB.

1/ In Labasa, for 14 available slots in a new industrial estate, there were over 300 applicants. The law requires that all applicants be interviewed by the Ministry of Commerce and Industry and the Ministry of Lands.

2/ To be prepared by the proposed project evaluation unit of the EDB as suggested by the mission (see Chapter Eight).

4.13 Third, open-ended incentives both in terms of duration and lack of specificity may keep high-cost industries in business, thus increasing their cost on the budget in terms of foregone revenue. For instance, protection of "infant" industries through import quotas or outright bans and income tax concessions have in practice been granted on a permanent basis or routinely extended 1/. The explicit use of "sunset clauses" in income tax laws relating to incentives is highly desirable. A review of the profitability of the industry or the individual business in question in light of prevailing economic conditions must be required before renewal of incentives. The closing of such loopholes in the incentives' policies and income tax laws would provide the investor with the certainty of benefitting from such incentives in the "infancy" years. This would also establish a specific time when the firm would lose eligibility. Aside from saving revenue, such measures would enhance investment planning and efficiency. It is well known that, where open-ended extensions are allowed in practice, the effort and time spent in administering such extensions are often out of proportion to potential benefits.

4.14 Fourth, the mission learned that a number of local businessmen, especially those recently established, see the Investment Guide as tailored to the foreign investor. The style, the type of incentives offered and the eligibility criteria may not be well understood by a number of local businessmen. The missing link here is one of communication and familiarity with a number of business accounting concepts in terms of which incentives are expressed. Hence, the need to provide special assistance to local businessmen, particularly to those newly established.

1/ It is not unusual for firms to receive protection from competing imports and virtual monopoly in a given industry even though their estimated production costs and final retail sales prices are presumably lower than those of foreign competitors.

4.15 Fifth, the EDB is now supposed to be a "one-stop" window for domestic and foreign investors and the EDB Chairman heads the BIDC Committee of Officials [1/].

4.16 Under these arrangements, even after approval, delays in obtaining work permits for expatriate personnel, export licensing and industrial sites may postpone the beginning of actual operation. This lack of follow-through can be remedied by involving the relevant line ministries and key agencies (i.e. in the BIDC Committee of Officials) much earlier in the decision making process in order to remove this post-approval bureaucratic red tape.

1/ Under previous arrangements the Permanent Secretary for Commerce and Industry chaired the BIDC Committee of Officials. Presently, the EDB is the Secretariat of the BIDC Committee of Officials.

CHAPTER FIVE

MARKET DISTORTIONS, POTENTIAL INCENTIVES/DISINCENTIVES AND COMPARATIVE ADVANTAGE IN SELECTED AGRO-INDUSTRIES

5.01 This chapter focuses on the impact of general economic incentives and their implications for agro-industrial development in Fiji. Because of data limitations and other resource constraints, only a few existing agro-industrial activities were selected for analysis, namely sugar (a traditional major crop), ginger (a new or non-traditional agro-industrial activity for domestic consumption and export) and dalo (a traditional crop traded domestically). These activities illustrate the consequences of the existing incentives' policies.

5.02 Chapter Three identified the bias in favor of particular types of import-substitution, food-processing industries because of the presently high tariffs they enjoy (up to 80 per cent in some cases) [1/] and the ensuing bias against export-oriented agro-industries competing for the same factor resources, i.e. managerial and entrepreneurial skills as well as agricultural and industrial land. This chapter attempts to quantify the effects of existing trade policies and the economic incentives system from three perspectives: (i) factor price and foreign exchange market distortions; (ii) the degree of effective protection accorded to selected existing agro-industries; and (iii) the latter's degree of comparative advantage.

Distortions in Factor and Foreign Exchange Markets

5.03 A useful way of looking at market distortions is the extent to which private factor costs (market costs or costs actually incurred) diverge from some estimated social factor

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1/ See Chapter Three, paras. 3.05 to 3.08 and Annex 3.1.

costs (also referred to as shadow prices) [1]. In Fiji, the labor market is segmented into several submarkets, i.e. a small well-organized but noncompulsory union sector in the urban areas, a large non-unionized sector in the rural areas and a fast-increasing non-unionized sector in the urban areas (Suva, Nadi, Lautoka). In the unionized urban sector, wage rates for unskilled and semi-skilled labor ranged from F$7 to F$10 per day in 1981. In contrast, daily wage rates in the non-unionized rural sector ranged from F$4 to F$6 for equivalent work. A smaller differential exists between the unionized and non-unionized urban sectors. These sectoral wage differentials, in the face of the estimated 13.0 per cent unemployment rate in Fiji, suggests that a wide divergence exists between the shadow and private wage rates.

5.04 Similarly, managerial labor is not adequately rewarded relative to rewards for equivalent work in the Suva-Naussori corridor [2] and in view of the severe shortage of farm managers in Fiji. Besides this labor market distortion, the inadequate agricultural marketing network and institutional rigidities in the land rental market further reduce the income opportunities of farm managers.

5.05 On the basis of the above arguments and estimates from previous project evaluation work in Fiji, the shadow wage for hired rural workers and family labor is estimated to be 80 per cent

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1/ The shadow value (price or cost) of a factor resource can be defined as the marginal contribution of the resource to the real product of the economy. The degree to which the shadow value diverges from the actual (or private or market) value is a measure of the distorting influence of existing economic structure, market imperfection or policy.

2/ The segmentation of labor markets undoubtedly reflects other variables such as the extent of coverage of the Tripartite Forum Wage Agreement, coverage under Wages Council, and degree of border protection inherent in trade policies.

of actual wage (private or market). The shadow wage for farm managerial labor is assumed to be 50 per cent higher than the actual wage (see estimates of social accounting ratios in Table 5.0).

5.06 The shadow price of capital is assumed to be 8 per cent in accordance with unofficial estimates in previous project evaluation work in Fiji. Given the current cost of capital to commercial borrowers of around 10 per cent for agricultural projects, the social accounting ratio is 0.80. The Government's heavy investment in a few large agro-industrial projects in recent years may have raised the current cost of capital, in which case the accounting ratio adopted here would be slightly biased downward. However, in view of Fiji's relatively lower rate of interest relative to those of its trading partners, the accounting ratio of 0.80 for the cost of capital is reasonable (see Table 5.1).

5.07 The Fiji dollar is somewhat overvalued although precise estimates vary widely. The official justification for this exchange rate policy is based on the openess of the economy, its well-known vulnerability to imported inflation through both export and import prices, and the latter's potential ripple effects on wage escalation in the urban unionized sector. "Credit-worthiness" concerns seem also to motivate Fiji's exchange rate policy. At present there is no debate within the Government on the impact of the exchange rate policy and that of existing border taxes on the export sector.

5.08 The weighted average nominal tariff rate in Fiji is roughly estimated to be around 20 per cent [1/]. By raising the domestic price of imports, these tariffs reduce the demand for foreign exchange and thus give rise to higher shadow price of foreign exchange than the market rate. Moreover, since the total tariff equivalent of import controls exceeds 20 per cent because

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1/ See also para. 3.04.

of import quota restrictions, the premium of the shadow rate over the market (or actual) rate would even be wider. The size of this premium is to some extent offset by the much lower export taxes on sugar, molasses, coconut products, gold and by the turnover tax on hotels, assuming the latter tax is largely borne by foreign visitors [1/].

Policy Implications of Market Distortions

5.09 A lower shadow price relative to the market price indicates that the economy earns a return to that factor which is lower than the actual amount paid to the factor in the market place. In the case of unionized urban labor, when a firm employs such labor at F$10 per day, the worker obviously benefits to the full extent of the actual wage paid but the economy benefits by approximately F$8 a day. This implies that the expansion of industries which use this factor resource intensively will be constrained without offsetting action. This is merely a positive statement rather than a value judgement of the policies which gave rise to the lower shadow wage.

5.10 The difference between the shadow and actual market price (as in the case of farm managerial labor) turned out to be positive, i.e. the shadow price exceeds the market price. This implies that the return to the economy from additional activities using this factor intensively is higher than the return obtained by the private entrepreneur. The economy would benefit if the structures or policies which cause this differential were removed or offset. Of particular relevance here are (i) improvements in the agricultural marketing system by the NMA (see Chapter Eight); (ii) greater availability of land for rental with the increased efficiency in the NLTB bureaucracy (see Chapter Eight); (iii) an increased supply of managerial and entrepreneurial skills for farm management through specific institutional training, i.e. at the Fiji Institute of Technology, USP Agricultural College.

1/ See para. 3.02 and Annex 3.1.

5.11 The somewhat overvalued Fiji dollar and the inherent bias in trade policy (higher average weighted nominal tariff than average weighted export taxes) has encouraged the establishment of relatively high-cost import substitution industries. In view of the Government's objective of diversifying exports, it is desirable to review exchange rate policy and trade regimes.

Table 5.1: SELECTED ACCOUNTING RATIOS, 1980/81

Labor	Market value	Shadow price	Accounting ratio
Hired labor, rural	F$5/day	F$4/day	0.80
Hired labor, agro-industry	F$7.44/day	F$6/day	0.80
Family labor	F$5/day	F$4/day	0.80
Managerial labor	F$5/day	F$7.50/day	1.50
Capital cost	10%	8%	0.80
Purchased inputs			
Imported (per dollar)	1	1.12	1.12
Domestic	1	1.00	1.00
Foreign exchange earnings/savings per dollar	1	1.12	1.12

Source: See text.

Degree of Effective Protection

5.12 The impact that tariff and border taxes have on the allocation of resources within the agricultural sector and between agriculture and other sectors can be gauged from the Effective Protection Coefficients (EPC) in Table 5.2, where Nominal Protection Coefficients (NPC) are also computed. Sugar 1/ is a major traditional

1/ Weakening in external demand for sugar accounted for the lower 1981 export and domestic prices.

export product, dalo is a traditional staple traded domestically and ginger in brine is a new export product for which cost data are available. Ginger in brine is typical of the new type of agro-industries envisaged in the Eighth Development Plan.

5.13 The Effective Protection Coefficients measure the degree to which import and export duties on the products tend to move resources towards (or away from) certain lines of economic activity. When the EPC exceeds unity, protection measures provide positive incentives to the production of the particular commodity at the existing official exchange rate. When the EPC is less than unity, protection measures discriminate against the commodity or provide a potential disincentive [1/].

5.14 Ginger in brine for local use benefits from the 35 per cent import tariff applicable to fruit processing or confectionary industries (for local use). This protection applies only to that portion of ginger output which is locally consumed. That portion of the ginger manufacturing industry which produces for export does not benefit from this tariff and its EPC should be around 1.0 as the tariff is essentially redundant.

5.15 Industries similar in cost structure to the ginger industry for local consumption, e.g. jam and canned fruit, are likely to have EPCs in the same order of magnitude. However, those protected by much higher import tariffs, i.e. 75 per cent and higher for biscuits and confectionary, may have an EPC as high as 2.0.

5.16 Dalo receives only moderate protection with an EPC of 1.04, almost equal to the NPC of 1.05. In other words, existing tariffs and border taxes are almost neutral with respect to the domestic production of staples such as dalo (see Table 5.2).

1/ The EPC includes the impact of tariff and border taxes on both the product and intermediate inputs used in its production, while the NPC encompasses only the first set of tariff and taxes.

Table 5.2: NOMINAL AND EFFECTIVE PROTECTION COEFFICIENTS OF SELECTED AGRICULTURAL AND AGRO-INDUSTRIES, 1982

Commodity	Prices 1/		Value added 2/		Nominal protection coefficient	Effective protection coefficient
	Border (1)	Domestic (2)	Border (3)	Domestic (4)	(5)	(6)
Sugar (F$/tonne)	403.0	395.0	304.0	286.0	0.98	0.94
Dalo (Fc/kg)	14.3	15.0	13.3	13.8	1.05	1.04
Ginger in brine (Fc/kg)	83.2	112.32 3/	55.03	81.73	1.35	1.49
Imported inputs (F$1)	1.0	1.2	-	-	1.20	-
Other inputs (F$1)	1.0	1.0	-	-	1.00	-

1/ Prices are taken from Tables 4.2 to 4.4. The differences between border and domestic prices represent the export taxes or import duties given in Annex 3.1. All prices are expressed in Fiji dollars (cents). The exchange rate in December 1981 was F$0.88/US$.

2/ Value added per unit is computed from the data in Tables 4.2 to 4.4 by subtracting the cost of intermediate inputs (imported and domestic) from the value of the product.

3/ The 35 per cent import tariff applying to preserved ginger is currently redundant because domestic production is largely exported in bulk at the border price, see text.

5.17 Three major findings can be drawn from the above protection analysis of selected existing activities. First, at prevailing market exchange rates and factor prices (labor, land and capital) tariff and border taxes discriminate against sugar production for export. Second, the production of processed foods, i.e. ginger in brine, for domestic consumption is excessively protected, thus providing a major incentive to expand these activities and a potential disincentive to the production of these products for export. Third, existing tariff and border taxes are almost neutral with respect to the domestic production of staples such as dalo.

Degree of Comparative Advantage

5.18 The degree of comparative advantage in the three selected agro-industries is measured here by two indicators: the Net Social Benefit (NSB) and the Net Private Benefit (NPB) 1/. The NPB measures the dollar return per unit (percentage return) derived by the manufacturer or primary producer of the product at prevailing market prices. The NPB for sugar, dalo and ginger in brine are shown in Tables 5.3 to 5.5. They show that the NPB was 19 per cent for sugar, 23 per cent for dalo and 21 per cent for ginger processing. The NSB is calculated in the same tables and measures the economic gain to the Fiji economy derived from the production of sugar and ginger for export and dalo for local use. When the NSB is positive, it indicates that the country has a comparative advantage in that product under prevailing world market conditions. The NSB is positive for all three products for the years in which it is calculated and shows a strong comparative advantage.

5.19 It should be noted that the NSB for sugar and ginger production for export is greater than the NPB. This reflects the

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1/ For a fuller description of these concepts, see P. Scandizzo and C. Bruce, "Methodologies for Measuring Agricultural Price Intervention Effects". Staff Working Paper No. 394, The World Bank, Washington, 1980.

Table 5.3: NET PRIVATE AND SOCIAL BENEFITS

Sugar, 1980 (per ton)

	Quantity	Price	Accounting ratio 1/	Private value	Shadow value
		F$		F$	F$
Revenue					
Sugar	1 tonne	395 f.o.b.	1.12	395.00	442.40
Molasses	0.32 tonne	75 f.o.b.	1.12	24.00	26.88
Total revenue				419.00	469.28
Costs					
Farm 2/	8.4 tonnes cane				
Hired labor		45.50	0.8	45.50	36.40
Managerial labor		50.00	1.5	50.00	75.00
Family labor		50.00	0.8	50.00	40.00
Other (incl. rent)		50.00	1.0	85.00	85.00
Processing cost 3/					
Labor		48.00	0.8	48.00	38.40
Other imported inputs		48.00	1.12	48.00	53.76
Capital cost (processing) 3/	F$132/tonne at 10%	13.20	0.8	13.20	10.56
Total cost				339.70	339.12
Net private benefit				79.30 (19%)	
Net social benefit					130.16 (28%)

1/ See text and Table 4.1.

2/ Derived from D.J. McCann, "Cassava Ethanol in Fiji", Government of Fiji and Mobil Oil, March 1980.

3/ Derived from data in Census of Industrial Production, 1978, and adjusted for inflation using the consumer price index.

Table 5.4: NET PRIVATE AND SOCIAL BENEFITS

Ginger in brine, 1982 (per kg)

	Quantity	Price	Accounting ratio	Private value	Shadow value
				------ F¢/kg -----	
Revenue					
Ginger	1 kg	83.2F¢/kg f.o.b.	1.12	83.20	93.18
Revenue				83.20	93.18
Costs					
Farm [1] (30 wastage factor)					
Hired labor		8.80	0.8	8.80	7.04
Family labor		4.31	1.5	4.31	6.47
Imported inputs		11.93	1.12	11.93	13.36
Other inputs (including rent)		8.47	1.0	8.47	8.47
Processing [2]					
Hired labor		12.31	0.8	12.31	9.85
Imported inputs		2.59	1.12	2.59	2.90
Overhead		5.89	1.50	5.89	8.84
Other inputs		7.62	1.0	7.62	7.62
Capital costs		3.70	0.8	3.70	2.96
Total cost				56.26	67.51
Net private benefit				17.58 (21%)	
Net social benefit					25.67 (28%)

1/ Derived from the Farm Management Budget Manual, 1980, Ministry of Agriculture and Fisheries, Fiji.

2/ Derived from data supplied by the National Marketing Authority, Suva, Fiji, April 1982.

Table 5.5: NET PRIVATE AND SOCIAL BENEFITS

Dalo, 1980 (per kg)

	Quantity	Price	Accounting ratio	Private value	Shadow value
				------ F¢/kg ----	
Revenue					
Dalo	1 kg	15F¢/kg	1.00	15	15
Total value				15	15
Costs 1/					
Hired labor		3.67	0.8	3.67	2.94
Managerial labor		3.33	1.5	3.33	5.00
Imported inputs		1.20	1.12	1.20	1.34
Other inputs (including rent)		3.33	2.0	3.33	3.33
Total cost				11.53	12.61
Net private benefit				3.47 (23%)	
Net social benefit					2.29 (16%)

1/ Derived from the Farm Management Budget Manual, 1980, Ministry of Agriculture and Fisheries, Fiji.

Note: This evaluation is based on dalo production for domestic consumption. Commercial production would add distribution and marketing cost together with a higher return.

fact that the balance of economic policies is discriminating against export industries of both the traditional (sugar) and non-traditional (ginger) type. The NSB for dalo is less than the NPB reflecting its predominantly local use and the small requirement for scarce entrepreneurial and imported inputs. Naturally, for commodities like sugar whose price fluctuates significantly on the world market, the NSB will fluctuate accordingly. In some years the NSB may be negative even though in the long run, Fiji has a comparative advantage in the product. This commonly occurs with agricultural products given the structure of the world market as discussed in Chapter One.

5.20 In conclusion, current trade policies in Fiji appear to favor import substitution to a greater extent than export promotion. Therefore, existing non-traditional industries producing for domestic markets [1/] do not need the excessive level of protection accorded to them under the present import substitution strategy, i.e. fruit, biscuit and vegetable processing industries. In fact, the constraints facing these industries are on the supply side; technical production difficulties and limitations in the marketing system.

5.21 Non-traditional export activities in turn appear to be constrained by the bias in existing trade policies toward import substitution activities. Insofar as the Government wishes to promote higher rates of growth through export diversification, a gradual approach to reducing this imbalance (by reducing protection) is warranted. Given Fiji's relatively easy access to international capital markets and highly elastic income tax, the import-substitution strategy has increased unnecessarily Fiji's reliance on customs revenue in recent years [2/]. The resulting fiscal strategy has

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1/ Ginger in brine for local consumption is such an example.

2/ The share of customs revenue tax in total tax revenue has been increasing in recent years and reached 42 per cent in 1981. Customs revenue consists mainly of import duties.

been sub-optimal in terms of the development of export-oriented industries.

5.22 The current policy is no doubt contributing to national distributional and self-sufficiency goals but at a lower level of potential economic growth. That is to say, high import protection is raising incomes and profits in agro-industries like meat processing, confectionary manufacture, biscuit manufacture, fruit and vegetable processing and dairy products for domestic consumption. The higher profits and income levels which result from production for domestic consumption (as a result of the 40 per cent to 80 per cent import duties, see paras. 3.04 to 3.09 and Annex 3.1) are a major disincentive to output expansion for export because of lower profit levels.

CHAPTER SIX

NEW AGRO-INDUSTRIAL OPPORTUNITIES [1/]

6.01 The mission narrowed its selection of new agro-industrial opportunities to six items after an initial consideration of 24 products as potentially viable undertakings. Reasons for eliminating a number of products were:

(a) the agronomic and technical impossibility of growing and processing certain crops in Fiji;

(b) the ongoing and completed studies of specific agro-industrial opportunities in Fiji by other aid donors, except where some questions remained unanswered; and

(c) the lack of cost, price and trade data for specific crops and processed products.

6.02 Annex 6.1 details the reasons for excluding certain agro-industrial opportunities and a qualitative assessment of their prospects. The items evaluated by the mission were:

(a) pineapples, an export item;

(b) pawpaws, an export item;

(c) mangoes, an export item;

(d) maize, an import-substitution item;

(e) onions, an import-substitution item; and

(f) garlic, an import-substitution item.

1/ The farm production cost data presented in the following chapter were provided by John Dass, Senior Agricultural Officer, South West, Sigatoka, and Mohammed Iqbal, Senior Research Officer/Horticulture, Sigatoka Research Station. However, land rents were added to the costs and some data were updated. Updating of other information and data plus valuable suggestions were provided by Richard Viner, Principal Agricultural Officer, Western and Lautoka Provinces.

Pineapples

Reasons for Choice

6.03 Pineapple production for processing was chosen as an important agro-industrial opportunity. The reasons were:

(a) climatic and soil conditions are favorable for pineapple production;

(b) in 1978/79, Fiji imported from Australia 44,000 kilos of canned pineapple and 151,285 liters of pineapple juice. Comparable data are not available for other potential suppliers or for more recent years, but canned pineapple from the United States is being sold in Suva;

(c) pineapple products have relatively high income elasticity coefficients. This is a favorable factor for pineapple sales in high-income countries;

(d) virtually the entire fruit may be used:

(i) the best fruits may be canned as slices, in syrup or natural juice;

(ii) other fruits may be canned as pineapple chunks, tidbits or crushed pineapple, in syrup or natural juice, or made into preserves;

(iii) pineapple chunks may be added to other fruits as fruit salad or cocktail;

(iv) chunks (or slices) may be syrupped or crystallized;

(v) juice from the cutting operations or other fruit may be canned as pineapple juice;

(vi) the leafy tops may be used as planting materials;

(vii) New Zealand imports a substantial quantity of canned pineapple and pineapple juice, especially the former, and represents a logical export market (see Chapter Seven).

Current Situation

6.04 Processing of pineapples has been an "on and off" proposition in Fiji. Processing was undertaken several years ago but then stopped. Processing activities have been constrained by the inefficient production of fresh pineapple because of the poor quality of the variety grown, the poor quality of the marketed product and the lack of efficient agricultural services.

6.05 Pineapples are produced in small quantities and by many scattered farms. The 1978 Census of Agriculture reports that 2,396 farms grew a total of 274 ha of pineapples - an average of about 0.1 ha per farm. Thus, in view of the absence of scale economies, poor agricultural practices and low-yielding varieties grown are likely to result in higher production costs and therefore a relatively less price-competitive marketed product. Moreover, achieving a uniform quality product at par with world market standards is difficult because of varying agricultural practices.

6.06 Although the bulk of production is for local consumption, some fresh pineapples have been exported, largely to New Zealand (in 1980 the volume amounted to 25,910 kilos at an average f.o.b. price of F$0.57 per kilo; in 1981 the volume amounted to 37,231 kilos at an average f.o.b. price of F$0.94 per kilo). However, the potential for fresh pineapple exports to New Zealand, given the proper product, is substantial. In 1978-80 New Zealand imported approximately four times the Fijian volume from the Philippines.

6.07 There is a growing interest in pineapple production and many farmers are even using fruiting hormones to obtain more even production throughout the year (to avoid gluts). Large-scale production also appears to be underway as one farm in the Ba area has about 35 ha of pineapples and 85 farms in the North/West District reportedly have a total of about 143 ha. At least three farms have expressed interest in processing possibilities.

Production Needs

6.08 In general terms, production needs fall into two categories: the needs for the production of fresh pineapple without processing and the needs of pineapple production with processing.

6.09 First, judging by the current status of the industry, and the work programs and research reports of the MAF, pineapple production deserves greater attention by research and extension workers. There is an urgent need to:

(a) through varietal testing, select a variety that is appropriate for processing and that combines high yields and high quality, with the latter being at least equal to that of other major exporters;

(b) develop a "package" of technological practices suitable to Fijian conditions for use in the production and processing of pineapples; and

(c) deliver the "package" of production technology to pineapple producers, get them to adopt the technology and supervise their production operations.

6.10 Second, the production of pineapples for processing requires a high level of management input - it is not well suited for extensive production by small growers. Plantation production

must provide all or nearly all of the pineapples for processing. Therefore, if a pineapple processing project is undertaken, it would be prudent to join forces with an existing major producer or obtain the services of a pineapple production specialist, and a pineapple processing specialist, each on a consulting basis, to plan and develop the production and processing program. Pineapple firms from which such assistance might be obtained include Golden Circle (Australia), Dole (Philippines), and Del Monte (Philippines). Since the operation should likely produce all the pineapples needed on its own plantation at first, land requirements should be specified and steps taken to locate suitable hectarage near a major port. The processing facility should be in the port area; if not, it should be near the production area with a warehouse in the port area.

Cost/Price Projections

6.11 The costs of establishing and then maintaining/operating a pineapple-production project, on a per hectare basis, for five years are presented in Table 6.1. Establishment costs totalled F$2,648 per ha; annual maintenance/operating costs ranged from F$1,015 to F$1,050 per year. For the five-year period, all costs totalled F$7,853 per ha. With a production estimate of 32 to 39 tonnes per year (from nearly 36,000 plants), the average cost of production amounted to about F$0.04 per kilo. Even if maintenance/operating costs were doubled, the per kilo cost would only amount to F$0.07 per kilo; if all costs were doubled or yields cut in half, the average would be about F$0.08 per kilo. In either case, the projected costs are such that the pineapples should be deliverable to a nearby processing plant at F$0.10 per kilo or less [1/]. This would be equal to that of Malaysia and Thai plants.

1/ The reported differences between farmgate (picked-up) prices and delivered-to-processing plant prices for fruits range from F$0.02 to F$0.05 per kilo, largely depending upon the distances involved and company policy to insure delivery.

Table 6.1: PRODUCTION COSTS FOR PINEAPPLES, PER HECTARE

Item	Year 1 1/	2	3	4	5
	(F$)				
Establishment					
Land preparation					
Tractor ploughing, 3 times	119				
Tractor harrowing, 3 times	74				
Planting material, 35,864 pieces at F$0.04 each	1,435				
Transportation	494				
Superphosphate, 625 kg at F$9.65/50 kg	121				
Herbicide	25				
Subtotal	2,268				
Labor at F$5 per day:					
Furrowing, 10 days	50				
Obtaining planting materials, 5 days	25				
Prepare planting materials, 20 days	100				
Planting, fertilizing, 40 days	200				
Applying herbicide, 1 day	5				
Subtotal, 76 days	380				
Total, establishment	2,648				
Maintenance					
Land rent	90	90	90	90	90
Fertilizer, 13-13-21, 1,850 kg at F$14.53/50 kg	538	538	538	538	538
Krovar, 5.5 kg/ha, 2 applications	130	130	130	130	130
Hormone	17	17	17	17	17
Subtotal	775	775	775	775	775
Labor at F$5 per day					
Fertilizer applic., 3 times, 15 days	75	75	75	75	75
Herbicide applic., 2 times, 3 days	15	15	15	15	15
Hormone applic., 5 days for 2 years, 7 days for 3 years	25	25	35	35	35
Harvesting, thinning suckers, 25 days, 1 year, 30 days, 4 years	125	150	150	150	150
Subtotal	240	265	275	275	275
Total, maintenance	1,015	1,040	1,050	1,050	1,050
Yield per hectare, tonnes	32	39	39	39	39
Summary: Total cost for 5 years per hectare	F$7,853				
Total production:	188 tonnes				
Cost per kilo:	F$0.042				

1/ Year 1 for establishment is not the same as Year 1 for maintenance.

6.12 Projected pineapple-processing costs, based on plantation production of a large variety appropriate for processing and a plant-door price of F$0.10 per kilo, are presented in Table 6.2. These costs are compared with current costs [1/] using smallholder production of a small variety at a plant-door price of F$0.25 per kilo.

6.13 The projected total processing cost amounted to F$0.45 per can of 450 g or 20 per cent less per can than under current costs (see Table 6.2). The ex-factory price of F$0.50 per can and the delivery cost to an export port (Suva) result in a projected landed price of F$0.60 per can, assuming the indicated shipping cost and a 10 per cent duty. This projected landed price is nearly 17 per cent lower than under current costs and is very competitive relative to the major exporters of pineapple in the area [2/]. Moreover, such a cost structure should facilitate an astute marketing program.

Fresh Pawpaws

Reasons for Choice

6.14 Pawpaws, an export item, were chosen as a potentially viable agro-industrial crop. The major reasons for the choice were:

(a) pawpaws are well adapted to Fiji's climatic and soil conditions;

(b) the fruit and its products have relatively high income elasticity coefficients, thus favoring sales in high-income areas and during periods of rising incomes;

1/ Under present conditions.

2/ These include Malaysia, Thailand, the Philippines and Australia.

Table 6.2: PINEAPPLE PROCESSING COSTS

Item	Small variety yield 55-60% smallholder production	Large variety yield 65-75% plantation production
	--(F$ per can of 450 grams)--	
Cost of pineapple at factory:		
at F$0.25 per kilo	0.18	-
at F$0.10 per kilo 1/	-	0.07
Labor	0.11	0.11
Cartons, containers	0.11	0.11
Capital	0.05	0.05
Other	0.11	0.11
Total cost	0.56	0.45
Ex-factory price	0.61	0.50
Delivery to ship	0.02	0.02
f.o.b. price (c.d.v.)	0.63	0.52
Delivery to New Zealand	0.03	0.03
c.i.f. New Zealand price	0.66	0.55
Duty at 10% c.d.v.	0.06	0.05
Landed price	0.72	0.60

1/ Includes cost of about F$0.02 per kilo for transfer to factory.

(c) pawpaws are not seasonal (as most other fruits), thus year-around operations are possible;

(d) the gestation period of pawpaws is short as harvesting of the fruits may start within a year of planting and the recovery from damaging winds may be relatively quick, with or without replacing;

(e) yields may be substantial, given the proper variety and use of recommended production technology;

(f) the fruit is quite versatile:

(i) firm-ripe fruit may be exported, sold to the local tourist trade market, or sold in local supermarkets/public markets;

(ii) firm-ripe fruit may be processed into small chunks, added to other fruits and sold as fruit salad or cocktail;

(iii) ripe fruit may be processed as a pickled item;

(iv) green fruit may be processed as a pickled item;

(v) papain (an enzyme from unripe pawpaws used to tenderize meat) may be extracted for export or local sale; and

(g) a sizeable export market exists for pawpaws and the products thereof.

Current Situation

6.15 The pawpaw industry is still in its infancy stage. Although grown throughout much of the country, most of the fruit comes from scattered individual plots. The 1978 Census of Agriculture reported that 225 farms had a total of 48 ha of pawpaws for an average of 0.2 ha per farm. Most of the hectarage (75 per cent) was in the Nadroga/Navosa area.

6.16 The MAF "Work Program 1981" mentioned that new imported varieties of pawpaws would be assessed at the Sigatoka Research Station and that papain production would be investigated in conjunction with the Chemistry Section of the research station.

6.17 Further, the MAF "Work Program 1982" contained more information and stated that:

(a) pawpaws had received some research attention in the past;

(b) production until 1981 was for local consumption only;

(c) South Pacific Foods had requested a hectare of pawpaws for processing use;

(d) inquiries regarding pawpaws had been received from other fruit processors; and

(e) the export market for processed pawpaws appeared to be strong.

The major objectives of MAF were to expand planting of pawpaws to approximately 12 ha and to identify high-yielding pawpaw varieties for fresh market and for processing by comparing introduced varieties with recommended ones and evaluating these varieties for papain production. Although good varieties are available and being planted or grown on a few selected farms, the development of an important agro-industrial industry based on pawpaws will be gradual since Fiji lacks prior agronomic research and extension work with this crop.

Production Needs

6.18 Pawpaws, even the firm-ripe ones, are quite perishable. Thus they need to be produced near a processing plant or a packaging facility (for fresh-market fruit). The latter, in turn, should be relatively near an international airport to facilitate and expedite exports. Especially for the production

of fresh-market fruit, local or export, a plantation-type operation would be desirable at first to ensure a good quality product. Later, with production experience, smallholders may be involved, especially in the production of pawpaws for processing.

6.19 Increased research efforts are needed to identify the best variety or varieties for:

(a) sale in the local and export markets as fresh fruit, and

(b) the processing to produce puree and juice.

6.20 Further, increased research and extension efforts are needed in the development or refining of a "package" of technology for use with the varieties selected for the commercial production of pawpaws. Special attention needs to be given to the minor-element requirements (boron) of pawpaws to assure production of uniformly smooth fruit. It is possible that fumigation will be required for the export shipment of pawpaws to certain markets. Therefore, it would be appropriate to develop (and have ready for use) plans for a fumigation facility, if and when it is required. It seems that favorable rates for air shipments to New Zealand and Australia are available. Efforts should be made to negotiate favorable rates for air shipments to Japan.

Cost/Price Projections

6.21 The projected costs of pawpaw production are presented in Table 6.3. Costs, other than labor, amounted to F$814 per ha, the value of labor amounted to F$1,434 per ha. Assuming an average yield of 36 tonnes per ha, after harvesting begins (reports indicate yields could be as high as 50 tonnes per ha), the cost per kilo amounted to F$0.04. Even doubling the costs or halving the yield would result in a cost of only F$0.08 per kilo.

Table 6.3: PRODUCTION COSTS FOR PAWPAWS, PER HECTARE

Item		Fiji Dollars
Land rent, 12 months		90
Seedlings, 1,360 at F$0.15 each		204
Fertilizer, 13-13-21, 800 kgs at F$14.53/50 kg		232
Paraquat, 28 liters at F$6/liter		168
Land preparation:	Tractor ploughing, 1 time	40
	Tractor harrowing, 2 times	40
Ridging, 1 time		40
Subtotal		814
Labor at F$5 per day:		
Ridging and digging holes, 3 days		15
Transplanting, 2 days		10
Watering, 1 day		5
Weeding, ring weeding and spraying, 30 days		150
Inter-row cultivation, 13 days		65
Fertilizer application, 4 times, 20 days		100
Harvesting, 55 days		275
Subtotal, 124 days		620
Total		1,434
Summary:	Total cost per hectare:	1,434
	Total production:	36 tonnes
	Cost per kg	0.04
	Value of crop at F$0.10 per kg	3,600
	Return per day of all labor:	22.47

6.22 A farmgate price of F$0.10 per kilo appears reasonable and a delivered price of F$0.12 per kilo to the processing or packing plant door also appears to be reasonable. The latter is the same as that which exists in the Sigatoka area now. With a farmgate price of F$0.10 per kilo, the return for all labor would amount to F$22.47 per day, more than four times the F$5 per day actually paid. This is an indication that pawpaw production is profitable.

6.23 For export of fresh pawpaws, special packaging would be desirable, even necessary. Assuming a packaging cost of F$0.20 per kilo, a deliver-to-airport cost of F$0.02 per kilo and a F$0.50 air freight charge, the c.i.f. price in New Zealand should be approximately F$0.84 per kilo.

Fresh Mangoes

Reasons for Choice

6.24 Mangoes were considered to be an appropriate export item for development as an agro-industrial activity. The reasons were:

(a) Fijian climatic and soil conditions are favorable for mango trees which grow vigorously and produce well;

(b) mangoes are generally considered to be one of the world's most luscious tropical fruits;

(c) it is likely that mangoes and the products thereof have relatively high income elasticity coefficients which would favor sales in high-income areas and during periods of rising incomes;

(d) several good-quality varieties (Haden, Guaveia, White Pirie, Momi K, Mapulehu) have been selected/identified for commercial production in Fiji and commercial hectarages are now being developed;

(e) commercial production of quality fruits should permit:

(i) exports or increased exports to Japan, Australia and New Zealand;

(ii) processing of mango puree;

(iii) processing of mango nectar, and

(iv) processing of mango preserves, pickles and chutneys.

(f) air shipments of mangoes have been made to New Zealand and Australia in previous years, and, with increased production of quality fruit, export sales should increase substantially.

Current Situation

6.25 The mango may best be described as a "marginal" tree - growing alongside the roads, streams, and field boundaries, and around homes. It has been estimated that there are more than 10,000 trees in the relatively dry northwest coastal sugarcane area extending from Momi to Rakiraki but, until recently, there has been no commercial planting of significance.

6.26 Many of the varieties grown are known to be very fibrous while some others have a distinct turpentine or kerosene flavor. These characteristics make mangoes undesirable for the export trade and processing. Heavy rainfall during the flowering period results in a poor fruit set and therefore production is mainly concentrated in the drier areas. Anthracnose is a serious disease; it reduces the fruit set, lowers quality, and adversely affects the appearance of the fruit. Several pests exist and the mango stone weevil has been reported in one area. The latter could be a serious hinderance to exports.

6.27 All the above situations and restraints call for increased research to develop or select high-quality varieties for use and to develop a "package" of production technology to overcome or minimize all the production problems that exist. Further, apparently little research has been done regarding fertilization requirements of mango trees; the same is true for research to induce off-season flowering and annual flowering.

6.28 The MAF "Work Program 1981" indicated that activities would include establishment of mango orchards of selected varieties suitable for export and processing, and rehabilitation of existing trees that produce fruit of exportable or processing quality via pruning and fertilization. The former activity required the raising of seedling rootstocks and grafting thereon selected varieties. For 1982, the "Work Program" for extension mentioned further establishment of mango orchards, insuring that recommended practices are followed and supplying good-quality planting material. For research, the stated objectives were to identify all existing varieties of mangoes, and screen existing and introduced varieties to identify the good-quality high-yielding ones for fresh market and processing use. The development of mango orchards is underway and one farm in the Yaqara Valley is reported to have 8 ha of new plants consisting of several good varieties of mangoes.

Production Needs

6.29 There is little in the area of production needs that cannot be solved or handled with time and money. But therein lies the problem - time is important because mango research, unlike that for short-season crops, demands considerable lead time, in fact years, and this requires money. As a result, relatively little research has been undertaken and this is perhaps understandable. Research workers seeking advancement want to accomplish something promptly, rather than wait for years before being able to report research results. This often limits research efforts with fruit like mangoes, and research funds appear to be the first to suffer in tight budgetary situations.

6.30 It is clear that research efforts with mangoes should be substantially increased in order to:

(a) hasten the identification/selection of varieties that have outstanding quality and are suitable for both the export market and processing use;


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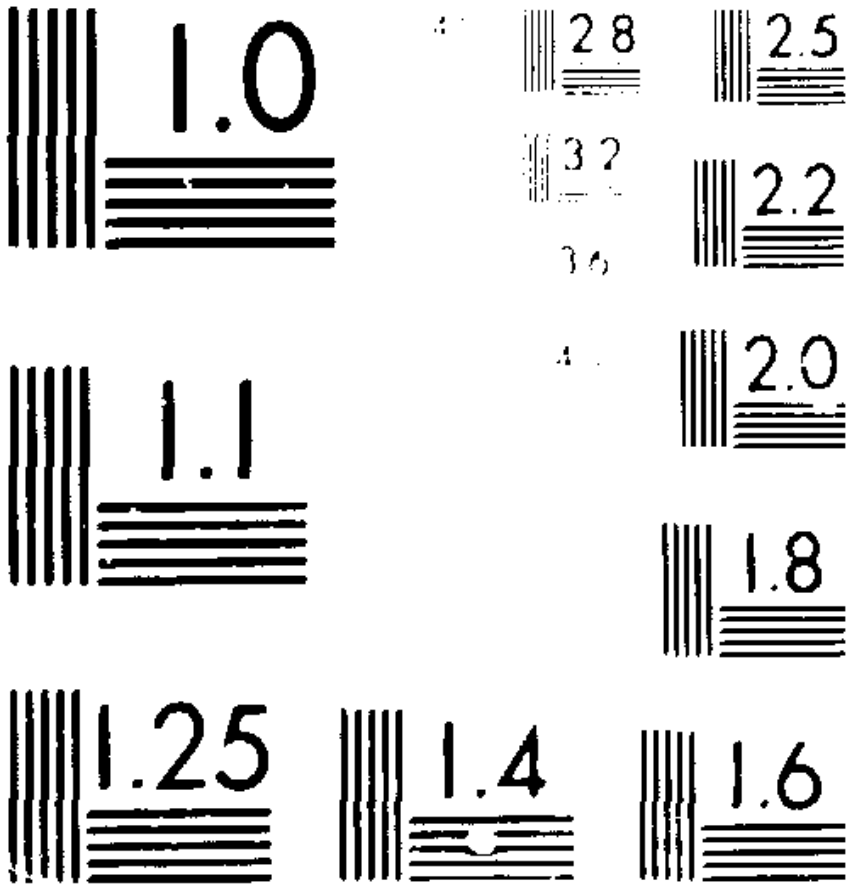
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(b) develop a "package" of production technology that should be continuously refined (by further research) for use by those engaging in commercial mango production. It should cover all aspects of production with special attention being given to fertilization, control of anthracnose, and pest control; and

(c) determine effective ways of inducing off-season flowering (to obtain longer harvest periods) and of obtaining annual flowering. These procedures should even out fluctuations in output levels from year to year.

Cost/Price Projections

6.31 Mango production is a long-term enterprise with the initial significant harvest coming in the fifth year after establishment of an orchard. The harvest reaches sizeable proportions in the seventh year and continues to increase in the following years as the trees become larger. Rather than giving cost information for each of several years, only data for three years will be given to simplify the presentation and yet focus on the salient points. The years selected were the seventh (about a break-even year), tenth and fifteenth, and 1982 prices were used. The establishment costs plus the maintenance costs for the first four years were prorated equally over the following 20-year period.

6.32 Costs in year 7 totalled F$1,444 per ha (Table 6.4). With an assumed yield of 16 tonnes, the cost amounted to F$0.09 per kilo. For years 10 and 15, costs totalled F$2,293 and F$3,114 per ha, respectively. With respective yields of 37 and 53 tonnes the costs averaged F$0.06 per kilo in each of the two years. An assumed farmgate price of F$0.10 per kilo was used. Thus, income less costs amounted to only F$156 in year 7 but increased to F$1,407 in year 10 and to F$2,186 in year 15. The returns per man-day of labor amounted to F$5.92 in year 7, F$9.29 in year 10, and F$9.61 in year 15.

Table 6.4: PRODUCTION COSTS FOR MANGOES, PER HECTARE, 3 TIME PERIODS

Item	Year 7	10	15
		(F$)	
First 4 years' costs prorated over 20 years	110	110	110
Land rent	90	90	90
Fertilizer, NPK and sulphate of ammonia, 2 applications	199	220	258
Pest and disease control material, 4 applications	76	109	162
Fuel and repairs	124	124	124
Subtotal	599	653	744
Labor at F$5 per day:			
Fertilizer application, 22, 25, 30 days	110	125	150
Spraying, 4, 5, 6 days	20	25	30
Weed control, 6 days	30	30	30
Maintenance of irrigation, 12 days	60	60	60
Pruning, 12, 16, 20 days	60	80	100
Harvesting, 71, 166, 266 days	355	830	1,330
Cartage, 6, 15, 21 days	30	75	105
Grading, packing, 36, 83, 113 days	180	415	565
Subtotal, 169, 328, 474 days	845	1,640	2,370
Total	1,444	2,293	3,114
Summary: Total costs (F$):	1,444	2,293	3,114
Total production, tonnes:	16	37	53
Cost per kg (F$):	0.09	0.06	0.06
Value of production at F$0.10 per kg (F$):	1,600	3,700	5,300
Return per man-day of labor (F$):	5.92	9.29	9.61

6.33 For export sales, special packaging in small units (as 6 to 10 kilos) would be necessary. It has been assumed that a favorable rate of F$0.50 or less per kilo may be obtained for air shipments to Australia and New Zealand. (Fresh vegetables are imported by air from Australia and New Zealand at rates equivalent to approximately F$0.45 per kilo. Thus, a F$0.50 per kilo rate appears logical.) The costs for exports by air to Australia and New Zealand should be approximately as follows:

Item	F$/kg
Farmgate price	0.10
Package, container	0.20
Delivery to airport	0.02
Total, c.d.v.	0.32
Air freight	0.50
Total, c.i.f.	0.82

The c.i.f. price should be approximately F$0.82 per kilo.

Maize

Reasons for Choice

6.34 Maize represents an import-substitution item. No new agro-industrial processing facilities are needed as a feed milling industry already exists. The rapid growth of the poultry and livestock industries, to near self-sufficiency levels, gave rise to a sharp increase in the importation of maize, primarily for animal feeds, as shown below for the 1976-81 period. Preliminary indications are that maize imports in 1982 will exceed 10 million kilos.

Year	Quantity (kg)	Value c.i.f. (F$)	Price per unit c.i.f. (F$)
1976	1,565,208	307,326	0.20
1977	2,349,452	533,973	0.23
1978	5,106,789	801,907	0.16
1979	6,719,518	1,113,753	0.17
1980	8,113,133	1,289,322	0.16
1981	9,067,500	1,810,133	0.20

6.35 During the past six years, c.i.f. prices have ranged from F$0.16 to F$0.23 per kilo. For 1981, it was F$0.20 per kilo. Indications are that 1982 prices will average close to F$0.21 per kilo.

6.36 Based upon 1981 data, the replacement of all imports should result in a foreign-exchange saving of about F$1.8 million. Thus, it should be clearly evident that the production of maize as an import substitute represents an agricultural opportunity of considerable merit.

6.37 The MAF "Work Program 1982" reported that 280 ha of maize were grown in the Sigatoka Valley with a yield of two tonnes per ha. This yield is relatively low. However, local varieties were used even though field trials show that introduced hybrids have much higher yield potentials, and downy mildew and rust resistant varieties are available. However, considerable more research work needs to be done regarding maize production. In the past, maize production was recommended for the intermediate and dry zones during the wet season and for the wet zone during the dry season. This undoubtedly contributed to a one-crop-per-year situation. But, using proper management practices, maize can now be grown almost all year round.

Current Situation

6.38 Based upon census data, the area devoted to maize declined sharply from 1,513 hectarages in 1968 to 633 ha in 1978. This resulted from a shift to sugarcane (from maize) and the fact that maize was affected by downy mildew, a fungus disease harmful to sugarcane (thus, the Colonial Sugar Refinery (CSR), later the Fiji Sugar Corporation (FSC), advised cane farmers not to grow maize).

6.39 Of the 1978 hectarage, 80 per cent was in the Western Division. For the country as a whole, 3,518 farms grew maize with an average of about 0.2 ha per farm. (In the major area of Nadroga/Navosa, 1,312 farms had 364 ha.)

6.40 The MAF has an on-going project designed to identify varieties suitable for local conditions. At present, farmers are growing local selections but some promising hybrids include QK694, QK217 and QK487. At the Sigatoka Research Station (SRS), these varieties gave yields of 6.1 to 7.4 tonnes per ha in 1980. The area that has been most recommended for maize production is the upper and middle Sigatoka Valley area. Other areas that have been suggested, pending research and other experience, include the Nadrau Plateau (a relatively high altitude area) and two areas along northwest Natewa Bay. For the latter two areas, no leasing problems should be anticipated, since they are not "indigenous land" reserves and are suited to mechanized operations. However, shipping to Suva may represent a problem.

Production Needs

6.41 There are at least five important production needs. They are:

(a) Increased research effort is needed to continue developing or selecting high-yielding disease-resistant lines for commercial maize production. To expedite this work, increased effort should be made to obtain appropriate germ plasm from countries other than those previously used, as the Philippines and Kenya, and thus take further advantage of the breeding/selecting work that has already been done. In this regard, quarantine regulations should be relaxed in an effort to promote research on maize.

(b) A "package" of production technology needs to be developed or refined, through research, for adoption by farmers who wish to produce maize on a commercial basis or in new production areas.

(c) Appropriate harvesting and drying procedures need to be developed and used by farmers. This may involve mechanical harvesting of maize in concentrated areas of production and/or farms with large areas devoted to maize.

(d) Production timetables should be developed for selected areas to encourage farmers to produce two, if not three, crops per year. This should be possible with appropriate management practices and varieties.

(e) To facilitate the assembly/delivery phase of marketing, efforts should be extended to get increased production in concentrated accessible areas.

Cost/Price Projections

6.42 Projected production costs for maize, on a one-crop-per-year basis, are presented in Table 6.5. Two different sets of land rents and wage rates were used to reflect costs in two of the areas recommended for maize production. The first reflects Sigatoka conditions and is called area A; the other reflects Northern Division conditions and is termed area B. The assumed yield was 4 tonnes per ha, given use of proper production technology and varieties. (Reportedly, farmers now obtain yields of 2.5 to 3 tonnes per ha and even higher yields have been indicated.) Production costs averaged F$0.10 per kilo in area A and F$0.08 per kilo in area B.

6.43 The assumed farmgate price of F$0.14 per kilo in A was somewhat below that prevailing in the Sigatoka area; the assumed farmgate price in B of F$0.11 per kilo represents the area A price less the shipping cost from the Northern Division to Suva. The farmgate price for A and the c.i.f. Suva price for B (both to F$0.14) plus delivery cost to the feed mills (estimated at less than F$0.01 per kilo on a backhaul basis from Sigatoka)

Table 6.5: PRODUCTION COSTS FOR MAIZE, ONE CROP PER YEAR, PER HECTARE

Item	Area A Labor at F$5 per day, land rent F$90 per year	Area B Labor at F$3 per day, land rent F$30 per year
Land rent for 5 months	37.50	12.50
Seed, 22.4 kg	4.94	4.94
Superphosphate, 250 kg at F$9.65/50 kg	48.25	55.75
Urea, 250 kg at F$13.00/50 kg	65.00	72.50
Land preparation, tractor ploughing, 1 time	44.46	44.46
Bags, 40 at F$0.30	12.00	12.00
Tractor hire for threshing	10.00	10.00
Subtotal	222.15	212.15
Labor		
Bullock ploughing, 2 times, 4 days	20.00	12.00
Harrowing	10.00	6.00
Planting, 5 days	25.00	15.00
Cultivation, 3 days	15.00	9.00
Fertilizer application, 3 days	15.00	9.00
Harvesting, 6 days	30.00	18.00
Shelling, tractor and hand, 6 days	30.00	18.00
Drying, cleaning, bagging, 6 days	30.00	18.00
Subtotal for 35 days	175.00	105.00
Total	397.15	317.15
Summary: Total cost per hectare:	F$397.15	F$317.15
Total production	4 tonnes	4 tonnes
Cost per kg	F$0.10	F$0.08
Value of production:		
At F$0.14/kg 1/	F$560.00	-
At F$0.11/kg 2/	-	F$440.00
Return per man-day of labor:	F$9.65	F$6.51

1/ Current guaranteed minimum farmgate price in Sigatoka is reported to be F$0.1544 per kg.

2/ Area A price is reduced by F$0.03 to cover shipping costs from Northern Division to Suva, the final port of export.

should result in a cost at the feed mills of F$0.15 per kilo or less. This would compare very favorably with the 1981 c.i.f. price of F$0.20 per kilo for imported corn.

6.44 Furthermore, the yield, costs and prices used should provide a return for all labor of F$9.65 per day in area A and F$6.51 per day in area B. In both cases, the return for labor was about double the daily wage rates actually paid.

Onions and Garlic

Reasons for Choice

6.45 Onions and garlic, both import-substitution items, were chosen as appropriate items for development and are treated together because the general production practices and requirements are relatively comparable. Reasons for the choices were:

(a) Fiji depends entirely, or nearly so, upon imports for its supplies of onions and garlic;

(b) the demand for these products is relatively inelastic. Thus, with higher prices, purchases decline by a proportionately smaller percentage than the percentage change in prices so that the total values of imports increase. Moreover, onions and garlic are essential ingredients in the diet of Fijians of Indian descent;

(c) earlier production experiences were unsatisfactory because of the use of inappropriate varieties. This problem has now been solved with the identification of varieties which are suitable to Fijian conditions;

(d) a "package" of technology, including a timetable of operations, is being developed at the Sigatoka Research Station;

(e) most of the onion and garlic requirements of the country can be provided domestically given the research and extension support that should exist; and

(f) a modest agro-industrial phase would be involved as facilities would be needed to store the products during the harvest period for use during the rest of the year, and to perform consumer, retail and wholesale packaging services.

Current Situation

6.46 In earlier years, relatively little attention was given to onions and garlic as census data for 1978 show that only 0.5 ha was devoted to onion production in the entire country; no hectarage was reported for garlic. This reflected the absence of varieties suitable to Fijian conditions and perhaps the lack of an appropriate production technology as widespread problems with rotting had occurred. However, it now appears that these two crops are being given long-deserved attention. The MAF "Work Program 1982" listed as research objectives:

(a) The identification of high-yielding, good-quality, pest- and disease-resistant onion and garlic varieties for commercial production.

(b) The determination of suitable or optimum production practices for these two crops.

Once these objectives have been largely accomplished, onions and garlic will become crops that fit into the extension's objective "to increase areas under vegetables to counteract imports". The latter is apparently happening as the vegetable coordinator for the Central Division has established a target of 8.5 ha of onions and the coordinator for the North/West District has

established a target of 8 ha of onions for this year's main vegetable season. Research workers report that they now have onion and garlic varieties that perform satisfactorily under Fijian conditions. They are Texas Early Grano (not storable) and Tropical-Red (a storable variety) for onions and Feng Shan Selection and Rodriquez for garlic. Thus, the stage is set, given continued research support and a concerted extension effort, for onion and garlic production programs by smallholders. An efficient distribution system is now in operation for imported onions and garlic. Marketing of the output from a major expansion of domestic production would be greatly facilitated by using this system with its storage facilities.

Production Needs

6.47 For commercial production of onions and garlic, the major needs appear to be:

(a) continued efforts to select or obtain high-yielding, storable, good-quality disease- and pest-resistant varieties adapted to Fijian conditions;

(b) for each crop, continued development and refinement of the essential "package" of production technology for farmers to adopt;

(c) due to climatic conditions (especially rainfall) and day length, identification of appropriate production areas, development of production timetables because onions are photosensitive, and devising cropping sequences that most favor onion and garlic production;

(d) since there is no marketing system for domestic onion and garlic production, an assembly-phase of marketing program should be developed, in advance of any major production effort;

(e) optimum farm or production-area handling and storage conditions should be determined for onions and garlic; plans should be made to have appropriate farm or production-area facilities available (if not already available) when production is started; and

(f) if a major nonfarm storage facility needs to be developed, it should be conveniently located in the proximity of the producing area(s) and strategically located for efficient distribution.

Cost/Price Projections

6.48 The projected production costs for onions and garlic are presented in Table 6.6. For onions, the cash costs totalled F$457 per ha and 47 days of labor valued at F$5 per day amounted to F$235. The total cost was F$692. With a yield of 15 tonnes per ha (double this amount has been achieved at the research station), the cost amounted to about F$0.05 per kilo. (Even doubling these costs or reducing the yield by half would result in a cost of only F$0.10 per kilo.) The cost of transporting onions from the Sigatoka area to Suva or Lautoka has been estimated at F$0.014 per kilo. This added to the assumed farmgate price of F$0.08 per kilo should give a Suva or Lautoka price of about F$0.095 per kilo. This compares very favorably with average c.i.f. prices of F$0.26 per kilo in 1980 and F$0.46 per kilo in 1981.

6.49 The return per man-day of labor amounted to F$15.81, more than triple the F$5 per day charge used for labor, and indicates that onion production can be very profitable.

6.50 For garlic, on the other hand, total costs amounted to F$976 per ha. This consisted of cash costs of F$731 and a value for labor of F$245 for 49 days. With a yield of 3 tonnes per ha, the cost would amount to about F$0.33 per kilo.

Table 6.6: PRODUCTION COSTS FOR ONIONS AND GARLIC, PER HECTARE

Item	Onions	Garlic
	(in F$)	
Land rent, 4 months	30	30
Seed: 2.5 kilos at F$48/kg	120	-
250 kilos at F$1/kg	-	250
Manure: 12 tonnes at F$0.60/50 kg	-	144
Fertilizer: 13-13-13, 200 kgs at F$20/50 kg	80	80
Urea, 100 kg at F$18/50 kg	36	36
Pesticides: Diazinon, 4 applic., 5 liters	13	13
Mancozeb, 6 applic., 55 grms/ 15 liters = 11.55 kg	58	58
Weedicide: Linuron, 2 applic., 1.5 kg/ ha/applic. at F$20/1.5 kg	40	40
Land preparation: Tractor ploughing, 1 time	40	40
Tractor harrowing, 2 times	40	40
Subtotal	457	731
Labor at F$5 per day:		
Bullock ploughing, 1 time, 2 days	10	10
Planting: direct seeding, hand drill:		
1 day	5	-
6 days	-	30
Hand weeding: 6 days	30	-
8 days	-	40
Irrigation, 6 times, 12 days	60	60
Fertilizer application: 2 days	10	-
3 days	-	15
Weedicide application, 2 days	10	10
Pesticide application, 10 days	50	50
Harvesting/grading, 12 days	60	-
Harvesting, 6 days	-	30
Subtotal: onions, 47 days	235	-
garlic, 49 days	-	245
Grand total	692	976
Summary: Cost per hectare	692	976
Yield per hectare	15 tonnes	3 tonnes
Cost per kg (F$)	0.046 or 0.05	0.325 or 0.33
Assumed farmgate price (F$)	0.08	0.40
Return per man-day of labor (F$)	15.81	9.57

(Doubling the costs or reducing the yield in half would result in a cost of about F$0.65 per kilo.) Adding the cost of transporting garlic from the Sigatoka area to Suva or Lautoka (estimated at F$0.014 per kilo) to the assumed farmgate price of F$0.40 per kilo, gives a Suva or Lautoka price of about F$0.415 per kilo. This compares very favorably with average c.i.f. prices of F$0.74 per kilo in 1980 and F$1.30 per kilo in 1981.

6.54 The return per man-day of labor would amount to F$9.57, nearly double the F$5 per day charge used for labor, and indicates that garlic production can be quite profitable.

CHAPTER SEVEN

MARKETING OPPORTUNITIES FOR SELECTED AGRICULTURAL PRODUCTS

7.01 Fiji will always have limited visibility and penetration in most overseas markets, especially in the USA and Japan. Production costs and shipping rates restrict market segments to products able to sustain or absorb high prices. Fiji will find it difficult to compete in volume or price terms with other countries in Southeast Asia, notably with those with low labor costs. Consequently, Fiji's strategy should be to concentrate as far as possible on specialty products for markets that are quality conscious and that are willing to pay the premium for quality products.

7.02 Most products similar to those produced in Fiji are already well established in export markets. Overseas buyers who, over the years, have built up confidence in similar products and commodities from other countries, will be reluctant to change unless there is an evident benefit in so doing. Price, quality and delivery on time are key criteria which Fiji will have to satisfy on a continuous basis. Buyers who feel that a casual attitude is typical of exporters, or who see promises unfulfilled for whatever reason, quickly seek alternative suppliers.

7.03 Foreign trade statistics point to alternative sources for most fruits and vegetables in the South Pacific and Southeast Asian region. The large countries generally have the cheapest labor or the benefits of economy of scale, and are also extremely aggressive in world markets.

7.04 On the other hand, the attainment of large volumes is frequently at the cost of quality, especially in packaging and presentation where skilled hand operations can add much actual or imagined value to the product. This applies as much to commodity produce as to consumer goods. Fiji's Government policy should be

to require the highest standards for each product, and delegate appropriate powers for certifying acceptance or rejection at all key stages.

Pineapple Products. A Case Study for Market Selection

7.05 The export of pineapple products to New Zealand has been taken as a case study to show how a coherent export strategy for agro-industrial products can be developed. Time constraints did not permit treatment of the other products with the same degree of detail.

7.06 New Zealand imports a substantial quantity of canned pineapple and pineapple juice, especially the former, and represents a logical export market. The country imported well over 5,000 tonnes of pineapple products, other than juice, in 1978-79 (see Table 7.1). More recent data show New Zealand imported more than 10,000 tonnes at an average c.i.f. price of NZ$0.89 per kilo in 1979-80, and again somewhat over 5,000 tonnes at an average c.i.f. price of NZ$0.94 per kilo in 1980-81. In addition to the source countries listed in Table 7.1 for 1978-79, small shipments came from France, Peru and the United States in the following year 1979-80, and from the United States in 1980-81.

7.07 The mission believes that the volume supplied by Malaysia, the Philippines and Thailand, and no doubt some of that from other sources, would be especially vulnerable to a well-planned marketing effort with a high quality, price-competitive product from Fiji. In addition to the 30 per cent duty for products from Thailand and the Philippines, versus 10 per cent for Fiji, the latter has a distinct transportation advantage over both Thailand and Malaysia. The cost of a 20-foot container shipment, about 1,600 cartons,

from these areas to New Zealand reportedly amounts to about US$1,800 compared with about US$1,000 from Fiji (see Annex 7.1). The shipments to New Zealand from these three countries, Malaysia, the Philippines, Thailand, totalled over 3,000 tonnes in 1978-79, over 4,500 tonnes in 1979-80, and almost 2,000 tonnes in 1980-81. The three-year average amounted to well over 3,000 tonnes.

Factors Affecting Commercial and Industrial Collaboration

7.08 In New Zealand, meetings were held with the chief operational executives of ten companies consisting of importers, supermarket groups, retail chain operators, manufacturers and distributors of fresh and canned foods as follows:

Tasty Products Ltd.	- Candy manufacturers
Butland Industries Ltd.	- Food manufacturers/exporters
W.F. Tucker and Co. Ltd.	- Food manufacturers/exporters
James Crisp Ltd.	- Food importers/distributors
Turners and Growers Ltd.	- Fresh fruit and vegetables
Radley and Co. Ltd.	- Fresh fruit and vegetables
TNL Group	- Plantation developers/exporters
Foodstuffs (NZ) Ltd.	- Supermarket group and retail
Foodtown Supermarket Ltd.	- Supermarket group
J. Wattie Canneries Ltd.	- Food manufacturers/exporters.

7.09 Most firms were knowledgeable and well informed about Fiji and several were already involved in commercial ventures of one form or another on the islands.

7.10 There was unanimous agreement that Fiji is well endowed with agricultural resources for whose products a steady demand exists and which, thus, in principle can be developed into significant exports for Fiji. The view shared by most organizations was that, although the Government understood the need for Fiji to compete effectively in overseas markets, there was a failure to accept the need to adjust traditional attitudes and practices to meet the demands of overseas markets.

Table 7.1: NEW ZEALAND: IMPORTS OF PINEAPPLE PRODUCTS, 1978-1979

Item	Source (Country)	Amount (kg)	NZ$ per kg 1/ C.d.v.	C.i.f.	Landed price
Pineapples, prepared or preserved	Australia	597,760	0.70	0.88	0.95
	China (People's Rep. of)	907,933	0.46	0.59	0.73
	Kenya	487.681	0.54	0.60	0.65
	Malaysia	2,924,739	0.69	0.88	0.95
	Philippines	11,619	0.63	0.87	1.06
	Singapore	58,466	0.69	0.88	0.95
	Taiwan	292,039	0.51	0.65	0.80
	Thailand	93,267	0.53	0.73	0.89
	Total	5,373,504 2/			
		Liters			
Pineapple juice, bulk containers, sugar added	Australia	297	1.00	1.57	1.67
Pineapple juice, Other containers, other	Australia	138,535	0.29	0.42	0.45
	Kenya	34,181	0.16	0.30	0.32
	Malaysia	4,583	0.38	0.57	0.61
	Total	177,299			
Pineapple juice, bulk containers, sugar added	Australia	5,420	0.32	0.52	0.55
	Malaysia	400	0.82	1.20	1.28
	Total	5,820			
Pineapple juice, Other containers,	Australia	18,532	0.25	0.38	0.41
	Malaysia	7,712	0.47	0.67	0.72
	Total	26,244			

1/ C.d.v. = Customs duty value
C.i.f. = cost, insurance, freight
landed price = c.i.f. value plus applicable duty of c.d.v. value.

2/ Excludes 473,746 kg from Cook Islands at an average c.i.f. price of NZ$0.93 per kg.

Source: New Zealand Trade Statistics.

7.11 New Zealand businessmen seem to be well disposed towards Fiji, but Fiji's credibility is at a low ebb. Most companies complained of unfulfilled promises. Some were disenchanted. Others, who could be classified as potential investors, well placed to contribute technical know-how and training to Fiji's agro-industrial development, emphasized that Fiji's track record held little attraction other than as a possible point-of-entry into the EEC markets. One major company which had hopes of expanding its operations from a small base established a few years back, is alleged to have second thoughts and plans to pull out of Fiji altogether.

7.12 Despite a general reaction of mild skepticism, all persons interviewed showed a genuine willingness to consider any new proposals and to assist in the country as far as possible.

7.13 Canned pineapple from Fiji was frequently used as an example of a successful product which has once enjoyed a solid market share of the New Zealand market, yet which had now disappeared from the scene 1/.

7.14 It was generally felt that Fiji would have little or no chances in competing against similar products from Australia and Malaysia until cultivation, production and marketing were consolidated into a single industrial process, effectively disciplined and vigorously managed from beginning to end. The sugar industry is an example of such a commitment by the Fiji Government, sugarcane growers and millers.

1/ Canned pineapple, SITC code: 0589941; New Zealand Customs Tariff Item 20.06.081.

Market Access

7.15 As a signatory to the SPARTECA agreement (see Annex 7.2), Fiji enjoys unrestricted access into New Zealand, free of customs duties, though subject to certain provisions in specific cases. Such provision applies to imports of canned pineapples which attract a duty rate of 10 per cent, applicable to all Pacific Forum Countries. All other countries are subject to the standard rate of duty which is currently 30 per cent [1/].

7.16 Canned pineapple is subject to import license control from all sources except the Cook Islands, Niue and Western Samoa. Licenses are issued "on demand" to wholesalers, stockists, and indent agents trading in canned pineapple on presentation of a confirmed order. Fresh fruits and vegetables are admitted into New Zealand duty free.

Market Characteristics

7.17 New Zealand is the nearest major export market for Fiji and both countries have established trade links going back many years. Both countries are connected by regular shipping services and international airlines to the main ports and cities. Auckland, the nearest port of entry, with a population of 1 million, is the largest city in the country. The total population of New Zealand is 3.2 million. The Auckland region is served by the largest wholesale fruit and vegetable market in the country, by 21 supermarkets and by several hundred grocery outlets.

7.18 The population of Auckland is both urban and rural and, although not a stratified sample of the country, is fairly representative of the national mix, tastes and lifestyle of most potential markets in Australia, North America and Western Europe.

1/ There is scope for Pacific Forum Countries to obtain further concessions under future SPARTECA negotiations.

Auckland, and the rest of New Zealand, is served by extensive media coverage including two color TV networks, commercial radio, newspaper and magazine press and also by numerous advertising agencies, many of which are subsidiaries of international agency groups.

7.19 In conclusion, Auckland is recommended as satisfying the requirements of a test market for Fiji food products and as the jumping off point for national distribution throughout New Zealand and Australia, countries with a combined population of around 17 million. Both countries provide preferential access for Fiji produce in terms of the SPARTECA agreement.

Distribution of Fresh and Manufactured Food Products

7.20 Annual consumer purchases of food and groceries in New Zealand totalled NZ$665.2 million in 1978, and grew to over NZ$875 million by 1980. Purchases are made through well over 2,000 retail outlets located in towns and villages throughout the country. Supermarkets are the most important retail outlets. In fact, 319 supermarkets account for 57 per cent of all food and grocery sales, according to the 1980 census of distribution. At the other end of the scale, 1,396 small grocery shops account for only 29 per cent of all purchases. Table 7.2 shows a breakdown of this distribution pattern.

Table 7.2: NEW ZEALAND: RETAIL FOOD DISTRIBUTION, OUTLETS AND SALES

Type of outlets	Number of outlets	% of total	Sales (NZ$'000)	% of total
Supermarkets	319	16%	500,865	57%
Large independents	321	16%	120,800	14%
Small independents	1,396	68%	253,555	29%
Total	2,036		875,220	

Source: New Zealand Census of Distribution, 1980.

7.21 Trade estimates put supermarkets as accounting for approximately 70 per cent of all food and grocery sales in the Auckland region. Fresh vegetable produce and canned products have separate distribution systems, the former being sold by auction through the central wholesale markets in each city, and the latter by direct distribution through importers and manufacturers to wholesalers who, in turn, sell to retailers. In the case of supermarkets, perishable produce is purchased at the auction floor of the wholesale fruit and vegetable markets, and manufactured products are obtained directly from the importer or factory.

7.22 It is therefore important for the Fiji exporter to be represented by efficient and respected importers and distributors. Sole agency agreements are essential for effective distribution coverage to be achieved in order to build up a solid and enduring reputation for reliability.

Canned Pineapple - Marketing Strategy

7.23 As mentioned in Chapter Six, Fiji canned pineapple should be produced in a range of varieties and sizes to match similar, competitive, products from Australia and Malaysia. Quality will have to be at least as good as the best Australian products and prices should be marginally lower. Consequently, the Fiji exporter must fully understand the selling and promotional methods employed by the main competitors, and the realities of the in-fighting that is waged daily between competing brands in the shops, on the shelves and in the advertising media. This in spite of having a local agent.

7.24 The New Zealand housewife is very price conscious in all family purchases. She also demands high quality, and forms strong opinions about products. She is willing to experiment with new products, but a poor opinion, once formed, is difficult to change. Nowhere is this more evident than with fruits, drinks

and preserves. Catering to this attitude, Australia's "Golden Circle" pineapple products brand has risen from 10 per cent of market share to around 50 per cent in recent years. The consumer is very brand conscious and maintains strong loyalties, born of brand confidence.

7.25 Canned pineapple is marketed in three varieties, namely: slices, pieces and crushed. Three can sizes are used: 225 gr, 450 gr and 850 gr. Large size "family pack" cans of 3.2 kilos are also important, as will be noted from the following comparative sales data provided by the two largest supermarket groups.

Canned Pineapple Annual Retail Sales Value by Variety %

Pineapple pieces	50%
Pineapple slices	35%
Crushed pineapple	15%
	100%

Canned Pineapple Annual Retail Sales Value by Can Size %

225 gr	20%
450 gr	60%
850 gr	10%
3.2 kg	10%
	100%

7.26 There is a growing trend to unsweetened canned pineapple by the weight conscious sector of the market, and unsweetened slices and pieces are well displayed in all sizes, except in the 3.2 kilo can. The addition of unsweetened products to a range has the effect of increasing the shelf occupancy and the visual impact of brand display. However, Fiji exporters should not be misled into believing that a multi-product range will increase trade purchases. On the contrary supermarket buying policy is geared to achieving a guaranteed profit per shelf area and only those products which generate the required sales level are stocked.

New Zealand Imports of Canned Pineapple (see Table 7.3)

7.27 Imports have increased by approximately 9 per cent yearly by volume and 7.5 per cent by value between 1978 and 1981. The 73 per cent increase in 1979/80 imports resulted from a change from strict licensing regulations designed to protect the Cook Islands, to "license on demand" and subsequent overstocking.

Table 7.3: NEW ZEALAND: IMPORTS OF CANNED PINEAPPLE 1978/79-1980/81

Country of origin	1978/79		1979/80		1980/81	
	Amount (tonnes)	Value (NZ$'000)	Amount (tonnes)	Value (NZ$'000)	Amount (tonnes)	Value (NZ$'000)
Australia	588.1	524.9	2,893.4	2,648.4	2,349.8	2,448.3
China (PR)	907.9	537.3	1,025.6	686.8	299.7	209.6
Cook Islands	473.7	436.9	224.5	201.1	29.3	40.8
Kenya	487.6	291.6	496.3	306.1	-	-
Malaysia	2,924.7	2,568.3	4.495.1	4.352.6	1,761.6	1,683.7
Philippines	11.6	10.0	60.9	66.4	10.1	12.0
Singapore	58.4	51.4	213.7	225.1	9.1	8.9
Taiwan	292.0	189.6	-	-	-	-
Thailand	93.2	67.7	119.6	82.9	142.9	61.8
Peru	-	-	39.5	34.9	-	-
USA	-	-	16.2	13.3	14.9	8.6
Total	5,837.2	4,679.7	9,584.8	8,617.6	4,617.4	4,473.7

Source: New Zealand Trade Statistics.

7.28 Despite the 1979/80 distortions and based on discussions with the two main supermarket groups, a changing trend is clearly emerging. The impact of the SPARTECA agreement, effective as of January 1981, and the application of 30 per cent customs duty on non-members, except Malaysia, has reduced potentially strong competition from Taiwan, Thailand, Singapore, the Philippines and China. Their combined market share dropped from 23 per cent in 1978/79 to 18 per cent in 1980/81.

7.29 Agressive marketing tactics by Australia's "Golden Circle" brand have taken Australia from 10 per cent to 46 per cent share of imports in three years, and 1982 imports continue to rise. Australia has overtaken Malaysia whose share has fallen from 50 per cent to 35 per cent. This is the more significant when bearing in mind that Malaysia was ranked as the Number One importer with a 10 per cent price advantage over Australia, for several years.

7.30 In the lower price sector the Cook Islands and the People's Republic of China dominate. China's landed cost at NZ$12.20 per 450 gr can is 23 per cent below Malaysia's. Were it not for the 30 per cent customs duty penalty, China would be landing canned pineapple in New Zealand at NZ$9.20, 30 per cent below Australia's average landed price. China is seeking an increasing stake in the New Zealand market underlined by the recent visit to New Zealand of the chief executive of China's principal brand, "Elephant".

Price Characteristics - Wholesale and Retail

7.31 Table 7.4 sets out comparative landed costs, wholesale and retail prices for one selected item, canned pineapple slices, as applicable to a leading supermarket. Prices for other pineapple products are set out in Annex 7.5.

7.32 The above wholesale prices include 7 per cent provision for port handling charges and transport costs to the supermarket warehouse. Supermarket wholesale mark-up is usually 10 per cent or more, with retail mark-up by stores and subsidiary retail outlets fixed at 20 per cent.

Table 7.4: NEW ZEALAND: CANNED PINEAPPLE SLICES
. WHOLESALE AND RETAIL PRICE STRUCTURE 1/

Pineapple slices from Malaysia: 454 gr cans		
Landed cost per carton 24 x 454 gr	=	NZ$15.00 per carton
Wholesale price (margin 18%)	=	NZ$18.94 per carton
Retail price (margin 20%)	=	NZ$ 0.88 per can
Slices from Australia, Golden Circle: 450 gr cans		
Landed cost per carton 24 x 450 gr	=	NZ$15.94 per carton
Wholesale price (margin 19%)	=	NZ$18.94 per carton
Retail price (margin 20%)	=	NZ$ 0.95 per can
Slices from Cook Islands (Raratonga): 454 gr cans		
Landed cost per carton 24 x 454 gr	=	NZ$11.76 per carton
Wholesale price (margin 17.5%)	=	NZ$13.82 per carton
Retail price (margin 20%)	=	NZ$ 0.69 per can
Slices from People's Republic of China: 425 gr cans		
Landed cost per carton 24 x 425 gr	=	NZ$11.70 per carton
Wholesale price (margin 17.5%)	=	NZ$13.78 per carton
Retail price (margin 20%)	=	NZ$ 0.69 per can
Slices from the Philippines "Dole": 567 gr cans		
Landed cost per carton 24 x 567 gr	=	NZ$16.60 per carton
Wholesale price (margin 17.5%)	=	NZ$19.58 per carton
Retail price (margin 20%)	=	NZ$ 0.98 per can

1/ Pineapple slices in standard cartons of 24 cans of 425 gr to 507 gr.

Source: Mission interviews.

7.33 Where the conventional distribution system is in operation mark-ups are usually:

Import agent: 1-5 per cent on landed cost

Wholesaler : 15 per cent

Retailer: : 25 per cent

7.34 The conclusions to be drawn from the above are important to Fiji. The New Zealand canned pineapple market is becoming segmented along classic lines, viz. higher priced brand names versus less expensive unbranded products. In practice, consumer confidence rests with the well known and established brands which is evident from the dominant market share which they still enjoy after many years. Such brands have been, and continue to be, promoted regularly in national media and at the point-of-sale. Supermarkets have learned that substitution of the known brand by less expensive discount lines results in loss of customers. Leading supermarkets worldwide recognize that "trading up" is good long-term business, on the principle that a shop is as good as the brands it stocks. It is generally accepted that the success of discounted unbranded lines is inversely proportional with the visibility and turnover of established brands.

7.35 This situation in New Zealand demands an important policy decision as to where Fiji's product is to be positioned in the market place, and what type of customer is expected to account for repeat purchase.

7.36 A comparison with competitors' prices indicates that Fiji's landed prices must not exceed NZ$15.00 per carton in order to be competitive. Processing costs set out in Chapter Six, Table 6.2,indicate that this indeed can be achieved, albeit with

a narrow margin. The Fiji product may enjoy a 9 per cent price advantage over the leading Australian brand, and a 2 per cent advantage over the inexpensive Malaysian product.

Canned Pineapple Sales Projections for Five Years

7.37 The substantial inventory build-up in 1979/80 prevents accurate estimates of consumer offtake of imported canned pineapple in 1980/81. On the basis of normal stocks for three weeks, trade sources agree that estimated 1980/81 imports have been as follows:

	Tonnes	NZ$'000
From Australia	3,500	3,647
From other sources	3,500	3,353
Total	7,000	7,000

7.38 Subject to Fiji canned pineapple achieving consumer preference over non-Australian products, parity with Australian brands and adequate stock cover in the retail trade, principal buyers visited endorse a projected market share of 20 per cent in year five as realistic growth from a first year share of 5 per cent.

7.39 In order to forecast reasonable sales development, three alternative scenarios are taken up on a notional 1980/81 base for projections from year one to year five. Calculations take note of market indicators, historical and present performance of imported brands, and trade observations on future trends as follows:

(a) First Scenario. The basic assumption is no growth in the total market between year one and year five. Fiji secures an increasing share of projected annual imports.

	Year 1	Year 2	Year 3	Year 4	Year 5
Tonnes	350	700	1,000	1,225	1,400
NZ$'000	350	700	1,000	1,225	1,400
Share of total market	5%	10%	15%	17.5%	20%

(b) Second Scenario. The basic assumption is that the total market grows at 9 per cent per year, calculated on forward projection of the import trend over the three previous years. The trade agrees that this is feasible. However, Fiji takes an increasing share of the non-Australian import sector only, also growing at 9 per cent per year.

	Year 1	Year 2	Year 3	Year 4	Year 5
Tonnes	190	416	680	864	1,077
NZ$'000	182	397	648	825	1,028
Share of non-Australian segment of market	5%	10%	15%	17.5%	20%

(c) Third Scenario. The basic assumption is that the total market grows by only 5 per cent per year. Fiji takes an increasing market share of non-Australian imports from year one to year five, and commences penetrating the Australian share of the market in year three, allowing for two years leadtime in positioning its product in the Australian segment of the market.

	Year 1	Year 2	Year 3	Year 4	Year 5
Tonnes/non-Australian	183	386	607	743	893
Tonnes/Australian	-	-	81	106	134
Total tonnes	183	386	688	849	1,027
NZ$'000/non-Australian	176	369	582	713	855
NZ$'000/Australian	-	-	84	111	139
Total NZ$'000	176	369	666	824	1,094

7.40 The foregoing projections indicate that even under difficult trading conditions Fiji canned pineapple could achieve a market penetration of 1,400 tonnes in year five, with earnings estimated at the equivalent of NZ$1.4 million.

7.41 Reasonable expectations for Fiji canned pineapple in the New Zealand market would be 1,000-1,500 tonnes in year five valued at NZ$1 million-NZ$1.4 million. These estimates could prove to be too conservative should the remaining 10 per cent duty be lifted in 1983 in order to implement the "Closer Economic Relations" (CER) policy between Australia, New Zealand and the Pacific Forum Countries. Such a decision would affect canned pineapple from all Pacific Forum countries which, following withdrawal of the Cook Islands as a canned pineapple exporter, would result in a 10 per cent competitive edge for Fiji over Malaysia, and a 40 per cent cost advantage over most other suppliers.

7.42 Initially, supermarkets will have to be enticed to place opening orders for 2,000 cartons. The launch would be supported with special in-store promotion and media advertising. An advertising allowance of NZ$750 per store should be expected, an allowance which should be matched by the supermarket. As a reference point: combined throughput in outlets of the Foodtown and Foodstuffs chains is 3,000 cases of canned pineapple products per week.

Marketing Policy Options for Canned Pineapples

7.43 Three courses of action are open to Fiji in building export markets for canned pineapple:

(a) manufacture under own label and distribution through appointed agents;

(b) manufacture on behalf of supermarket private labels and shipments in bulk to supermarket warehouses; and

(c) manufacture under an established brand name for distribution by the sales organization of the brand name owner.

(a) Manufacture under own label

7.44 Under this option, the manufacturer is responsible for product development and marketing strategy planning covering all elements of the marketing mix as follows:

- Product Planning. Canned pineapple product range, ingredients, formulae, qualities and standards.

- Branding Policy. Trade name, name style, product positioning policy, target consumer.

- Pricing Policy. Recommended price levels supportive of product position and target consumer; fixed as against flexible prices, discounts and trade deals; list prices and margins in overseas markets.

- Distribution Channels. Sales agents, importers-distributors.

- Personal Selling. Staff to be employed for personal selling to wholesale and retail trade in Fiji's domestic market.

- Advertising and Promotion. Amount to spend, advertising mix to the trade and to consumers; in-store trade and consumer promotions; point of sale display materials, shelf-talkers, etc.

- Packaging. Label designs, for cans and cartons.

- Physical Handling. Warehousing, transportation, inventories.

- Fact Finding and Analysis. Use of market research and application, formulation of operational strategies.

7.45 A positive consequence of manufacturing for an own label is that the manufacturer exercises complete control over all activities, from production to marketing, and thus can determine the actions needed to maintain a strong competitive posture in the market place.

7.46 If the objective is to secure a sizeable share of the New Zealand market and to regard other export markets as peripheral only, then manufacturing under an own label may be the only course of action open. A manufacturer can enter into a sole agency agreement with a leading importer who agrees to handle Fiji canned pineapple exclusively. Fiji's distance from New Zealand and other export markets may lead to excessive dependence upon the authority, skills and motivation of the sole agent.

7.47 The importance of well-designed labelling suited to the export market cannot be stressed enough, and no cost should be spared to ensure that Fiji's label is unquestionably the most appealing of all, in particular when compared with the brand leader.

7.48 Mitigating against manufacture under an own label is Fiji's domestic market size, local tastes and spending power. The market size is not adequate to make the operation financially viable without support of a wide range of associated canned products. Thus, the canned pineapple project is aimed at establishing sizeable and profitable export markets.

(b) Manufacture on behalf of a Supermarket Private Label

7.49 The two main supermarket operators in New Zealand, Foodtown Ltd. and Foodstuffs Ltd., hold widely divergent views on canned pineapple trends and prospects. Foodtown Ltd., the largest, with supermarkets in the Auckland and Hamilton areas, holds the view that Australia's "Golden Circle" will dominate

the market. Fully 75 per cent of all Foodtown canned pineapple purchases are from "Golden Circle", which offers especially favorable trading terms to the bulk supermarket buyer. For every full container load, of 1,600 cartons, "Golden Circle" allows a discount of NZ$600 or almost 2.5 per cent of landed costs. Attractive incentive discounts are offered on six-month cumulative purchases. In addition "Golden Circle" makes an advertising contribution to both supermarkets based on NZ$0.65 per carton.

7.50 It is against this background that Foodstuffs, with approximately 600 branches throughout New Zealand, has a "private label" marketing policy and is not interested in entering into a sole distribution agreement.

7.51 On the other hand, Foodtown stated that, should Fiji produce a high quality canned pineapple comparable with "Golden Circle", they would be interested in entering into an agreement with a Fiji manufacturer to supply Foodtown private label on a firm contract basis. Foodtown would also consider bulk purchase of "generic" packed canned pineapple. No quantities were given. On the positive side of production on behalf of a supermarket private label stands that factory production can be geared to contract arrangements; there are no distribution problems; no defensive action is required to meet Australian or other competition; there are guaranteed revenues over, let's say, twelve-month periods. Such an arrangement may provide a solid base from which to export the own brand to other export markets.

7.52 The negative side is that production would be tied to one retail group; there would be no opportunity for expansion within New Zealand. Further export development would require incremental production and independent marketing programs much as discussed in the previous paragraph.

(c) Manufacture under an Established Brand Name

7.53 Meetings were held with four leading New Zealand food manufacturers to discuss this possibility, i.e. TNL Group Ltd., W.F. Tucker Ltd., J. Wattie Canners Ltd., Butland Industries Ltd.

7.54 TNL Group Ltd. This group's 1981 turnover was NZ$72.8 million. Revenues came primarily from tourism and road haulage, but also from established interests in horticultural developments and cold storage. The group exports canned fruits, vegetables and sea foods, amounting to a combined value of NZ$7.8 million in 1981. The company is currently contract canning for established brands notably for Watties, Rio Grande, Fenland, Chiquita, and John West. TNL has been largely responsible for putting canned boysenberries on the world market.

7.55 They have a marketing contract with South Pacific Foods Ltd. of Sigatoka for the supply of processed fruit juices. In passion fruit alone, TNL's export development program has expanded from five container loads yearly to fourteen, during the past year, on contract to the EEC. They are currently exploring new market development in Japan, but sales have been restrained by the shortages of supply, despite increased plantings and Fiji Government support. TNL is also developing wider markets for guava, pawpaws, banana and mango. Market potential has also been identified in the EEC for dried tropical fruits. They have buyers in Europe for desicated coconut but Fiji's current prices are non-competitive. Enquiries have been received for large volume supplies of processed lime peels.

7.56 TNL declared its interest in establishing a canning facility for pineapple slices and juices in Fiji, subject to an assured supply of pineapples from an efficiently managed estate, and a guarantee that there will be no competition from other producers. TNL envisages initially small-scale operations geared to filling gaps in product ranges of New Zealand brands, on a contract basis.

7.57 TNL can provide technical management and supervision at all stages from estate management to marketing. Access would be gained to TNL horticultural consultancy services, for large-scale estate development. There would be an opportunity to benefit from production engineering know-how and from established overseas marketing connections.

7.58 However, there would be no direct connection with established brands; no wholesale distribution network or first-hand knowledge of retail trading techniques. The Group's involvement predominantly as brokers of processed produce, from many sources, could take priority over a commitment to establish a canned pineapple industry.

7.59 W.F. Tucker Ltd. This is an entirely autonomous subsidiary of J. Wattie Industries Ltd., with a factory in Fiji. They have considered purchasing Castle's canning operation. Tucker Ltd. has its own food production operations in New Zealand, currently manufacturing and packing under license, among others:

"Betty Crocker" "Sunshine"	Cake mixes. Peanut butter, self-rising flour, custard powder, maize cornflour, fruit extracts, etc.
"Tuckers" "St. Clement"	Crystallized ginger, garlic chimes, etc.
"Hansels D.Y.C." "Haymarket"	Fruit drinks, sauces and vinegars, sugar and rice.

7.60 The company would be interested in considering a joint venture in Fiji, subject to watertight guarantees of continuous supply and a long-term exclusive marketing contract.

7.61 Among the advantages of a link with Tucker Ltd. are successful sales and a distribution track record in New Zealand backed up by experienced management. Company production and its operation structure are appropriate for fast moving packaged and branded consumer goods. The company has practical experience in setting up and running industrial production units in Fiji, and further, it has an export network in the Pacific basin.

7.62 J. Wattie Canneries Ltd. The 1981 sales of canned foods by this company increased by 17 per cent to NZ$102.8 million. The company is now manufacturing and distributing Heinz brand canned products to Heinz specifications. Wattie has had a close association with Fiji since 1972, and currently holds 34 per cent equity in Crest Mills (Fiji) Ltd. and in Crest Hatcheries to which they attach considerable importance. Wattie also owns Tip Top Ice Cream (Fiji) Ltd.

7.63 In order to penetrate effectively the Japanese market, the company has a Japanese affiliate, Wattie (Japan) Ltd., Tokyo, which is 50 per cent owned by the parent company, with Tokyo Maruichi, Tani and Mitsubishi holding the other 50 per cent. J. Wattie Canneries Ltd., operates its own can manufacturing plant as a separate business and supplies outside customers as well as its own needs. Two new side-seam automatic welders have recently been installed at a cost of NZ$2 million. The factory produces steel cans, tear-tab ends, tin plate lacquering and painting. The "Watties" range of canned fruits is extensive, but with one omission - canned pineapple.

7.64 In discussion with the Operations Director, Mr. A.E. Leeves, the mission's suggestion for the manufacture, in Fiji, of pineapple products under the Wattie label was put forward, and was well received in principle. The company "could be interested" in exploring the possibility of a joint venture for the production of "Watties" brand canned pineapple for export to New Zealand, thereby completing the Wattie range of fruits and vegetables, and for sales in export markets.

7.65 Wattie had investigated the possibility of marketing a "Watties" brand canned pineapple in 1978 but were deterred because of a world surplus of pineapple. They would prefer to reserve judgement until the proposed canned pineapple venture is more specifically clarified.

7.66 Among the advantages of a collaboration with Wattie should be cited; a new Fiji canned pineapple would be a natural fit with the well established "Watties" brand range of canned fruits and would strengthen its market position in the inevitable contest with Australia's "Golden Circle" range, when the provisions of the CER are implemented. Watties high priority for exports of canned produce to Japan would further benefit Fiji's canned pineapple if promoted as a component of the "Wattie" range. The company's extensive distribution network would offer complete national coverage in New Zealand and might result in higher volume sales than would be otherwise obtained. An affiliated manufacturer would gain access to Watties' marketing resources, manufacturing technology, and management training.

7.67 However, and on the negative side, Fiji canned pineapple would be unable to develop a brand identity. In the event of non-renewal of contract, the Fiji product would have lost five years for building up a brand image, and creating trade and consumer confidence.

7.68 Butland Industries Ltd. This company has associations with Fiji through the joint venture with Baltham International Ltd. (Fiji) and the Fiji Affairs Board, in which each holds a third interest. The joint venture is concerned with the production and marketing of syrupped and crystallized ginger but Butland now wishes to pull out of the joint venture subject to resolving the present differences over share valuation.

7.69 Butland, like Wattie, is a leading food manufacturer in New Zealand with established brands including:

"Blue Bonnet" jams and preserves;

"Craig's" jams, salads, sauces and salad dressing;

"Goldpack" processed fruits and vegetables (glace, syrup and crystallized);

"Sun" brand Australian rice;

"Lea and Perrins" sauces.

Butland is also a major company in the New Zealand dairy industry, with Kraft Foods of the USA holding a 49 per cent equity.

7.70 Butland believes that prospects for canned pineapple are good and represent an excellent opportunity for Fiji in the New Zealand market and in other markets as part of a total canned food range. The company had previously considered establishing a canning factory in Fiji in 1979 but had postponed the decision. They would be willing to explore the possibility further, once a firm decision to proceed is taken and provided guarantees of exclusive production and sole marketing rights are forthcoming.

7.71 The company's product range would be strengthened by inclusion of canned pineapple. The strong brand identity of Butland products would provide a good vehicle for Fiji canned pineapple. The absence of other canned fruits in the product range would assure strong Fiji product identity in conjunction with an acceptable up-market brand name, probably "Craigs". Butland has a national sales and distribution organization and enjoys good brand acceptance by consumer and trade alike.

Conclusion

7.72 Fiji's domestic market base is small. Its characteristics and its consumer's lifestyle are not representative for those found in the principal export markets. Consequently, there is no home base on which to develop advanced management and marketing skills required to deal with the experienced, and often ruthless, competition encountered in export markets.

7.73 Moreover, the market for canned pineapple is one of the most competitive of the canned fruit markets and has a very high failure rate. In the initial stages, Fiji will lack a range of "cannable" products across which to spread the financial risk. Consequently, an important objective should be to form an association with a respected company operating successfully in the retail grocery trade in overseas markets.

Recommendations

7.74 It is therefore recommended that Fiji should seek a joint venture with the manufacturer of an established brand of canned fruits for whom canned pineapple would be an important addition to the product range. Such an alliance would provide on-the-job management training and the opportunity for Fijian personnel to gain first hand experience in how to make products survive and win in the in-fighting between competitive brands in the supermarkets and retail stores in overseas markets. The joint venture would demonstrate the importance and the rewards of efficient farming practice geared to strict quality control, manufacturing process, and management methods essential to winning consumer acceptance for Fiji canned produce.

7.75 Although L. Wattie Canneries enjoy a high reputation in the production and marketing of canned fruits and convenience foods, it is not known if they are experienced in the cultivation of fresh pineapple for the canning industry. They registered no interest in pineapple estate management.

7.76 Three international corporations have built up leading brand names on the basis of total integration of the three key elements: production, manufacturing and marketing, namely:

Libby, NcNeill Libby (Nestle subsidiary);

Del Monte Food Corporation (USA);

Dole (USA).

All three have established successful operations in developing countries. Libby McNeill operates a nuclear estate farming and manufacturing company for pineapple products in Swaziland (Southern Africa). Del Monte handles the total production and export marketing of pineapple products in Kenya (East Africa) and Dole has major operations in the Philippines. All production is marketed under each company's international brand name. It is recommended that priority number one should be to approach these companies. Should these overtures prove unsuccessful, invitations should be extended to L. Wattie Canneries, (New Zealand) and L.J. Tucker Ltd., (New Zealand). Both companies have established interests in Fiji, and a commercial association through a common holding company - Wattie Industries Ltd.

7.77 It is recommended that in all instances, discussions should involve the Fiji Affairs Board which could have a vital role to play in estates development and as a possible joint venture partner through Central Pacific Investments Ltd.

Ginger

Background

7.78 The Fiji Government attaches considerable importance to ginger in the Eighth Development Plan, as a valuable contribution to broadening the foreign exchange earnings base. The world market for ginger has been seriously affected by the economic downturn in North American and Western Europe in recent years, together with increased penetration of large quantities of cheap ginger from India and Southeast Asia each year. The market is now oversupplied and the trade believes that it will remain that way for at least the next three years.

7.79 It is therefore interesting to note the importance attached to ginger, but more disturbing to observe potentially serious problems in the supply, production and marketing of ginger. The mission accordingly decided, at an early stage, to pursue a work plan in which ginger was given immediate priority, independently of the findings of the product identification program (see Chapter Six).

7.80 The report confirms this decision to have been correct, as continuation along historic lines would not achieve the objectives of the Eighth Development Plan. Instead, by re-orienting the marketing strategy along more aggressive lines, the five-year forecasts of the Eighth Development Plan could even be exceeded.

The Role of Ginger Exports in Fiji's Eighth Development Plan

7.81 Two specific marketing goals are set out in Program 3 of Chapter 9 of the Eighth Development Plan (1981-85) and can be summed up as follows:

(a) to realize increased export earnings from fresh ginger; and

(b) to increase the added value of ginger through different forms of processing.

Official expectations are set out in the Eighth Development Plan (1981-85), para. 9.2.8 as shown in Table 7.5.

Table 7.5: ESTIMATED EARNINGS FROM GINGER, (GREEN AND PROCESSING) 1981-85 (F$'000)

	1981	1982	1983	1984	1985	Total
Fresh ginger	1,200	1,300	1,400	1,550	1,700	7,150
Dried ginger	50	100	200	330	500	1,180
Syrupped ginger	300	350	400	450	450	1,950
Total	1,550	1,750	2,000	2,330	2,650	10,280

Source: Eighth Development Plan

World Market Trend

7.82 The world market for ginger may be considered in three broad categories - fresh (green), dry and brined/syrupped. The latter category includes ginger preserved in various ways identified by separate SITC codes in trade statistics, see Annex 7.4. National foreign trade statistics rarely differentiate between fresh and processed ginger, although dry ginger is often separately classified, probably because the added value accounts for higher foreign exchange earnings per tonne.

7.83 Based on recent trade statistics and consultant estimates, apparent volumes of world exports during 1980 were as follows:

	Quantity (tonnes)	Breakdown (%)
Green ginger	16,000	28
Dry ginger	10,000	18
Brined ginger	30,000	54
Total	56,000	100

Current Trend

7.84 In Fiji, ginger is grown for export markets. Domestic consumption is estimated at 40 tonnes annually. Cumulative exports of all ginger categories in 1981 were 1,908 tonnes valued at F$2.03 million, an increase of 27 per cent by volume and 87 per cent by value over 1980. This spectacular rise is significant as it follows a fall of 19 per cent in 1980 relative to 1979 in tonnage exported, and in line with the world trend, which was down 18 per cent in the same period (see Annex 7.4). Moreover, by 1981 Fiji's exports already exceeded the target of the Eighth Development Plan by 31 per cent and actually were almost at the 1985 target of F$2.6 million.

Direction of Trade

7.85 An analysis of ginger exports by trade groupings and/or communications facilities is shown in Table 7.6.

Table 7.6: GINGER - DIRECTION OF TRADE BY TRADE GROUPINGS GINGER IMPORTING COUNTRIES,1980

	Tonnes
SPARTECA	
Australia	0.5
New Zealand	184.9
Island States	0.6
Total SPARTECA	186.0
PACIFIC BASIN	
Western USA	1,092.7
Western Canada	285.7
Hong Kong	13.6
Japan	-
Total PACIFIC BASIN	1,392.0
EEC/ACP	
United Kingdom	66.0
W. Germany	-
France	-
Total EEC/ACP	66.0
OTHERS	19.3
TOTAL GINGER EXPORTS	1,663.3

Source: ITC UNCTAD - GATT
World Exports of Dry Ginger 1976-80.

Structure of the Ginger Industry

7.86 Eight organizations are concerned, in Fiji, with the processing and commercialization of ginger for export markets, namely:

Company	Exports
National Marketing Organization (NMA)	Fresh and processed
Tropical Food Products Ltd.	Processing
Balthan International Ltd.	Fresh and processed
Produce Processing Ltd.	Fresh and processed
Winisali Farm Produce Ltd.	Fresh
Sang Lum Ltd.	Fresh
R.D. Patel Co.	Fresh
Progressive Agency Ltd.	Fresh

7.87 NMA and Balthan International account for around 60 per cent of all ginger exports. Both companies have joint ventures with New Zealand based food manufacturers and distributors, and compete in international markets. Exports consist of fresh, processed and dry ginger, each product having a specific end use and differing price structure, as follows:

7.88 Fresh Ginger accounts for 90 per cent of exports by tonnage and 80 per cent by value. The USA is the largest market and takes up 73 per cent of Fiji's fresh ginger exports, 1/ followed by Canada (13 per cent) and United Kingdom (5 per cent). The remaining markets regularly supplied by Fiji include Hong Kong and New Zealand totalling 9 per cent. However, at F$1.00 per kilo f.o.b., fresh ginger compares unfavorably with the higher world prices for dry ginger and processed ginger. Foreign trade statistics of major importing countries indicate that the landed costs of Fijian

1/ Source: Official Trade Statistics.

products rank with the lowest, which is the inevitable result of the wheeling-and-dealing and price-cutting between Fijian exporters. For example, a major importer of Fiji's fresh ginger in Vancouver discovered that Fiji prices were cheaper in New York and Toronto than Vancouver which has direct connections to Fiji.

7.89 The estimated size of the total U.S. market for fresh ginger is 2,000 tonnes, valued at US$2 million, 1/ with Fiji already accounting for nearly 50 per cent of all U.S. imports. However, Fiji's existing market share will be difficult to increase without better packaging and promotion; especially bearing in mind the tactics of Taiwan and the Dominican Republic in forcing prices down by oversupplying the Western USA market at regular intervals.

7.90 Despite Britain's economic downturn, and a 32 per cent fall in 1980 imports of all ginger products, fresh ginger imports are estimated by the trade to be about 2,000 tonnes annually. Total ginger imports are derived from 20 exporting countries with Fiji holding 5 per cent of the market share by volume and 7 per cent by value.

7.91 Prospects for increasing fresh ginger exports in existing markets are limited. Fiji is already in the only markets which import fresh ginger and there is little opportunity to expand into other markets. By 1985, exports will have levelled off, and little growth is foreseen thereafter.

7.92 To increase sales, Fiji will need to take market share from established competition. This will demand far greater attention to quality than practiced today, and a commitment by exporters to harmonize prices and cease undercutting each other in the market place.

1/ Source: Ginger Economist, U.S. Department of Agriculture.

7.93 In 1981, exports of fresh ginger, at 2,036 tonnes, returned to earlier levels, after a 19 per cent fall between 1979 and 1980. On this basis a reasonable growth rate would be 2 per cent per annum, between 1982 and 1985. Table 7.7 shows a comparison between the mission's sales projection for fresh ginger and those listed in the Eighth Development Plan.

Table 7.7: FRESH GINGER EXPORT SALES PROJECTIONS, 1982-1985, COMPARED WITH THE EIGHTH DEVELOPMENT PLAN (F$'000)

	1981	1982	1983	1984	1985	Total
Sales projections	2,036	2,076	2,117	2,159	2,202	10,590
Eighth Development Plan	1,200	1,300	1,400	1,550	1,700	7,150

Source: Mission estimates and Eighth Development Plan.

7.94 Brined Ginger. Brining entails the immersion of washed immature ginger in brining pits filled with a solution of sodium sulphate. Brined ginger is the raw material for syrupped ginger. The National Marketing Authority (NMA) came to be involved in brined ginger on a large scale, as an alternative means for disposing of substantial surplus ginger.

7.95 On the surface the market for brined ginger in Japan is exceptionally attractive. Annual imports which had averaged 26,000 tonnes between 1971 and 1977 jumped to 44,000 tonnes in 1978, and are currently estimated at 30,000 tonnes 1/. Traditional suppliers are Taiwan (86 per cent) and Philippines/Thailand (13 per cent) with China providing an increasing amount of the balance of 150 tonnes.

1/ Source: TETRO.

7.96 Competition for brined ginger supply to Japan is cut-throat and Taiwan manages, if not manipulates, the supply. Since entering the market in 1978, China has increased exports to approximately 50 tonnes leaving an estimated potential for Fiji at around 100 tonnes per annum. Malaysia has recently decided to dismantle a newly erected ginger brining and drying factory, in Sabah, which had been installed for the purpose of exporting brined ginger to Japan. All these factors combined make it unlikely that Fiji could compete for the Japanese market on a continuing basis. Therefore, the mission sees no prospects for brined ginger exports to Japan from Fiji.

7.97 Syrupped and Crystallized Ginger. Syrupped and crystallized ginger have a variety of uses in the food and confectionary industry; in the latter case crystallized ginger is a speciality. Taiwan, China and Hong Kong export large quantities at low prices, and account for an estimated 78 per cent. Australia is reported to supply the highest quality of syrupped ginger, which is from the same rhizome as that grown in Fiji. Australia exports approximately 900 tonnes annually representing 17 per cent of world exports.

7.98 Trade statistics suggest a total world market of some 5,500 tonnes syrupped and crystallized ginger, of which the EEC accounts for 74 per cent, Australia and New Zealand for 12 per cent and the USA for 4 per cent [1/]. Importers believe that the syrupped and crystallized sector of the market will expand faster than the total ginger market. Indeed, Fiji's exports of the processed product increased by 50 per cent from 155 tonnes in 1980 to 233 tonnes in 1981.

1/ Source: Queensland Department of Primary Industries. Also FINTRAC International, 1980, and Fiji Exporters, 1982.

7.99 Fiji like Australia, has a unique competitive advantage over most ginger exporting countries. Firstly, because the ginger rhizome is ideal for confectionary ginger (see also Annex 7.3). Secondly, because sugar, a vital ingredient, is produced locally. It is estimated that sugar accounts for 50 per cent of the f.o.b. value of syrupped ginger, and for around 80 per cent of the f.o.b. value of crystallized ginger. Those ginger producing countries that depend upon imported sugar are at a price and raw material disadvantage when compared to Fiji and Australia. Thirdly, Fiji as an ACP/EEC member state, has duty free access to the European Common market which is a growing consumer of syrupped and crystallized ginger. Fiji's ACP/EEC association adversely affects China (PR), Taiwan, Hong Kong, and Malaysia, leaving Fiji with a market which is virtually uncontested except by Australia.

7.100 On the assumption that local exports for Far Eastern countries will maintain the 3,500 tonnes level, the potential available to Fiji would be a market of 1,100 tonnes of high quality syrupped ginger, in which Australia has secured a 46 per cent share due to aggressive marketing by Buderin Ltd. Moreover, total ginger exports worldwide prior to the 18 per cent drop in 1980 showed only minimum growth of about 4 per cent per annum over a ten-year period 1/. Hence, the vitality in the international ginger market is in the high quality processed product rather than in the high volume low cost product. Consequently, although Fiji exporters will probably achieve a sales target of 400 tonnes

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1/ Source: International Trade Centre UNCTAD-GATT.

of syrupped ginger in 1982, 250 tonnes will be in the form of crystallized ginger destined for the Australian market. Exporters estimate Fiji's potential in the Australian market at around 600 tonnes annually, or 75 per cent of that market.

7.101 The Fiji end-product, however, is considered to be inferior to the Australian product, and without the backing of a substantial promotion campaign there would be little hope of switching customers or expanding a market whose average annual growth is only around 4 per cent (see Table 7.8).

Table 7.8: AUSTRALIA: TOTAL APPARENT CONSUMPTION OF GINGER, SYRUPPED AND CRYSTALLIZED (TONNES)

	1976/77	1977/78	1978/79	1979/80
Estimated domestic sales	739	693	740	n/a
Imports				
in syrup	42	41	68	n/a
crystallized	11	24	46	n/a
Total market	792	758	854	791

7.102 Buderin's request to the Australian Industries Assistance Commission for continued tariff protection was approved by the Ministry for Business and Consumer Affairs on March 11, 1982 (see Annex 7.4). Fiji continues to enjoy duty free access. Nonetheless, Buderin can look to tariff protection should imports challenge their position in Australia's domestic market. Consequently, Fiji exporters will be unwise to see imports into Australia exceeding, say, a maximum of 500 tonnes annually [1/].

1/ This is subject to political negotiation between Fiji and Australia under SPARTECA agreement or under bilateral cooperation.

7.103 Although Australia is Fiji's main competitor, she is performing a vital marketing function in identifying and testing market opportunities which are well beyond Fiji's marketing skills and financial resources to carry out. The strategy should be to monitor carefully every Australian activity in each market and follow closely behind with products that are equal in quality and price; thus presenting Fiji ginger as a viable alternative to Australian. An outline of Buderin's operations is set out in Annex 7.4.

7.104 Dry Ginger. World exports of dry ginger amounted to 9,700 tonnes valued at US$9.7 million (F$10.4 million). The dry ginger market has remained relatively static since 1976 with average annual exports of 9,895 tonnes. However, prices have declined sharply from US$1.50 per kilo in 1978 to US$1.06 per kilo in 1980. The bulk of international trade is limited to relatively few countries. India and China account for about 45 per cent exports, and are followed by Nigeria, Sierra Leone, Australia, Bangladesh, Jamaica, Nepal, Indonesia, and others. Dry ginger from Jamaica and Sierra Leone are rated highest quality due to superior flavor and clean appearance.

7.105 Chinese ginger is favored by grinders in the USA and West Germany due to its appearance. But in volume terms Cochin ginger from India is the most important.

7.106 The USA, United Kingdom and Saudi Arabia account for 55 per cent of all imports, followed by Japan (1,000 to 1,500 tonnes), Western Germany (900 to 1,000 tonnes) and Canada (659 tonnes).

7.107 Dry ginger is used either for grinding or for the extraction of ginger oil and oleoresins. The latter are primarily destined for use in the beverage industry and confectionery products. Saudi Arabia uses dry ginger for flavoring coffee and imports 90 per cent from India as part counter-payment for oil purchases.

7.108 Fiji dry ginger is considered inferior to most dry ginger. Two principal reasons are: high moisture content and low oil content. On average the conversion ratio for fresh to dry ginger in Fiji is 7:1, which is exceptionally high and uneconomic. Fiji dry ginger f.o.b. price in 1980 was US$1.03 compared to US$0.80 from India.

7.109 Even assuming the high conversion rate can be reduced to 5:1 the poor quality of dry ginger will prevent Fiji from competing on world markets. Balthan International has decided not to install their new drier until an improved quality of green ginger is available. Consequently, unless MAF experiments with the Jamaican variety prove successful and are adopted before 1985, earnings forecasts of F$500,000 are out of the question.

7.110 If Fiji is to compete effectively on the world market, dry ginger policy, as in all other export products, should be to seek the maximum price and compete at the top-level of the market with the highest quality product. If Fiji can grow and market a dry ginger equivalent to the Jamaican variety, there is a unique opportunity for securing a major share of the 1,000 tonnes premium dry ginger sector currently shared by Jamaica, Sierra Leone and Nigeria. Table 7.9 indicates high and low prices per type of dry ginger for the period 1979-80 and emphasizes the potential opportunity for Fiji.

Table 7.9: MONTH-END QUOTATIONS FOR DRY GINGER, LONDON
(US$/kg)

	Jamaica 1/		Sierra Leone 2/		Nigerian split 2/		Cochin 3/	
	High	Low	High	Low	High	Low	High	Low
1979	9.2	9.4	2.53	2.0	2.25	1.7	1.25	0.80
1980	7.4	3.4	2.0	1.16	1.7	1.2	0.80	0.67

1/ F.O.B. shipping weight.

2/ Spot, ex-store or ex-wharf.

3/ Forward shipment, first position c.i.f.

Source: ITC UNCTAD-GATT, 1982.

7.111 At US$1.03 kilo f.o.b. Fiji could not compete with the massive supplies from India (Cochin) at US$0.80 per kilo c.i.f., nor could Fiji compete in quality with Nigeria at US$1.20.

7.112 The opportunity exists for Fiji to secure a major share of the high quality/high price end of the dry ginger market which is currently overpriced and undersupplied. Jamaica's exports are now only about one tenth of the annual 2,000 tonnes levels achieved during the 1960s and early 1970s. Since then with mounting labor costs forcing prices up to US$7.40 per kilo Jamaica is gradually pricing itself out of the market. At the same time supplies from Nigeria and Sierra Leone have continued to decline in recent years.

7.113 Fiji should seize the opportunity to become a major supplier to this market segment, in which the United Kingdom accounts for about 320 tonnes, Canada 32 tonnes (largely for Canada Dry ginger ale) and West Germany 83 tonnes. In 1974, Balthan International obtained from Jamaica a supply of Jamaican material. This is currently held by the Ministry of Agriculture and Fisheries as rootstock and should be tested to establish its suitability for growing under Fiji conditions. In the event that tests prove satisfactory, and allowing for lead time development, Fiji would have little difficulty in exporting 100 tonnes at F$2.00 per kilo achieving F$200,000 in 1984, rising to F$660,000 in 1985. By 1986 exports at F$1 million could be reasonably expected.

Export Prospects and the Need for a Single-Channel Marketing Organization

7.114 Exports of processed ginger from Fiji are handled by two joint venture companies, both competing in the same overseas markets, and both having implicit Government involvement.

7.115 Balthan International Ltd. operates a joint venture with Butland Industries Ltd. of Auckland. Equity structure: one-third Balthan International (Fiji); one-third Butland Industries Ltd. (NZ); one-third Fijian Affairs Board through Central Pacific Investments. Butland equity (49 per cent) was acquired by the Kraft Corporation (USA) in 1982.

7.116 Tropical Food Products Ltd. (TFPL); the second major exporter of ginger, is jointly owned by the National Marketing Authority (NMA) with 51 per cent and Tasty Products Ltd. of Auckland, N.Z. with 49 per cent.

7.117 It seems that it was the Government's wish to establish two companies in competition, possibly on the grounds of fair trading. With hindsight, it is now evident that the first joint venture company should have been given every opportunity to become financially viable, having secured a firm foothold in export markets, before permitting the setting up of a second joint venture, least of all with the main competitor in New Zealand. The situation is complicated by the active involvement of official bodies in both companies.

7.118 The problem is further compounded by Butland's disenchantment with the whole matter and their desire to withdraw from their joint venture with Balthan International.

7.119 Continuation of the current situation whereby Fiji's two principal exporters are squabbling among themselves does not enhance Fiji's credibility, and could prejudice any possibility of achieving the export objectives for syrupped and crystallized ginger.

7.120 There would appear to be only one solution. The responsibility for all export marketing of ginger sl ..d be placed with one joint venture company only, until the Fiji processed ginger industry

has become commercially viable, its credibility restored, and its reputation established in international markets.

7.121 This applies in particular to crystallized ginger for which Fiji's brown sugar is unacceptable in overseas markets, although Balthan's clarifying process is a major step forward in overcoming this problem.

7.122 In this respect it is recommended that research should be carried out in the "Health Foods" sector, to test the potential for crystallized ginger made with brown sugar as a speciality product exclusive to Fiji. This would also enable valuable marketing experience to be gained as a prerequisite to setting up a manufacturing plant locally once white sugar is available.

7.123 For present planning purposes, it is evident that the greatest growth of markets for processed ginger is likely to be in the EEC where demand for confectionery items, particularly high quality gift packs, is consistently steady. Fiji's strategy should be to exploit her ACP/EEC duty free entry facilities on the heels of Australia. Given the most favorable trends, forecast exports are set out in Table 7.10.

Table 7.10: SYRUPPED GINGER EXPORT SALES PROJECTIONS COMPARED WITH THE EIGHTH DEVELOPMENT PLAN

	1981 (Actual)	1982	1983	1984	1985	Total
Forecast tonnes	233	400	500	550	600	2,283
Forecast F$'000	480	740	924	1,033	1,126	4,303
Eighth Development Plan F$'000	300	489	350	400	450	1,950

Source: Mission estimates; Eighth Development Plan.

Conclusion

7.124 Based on the foregoing it is evident that earnings projections for ginger as estimated in the Eighth Development Plan fall short of reasonable expectations for fresh ginger and syrupped ginger, but are excessively optimistic in respect of dry ginger. A realistic estimate for 1981-1985 is set out in Table 7.11.

Table 7.11: REVISED ESTIMATED EARNINGS FROM GINGER (1981-1985)
(F$'000)

	1981	1982	1983	1984	1985	Total
Fresh ginger	2,036	2,076	2,117	2,159	2,202	10,590
Dry ginger	nil	nil	nil	nil	nil	nil
Syrupped ginger	480	740	924	1,033	1,126	4,303
Total	2,516	2,816	3,041	3,192	3,328	14,893
Eighth Development Plan	1,550	1,750	2,000	2,333	2,650	10,280
New dry ginger (assuming Jamaica variety successful)				200	660	860
Revised total				3,392	3,988	15,753

Source: Mission estimates.

Recommended Ginger Strategy

7.125 Performance against targets set will be dependent to some extent upon factors outside Fiji's ability to control and exports are more likely to fall short of expectations than exceed targets. An appropriate strategy would be as follows:

(a) Fresh Ginger. Accept risk of F$300,000 cumulative shortfall by 1985;

(b) Syrupped Ginger. Accept risk of Australian competition and slow penetration of EEC markets resulting in cumulative shortfall of F$200,000 by 1985;

(c) Dry Ginger. Proceed urgently to offset total shortfall of (a) and (b), i.e. F$500,000, by ensuring new variety available in 1984/85 producing F$500,000 out of estimated F$860,000 total in the Eighth Development Plan;

(d) set up a single-channel joint venture marketing organization;

(e) appoint sole agents for Fiji syrupped ginger in all new markets opened up by Australia; and

(f) maintain highest quality in selected market segments.

Fresh Pawpaws

Market Selection

7.126 Export opportunities for pawpaws cultivated on a commercial basis will be limited to markets served by direct air transport connections with Fiji. Cargo transfers result in rapid deterioration of soft fruits, notably pawpaws and mangoes. Canada, New Zealand, Japan and Australia qualify as potential principal markets (see Table 7.12).

Table 7.12: FRESH PAWPAWS - POTENTIAL EXPORT MARKETS 1/

	Tonnes	F$'000
Canada 2/	1,500	600
New Zealand 3/	1,250	500
Japan 4/	2,550	1,020
Australia 5/	3,000	1,200
Total	8,300	3,320

1/ At average export prices of F$0.40 per kg f.o.b.

Sources:

2/ Mission estimates.

3/ NZ Importers.

4/ JETRO

5/ Fiji Exporters' estimate.

7.127 An average f.o.b. price of F$0.40 per kilo amounts to approximately NZ$12.50 per carton. This is the average auction price at the Auckland wholesale fruit and vegetable market. It also conforms to the c.i.f. price in Japan, inclusive of air freight costs at current tariffs (see Annex 7.1 on transportation). Prices assumed here compare favorably with those of pawpaws from the Cook Islands, whose average auction price is NZ$14.0 per carton of 8 kilos. Sales commission is 10 per cent; air cargo is about NZ$4.50; inspection and cartage from airport to market average at NZ$0.50; and the cost of the carton is NZ$1.50. Subtracting these costs from average auction prices, yields an expected average net revenue of about NZ$6.00 per carton of 8 kilos, or an exported f.o.b. Fiji price of F$0.53 per kilo.

Impact of Air Cargo Limitations

7.128 Existing cargo carrying constraints will restrict the attainable potential for pawpaws or, for that matter, for any other produce to a maximum of about 10 per cent of total estimated exports, i.e. to 884 tonnes, generating an estimated F$353,600. Fiji is not served by air cargo carriers, which would normally lift 25 to 50 tonnes according to aircraft type. The islands are dependent upon available load capacity on scheduled passenger flights to market destinations. In fact, available capacity rarely exceeds an average of 1 tonne per flight and even this may prove to be optimistic. Table 7.13 shows the resulting expected yearly export potential of fresh produce.

Table 7.13: EXISTING AIRCARGO CAPACITY AND RESULTING YEARLY EXPORT POTENTIAL OF FRESH PRODUCE 1/

Destination	Flights weekly No.	Average load tonnes	Total p.a. tonnes
Vancouver	2	1	104
Auckland	6	1	312
Tokyo	3	1	156
Sydney/Melbourne	6	1	312
Total	17	1	884

1/ Shipped in fairly small parcels, not allowing for special charters.

Source: Mission estimates.

Market Characteristics and Export Prospects

7.129 Pawpaws are subject to bruising in handling and transit which detracts from consumer appeal, spoils visual presentation and results in lower auction prices. Consequently, great care needs to be taken in packaging and display, with incremental costs being absorbed into the exporter's margin. Packaging as currently done in the Cook Islands, Fiji's main competitor, offers inadequate protection and lacks essential market appeal for a high priced product.

7.130 Usual packaging consists of 8 kilo cartons packed with nine fruits each, individually wrapped in mesh-knit sleeves and separated by cardboard dividers (see also Annex 7.7, Packaging for Air Transport).

Canada

7.131 Export statistics by countries of destination and relating to pawpaws are not available except as a component in a generic listing. Fiji exported a total of 23 tonnes of pawpaws and mangoes in 1980. A recent survey of the Canadian market done by Canadian consultants for the Fiji Government did not succeed in obtaining quantifiable data of information on market trends for pawpaws. Fiji exporters have established connections in British Columbia and the Prairie Provinces and achieved exports in conjunction with CP Air, amounting to 44 tonnes of pawpaws and mangoes in 1981. Exporters maintain that the limit of 104 tonnes could be achieved subject to supplies being available, but agree that without increased cargo facilities higher expectations would be unrealistic.

New Zealand

7.132 There is a growing demand for exotic tropical fruits for the top end of the market. Contrary to general belief,

pawpaws and mangoes are rarely purchased by the Asian and Pacific communities in New Zealand. Principal purchasing groups are the more expensive hotels and restaurants. The preferred variety is sold.

7.133 Pawpaws fetch high prices in the New Zealand auction markets, averaging NZ$12.50 per 8 kilo carton of nine fruits, i.e. an average price per pawpaw of NZ$1.40 or F$1.00. Top prices of NZ$14.00 per carton are obtained around Christmas. Sales during the peak season, from October through March average 1,200 cartons per week. Supplies in the low season drop to around 600 cartons due to the dependence upon a single supplier at the present time.

7.134 The Cook Islands are virtually the sole all-year-round supplier, air freighting up to 12 tonnes per week to Auckland from Raratonga during the peak season. The Cook Islands export pawpaws to Japan as well. Western Samoa and Tonga do not export at all. Fiji exported 100 tonnes in 1981.

7.135 Fumigation is mandatory, before shipment or on the aircraft. Recommended is the use of Ethylene Dibromide, for two hours, at the rate of 22 gr per cubic meter, 22°C or above.

7.136 Current exports of 100 tonnes yearly are low, bearing in mind the high level of demand. Air transport constraints are the main limiting factor. Fiji exporters who are reluctant to take risks inherent in shipping, are buying pawpaws and mangoes at fixed prices for the New Zealand auction markets. This indicates that the price differential between farmgate and the overseas market is too narrow to accommodate auction price variations, especially in the case of highly perishable produce. The fact that Raratonga pawpaw exporters are confronted with the same problem,

and have further to travel, implies that the problem is not insuperable. In other markets forward prices for pawpaws and mangoes are rarely negotiated except where the closest collaboration exists between exporter and overseas agent.

7.137 Pawpaws and mangoes are not separately listed in New Zealand trade statistics. However, the main traders in the Auckland market handled last year about 240 tonnes of pawpaws and 84 tonnes of mangoes, indicating a ratio of 3:1. If pawpaw exports to New Zealand from Fiji could be increased to the limit of current air cargo capacity, the country could sell 312 tonnes yearly, for an estimated F$125,000 of revenue.

Japan

7.138 Imports of pawpaws into Japan remained unchanged between 1978 and 1980, at an average of about 2,500 tonnes yearly. Prices increased by an average of 7 per cent per year. The country's imports of 2,537 tonnes were valued at Yen 265 million c.i.f. (see Annex 7.6).

7.139 Fiji is very poorly documented on the Japanese market and field research work carried out in 1981 provides little information on which to formulate proposals. Recent visits by the Director of the Economic Development Board and by the General Manager of the National Marketing Authority have indicated good opportunities in selected product categories including pawpaws and mangoes. Working relations have been established with a leading Japanese importer and distributor.

7.140 The Japanese fruit and vegetable trade is serviced by 140 wholesale markets, of which 18 are in Tokyo. Importers supply produce direct to the wholesale markets which in turn sell to fruit brokers, retailers, catering establishments and speciality stores. In certain cases, importers will sell directly to large buyers such as supermarket chains, etc.

7.141 There is growing demand for exotic tropical fruits in the top end of the market and in the catering sector. Importers believe that this market segment will expand steadily during the next five years, particularly in regard to pawpaws. There is year round demand for pawpaws of the Solo variety. Hawaii accounts for 10 per cent of all pawpaw imports into Japan.

7.142 In the absence of wholesale and retail shelf prices, cost calculations are based on official trade statistics. The 1980 imports of 2,537,513 kilos were valued at Yen 1,265,264,000 c.i.f. This equates to F$4,866,000 or F$1.92 per kilo. Deducting air cargo costs of F$1.51 per kilo results in an expected f.o.b. price from Fiji of F$0.40 per kilo. Mission recommendations are to assume F$0.34 per kilo f.o.b., thus allowing for around 20 per cent flexibility.

7.143 Only packaging to the highest quality and presentation specifications is acceptable in Japan. It is recommended that OECD standards should be adhered to. (See Annex 7.7).

7.144 Fumigation is not mandatory according to the Fiji National Marketing Authority. All consignments are inspected in accordance with plant quarantine laws on the aircraft or in bonded warehouses. Sanitation clearance is given by officials from the Ministry of Health in accordance with food sanitation laws.

7.145 Most of the so-called obstacles to market access in Japan are more perceived than real. The Japanese are quality and price conscious. Importers are concerned about the status and credibility of the exporter. Decisions are taken on a collective basis, and only when the importer is assured of the exporter's capability, determination and commitment will a decision be taken. Once the decision to proceed has been taken, Japanese businesses have a reputation for sustained loyalty and assistance to their suppliers.

7.146 A recent mission to Japan by Fiji authorities points to opportunities for Fiji pawpaws in the Japanese short season, i.e. in the period of low supply from Hawaii. Balthan International have an inquiry from Mitsui Corporation for 10 tonnes per week. Accordingly, the mission has made a conservative forecast of the Japanese market for Fijian pawpaws of about 156 tonnes yearly, valued at F$62,000 and limited by air cargo capacity.

Australia

7.147 This market was not covered by the mission. Exports of pawpaws from Fiji to Australia are undocumented or non-existent. Potential exporters maintain that, although Australia produces pawpaws, supplies fall far short of demand and a market exists for up to 5,000 tonnes per year.

Consclidated Export Prospects for Pawpaws

7.148 Air cargo capacity is assumed to improve marginally to all markets, allowing a 5 per cent growth rate per year in general and 10 per cent to Japan; f.o.b. prices are assumed to remain static. The mission's consolidated forecast for pawpaw exports from Fiji over a five-year period are, thus (in F$'000):

		Year 1	Year 2	Year 3	Year 4	Year 5
Canada	5%	42	44	46	48	50
New Zealand	5%	125	131	138	144	152
Japan	10%	62	68	75	82	90
Australia	5%	125	141	138	144	152
Total		354	374	397	418	444

Fresh Mangoes

7.149 World production of mangoes in 1980 was 14.3 million tonnes, with India accounting for two-thirds of this amount, see Table 7.14. The growth rate of production is apparently about 4 per cent annually.

Table 7.14: MANGOES - WORLD PRODUCTION (1978-80)
(TONNES '000)

	1978	1979	1980
India	9,000	9,300	9,500
Brazil	670	680	690
Mexico	541	566	610
Others	3,544	3,525	3,543
Total	13,755	14,071	14,343

Source: FAO.

Market Selection

7.150 Precise details on the size of the export market for mangoes are not available (without examining customs' records in each country) as foreign trade data include mangoes in a category described as "mangoes, avocados, etc., fresh". However, it is known that Japan, Australia and New Zealand represent good export markets for Fiji's production. Fiji has an advantage over some other producing areas in this part of the world as its harvest period precedes that for the Philippines and extends somewhat beyond the reported harvest period for Queensland, Australia.

7.151 Fiji has been exporting small quantities of fresh mangoes to Australia and New Zealand for many years. In 1979, fresh mango exports reportedly totalled 82.5 tonnes valued at

approximately F$75,000 equal to about F$0.91 per kilo. These were shipped by air to Australia, New Zealand, Japan and Canada. Reportedly due to a poor harvest, exports in 1980 declined to 57.5 tonnes.

7.152 Export opportunities for fresh mangoes will be limited to markets served by direct air links with Fiji. Requirements of consistent quality and guaranteed quantities limit supply to fruits obtained from controlled orchards.

7.153 New Zealand, Japan and Australia are potential principle markets. Table 7.15 shows estimates of current absorption capacity of Fijian mangoes in these markets.

Table 7.15: FRESH MANGOES - POTENTIAL EXPORT MARKETS (1980)

	Amount (tonnes)	Value 1/ (F$ - f.o.b.)	Actual average prices obtained in 1980 (F$/kg f.o.b.)
Canada 2/	7,700	280,000	0.96
New Zealand 3/	700	280,000	0.57
Japan 4/	1,216	486,000	0.78
Australia 5/	800	320,000	0.86
Total	3,416	1,366,400	

1/ Based on a conservatively assumed f.o.b. price of F$0.40 per kg.

Sources:

2/ Mission estimate.

3/ NZ Importers.

4/ JETRO.

5/ Fiji Exporters' estimate.

7.154 Cargo carrying capacity is a major constraint as is the case for pawpaws. Consequently, export prospects will be similar to those for pawpaws. Assuming f.o.b. price variations to be similar

for both products, increased export opportunities for mangoes will be at the cost of pawpaws and vice versa. As long as transportation remains the main constraint, the respective prospects for fresh fruits in distant markets will be limited. If production possibilities outstripped transportation capacity, the latter constraint would be a major justification for domestic processing.

7.155 For export sales, special packaging in small units, of 6 to 10 kilos, would be necessary. Furthermore, it has been assumed that a rate of F$0.40 per kilo may be obtained for air shipped fresh mangoes in Australia and New Zealand. This rate is comparable with the price of fresh vegetables imported into Fiji from Australia and New Zealand. The cost for exports by air to Australia and New Zealand should be approximately as follows:

Mexico	F$2.36 c.i.f. = F$0.85 f.o.b.
Philippines	F$2.14 c.i.f. = F$0.63 f.o.b.
Fiji	F$2.30 c.i.f. = F$0.79 f.o.b.

Thus, the c.i.f. price should be approximately equivalent with F$0.82 per kilo.

Market Characteristics

Canada

7.156 As for pawpaws (see sub-chapter).

New Zealand

7.157 There is a wide disparity between import data for mangoes as quoted by the main importers and the official trade statistics. Importers produced sales analyses to show that the wholesale market is handling approximately 500 tonnes of mangoes

annually, with Mexico as the main supplier. Trade statistics for 1978/79, provided by the New Zealand Trade Commission put total imports under a group heading as 102.5 tonnes. Principal imported varieties are 'peach' and 'juicy', packed uniform in size, and specified 'medium round'. Popular varieties are:

Tahiti: Mission, Ohurepio.
Mexico: Tommu Atkins, Jubilee, Kent, Keiti, Haden.
India: Alonzo.

Fiji mangoes are considered of inferior quality, being too small and very stringy.

7.158 Importers in Auckland stress that they can take very large supplies of mangoes, definitely much larger than what is offered now. Trade opinion is that, given rigid quality standards, correct grading procedures, first class packaging and presentation, and regular supplies, Fiji could take over the total New Zealand mango market. Current air cargo constraints limit this potentially large market to 312 tonnes per year, valued at about F$125,000.

Japan

7.159 Imports of mangoes into Japan remained steady between 1978 and 1980 with an average of 1,293 tonnes at prices which increased by an average of 8 per cent per year. Principal exporters of mangoes to Japan are Mexico and the Philippines accounting, together, for 97 per cent of all mango imports. The Philippines' share has risen from 21 per cent in 1978 to 43 per cent in 1980. The 1980 imports of 1,216 tonnes were valued at Yen 717.6 million (see Annex 7.6).

7.160 Packaging should be similar as discussed for pawpaws. Color and appearance are most important. The carrot mango is popular because of its "eye appeal". Haden is also in demand.

The 1980 c.i.f. prices [1] were:

Item	F$/kg
Farmgate price	0.10
Package container	0.20
Delivery to airport	0.02
Total f.o.b.	0.32
Airfreight	0.50
Total c.i.f.	0.82

7.161 From the listed prices of current main sources, it should be noted that Fiji is well placed to compete with mangoes imported from Mexico and the Philippines. Fiji prices of around F$0.40 f.o.b. per kilo provide an excellent opportunity to compete effectively in the Japanese market during October-February, periods of short supply from Mexico and the Philippines. However, as long as Fijian supply is limited to existing air cargo capacity, its maximum yearly market in Japan for fresh mangoes is only 156 tonnes, valued at about F$127,000.

Australia

7.162 What was stated for pawpaws applies mutatis mutandis to mangoes. Again, air cargo constraints limit exports to 312 tonnes per year, valued at F$125,000.

Consolidated Export Prospects for Mangoes

7.163 With increased production of high-quality varieties of mangoes, extension of the fruiting season through the use of modern technology, and minimization of the alternate-year-bearing characteristic of mango trees, a substantial increase in production for export sales should be possible.

7.164 Air cargo capacity is assumed to improve marginally, allowing for a 5 per cent per year growth rate. Prices f.o.b. are assumed to remain static, as a basis for conservative estimates. In the face of air cargo constraints, the maximum revenue to Fiji of fresh mango exports can be estimated as follows:

1/ C.i.f. prices in Australia and New Zealand.

	Year 1	Year 2	Year 3	Year 4	Year 5
			(F$'000)		
New Zealand	125	131	138	145	152
Canada	42	44	46	49	51
Japan	62	65	68	72	75
Australia	125	131	138	144	151
Total	354	371	390	410	429

Maize

7.165 The importance of satisfying Fiji's maize requirements from domestic resources is significant for three reasons. Firstly, as is shown in Table 7.16, imports of maize have increased almost six-fold between 1976 and 1981. Maize imports in 1982 will increase by a further 1,000 tonnes to around 10,000 tonnes, according to Crest Mills, the largest feedmill. In addition, 300 to 400 tonnes are purchased from local growers. The absence of maize-dryers is a major deterrent to increased purchases from local farmers who are rarely able to meet the 14 per cent moisture content required for silo storage. Secondly, the landed cost per tonne has risen from F$170.2 in 1979 to F$199.2 in 1981, an increase of 17 per cent due in great part to increased shipping costs. Thirdly, maize is a key ingredient in the production of chicken feed for the rapidly expanding Fiji poultry industry. In the absence of a domestic poultry industry, the outflow of foreign exchange for the import of eggs and meat would probably exceed the country's current bill for imported maize.

The Maize Milling Industries

7.166 There are four feedmills in Fiji: Crest Mills (Fiji) Ltd., Visama Rice Mill Ltd., Waituri Mills Ltd., in Suva and Ram Padarath Bros. Ltd. in Ba. Crest, 85 per cent owned by Australian and New Zealand companies, accounts for two thirds of all imports.

Table 7.16: MAIZE IMPORTS (1976-1981)

Year	Quantity (kg)	Value c.i.f. (F$)	Price per unit, c.i.f. (F$/kg)
1976	1,565,208	307,326	0.20
1977	2,349,452	533,973	0.23
1978	5,106,789	801,907	0.16
1979	6,719,518	1,113,753	0.17
1980	8,113,133	1,289,322	0.16
1981	9,087,500	1,810,133	0.20

Source: Bureau of Statistics, Suva, Fiji.

7.167 Crest contracts with Australian and New Zealand suppliers for guaranteed deliveries of around 500 tonnes per month. Crest's two silos can hold 400 tonnes each.

Factors Affecting Supply and Distribution

7.168 Imported maize is shipped to Fiji in bulk, in bags, or in container loads. Crest imports in bulk which is discharged from the vessel directly into hoppers at the wharf and transferred to silos at the factory.

7.169 After processing, Crest distributes feedmixes directly to large farmers, using company transport. For smaller breeders deliveries are to a central point for individual collection. The distribution system in current operation could be used efficiently to receive and transport locally produced maize directly to the feedmills, by using the now empty trucks on their return trip. It would be necessary, however, to set up buying and collection stations at key points within production areas. The location of each station would be determined by the volume of maize to be handled, proximity to local growers, and ready access to the feedmill vehicle transport routes. Each buying station would be equipped with weighing equipment, covered storage space and payment facilities. Buying and collection

stations should test the humidity of each delivery, and adjust payment accordingly. Grain with too high moisture content should be dried prior to storage. A central grain drier incorporated in the silo complex is probably the most economical solution to dry all maize to moisture levels appropriate for storage.

Import Substitution Prospects for Maize

7.170 Demand projections for five years are based on a conservative estimate of 5 per cent market growth per year. Furthermore, it is assumed that full import substitution will be achieved in the fifth year, after equal yearly growth in domestic production and collection. These assumptions yield the following expected yearly import substitutions of maize:

FORECAST IN F$'000

Year 1	Year 2	Year 3	Year 4	Year 5
462	924	1,386	1,848	2,310

Onions and Garlic

Markets

7.171 The potential markets for these two products consist of the imported volumes. For 1980, onion imports totalled 4,430,820 kilos with a c.i.f. value of F$1,140,134 (see Table 7.17). The major source was New Zealand, supplying 93 per cent of the total, with small volumes coming from Australia and the United States. The c.i.f. price averaged $0.25 per kilo.

7.172 For 1981, the import volume declined by only 3 per cent but the price per kilo increased by 77 per cent and the c.i.f. value by 74 per cent. Imports came from four countries and totalled 4,286,722 kilos with a c.i.f. value of F$1,988,836.

The major sources were New Zealand with 60 per cent of the volume and the United States with 24 per cent. The c.i.f. prices averaged F$0.46 per kilo but ranged from F$0.25 per kilo for a small shipment from Canada to F$0.55 per kilo for that from the United States. The bulk of the imports had an average c.i.f. price of F$0.43 per kilo.

7.173 Garlic imports in 1980 totalled 706,978 kilos with a c.i.f. value of F$522,873 (see Table 7.18). These imports came from eight different countries, or areas, and the fact that some came from American Samoa and Mauritius suggest that garlic might well be produced locally. New Zealand and the United States were the major and near-equal sources, each with 48 per cent of the volume. The c.i.f. prices ranged widely, averaged F$0.74 per kilo, and amounted to F$0.79 per kilo of garlic from New Zealand and F$0.68 per kilo for that from the United States.

Table 7.17: ONION IMPORTS - 1980 AND 1981

Source	1980		1981	
	Quantity (kg)	Price per unit c.i.f. (F$/kg)	Quantity (kg)	Price per unit c.i.f. (F$/kg)
Australia	225,539	0.33	676,019	0.48
Canada	-	-	20,000	0.25
New Zealand	4,119,629	0.25	2,570,099	0.43
United States	85,652	0.40	1,020,604	0.55
Total/av.	4,430,820	0.26	4,286,722	0.46
Total c.i.f. value	F$1,140,134		F$1,988,836	

Source: Trade Statistics.

Table 7.18: GARLIC IMPORTS - 1980 AND 1981

Source	1980 Quantity (kg)	1980 Price per unit c.i.f. (F$/kg)	1981 Quantity (kg)	1981 Price per unit c.i.f. (F$/kg)
American Samoa	569	0.85	-	-
Australia	5,208	1.18	21,869	2.76
Canada	7,006	0.85	-	-
Mauritius	231	1.60	-	-
Mexico	8,864	0.72	27,333	1.26
New Zealand	342,731	0.79	164,417	1.56
Taiwan	1,000	0.79	-	-
United States	341,319	0.68	366,512	1.09
Total/av.	706,978	0.74	580,131	1.30
Total c.i.f. value	F$522,873		F$751,645	

Source: Trade Statistics.

7.174 Likely reflecting higher prices, 1981 imports were down by 18 per cent but the average c.i.f. price was up by 76 per cent, the value increasing by 44 per cent. The actual volume totalled 580,131 kilos with a c.i.f. value of F$751,645. The major sources were the United States with 63 per cent and New Zealand with 28 per cent of the total. Prices ranged from $1.09 per kilo for shipments from the United States to $2.76 per kilo for those from Australia and averaged $1.30 per kilo.

7.175 The use of New Zealand and the United States as major sources for onions and garlic reflects the seasonal availability of supplies (northern versus southern hemisphere).

7.176 New Zealand is geared to supply all year round, in spite of seasonal production, from a traditionally highly organized and efficient storage system. Consequently, resort to other suppliers has usually been due to occasional seasonal or availability factors.

However, increasingly high costs of New Zealand produce are likely to change the pattern with greater emphasis on Australian and USA suppliers.

7.177 Demand for onions and garlic is rather constant throughout the year, with a slight increase above average consumption from May through September. Local production is a fraction of domestic demand, typically 45 to 50 tonnes yearly, with peak harvest from October-December. Peak supplies from New Zealand are in March-September, and from the USA in September-November. Imports from the USA soared from a mere 55 tonnes in 1980 to 1,020 tonnes in 1981 due to rising prices and lower export stocks in New Zealand.

Marketing Characteristics

7.178 Principal consumers of onions in Fiji are the Indian community. In identifying a suitable variety for import substitution the mission considered the importance of small size. The most common imported onions are 1 1/2 inches to 2 inches in diameter, so called island smalls. The majority of retail purchases are in single units or very small quantities, and consumer price per unit is frequently a determining factor.

7.179 Although there are a number of small importers of onions and garlic, the greatest volume is handled by three bulk fruit and vegetable importers located at the two main deepwater ports - Suva and Lautoka. These large importers and wholesalers import produce by the container-load and have extensive covered warehouse space, as well as adequate cold storage and cold room facilities. A typical consignment is: garlic and onions 120 tonnes, apples 2,500 cartons and carrots 15 tonnes. The delivery cycle is two weeks.

7.180 Customers fall into three categories, i.e. two large supermarket groups having subsidiaries in all main population centers, independent grocery retail shops, and small market stallholders. Orders are taken in advance from all customers and are consolidated into container-loads. Arrival of ships is published in the daily press, and customers collect produce from the warehouse on a cash-and-carry basis. Bulk contracts are normally negotiated with large buyers on a "buyer collects" basis.

7.181 Transport to destinations inland is by contract haulage, either by the large fleet operators or by individual truckers.

Recommended Production and Distribution System for Locally Grown Onions and Garlic

7.182 The most economic and efficient system for the handling of fresh produce is by bulk delivery to a central warehouse, and customer collection against advance order. This applies both to shipload and truckload. Fiji is already well served by existing facilities which currently handle and distribute all onions and garlic. Consequently, the source of supply, import or domestic, is less important than the requirement for bulk deliveries to warehouses.

7.183 It is recommended that the existing system and distribution channels should remain unchanged, and that production should be coordinated to conform with the existing bulk delivery procedures. Since onions and garlic are suitable for short-term ventilated storage, production and storage can be better geared to market requirements than is the case with most other fresh produce. However, the need to control and coordinate production at the grower stage is of vital importance if consolidation into bulk

consignments is to be achieved. This presupposes cultivation on an estate farm basis, or by smallholders through farmers' cooperatives, in order to negotiate bulk contracts with central warehouses. However, harvesting, grading, packaging, storage and transport to warehouses would be the responsibility of the grower organization and should conform with the agreed contract.

7.184 This implies the setting up of a collection center at each estate or cooperative farm unit, equipped with packing house, a pre-cooling unit and degreening room according to the area. Facilities should exist for sorting, washing, cleaning, grading, trimming, and packaging. The precooling unit would remove field heat as rapidly as possible.

7.185 The estate concept and farmers cooperatives would go a long way in avoiding repetition of the potato marketing difficulties of some years ago when smallholders, under contract, immediately sold to the highest bidder.

7.186 The Sigatoka valley provides good opportunities for both types of large-scale coordination, in fact, the Sigatoka Farmers Association is already operating as an effective body.

7.187 Onions should be packed in 20 kilo nylon-weave bags, following New Zealand and Australian specifications. Garlic should preferably be packed in cartons with a content of 13.6 kilos but in 20 kilo onion sacks if more convenient.

Implementation and Regulation

7.188 The substitution of imports by local production of onions and garlic should be gradual, and should be carefully controlled. The application of import controls will have to

be judiciously handled and geared to ensure that market requirements are adequately covered from all sources, import and domestic, during the transition period. Failure to do so will result in stock build-up to levels which could preempt any possibility of success and result in onion crop loss similar to what happened with potatoes. In that event, the introduction of an adjustable tariff system similar to that currently operated by the EEC would be recommended. Alternatively the application of a "License on Demand" procedure as currently practiced by New Zealand would not conflict with the spirit of the SPARTECA accord.

7.189 Volume growth has been static in recent years, but c.i.f. prices have increased by 78 per cent for onions and by 75 per cent for garlic during 1981. Demand projections for a five year period are based on average growth at 5 per cent per year. It is further assumed that full import substitution will be achieved in the fifth year, after equal yearly growth in domestic production. These assumptions yield the following expected yearly import substitutions of onions and garlic:

FORECAST IN F$'000

Year 1	Year 2	Year 3	Year 4	Year 5
634	1,286	1,902	2,539	3,172

Plan of Action

7.190 In concluding the agro-industrial phase of this study, a plan of action has been drawn up consisting of three general types of activities: the preparation of feasibility studies; the development of action programs; and the preparation of "packages" of technology, including production timetables, for each of the six commodities identified for agro-industrial undertakings.

Feasibility Studies

Pineapple

7.191 Steps should be taken to authorize the immediate conduct of a detailed feasibility study covering a five year period of plantation production of pineapples and pineapple processing operations, including land, labor, management, facility and other capital requirements. Processing should include pineapple slices, chunks or tidbits, crushed pineapple, pineapple juice, fruit salad, and pineapple preserves; operations should include a cattle-fattening feed-lot. This will require two months of service of an agricultural economist or a business analyst with an agricultural background/training, and a Fijian counterpart for the same period. They will need to familiarize themselves with comparable operations in a nearby noncompetitive country or area. (An alternative would be to retain the services of an executive from some basically noncompetitive processing firm, such as Dole or Del Monte in the Philippines or Dole in Hawaii.) The output should provide direction regarding whether a full-scale operation is warranted at once or whether a pilot operation is in order pending the acquisition of production and processing experience. The estimated cost will approximate US$30,000.

Pawpaws and Mangoes

7.192 Steps should also be undertaken to authorize detailed feasibility studies of the commercial production, export marketing (to the f.o.b. level) and domestic marketing of pawpaws and mangoes. The studies should cover land, labor, management, packaging and facility and other capital requirements for a period of five years for pawpaws and ten years for mangoes. This will require two weeks time for each commodity and the services of an agricultural economist with farm management

training and marketing experience. A Fijian counterpart would be required for the same time periods or four weeks in total. The output should be "blueprints" for the operations of pawpaw and mango production-exporting businesses. The estimated cost would approximate US$30,000.

Action Programs

7.193 Action programs should be developed promptly for maize, onions and garlic. These programs should include, inter alia, the following:

(a) the area(s) in which production will be concentrated;

(b) prospective number of farms and hectarages to be involved (goals);

(c) commitment of farmers to produce the commodity or commodities;

(d) arrangements for production loans to finance cost of inputs;

(e) schedule of farmer-training meetings utilizing the "packages" of technology developed under the following section;

(f) scheduling of supervisory work;

(g) for maize, especially, determination of drying facilities required on the farm and/or at a central location(s);

(h) determination of local assembly points, and storage/holding requirements of each;

(i) determination of additional storage facilities that may be required and location(s) of such;

(j) specification of product requirements including grading, packaging, moisture levels and cleanliness; and

(k) plans for the acquisition of the products by feed mills (for maize) and by importers (for onions and garlic) at farmgate prices.

7.194 This work would require the services of a marketing adviser familiar with production procedures for one month, working with a two-man Fijian team of production technicians. The estimated cost would amount to about US$20,000.

"Packages" of Technology

7.195 In support of the action programs for maize, onions and garlic, and as a guide to the commercial production of pineapples, pawpaws and mangoes, a "package" of technology should be prepared for each commodity. This should include, inter alia, specific instructions and timetables, where appropriate, regarding:

(a) types of varieties to grow;

(b) source of seed and planting materials;

(c) land preparation;

(d) planting;

(e) fertilization (kind, amount, frequency of application);

(f) pest control (kind, amount, frequency of application);

(g) disease control (kind, amount, frequency of application);

(h) weed control (kind, amount, frequency of application);

(i) cultivation (if appropriate);

(j) irrigation;

(k) pruning (if appropriate);

(l) harvesting;

(m) drying (if appropriate);

(n) grading (if appropriate);

(o) storing (if appropriate);

(p) packaging; and

(q) delivery (if appropriate).

7.196 The information for each product should be well illustrated, published in bulletins (in such language(s) as appropriate), and distributed to farmers as part of the extension service package. The work will require the services of an adviser for six weeks and six weeks of counterpart time (three weeks for the vegetable crops and three for the fruit crops). The estimated cost including printing of 1,000 copies of each publication, would approximate US$25,000.

7.197 Recommendations concerning the marketing of identical commodities are summarized as follows:

Ginger. Feasibility studies should be conducted immediately to test the suitability of Jamaican rhizomes for plantation production in Fiji. Material is currently held by the Ministry of Agriculture and Fisheries. A successful outcome would open up a lucrative market sector which has been under-supplied for several years. A prefeasibility study should be commissioned for ginger and its derivatives and their potential commercial application as well as other opportunities for increased utilization of Fiji's ginger resources. Marketing

consultants should be commissioned to prepare detailed marketing strategies for ginger products in EEC countries. Duration: one month.

Canned Pineapple. Preliminary meetings should be scheduled for discussion of joint venture possibilities between EDB and the New Zealand based companies;

Pawpaws and Mangoes. Marketing consultants should be commissioned to prepare detailed marketing strategies covering Western Canada, Japan, Australia, and New Zealand. Duration: three months;

Market Research. There is a serious lack of basic information and data relating to Fiji products and potential markets. The International Trade Center should immediately assist in setting up a documentation, research and trade information service designed to accommodate these specific needs.

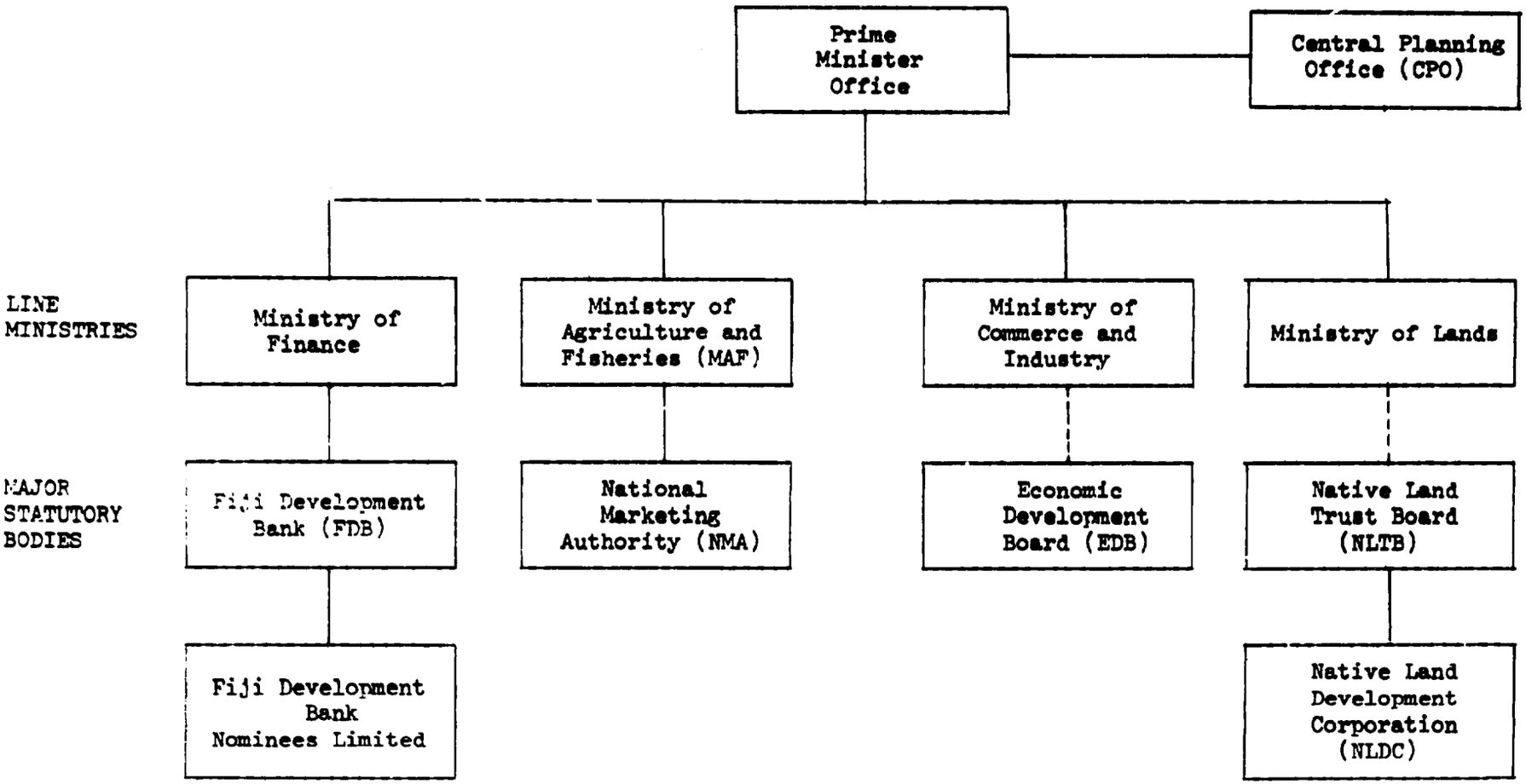
CHAPTER EIGHT

PROPOSED INSTITUTIONAL STRENGTHENING

8.01 Although the Government's economic philosophy remains primarily market-oriented, Government intervention in the Fiji economy has increased in the last five years (see Table 2.8 for the extent of Government equity investment as of 1982). A pattern of this intervention has evolved as follows: providing infrastructural investments in the transport and public sectors, e.g. Air Pacific, Fiji Electricity Authority (FEA); setting up wholly public-owned enterprises in key industries, e.g. Fiji Sugar Corporation (FSC); and increasing Government participation in joint ventures (public-private) in new agro-industrial projects, e.g. the Fiji Pine Commission and the Batiri citrus complex. Joint ventures between the Government and foreign private enterprises have become the major form of Government intervention in the agro-industrial sector.

8.02 Due to the sluggishness in private investment since 1977, and in view of the many profitable but unexploited opportunities in agriculture and associated agro-industries identified in Fiji, the Government created the Economic Development Board (EDB) in 1981 as the central coordinating agency in order to stimulate private investment in agriculture and agro-industries. Other key agencies are the Ministry of Commerce and Industry, the Ministry of Agriculture and Fisheries (MAF), the Native Land Trust Board (NLTB), the National Marketing Authority (NMA), the Fiji Development Bank (FDB) and the Central Planning Office (CPO). (See Table 8.1).

Table 8.1: MAJOR AGENCIES IN CHARGE OF AGRO-INDUSTRIAL DEVELOPMENT IN FIJI



——— Parent Ministry-Statutory Body Relationship.
------ Autonomous Relationship.
Source: World Bank-24393.

8.03 The various forms of Government intervention in the Fiji economy generally aim at removing market failures or rigidities in specific markets, e.g. in the rental land and marketing system; and/or at lessening the high risk aversion attitude of private entrepreneurs toward new investment opportunities because of initially high investment costs, inertia and lack of knowledge. However, in the case of agro-industries, the ad hoc nature of Government interventions has led to a number of unintended consequences.

8.04 The agencies (line ministries, statutory bodies and other agencies) in charge of agro-industrial development have conflicting jurisdictions due to a lack of proper demarcation of responsibilities as well as a lack of clarity in their initial mandates. For example, in addition to its basic land administration function, the NLTB has assumed the conflicting role of a commercial entity investing in new agro-industrial activities through its wholly-owned subsidiary, the NLDC, and this often in competition with potential private investors. Another example is the EDB, a statutory body created to stimulate private investments, which at present also carries out regulatory and policy functions previously falling under the jurisdiction of line ministries, i.e. licensing of new firms, deciding on the appropriate package of incentives, allocating lots of land within industrial estates, etc.

8.05 The increased equity investment holding by the Government is now spread over a number of statutory bodies, i.e. NMA, FDB, the Fijian Affairs Board, 1/ and the Unit Trust Ltd. Consequently, the lack of coordination between the activities of the different agencies has prevented the emergence of an integrated agro-industrial development strategy and made the delivery of supporting services inadequate and inefficient.

1/ A statutory body under the Ministry of Fijian Affairs and Rural Development. The Fijian Affairs Board is designed to increase ownership by indigenous Fijians in existing and new firms.

Demarcation of Responsibility: the Ministry of Commerce and Industry vis-a-vis the Economic Development Board (EDB)

8.06 It is the mission's view that regulatory and trade policy functions must be kept separate from advisory, extension and support services to private investors. The latter should appropriately be under the EDB jurisdiction while the former should be placed under the jurisdiction of line ministries. These ministries have accumulated specific knowledge over the years about their respective sectors and are therefore in a better position to regulate and support the development of projects in their sectors. Where the capacity exists, line ministries should prepare, identify and evaluate public investment projects in their respective sectors, and this in coordination with CPO.

8.07 Because of its autonomy as a statutory body reporting directly to the Prime Minister, the EDB took over most of the regulatory functions (see paras. 3.14-3.19) from its former parent, the Ministry of Commerce and Industry. As mentioned above, this is in addition to its two major functions of investment promotion and administration of incentives. In his capacity as the Chairman of the Business Industrial Development Committee (BIDC), previously chaired by the Permanent Secretary of Commerce and Industry, the Director of the EDB performs broad policy-making functions such as recommending the approval of investment projects, the appropriate package of incentives to potential investors, and the degree of monopoly or competition to be allowed in a particular industry. With the exclusion of the Ministry of Commerce and Industry from the BIDC, the debate on trade policy issues at the level of senior officials has been curtailed while jurisdictional disputes over both regulatory and policy-making functions have to be adjudicated at the Cabinet level.

8.08 While the EDB should play a catalytic role vis-a-vis the private sector in the economic development of the country, its effectiveness will depend on the cooperation between the Board and other Government agencies. This appears particularly true between the Economic Development Board and the Ministry of Commerce and Industry, the Ministry of Agriculture and Fisheries, the National Marketing Authority and the Native Land Development Board. The need to provide adequate support for private sector agro-industries requires that all the agencies coordinate their efforts since sectoral responsibilities for agro-industries fall simultaneously within the jurisdictions of each one of them.

8.09 In order to foster inter-agency coordination between the line ministries and minimize jurisdictional disputes, the Officials' Committee of the BIDC should be rotationally chaired by the Permanent Secretary of the sponsoring Ministry, e.g. Agriculture, Energy, Commerce and Industry rather than having the permanent chairmanship exclusively retained by the EDB. Where the EDB has been involved in the project preparation, it would be advisable for the Board to be present at the Officials' meeting in a consultative capacity. At the same time, officials from all interested ministries ought to have the opportunity to attend as they will have to brief their Ministers for the BIDC. This safeguard becomes particularly important when an interdepartmental consensus has not been achieved.

Areas of Responsibility: Identification and Preparation of Private Sector and Public Sector Projects

8.10 In a small country like Fiji, it is useful for the Government to have two central bodies to stimulate project identification and assist other institutions in their project preparation: one for public projects (CPO) and one for private projects (EDB). Their roles ought to be separate because of the difference in the project selection criteria, the sources of financing and the degree of public scrutiny.

8.11 The EDB has not so far served as a "one-stop shop" for private investors, because of the lack of clear demarcation between its major role of assisting private investors in project identification and preparation and that of the line ministries and CPO in identifying and preparing public projects. The unusual position of the EDB as a statutory body, with no parent line ministry except for the Prime Minister's Office, has contributed to jurisdictional disputes between line ministries and the EDB. It is the mission's view that EDB should assist private investors in project identification and preparation while line ministries, with the CPO as the coordinating agency, remain in charge of identifying and preparing public sector projects. The rationale for this delineation of responsibility is explained below.

8.12 Private project identification in agro-industry is usually performed by the private firms themselves although they may use the services of consulting firms on some occasions. The criteria used by firms to select projects is tied to their goals, ownership structure, cost of capital and risk preferences. The Government intervenes in this process in two ways. First, the Government has an obligation to produce a set of guidelines and regulations to ensure that private capital is invested in such a way that the national interest is served. These guidelines ought to be clearly spelled out and easy for private entrepreneurs and Government officials to understand. They ought to be consistent and well documented with a clearly defined decision-making process where approvals are required. Second, the Government of Fiji should assist private investors in financing required research on potential agro-industrial opportunities and disseminate the resulting information concerning markets, costs, policies and programs. (See the proposed functions of an information unit within the EDB, para. 8.31).

8.13 Public projects are, by their very nature, different. They require expenditures of public funds and often some degree of direct Government involvement, e.g. management. The criteria used deals with social rather than private considerations. These projects are allocated to line ministries and statutory bodies in the context of the five year development plan or the annual budget process, which is now in its second year of implementation in Fiji. Cabinet decisions may not be necessary as Ministers may have the jurisdiction to approve or disapprove individual project proposals. Such projects are carried out within existing or new policies. Project evaluation procedures are carried out or commissioned by the line ministries according to macroeconomic and social criteria broader than private financial considerations.

8.14 Public projects, large and small, must be identified by the Government. Line ministries are more capable of doing this because they are closer to the industries they serve and therefore more familiar with the opportunities which exist. Where project preparation capability is lacking, i.e. at the MAF and the Ministry of Commerce and Industry, the services of foreign or local consultants can be used while the line ministries develop their own capacity. At the next stage, however, project preparation will usually involve more than one ministry because of overlapping interests. The Central Planning Office should assist in this process by stimulating Government project identification and preparation within and between line ministries and statutory bodies.

The Ministry of Agriculture and Fisheries (MAF)

8.15 The list of agricultural crops which have been identified over the years as profitable agro-industrial opportunities in Fiji is long and yet the country's export commodity base is narrow and the degree of self-sufficiency is low. An important

obstacle has been the weak agricultural research capacity and the inadequate statistical base within the MAF (see also Annex 6.2, the Training Proposal). Moreover, the mission felt that the MAF in conjunction with the Ministry of Commerce and Industry should improve the flow of information with regard to the domestic agricultural market, particularly prices, grading requirements, prospective and current market offerings and demand (by region).

8.16 One indicator of this lack of data is reflected in the wide margin between market prices and the cost of production (including the opportunity cost of all factors) using best practice farm production technology [1/] (see Table 8.2). The market price represents about twice the farmgate price so that, for example, in 1981, the farmgate price for onions was approximately 38 cents per kilo while efficient farmers could produce onions for 5.1 cents per kilo. For most other crops listed this difference is also quite large. To the extent that market prices reflect the marginal cost of production using commonly available technology, these differences indicate that there is a large payoff associated with establishing and disseminating new production technology (see Table 8.2).

The Native Land Trust Board (NLTB)

8.17 A major constraint in Fiji's agriculture is the limited availability of rental land. Several steps need to be taken. Without disturbing the ownership of land, [2/] a rental market needs to be encouraged for commercial farm units of all sizes. Given the land ownership system, the Native Land Trust Board (NLTB) must play a greater role than at present in securing and organizing

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1/ This is not the level of technology obtained at research stations, but that which the top 10 per cent of producers can achieve at present.

2/ Both communities (the indigenous Fijians and Fijians of Indian descent) agree that native reserves are to be left to their customary owners as prescribed in the Constitution.

Table 8.2: COMPARISON OF BEST-PRACTICE PRODUCTION COSTS AND MARKET PRICES

	Cost of production 1/	Land rent 2/	Total cost of production	Market price 3/
	F¢/kg			
Pawpaw	3.6	0.3	3.9	30.8
Okra	4.4	0.7	5.1	52.7
Garlic	31.5	3.7	35.2	205.4
Lettuce	6.9	1.1	8.0	111.7
Onion	4.4	0.7	5.1	75.6
French beans	8.6	1.1	9.7	95.4
English cabbage	5.2	0.7	5.9	78.0
Dried chillies	35.3	3.7	39.0	-
Chillies (hotrod)	5.8	0.7	6.5	150.5
Potatoes	7.2	0.7	7.9	41.5
Carrots	5.8	0.7	6.5	57.6
Tomatoes	7.5	1.1	8.6	78.1

1/ Production costs refer to best farm practices including total labor costs at $5/day but excluding land rent; Ministry of Agriculture and Fisheries, pers. comm.

2/ Land rent taken at $110/ha per annum.

3/ Consumers price index, Bureau of Statistics, Suva, Fiji, 1982.

formal land leases and in marketing the available land in various sized units for commercial tenancy. The major difficulties stem from poor past administration of native land which has led to long delays in processing lease arrangements agreed by all the parties involved.

8.18 In spite of the enhanced security in tenure (see also Chapter Two), the processing of land leases by the Native Land Trust Board (NLTB) is wanting in two areas: (i) even where the Mataqali have given their consent, processing of leases is known to take as long as 18-24 months while potential investors are likely to be denied credit for lack of a formal lease;

(ii) rent collection and disbursement of rental incomes by the NLTB to customary land owners has been in arrears for up to four years in some cases because of lax accounting practices and lack of monitoring. These shortcomings have increased uncertainties with regard to agricultural investment and have also negatively influenced the willingness of Mataqalis to lease their land.

8.19 In addition to this, the initial NLTB mandate to administer land for the benefit of customary Fijian owners conflicts with the commercial agricultural activities of the NLTB subsidiary, the Native Land Development Corporation (NLDC). The NLTB, through the NLDC, directly competes with private tenant farmers and plantations for the limited rental land. Given the accumulated knowledge of the NLTB in customary land administration and the continued financing of NLTB's deficits by the Ministry of Finance in the last five years, the NLDC has had easier access to some choice land in the country than have potential private investors in the agricultural sector.

8.20 Lease processing by the NLTB needs to be streamlined so that the waiting period is reduced to approximately three months, after the consensus of Mataqalis is obtained. This time period is comparable to the record achieved by the NLTB for processing land leases for tourism and projects for the Fiji Sugar Corporation (FSC). With the increase in the number of expatriate technicians assisting the NLTB in establishing a complete land registry system and in improving NLTB's accounting practices, the three to six month waiting period should be within reach.

8.21 The investment portfolios of the NLTB and its subsidiary, the NLDC, should be scrutinized thoroughly to ensure that NLTB/NLDC investments are not in competition with the private sector for scarce factors of production, e.g. land under lease and with

other public investment projects for limited financial resources. The role of the NLDC as a statutory body, along a corporate farming model, and its relationship with the NLTB should be re-examined in light of the Government's desire to stimulate private sector investment in resource-based industries, including agro-industries.

8.22 The NLTB has had some success in making rental land available for large projects such as in the special case of Seaqaqa [1/] and the proposed pigeon pea project in the Northern District on the ground that sugar and pigeon pea production require large-scale commercial farms where scale economies exist. However, if the requirements of smaller agro-industrial opportunities are to be met, rental land should be made available to smallholders as well since a broad range of other export and import substitution opportunities are better served by smallholders (see also Chapter Six).

The National Marketing Authority (NMA)

8.23 The National Marketing Authority (NMA) performs two major separate functions. First, as a statutory body within the Ministry of Agriculture and Fisheries, it competes with the established private marketing system for fresh fruit and vegetables. At the same time, it has the contradictory role of a compulsory purchaser of unsold or surplus crops at uneconomic prices, [2/] without reference to quality standards - which in fact do not exist.

8.24 Second, the NMA has statutory authority to export Fiji produce and enter into joint ventures for the processing and distribution of such produce. Consequently, exporters in the private sector see the NMA as competing unfairly against them

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1/ It is important to note that Seaqaqa is made up of small plots exploited by individual farmers.

2/ The decisions are often politically motivated.

with full Government backing. Indeed, the climate of suspicion has in certain instances, notably ginger, given way to hostility.

8.25 With regard to domestic marketing, the situation is further complicated by the fact that on the one hand the NMA has a commercially non-accountable role of distributing Government funds to farmers for their unsaleable crops and on the other, it acts in an accountable manner in commercial joint ventures. These two conflicting roles should be separated. Moreover, the NMA cannot perform efficiently the multitude of functions it has been assigned, e.g. price stabilization, export promotion, equity-holding, etc. For this reason, the mission believes that the present price stabilization function of the NMA should be transferred to the MAF and upgrading of quality standards of fresh fruit and vegetable should be a long-term objective of the MAF extension services. The equity holding function of the NMA logically belongs to the Fiji Development Bank. Domestic and export marketing functions belong to the NMA but have to be coordinated with EDB's activities in the same areas.

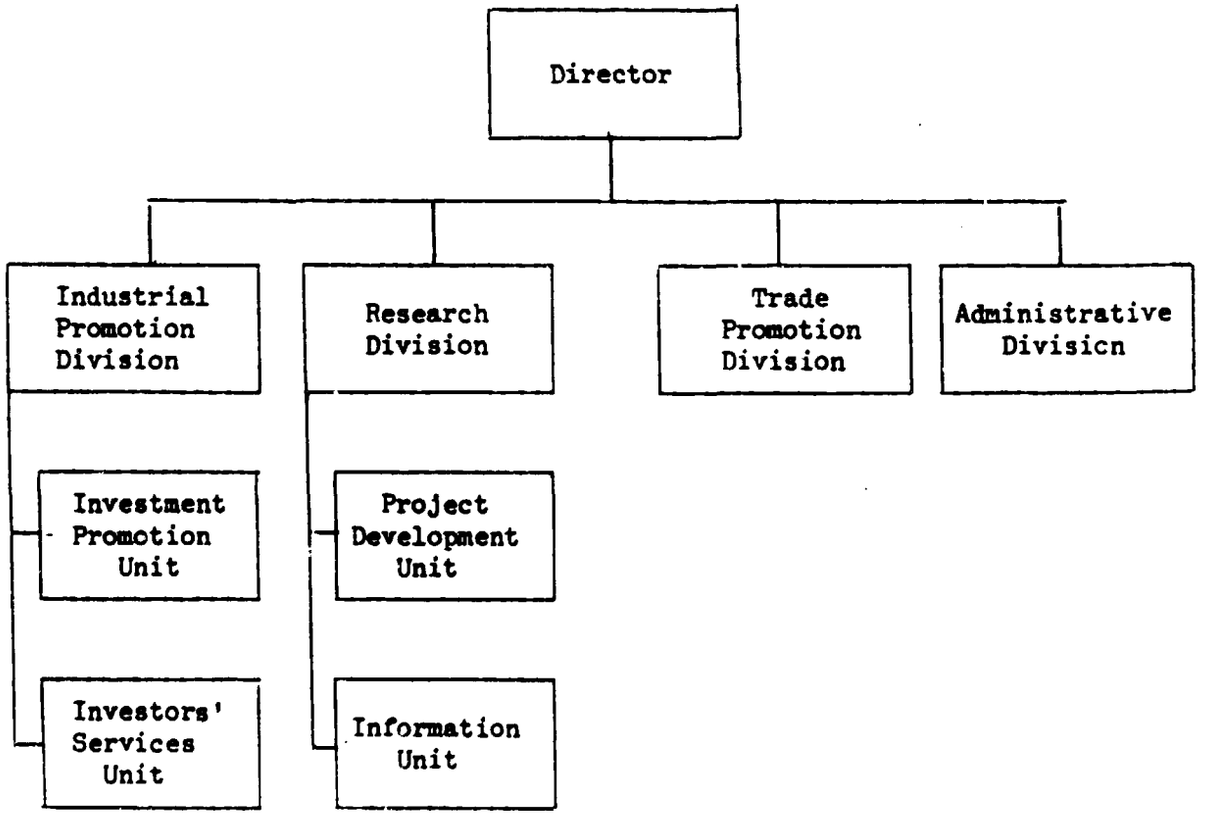
The Fiji Development Bank (FDB)

8.26 In view of the Government's desire to diversify agriculture and develop associated agro-industries, the FDB lending needs to be channelled into the non-sugarcane subsectors and particularly to smallholders. Moreover, the equity investment holding role needs to be strengthened. The many equity-investment holding bodies which presently exist should be consolidated under one roof, that is the FDB, in order to avoid duplication and to rationalize financial controls by central agencies, i.e. the Central Monetary Authority.

Proposed EDB's Organizational Structure

8.27 In order to carry out its responsibilities efficiently, the Economic Development Board should be organized along a structure suitable for the planning, evaluating and implementing functions associated with the promotional activities of the EDB. These services aim at encouraging and assisting private entrepreneurs in the identification and preparation of investment projects, exploring opportunities for expanding or penetrating local and foreign markets and channelling foreign and local assistance to domestic entrepreneurs with regard to capital, technology and marketing research.

8.28 The following breakdown of a proposed organizational and functional structure covers minimum requirements of the EDB in order to fulfill these responsibilities.



8.29 Within the Board, the Research Division should play the central role as it would have to serve both the Industrial Promotion Division and the Trade Promotion Division. Accordingly, it would have to be organized as the strongest division in terms of manpower and skills. For the sake of clarity in the definition of responsibilities, the division would be functionally divided into two units, namely, a Project Development Unit and an Information Unit as follows.

8.30 The Project Development Unit would have the responsibility of identifying investment and trade opportunities as well as preparing appropriate documentation for promotional purposes. It would carry out the following tasks:

(a) investment opportunity studies by undertaking research, i.e. screening, appraising and evaluating, which aims at identifying socially desirable investment projects;

(b) research to study and (develop) product lines or products that can compete in quality and reliability in world markets or locally with present imports; and

(c) as a result of the above listed activities in (a) and (b) project documentation to prepare (i) "Investment Project Profiles" needed as a basis for investment decisions and (ii) "Product Opportunity Studies" as a part of the market research of local (import substitution) and foreign markets.

8.31 The Information Unit would be mainly responsible for the operation and updating of a "Data Bank" serving all units of the EDB and other Government agencies with particular reference to the National Marketing Authority (NMA), the Ministry of Commerce and Industry and the Ministry of Agriculture and Fisheries. In carrying out this task it would cooperate closely with nongovernmental

organizations such as Chambers of Commerce, trade associations and the financial and business communities. A further responsibility would be the monitoring of promoted firms to obtain information on their performance vis-a-vis the national development objectives.

Industrial Promotion Division

8.32 The Industrial Promotion Division is the initial contact point for potential investors and should offer pre- and post-investment services to the private sector. Accordingly, two units are suggested within the division, namely the Investment Promotion Unit and the Investors' Service Unit as follows.

8.33 The Investment Promotion Unit would have the responsibility of publicizing and marketing investment opportunities and the services which the EDB has to offer. This includes:

(a) identifying target groups of potential investors to assist in the presentation of promotional efforts;

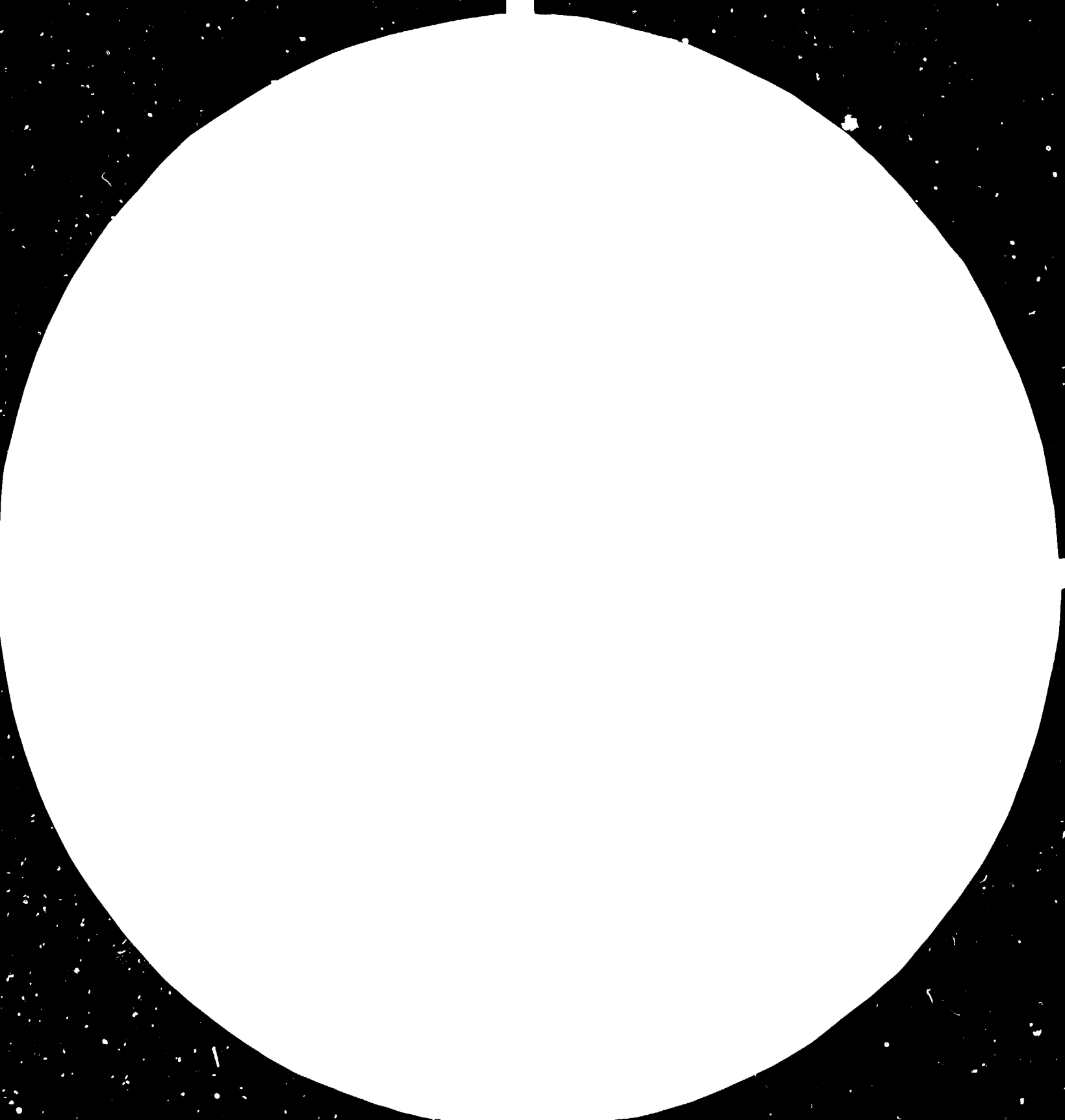
(b) preparing publications and the active marketing of investment opportunities to the target groups;

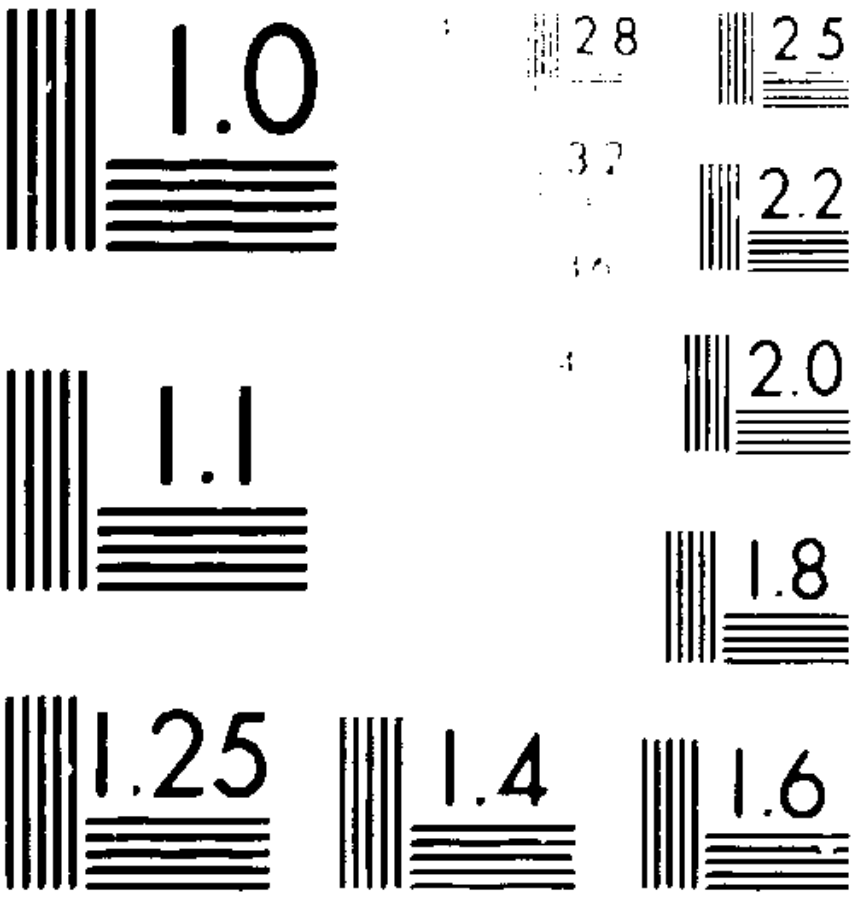
(c) assisting in the search for, and the matching of appropriate joint venture partners;

(d) monitoring of investors' attitudes concerning Fiji's investment climate;

(e) organizing of periodic investment promotion campaigns; and

(f) liaison with Fiji's overseas representation (Commercial Attaches) and maintaining contacts with overseas investment promotion services such as UNIDO's Investment Promotion Services in several industrialized countries.





8.34 The Investor's Service would be responsible for:

(a) initial briefing of investors;

(b) assisting businessmen in obtaining licenses, approvals and other services from Government agencies; and

(c) providing information to project proponents which would facilitate the preparation of project profiles and feasibility studies drawing on the EDB's data bank.

The Trade Promotion Division

8.35 The Trade Promotion Division should utilize research carried out by the Research Division leading to the identification of suitable products for promotion. In the present situation it is essential that both the Economic Development Board and the National Marketing Authority cooperate closely to avoid a counterproductive duplication of efforts as both organizations follow similar objectives in promoting trade activities. The Board should support the NMA's efforts with particular reference to specific investment and marketing studies. The responsibilities of the Trade Promotion Division include:

(a) in cooperation with the Research Division, identifying potential markets for Fijian products to channel promotional efforts;

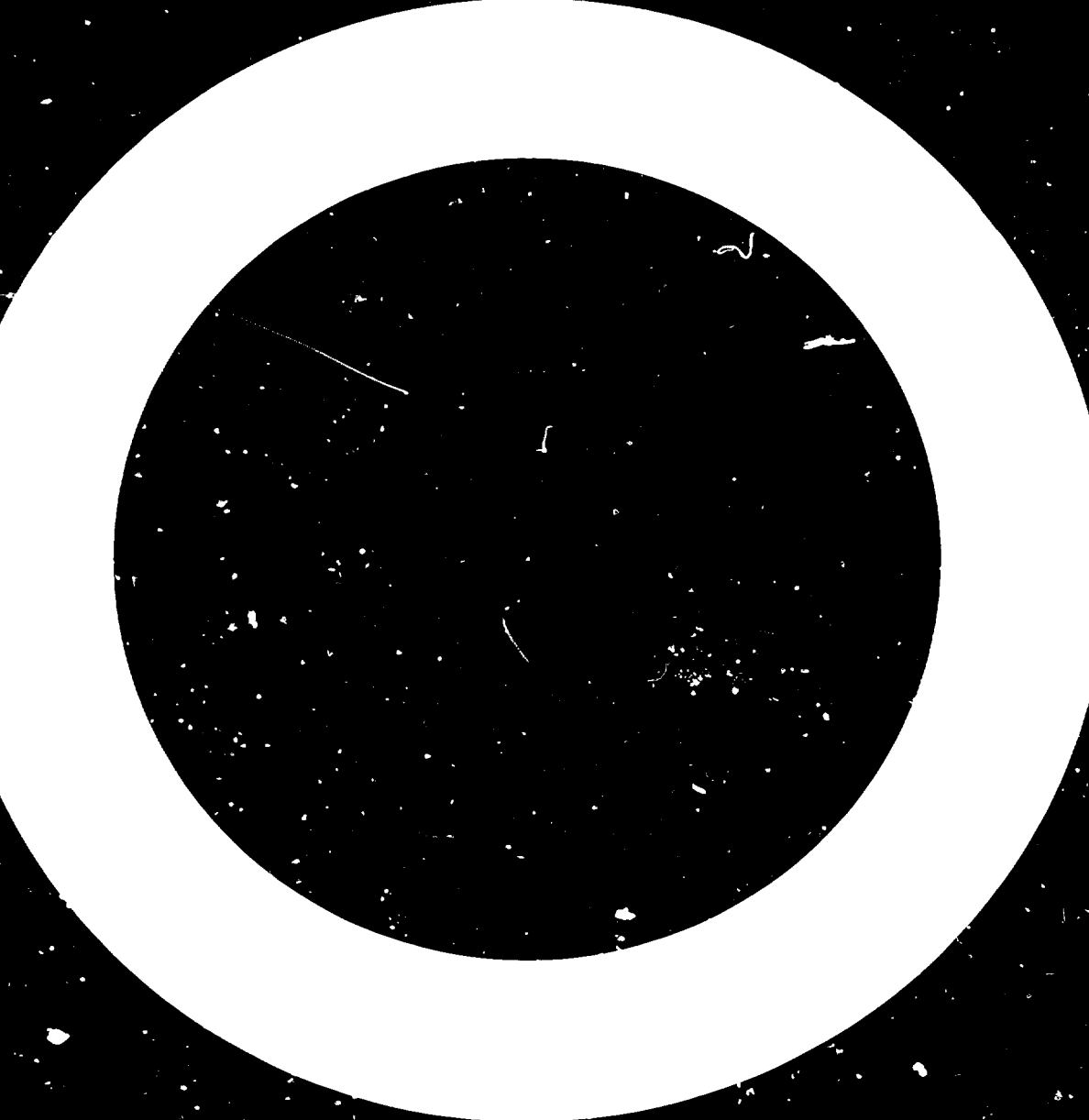
(b) organizing Trade Fairs in cooperation with the NMA to promote selected products;

(c) monitoring potential buyers' attitudes concerning the marketability of Fijian products; and

(d) analyzing the impact of Trade Agreements on exports.

Administrative Division

8.36 This division would carry out administrative responsibilities with regard to financial and personnel matters.



FIJI: DIRECTION OF TRADE, 1977-1981
(% OF TOTAL)

	Exports (f.o.b.) 1/					Imports (c.i.f.) 2/				
	1977	1978	1979	1980	1981	1977	1978	1979	1980	1981
Australia	7.3	7.9	8.6	7.3	9.0	22.7	29.8	35.3	30.6	35.9
New Zealand	10.3	10.8	9.2	12.7	10.0	13.9	15.4	15.0	14.7	13.9
EEC	55.4	53.8	46.7	25.8	34.1	11.9	11.4	10.8	9.0	8.0
United Kingdom	(54.8)	(53.0)	(46.4)	(25.8)	(33.4)	(9.8)	(9.8)	(8.9)	(7.3)	(5.0)
Other EEC	(0.6)	(0.8)	(0.3)	(0.0)	(0.7)	(2.1)	(2.2)	(1.9)	(1.7)	(3.0)
Japan	1.3	0.2	1.3	13.2	9.5	16.3	15.9	14.3	14.2	16.0
United States	4.9	9.1	18.4	10.5	12.3	4.2	4.6	5.7	6.5	7.1
Singapore	6.4	3.1	2.4	1.9	4.6	11.8	7.0	4.9	11.0	7.0
Hong Kong	0.4	0.5	0.3	0.2	0.3	2.4	2.6	2.1	1.5	1.6
People's Republic of China	-	-	-	5.6	-	1.9	2.1	1.6	1.7	1.8
India	-	-	-	-	-	1.2	1.5	1.4	1.1	0.9
Canada	1.7	4.1	3.6	8.3	4.9	0.4	0.5	0.5	0.6	0.5
Others 2/	13.5	10.5	9.5	14.5	15.3	8.3	9.2	8.4	8.7	6.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Total (F$ million)	124.5	121.9	167.6	229.6	193.4	281.0	300.0	392.8	458.7	540.0

1/ Domestic exports only.

2/ Includes re-exports.

Source: Current Economic Statistics, Bureau of Statistics, Suva, Fiji (various issues).

FIJI: GDP IN AGRICULTURE AND AGRO-INDUSTRY (AT FACTOR COST)
CONSTANT 1977 F$ MILLIONS

	1977	1978	1979	1980	1981
Crops					
Sugarcane	62.0	59.6	80.9	67.8	76.7
Other crops	23.2	21.7	21.6	22.1	23.0
Total crops	85.2	81.3	102.5	89.9	99.7
Livestock products	4.5	5.4	6.4	6.4	6.3
Subsistence	42.2	43.0	43.9	44.7	45.6
Total agriculture	131.9	129.7	152.9	141.0	151.6
	(Av. Ann. = 3.75%)				
Processing					
Sugar	24.0	23.0	31.4	26.3	29.6
Other food, drink and tobacco	16.8	16.6	17.0	17.2	17.8
Total agro-industry	40.8	39.6	48.4	43.5	47.4
	(Av. Ann. = 4.74%)				

Source: Current Economic Statistics, Bureau of Statistics, Suva, Fiji January, 1982.

Footnote: Includes subsistence fishing.

FIJI: PRIMARY PRODUCTION - SELECTED AGRICULTURAL PRODUCTS

Period		Sugarcane 1/	Copra	Paddy rice	Tobacco	Cocoa	Beef 2/	Pork 2/	Chicken 3/	Eggs	Fish 4/
		'000 tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes	tonnes
1974		2,151	27,716	-	-	50	3,170	290	-	789	-
1975		2,160	23,741	22,961	407	75	2,477	282	-	937	-
1976		2,283	26,770	20,586	488	88	2,176	325	1,257	948	3,721
1977		2,674	30,887	17,966	538	97	2,327	335	1,634	998	4,775
1978		2,849	26,067	16,105	269	123	2,722	469	1,992	1,622	5,800
1979		4,058	21,822	18,712	300	144	3,616	645	2,505	1,642	6,959
1980		3,360	22,802	17,846	413	130	3,525	574	2,961	1,666	6,296(r)
1981		3,931	20,520	26,286	NA	178	3,447	619	3,093	1,703	NA
1978	Qtr 1	Nil	8,060				593	91	394		
	Qtr 2	414	7,162				634	114	471		
	Qtr 3	1,627	6,316				735	131	586		
	Qtr 4	808	4,529				760	134	541		
1979	Qtr 1	Nil	3,721				800	132	525		
	Qtr 2	795	6,451				914	154	560		
	Qtr 3	1,469	5,874				972	195	658		
	Qtr 4	1,794	3,776				930	164	762		
1980	Qtr 1	Nil	4,696				910	153	650		
	Qtr 2	542	7,237				871	147	706		
	Qtr 3	1,540	6,921				903	127	797		
	Qtr 4	1,277	3,948				840	147	809		
1981	Qtr 1	Nil	3,459				886	109	549		
	Qtr 2	851	5,930				833	147	698		
	Qtr 3	1,733	6,439				905	175	925		
	Qtr 4	1,347	4,692				823	187	921		

1/ Figures related to seasons, not calendar year.

2/ For animals killed in slaughter houses only.

3/ Refers to the output of registered chicken abattoirs only and includes dressed chickens as well as sales of live chickens.

4/ Fishing inside Fiji waters, excluding "subsistence" fishing. Figures are estimates.

Notes: Totals are subject to rounding errors.
(r) revised.
NA Not available

Source: Bureau of Statistics, Suva, Fiji.

FIJI: SUGAR INDUSTRY PRODUCTION AND PRICES

Year/ season	Sugar cane 2/				Prices paid to growers	Input of cane per tonne of sugar	Sugar production	Molasses production	Exports of sugar 1/		
	Number of contracts	Area harvested (kg-ha)	Production (tonnes '000)	Average production per hectare (tonnes/ha)	(F$/tonne)	(tonnes)	(tonnes '000)	(tonnes '000)	Quantity (tonnes '000)	Value (f.o.b) (F$'000)	Unit value (F$/tonne)
1966	15,579	43	2,227	51.8	6.39	7.2	309		242	21,096	87
1967	15,609	45	2,197	49.9	6.23	7.4	297		323	23,780	74
1968	15,596	46	2,871	62.4	6.40	7.2	399	95	346	24,356	72
1969	15,596	47	2,376	51.6	6.62	7.8	305	108	322	28,134	87
1970	15,542	46	2,886	62.7	7.62	8.0	361	107	334	31,820	95
1971	15,548	47	2,545	54.1	7.95	7.9	323	85	340	32,851	97
1972	15,612	44	2,238	52.0	9.90	7.4	303	77	279	34,423	123
1973	16,533	46	2,496	55.4	9.76	8.3	301	95	271	34,280	126
1974	16,546	45	2,151	48.8	20.57	7.9	272	71	258	66,952	260
1975	17,264	45	2,160	49.0	31.60	7.9	273	76	250	91,717	370
1976	17,667	47	2,283	48.6	24.18	7.7	296	81	250	67,704	271
1977	18,395	52	2,674	50.1	26.74	7.4	362	105	324	93,576	289
1978	18,456	54	2,849	52.8	24.99	8.2	347	106	294	83,273	283
1979	19,152	62	4,058	65.5	23.50	8.6	473	163	428	116,962	273
1980	19,700	67	3,360	50.2	35.19	8.5	396	129	441	174,175	395
1981	21,000	66	3,931	52.6	25.00(p)	8.4	470	152	408	131,561	322

1/ The sugar export price closely approximates the actual realised average prices for production because local consumption accounts for a small percentage of total production. The price paid for 1970 season and after, to the growers, is based on the formula as laid down under the Denning Award.

2/ Relates to seasons. (p) = provisional

Notes: The downward trend experienced in the tonnage of cane and sugar produced, from the year 1972 has now been reversed. There was a remarkable increase in 1977's production owing to a bout of exceptionally dry weather. Production in 1979 totalled 473,000 tonnes - a record despite a fall in the sugar content of cane.

Source: Fiji Sugar Corporation and Trade Reports.

FIJI: ESTIMATED ANNUAL CONSUMPTION PER HEAD OF POPULATION OF SELECTED COMMODITIES

Commodity	Unit	1975	1976	1977	1978	1979	1980(r)	1981(p)
Meat (fresh and canned)								
Beef	kg	6.23	6.59	7.75	7.71	7.79	6.75	6.99
Pork	kg	0.67	0.63	0.79	0.86	1.04	0.98	0.98
Mutton and lamb	kg	6.59	5.78	6.58	7.63	6.65	5.53	6.24
Poultry	kg	3.36	3.62	4.40	5.32	5.29	4.70	4.79
Eggs	kg	1.78	1.85	1.78	2.75	2.66	2.68	2.70
Other food stuff								
Butter	kg	2.03	2.10	2.29	2.62	2.90	2.69	2.32
Sugar	kg	41.89	38.79	39.81	41.09	42.81	37.93	38.26
Flour	kg	22.96	21.35	16.98	27.78	30.75	31.10	30.55
Sharps	kg	32.99	34.58	36.74	30.06	34.43	34.01	33.88
Rice	kg	64.84	56.89	59.40	53.61	57.57	52.79	65.53
Coffee	grams	64.92	112.39	105.03	96.00	147.55	102.12	132.34
Tea	kg	1.16	1.06	1.07	0.95	1.04	1.02	1.14
Ice cream	liters	5.81	5.98	6.03	5.40	5.20	5.42	5.51
Beverages and tobacco								
Beer	liters	27.61	27.84	27.67	26.89	28.95	28.44	28.57
Alcoholic spirits	liters	1.44	1.54	1.75	1.54	1.50	0.90	0.87
Cigarettes	nos.	033	923	926	912	911	875	885
Manufactured tobacco	grams	31.79	29.31	21.97	21.22	17.46	19.76	17.97
Other manufactured goods								
Soap	kg	7.64	8.85	7.98	8.58	9.89	9.73	8.78
Cement	kg	108.34	109.96	120.17	129.10	135.95	129.10	155.28
Paint	liters	2.01	2.56	2.54	2.74	2.82	2.88	2.79
Petroleum and petroleum products								
Liquified petroleum gasses (LPG)	kg	2.45	2.78	3.54	3.26	4.30	4.24	4.68
Household kerosene	liters	32.59	21.06	43.82	35.04	34.17	26.12	26.47
Benzine (white)	liters	0.03	0.11	0.12	0.14	0.14	0.12	0.14
Automotive distillate (diesel fuel)	liters	85.25	85.13	121.74	100.34	130.49	134.65	163.58
Motor spirit	liters	84.80	62.18	87.45	91.76	100.91	86.00	89.50

(r) Revised.

(p) Provisional.

Note: The above figures are inclusive of stock changes, intermediate consumption of industries and consumption by overseas visitors; hence the per capita consumption of these commodities may be inaccurate to that extent.

Source: Bureau of Statistics, Suva, Fiji.

FIJI: VALUE OF DOMESTIC EXPORTS OF AGRICULTURAL AND FOOD PRODUCTS, 1980/81

Division	Item	F$'000 1980	F$'000 1981
0	Live animals	4.5	-
1	Meat and preparations	184.4	61.5
2	Dairy products and eggs	18.0	26.6
3	Fish and preparations	9,034.2	16,814.5
4	Cereals and preparations	1,702.8	1,837.5
5	Fruit and vegetables	1,914.5	1,737.6
6	Sugar and preparations	186,329.6	141,502.1
7	Coffee, tea and spices	1,577.1	2,587.7
8	Animal feeds	743.6	831.5
9	Miscellaneous food	71.1	120.5
11	Beverages	30.0	20.7
12	Tobacco and products	55.4	54.2
21	Hides and skins	194.9	171.2
22	Oilseeds	2.2	4.6
29	Crude animal and vegetable materials	504.4	553.5
42	Vegetable oils and fats	6,538.3	6,376.3
	Total	208,906.8	172,700.0

FIJI: VALUE OF DOMESTIC IMPORTS OF AGRICULTURAL AND FOOD PRODUCTS, 1980/81

Division	Item	F$'000 1980	F$'000 1981
0	Live animals	545.9	345.5
1	Meat and preparations	7,256.1	9,774.7
2	Dairy products and eggs	7,005.6	7,554.6
3	Fish and preparations	13,738.6	13,800.7
4	Cereals and preparations	19,776.8	24,618.9
5	Fruit and vegetables	9,466.4	11,101.3
6	Sugar and preparations	676.0	851.3
7	Coffee, tea and spices	2,908.5	3,606.2
8	Animal feeds	1,502.4	2,458.2
9	Miscellaneous food	2,057.8	2,439.3
11	Beverages	2,833.6	3,030.9
12	Tobacco and products	1,017.3	1,490.9
21	Hides and skins	0.3	0.7
22	Oilseeds	802.1	997.8
29	Crude animal and vegetable materials	694.1	806.8
41	Animal oils and fats	1,442.0	1,218.4
42	Vegetable oils and fats	3,643.7	4,646.4
	Total	75,367.2	88,742.6

FIJI: RE-EXPORTS OF AGRICULTURAL AND FOOD PRODUCTS, 1980/81

Division	Item	F$'000 1980	1981
0	Live animals	1.2	-
1	Meat and meat preparations	51.6	52.5
2	Dairy products and eggs	8.4	3.7
3	Fish and preparations	6,146.4	3,002.9
4	Cereals and preparations	89.2	146.6
5	Fruit and vegetables	83.5	46.5
6	Sugar and preparations	13.7	3.5
7	Coffee, tea and spices	12.2	10.4
8	Animal feeds	0.1	-
9	Miscellaneous food	29.6	20.1
11	Beverages	128.2	52.2
12	Tobacco and products	3.7	1.6
21	Hides and skins	-	-
22	Oilseeds	-	-
29	Crude animal and vegetable materials	238.5	57.4
41	Animal oils and fats	7.1	3.9
42	Vegetable oils and fats	5.7	0.2
	Total	6,819.1	3,401.5

FIJI: TRADE BALANCE IN AGRICULTURAL AND FOOD PRODUCTS, 1980/81

Division	Item	F$'000 1980	F$'000 1981	Principal deficit products
0	Live animals	- 540.2	- 345.5	Poultry
1	Meat and preparations	-7,020.1	-9,660.7	Lamb, beef
2	Dairy products and eggs	-6,979.2	-7,524.3	Ghee, WMP, butter
3	Fish and preparations	-1,442.0	6,016.7	Canned fish
4	Cereals and preparations	-17,984.8	-22,634.8	Rice, maize, sorghum
5	Fruit and vegetables	-7,468.4	- 9,317.2	Potatoes, peas, onions
6	Sugar and preparations	185,667.3	140,654.3	
7	Coffee, tea and spices	-1,319.2	- 1,008.1	Tea, chocolate, coffee, cocoa
8	Animal feeds	- 758.7	- 1,626.7	Meatmeal, poultry feed
9	Miscellaneous food	-1,957.1	- 2,298.7	Yeast, food preparation
11	Beverages	-2,675.4	- 2,958.0	Whisky, gin, wine, rum
12	Tobacco and products	- 958.2	- 1,435.1	Tobacco, unmanufactured
21	Hides and skins	194.6	170.5	
22	Oilseeds	- 799.9	- 993.2	Copra, peanuts, soybeans
29	Crude animal and vegetable materials	48.8	- 195.9	By-products, yoqona seeds
41	Animal oils and fats	-1,434.9	- 1,214.5	Tallow
42	Vegetable oils and fats	2,900.3	1,730.1	Soya bean oil
	Trade balance	140,356.9	87,358.9	

FIJI: AGRICULTURAL SUBSIDIES, 1981
(IN F$)

Budget item		Type of subsidy					
		Input		Service		Other	
Agrochemicals	500,000	Fertilizer Weedicide Pesticide	100,000 220,000 180,000				
Coconut diversion	20,000			Replanting Diversification crops	20,000		
Cocoa development	165,000			Cocca subsidies	15,000	Cocoa development loan	150,000
Chemical subsidies (sugar area)	300,000	Weedicides and pesticides	300,000				
Rice seed processing	69,000	Rice seed	69,000				
Livestock	155,000	Fence posts	155,000				
Fencing grants and subsidies	377,800	Goats Perimeter Other	6,000 54,500 50,000	Rice seeds Pasture Roads Drainage Land levelling	16,400 20,000 90,000 60,900 80,000		
Total	1,586,800		1,134,500		302,300		150,000

Source: Central Planning Office

FIJI: AGRO-INDUSTRY PROFILE, 1978
(F$'000)

ISIC	Industry	Gross output producers' value	Value added	Gross fixed capital formation	Employment	Book value total capital stock	Export sales	Domestic sales	Wages and salaries	Operating surplus	Value added per employee F$/ person
3111	Butchering and meat packing	1,573	480	48	112	1,796	129	1,231	286	116	4.29
3112/3/4	Dairy, fruit and fish	17,028	4,285	971	451	5,503	9,961	5,461	2,014	1,952	9.50
3115/8	Sugar and edible oil	116,064	24,441	12,601	4,141	42,413	100,962	8,378	14,941	7,393	5.90
3116	Rice milling	14,995	2,389	321	172	2,872	31	14,860	750	1,363	13.89
3117	Bakery products	6,507	1,592	298	393	773	490	5,985	1,119	377	4.05
3119/21/22	Miscellaneous food products	8,659	2,261	186	328	1,404	429	8,289	637	1,489	6.89
3133/40	Beer and tobacco	23,950	4,307	919	327	4,738	19	23,948	1,465	2,368	13.17
3134	Non-alcoholic drinks	2,323	1,065	389	202	1,654	-	2,255	430	476	5.27
3511	Sawmilling	9,982	3,594	396	869	6,029	1,358	8,777	2,345	597	4.14
3525/24/29	Soap and misc. chemical products	5,121	864	199	123	829	371	4,301	621	123	7.02
3822	Agricultural machinery	761	398	150	152	396	-	656	184	168	2.62

Source: Census of Industrial Production, 1978, Bureau of Statistics, Suva, Fiji, January 1982.

FIJI: COMMERCIAL BANKS' OUTSTANDING LOANS AND ADVANCES TO PRIVATE SECTOR, 1977-1981

As at the end of December	1977		1978		1979		1980		1981	
	F$ m	% 1/	F$ m	% 1/	F$ m	% 1/	F$ m	% 1/	F$ m	% 1/
1. Business advances										
i. Agriculture, forestry and fisheries	7.2	6.1	6.9	5.5	10.9	6.6	16.3	8.5	24.2	10.2
a. Farm purchases										
b. Sugarcane growing								5.6		6.8
c. Coconut planting and copra preparation										
d. Forestry and logging	7.2	6.1	6.9	5.5	10.9	6.6				
e. Livestock and poultry										
f. Other agriculture										
ii. Manufacturing	12.1	10.3	15.9	12.6	14.8	9.0	24.2	12.6	29.3	12.3
iii. Building and construction	9.0	7.7	10.3	8.2	12.2	8.0	12.8	6.6	16.4	6.9
iv. Wholesale and retail trade	43.6	37.2	46.7	37.2	59.8	36.4	67.2	34.9	82.9	34.8
v. Transport and shipping	3.7	3.1	4.5	3.5	5.8	3.5	8.6	4.5	7.6	3.2
2. Personal advances	17.0	14.5	21.1	16.8	26.3	16.0	32.5	16.8	34.0	14.2
i. Housing	10.2	8.7	11.2	8.9	14.2	8.6	20.9	10.8	20.6	8.6
ii. Others	6.8	5.8	9.9	7.9	12.1	7.4	11.6	6.0	13.4	5.6
3. Other advances 2/	24.6	21.0	20.3	16.2	33.5	20.4	31.0	16.1	43.5	18.3
4. Total	117.2	100.0	125.6	100.0	164.3	100.0	192.6	100.0	237.9	100.0

1/ Percentages may not add to 100% because of rounding.

2/ Includes other business advances also.

Source: Fiji Development Bank.

FIJI: IMPORT DUTIES (APRIL 1982)

	Import Duty	
	Fiscal	Customs
	(%)	
Foodstuffs		
Poultry	45	5
Meat	5	5
Sausages and similar products	45	5
Fish	5	free
Milk and cream	5	free
Butter	5	free
Cheese (retail)	35	5
Cheese (bulk purchasing)	5	free
Vegetables (fresh)	5	free
Vegetables (preserved)	25	5
Fruit	25	5
Coffee	10	5
Tea (retail pack)	25	5
Tea (bulk)	free	5
Wheat	free	5
Rice (polished)	5	5
Rice (not polished)	free	5
Confectionery	75	5
Macaroni, spagetti, etc.	35	5
Breakfast cereals	35	5
Biscuits	75	5
Breakfast food	35	5
Jams, jellies, marmalades	35	5
Fruits, processed, including juice	35	5
Alcoholic beverages and tobacco		
Wine (still)	F$2.17/liter	7.5
Other	F$2.35/liter	7.5
Spirits (not exceeding 11.49% of alcohol content)	75	7.5
Spirits (exceeding 11.49%, but not exceeding 57.12% of alcohol content)	F$11.24/liter	7.5
Other (above 57.12%)	F$19.18/liter	7.5
Cigarettes	$29.98/kg	7.5
Tourist Goods		
Sports goods	7.5%	free
Gramophones, tape recorders	10%	free
Watches	10%	free
Cameras	free	free
Radio	10%	free
Jewellery	10%	free
Perfumes	10%	free

Import Duties (April 1982) cont.

	Import Duty	
	Fiscal	Customs
	------- (%) ----------	
Motor vehicles and gasoline		
Diesel passenger motor cars and racing cars irrespective of weight; other passenger vehicles of a gross unladen weight not exceeding 2 tonnes		
Having a piston displacement not exceeding 1,000 cu m	50	7.5
Having a piston displacement exceeding 1,000 cu m but not exceeding 1,500 cu m	70	7.5
Having a piston displacement exceeding 1,500 cu m but not exceeding 2,000 cu m	90	7.5
Having a piston displacement exceeding 2,000 cu m	140	7.5
Non-diesel passenger motor cars and racing cars irrespective of weight; other non-diesel passenger vehicles of a gross unladen weight not exceeding 2 tonnes		
Having a piston displacement not exceeding 1,000 cu m	72.5	
Having a piston displacement exceeding 1,000 cu m but not exceeding 1,500 cu m	85	7.5
Having a piston displacement exceeding 1,500 cu m but not exceeding 2,000 cu m	100	7.5
Having a piston displacement exceeding 2,000 cu m	140	7.5
Motor caravans and other vehicles not specified above:		
Motor caravans	35	7.5
Other	25	7.5
Gasoline	14¢/liter	free

Import Duties (April 1982) cont.

	Import Duty	
	Fiscal	Customs
	(%)	
Consumer durable goods		
Furniture	60	7.5
Water heaters	60	7.5
Washing machines	60	5
Air conditioners	60	5
Refrigerators	20	5
Carpets	50	7.5
Other		
Fabrics	5	free
Clothing	55	free
Footwear	32.5	free
Razor blades	25	7.5
Travel goods	45	7.5
Film	10	free
Records	50	7.5
Soaps	40	7.5
Soaps (toilet)	50	7.5
Glassware	25	7.5
Excise duties		
Cigarettes	24.7 cents per 10 cigarettes manufactured from tobacco grown outside Fiji. 16.9 cents per 10 cigarettes manufactured from tobacco grown in Fiji.	
Tobacco	F$22.30 per kg for tobacco grown outside Fiji. F$13.09 per kg for tobacco grown in Fiji.	
Ale, beer, stout, etc.	40 cents per liter.	
Matches	F$144 per gross box.	
Aerated waters	4 cents per liter	
Ice cream	5 cents per liter	
Cement	F$1 per metric tonne	
Soap and detergents	5 cents per kg	
Sugar	F$60.40 per metric tonne	
Toilet paper	2 cents per roll	
Export duties		
Copra	2	
Coconut oil	2	
Sugar	2	
Molasses	2	
Bran	5	
Oil cakes and residue from copra	5	
Metallic ores	2	
Gold	1	

Import Duties (April 1982) cont.

	Import Duty	
	Fiscal	Customs
	-------- (%)	---------

Quantitative restrictions on imports

In 1981, imports of the following products were restricted through licensing arrangements.

(1) Dairy products - cream
- evaporated milk

(2) Rice

REASONS FOR EXCLUDING PRODUCTS

The missions's early work resulted in the identification of 24 products for consideration as potentially viable agro-industrial undertakings.

Because other aid donors were examining them or the industries were already well established, the products eliminated from the mission's terms of reference were:

(a) Canned fish. Imports in 1980: 5,901 tonnes, value F$4,727,391; exports: 3,321 tonnes, value F$8,570,324.

(b) Smoked/dried salted fish. Imports in 1980: 21 tonnes, value F$83,332; exports 56 tonnes, value F$356,411.

(c) Livestock, especially poultry. Live poultry imports (day-old chicks) in 1980: 866,506 head, value F$382,435; exports: 50 head, value F$360.

The above industries (a), (b), (c) are well established and benefitted from Japanese, Australian and New Zealand assistance. The poultry industry has already reached self-sufficiency.

(d) Rice. Imports in 1980: brown rice, 9,897 tonnes, value F$3,829,446; polished rice, 5,842 tonnes, value F$2,364,737; other rice, 16 tonnes, value F$5,890; exports: all rice, 75 tonnes, value F$41,416. An Australian aid consultant team is focussing on rice policy.

(e) Tannery. Imports in 1980: some raw hides and skins but largely leather and leather goods; exports: raw hides and skins, 286 tonnes, value F$194,936.

Not only is this a livestock item but it has been reviewed three times in the 1970s and another team of consultants has recently appraised its potential. The mission felt there was no need to duplicate efforts.

(f) Cocoa. Imports in 1980: cocoa powder, cocoa butter and chocolate or chocolate coated products, 127 tonnes, value F$497,032; exports: cocoa beans, 174 tonnes, value F$377,322; other chocolate items, 765 kilos, value F$3,493. A major expansion of plantings is underway even though it was reported that not all of the existing areas are being harvested. Processing involves fermentation and drying by farmers. The NMA does the buying indirectly, and is shifting from buying or an ungraded basis to buying on a graded basis. Production is considered to be too low for processing beyond the dried-bean stage. Some Australian processing firms have declared their intention to buy Fiji's future output of dried cocoa beans provided the quality meets world standards. The Australian aid agencies appear very optimistic about cocoa price prospects and are willing to finance cocoa. In any event, Fiji's future cocoa production is so small that its impact on world supply will be minimal.

Other products were eliminated because of a lack of data or other technical constraints:

(g) Passion fruit. This product is now being processed by the South Pacific Foods Co., Ltd. Imports in 1980: juice, 440 liters, value F$285; pulp, 30 kilos, value F$45; exports: juice, 99,473 liters, value F$127,648; pulp, 128,454 kilos, value F$137,263. Production and processing cost data were unavailable.

(h) Coffee. Imports in 1980: coffee beans, roasted ground coffee, and extracts, essences or concentrates of coffee, 55 tonnes, value F$395,394; exports: coffee beans, 24 kilos, value F$16. Reportedly, coffee has been introduced as a crop several times during the past 120 years with generally unsatisfactory results arising from disease and labor shortages, hurricane damage and the competition from other crops such as copra. Now a Robusta coffee project covering more than 200 ha is underway at Delaiweni; a "wet" processing plant will process the beans for export. Local market is too small to consider processing of consumer products. Coffee remains a minor crop and reliable cost data are not available.

(i) Bagasse for wallboard. Product has already been produced at the FSC. Patent negotiations present a problem.

(j) Citrus juice. Imports and exports are listed as "other fruit and vegetable juices" so specific data are not available. The new processing plant at Batiri has plans for 40 acres of Valencia oranges and 30 acres of lemons. Limes may be added if a market is identified. In addition, other consultants are appraising citrus juice potential for Rotuma.

(k) Macademia nuts. Trade data are not available as it is too small an item to be listed separately. The product is offered for sale in Suva at F$6.80 for a 142-gram can. Low yields, disease problems, conditions not suitable for trees, and wind damage to trees during storms led to its removal from the list.

(l) Mandarin orange segments. No trade data available although two brands are offered for sale in Suva supermarkets. Major producers are the People's Republic of China, Taiwan, Korea and Japan. High labor costs in Fiji versus those in other producing areas, and the presence of the fruit sucking moth (which may require earlier than desirable harvesting) contributed to its removal from the list.

(m) Refined sugar. Imports in 1980: refined sugar (in addition to some sugar products), 115 tonnes, value F$100,629; exports: raw sugar, 441,123 tonnes, value F$174,174,829. The small local market for refined sugar, the reported preference for brown sugar (both of these factors may be price related), and probable trade conditions caused its removal from the list.

(n) Potatoes. Imports in 1980: 9,167 tonnes, value F$2,630,007; exports: none. Severe production problems, bacterial wilt, and soggy potatoes were reported. It remains to be seen whether white potatoes can be grown throughout the year or a storable variety can be grown successfully at altitudes much below 5,000 feet and in tropical countries with frequent rains and heavy rainfall.

(o) Cotton. No cotton is produced in Fiji and all cotton items (cloth clothing) are presently imported. The prospects for processing cotton in Fiji are not good since basic research on cotton processing has not been conducted in many years.

(p) Avocados. No specific trade data are available as they are aggregated with "fresh mangoes, etc". Avocados grow wild in Fiji. Problems consist of the many varieties available (90 identified on one island), and the presence of sun blotch virus (in the seed). The latter would likely mean finding or creating (by eliminating all

existing trees), a virus-free area. Further, the fruit set can be adversely affected by weather conditions at the time of flowering. These constraints would certainly make a quality-oriented marketing program difficult so the product was eliminated.

(q) Cut flowers and ornamentals. Imports in 1980: cut flowers and buds, foliages, etc., F$11,366; exports: above group of items, F$1,769. (In 1978/79: New Zealand had imports valued at NZ$247,113, exports valued at NZ$757,379; Australia had imports valued at A$975,000, exports valued at A$1,993,000). The major markets are: European countries, United States and Japan. However, trade data are so aggregated that precise information regarding the items involved would be most difficult to obtain, yet preciseness is essential with this group of products. Fiji has favorable climatic conditions but estate operations, using a high level of scientific production technology and astute management would be required.

TRAINING PROPOSALS

Chapters Six and Seven of this report call for a substantial increase in research and extension activities for pineapples, maize, onions, garlic, pawpaws and mangoes. This need for increased research and extension work was clearly evident; the capacity to conduct the necessary work, however, was unknown. Therefore, the staffing, training and work loads of the Research Division, Extension Division, and Economics, Planning and Statistics Division of the Ministry of Agriculture and Fisheries (MAF) were examined.

Situation

The MAF "Work Program 1982' lists the research objectives and the research activities planned by the Research Division as well as the commodities or groups of commodities to be studied. A summary of the work program of the Division is as follows:

Items to be researched:

Crops, i.e.	29 different crops plus research on vegetables and tropical fruits.
Livestock, i.e.	Dairy, beef, goats, poultry (eggs, broilers), pigs and sheep.

Research objectives listed: A total of 100.

Research activities listed: A total of 121.

The 1982 technical staff of the Research Division amounted to 65 persons. Of this total, four had a Ph.D. degree, six had a Master's degree, 15 had a Bachelor's degree, and 40 had a Diploma or Certificate in Tropical Agriculture. Given the work load indicated above, and the number and training of research workers, it is evident that:

(a) the work load is overwhelming, not to mention the increased research work that must result from this report;

(b) only applied research can be undertaken; and

(c) the Research Division is inadequately staffed, numerically and qualitatively.

Consequently, the needs are for graduate training of qualified personnel and for in-service training of others in research methods and analytical procedures.

The MAF "Work Program 1982" lists for the Economic, Planning and Statistics Division (namely the sections of Project Analysis and Planning, Policies and Administration, Statistical Analysis and Marketing, and Farm Management) eight general research objectives and 15 general research activities to be undertaken in addition to the issuance of import licenses for rice, dairy and poultry products, as well as pork and pork products which totalled 1,026 licenses in 1980. The 1982 technical staff consisted of 14 persons. Of this number, two had a Master's degree, seven had a Bachelor's degree, and five had a Diploma (which reportedly is the near equivalent of a Bachelor's degree). Again, it should be evident, given the functions to be performed, in addition to the research work and training of the staff, that the EPS Division is inadequately staffed, numerically and qualitatively. Their training needs are comparable to those of the Research Division.

For the Extension Division, the MAF "Work Program 1982" lists the commodities involved, extension objectives and work activities planned. An analysis of these shows that:

Items to be covered by extension:

Crops, i.e. 33 different crops plus other extension services for vegetables and tropical fruits.

Livestock, i.e. Dairy, beef, goats, poultry (eggs, broilers, hatcheries), pigs and sheep.

Extension objectives listed: A total of 78.

Extension activities listed: A total of 140.

The 1982 staff of the Division amounted to 267 persons, including both crop and livestock extension personnel. Of this number, two had a Master's degree, 33 had a Bachelor's degree, and the balance, namely, 232 persons had a Diploma or the near-equivalent thereof. Officials believed that the number of extension workers was adequate; the number of farms (1978 census) would average about 250 per extension worker. Constraints included lack of mobility (transport facilities) of the workers, lack of incentives, and lack of technical help - the latter a reflection of inadequate research. Graduate study for qualified employees was reportedly not needed; however, in-service training was needed and this included training in extension methods/techniques (including demonstration farms), extension communications, and program planning. Observation trips were also suggested.

Recommendations

It is recommended that a training component be added to the MAF Tree Crop Development Project. This component is to consist of two parts: graduate degree training, and in-service training which would include special seminars and travel fellowships. The basic aim would be to increase the qualitative level of the technical staff in the three divisions and thereby the total performance as the trained people become more effective themselves and more capable of directing the activities of junior employees.

Graduate degree training should include training in any of the various agricultural science disciplines and agricultural economics in a ratio of four agricultural science trainees to one agricultural economics trainee. Candidates should include those with a Bachelor's degree (for Master's training) or a Master's degree (for Ph.D. training) in a ratio of two trainees at the Master's level to one trainee at the Ph.D. level. Candidates selected for graduate study should attend recognized universities

in Australia, New Zealand, the United States, or England. They should be required to sign a contract, prior to departure for study abroad, stipulating that each trainee must return to his division to work for two, preferably three years for each year or fraction thereof spent abroad in a study program (or refund to the MAF the cost of the training obtained).

In-service training should consist of special short-term courses of four to six weeks' duration, general seminars of three to five days' duration, and travel fellowships for varying periods but not to exceed two weeks. The short-term courses would be primarily for those not qualified for graduate study, pragmatically oriented, and cover research methods, analytical procedures, extension methods, communication with farmers, program planning, and related topics. They would be taught by local resource persons or subject-matter specialists from other countries. Seminars, about two per year, should concern only the major agricultural problem areas of the country and represent a "state-of-the-art" type of activity in which all involved with each problem would be given a chance to report progress to date, what is needed, and then develop a recommended program for further action. Junior and senior officials should be linked together in the preparation of position papers; the use of subject-matter specialists from other countries would be appropriate. Observation tours/travel fellowships would be awarded to senior officials to enable them to attend international meetings and conferences, and to observe other countries' progress in coping with problems similar to those existing in Fiji.

The proposed budget would total about US$1,200,000 as follows:

	US$
Ph.D. study: 10 persons, 4 years each, at $65,000/person	650,000
M.S. study: 20 persons, 2 years each at $15,000/person	300,000
6 seminars at $20,000 each	120,000
10 short-term courses at $8,000 each	80,000
10 observation tours/travel fellowships at $2,500 each	25,000
Contingency	25,000
Total	1,200,000

TRANSPORTATION

There are no scheduled airfreight services to and from Fiji. Air cargo is carried by passenger flights, and available freight capacity is dependent upon the extent of passenger's accompanied baggage. It is unlikely that any single export consignment exceeding two tonnes will be acceptable, as normal freight carrying capacity of the passenger aircraft currently serving Fiji is around four tonnes.

Continental Airlines, Air New Zealand and CP Air provide seven wide-bodied jet passenger services per week between Fiji, New Zealand, Australia, Honolulu and U.S. and Canada west coast. Air New Zealand and JAL provide three flights per week to Japan.

Air Freight

Rates are common to most airlines (see Table 7a), although in certain cases it may be possible to negotiate concessionary rates when aircraft are known to be travelling cargo-light.

In the absence of air cargo services, freight uplift cannot be assured on the date or for the quantities required. This is an important factor in the case of perishable produce such as pawpaws and mangoes, destined for the Auckland fruit and vegetable auctions. Table 7b shows current frequencies of scheduled services.

Sea Freight

Fiji provides deep water and unitized terminal port facilities for vessels of up to 50,000 tonnes at Suva and Lautoka, both with full wharf-side installations. Thirteen shipping lines operate regular cargo services between Fiji and New Zealand, Australia, the USA, China, Japan, and Western Europe as shown in Table 7c. Vessels are Ro-Ro (Roll-on-Roll-off), Li-Lo (Lift-on-Lift-off) or conventional, according to shipping line and destination.

Table 7a: FIJI: AIRFREIGHT RATES FOR FOODSTUFFS ON SCHEDULED PASSENGER FLIGHTS FROM FIJI

Foodstuffs in general (not fresh)	Up to 1,000 kg	1,000 kg and over
Fiji to Vancouver, Los Angeles and Honolulu	F$1.18 per kg (min. 100 kg)	F$0.99 per kg
Fiji to Auckland	F$0.66 per kg (min. 250 kg)	-
Fiji to Sydney	F$0.75 per kg	F$0.51 per kg
Fresh fruits and vegetables	**Up to 1,000 kg**	**1,000 kg and over**
Fiji to Honolulu	F$2.75 per kg	F$0.82 per kg
Fiji to Tokyo	F$1.51 per kg (min. 500 kg)	

Note: Air New Zealand offers special rates for shipments of fresh produce over 500 kg.

Source: Airlines.

Table 7b: FIJI: FREQUENCY OF SCHEDULED AIRLINE SERVICES BY DESTINATION

Destination	Carrier	Frequency
Tokyo	Japan Airlines	3 flights per week
	Air New Zealand	3 flights per week
Honolulu	Air New Zealand	6 flights per week
	Continental	6 flights per week
Los Angeles	Air New Zealand	6 flights per week
	Continental	6 flights per week
Vancouver	CP Air	2 flights per week
Auckland	Air New Zealand	Daily
	Air Pacific	Daily
Sydney	Quantas	Daily
	Air Pacific	Daily

Source: Airlines.

Table 7c: FIJI : SEA TRANSPORT FROM FIJI

Destination and port	Shipping line
New Zealand	
- Auckland	Pacific Line Ltd., Nedlloyd (NZEAS Service) China Navigation Co., Reef Shipping Ltd. New Zealand Unit Express Pacific Forum Line
Australia	
- Adelaide	Fiji Express Line
- Sydney	Daiwa Line Karlander Line Fiji Express Line Pacific Forum Line
- Brisbane	Daiwa Line Fiji Express Line Pacific Forum Line
- Melbourne	Karlander Line Fiji Express Line
Hong Kong	New Zealand Unit Express Kyowa Line
USA	
- Honolulu	Blue Star Line: PAD Ro-Ro
- Tacoma	Blue Star Line: PAD Ro-Ro
- Portland	PAD Ro-Ro
- San Francisco	Blue Star Line: PAD Ro-Ro Karlander
- Long Beach	PAD Ro-Ro
- Los Angeles	Blue Star Line Karlander
Canada	
- Vancouver	Blue Star Line: PAD Ro-Ro

Table 7c: Fiji : Sea Transport from Fiji (cont.)

Destination and port	Shipping line
Western Europe	
- W. Germany: Hamburg	Nedlloyd Lines Bank Line
: Bremen	Bank Line
The Netherlands	
- Rotterdam	Nedlloyd Lines Bank Line
United Kingdom	
- Hull	Bank Line
Belgium	
- Antwerp	Nedlloyd Lines Bank Line
France	
- Le Havre	Nedlloyd Lines Bank Line
- Dunkirk	Nedlloyd Lines
Japan	
- Kobe	Kyowa Line China Navigation Co.
- Nagoya	Kyowa Line China Navigation Co.
- Yokohama	Kyowa Line China Navigation Co.

Note: Direct shipping connections are also available from Fiji to Taiwan, Singapore, China (mainland), Indonesia, Malaysia and Panama.

Source: Shipping Lines.

Pacific Forum Line (PFL)

This new shipping line was formed in 1977 on the basis of a memorandum of undertaking the signatories of which are the independent and self-governing countries of the South Pacific, namely Australia, Cook Islands, Fiji, Nauru, New Zealand, Tonga, Western Samoa, Niue, Papua New Guinea, Gilbert Islands, Tuvalu and Solomon Islands.

The purpose of PFL is to foster inter-regional trade by providing a regular shipping service to service all the member islands, and at the same time facilitate trade with Australia and New Zealand through concessionary tariff rates aimed at maintaining a 10 per cent to 20 per cent advantage over Conference rates. In the longer term it is proposed that PFL ships should extend their services to include other countries in South East Asia and Western Europe.

The PFL cargo fleet consists of three ships, viz:

- Forum New Zealand: a 7,000 tonne, Ro-Ro ship with a capacity for 300 containers.

- Forum Samoa and Forum Kavenga: two 6,000 tonne Li-Lo ships with special facilities for carrying coconut oil.

Services are fortnightly to New Zealand and monthly to Australia.

Due to the very high wharfing costs in New Zealand and Australia, and the fact that port handling facilities are primarily geared to containerized cargoes, break bulk cargoes are no longer economic. Consequently LCL 1/ consignments must be consolidated into container loads in order to qualify for PFL cargo carrying and tariff benefits.

1/ Less than container load.

Ocean Freight Rates

Freight rates are revised every six months to absorb changes in fuel prices. Some rates include a so-called Bunker Adjustment Factor (BAF). Current rates are listed in Table 7d per cubic meter, but may be calculated per tonne, if this produces higher revenue.

Table 7d: FIJI: OCEAN FREIGHT RATES FROM FIJI

Fiji port to New Zealand		
Conference Lines		
- Palletized	F$	78.57 per m^3 (pallets free)
"M.S. Fijian"		
- Unpalletized	NZ$	114.30 per m^3
- Palletized	NZ$	107.40 per m^3
- Minimum (unpalletized)	NZ$	25.00 per m^3
Pacific Forum Line		
- Unpalletized	F$	63.00 per m^3 (+ BAFX 10.75%)
- Container (20 ft/26.3 m^3)	F$	1,159.00 per container (+ BAFX 10.75%)
- Small container (9 m^3 capacity)	F$	407.00 per container (+ BAFX 10.75%)
Fiji port to Australian port		
Conference Lines		
- Palletized	F$	111.00 per m^3
Pacific Forum Line		
- Unpalletized	F$	62.00 per m^3
- Container (20 ft/26.3 m^3)	F$	1,180.00 per container
Fiji port to Pacific Coast Ports of USA, Canada, including Hawaii		
- Palletized (canned goods)	US$	114.00 per m^3 (+ BAFX 8%)
- Palletized (ginger, ventilated)	US$	154.00 per m^3 (+ BAFX 8%)
- Palletized (ginger preserved)	US$	119.00 per m^3 (+ BAFX 8%)
- Container (fruit juice and pulp)	US$	2,900.00 per container (+ BAFX 8%)
- Unpalletized (general rate)	US$	180.00 per m^3 (+ BAFX 8%)
Fiji port to UK port	US$	226.00 per m^3

Source: Carpenters Shipping Ltd.

Table 7e: FIJI: INTER-ISLAND BARGE AND SHIPPING SERVICES

Fiji Inter-Island Barge Service

The barge service is irregular and of varying duration depending on weather conditions. Cargo rates vary according to category. Current rates can be summarized as follows:

Savusavu-Suva	F$
All general cargo (non-machinery)	21.34 per m^3
	23.72 per tonne
Copra and coconuts	27.22 per tonne

Vanua Levu, Taveuni and Rabi to Suva or Lautoka	
All general cargo (non-machinery)	22.00 m^3
	24.53 per tonne

Fiji Inter-Island Shipping Service

Levuka-Suva and Yasawa (Mamanuca Groups-Lautoka) Schedule 1	
All general cargo (non-machinery)	23.23 per m^3
	25.89 per tonne
Copra and coconuts	28.92 per tonne
Freezer and Reefer - box cargo	66.99 per tonne

Nakama/Savusavu-Suva Schedule 2	
All general cargo (non-machinery)	26.39 per m^3
	29.45 per tonne
Copra and coconuts	35.58 per tonne
Freezer and Reefer - Box cargo	66.99 per tonne

THE IMPACT OF TRADE ARRANGEMENTS ON FIJI'S EXPORTS

Fiji's national development objectives as set out in the Eighth Development Plan, 1981-1985, contain as an important objective the intention to strengthen and further diversify the economic base of the nation. The main implication is that the production sector of the economy must undergo a transformation aimed at increasing and diversifying exports as well as spurring further domestic market developments.

Three trade arrangements are covered in this section which are designed to increase the opportunities for exports of Fiji products, i.e.:

- South Pacific Regional Trade Agreement (SPARTECA)
- African, Caribbean and Pacific Convention - LOME II
- Generalized System of Preferences (GSP)

The size of the markets offering duty free entry, or special concessions to Fiji is enormous both in terms of population and geographical area.

Unlike many land-locked and island countries, Fiji is strategically located in the South Pacific and well serviced by airfreight and fast sea cargo services to the main markets of the world. Moreover, Fiji is especially fortunate in being within easy reach of two important markets which although smaller than the large industrial nations, in comparison with Fiji, are major markets indeed, Australia and New Zealand.

Notwithstanding the most generous of incentives, few if any overseas manufacturers will open shop in Fiji unless the market opportunities are far greater than Fiji itself can offer.

The three trade arrangements to which Fiji is a signatory, provide access for Fiji's products, but the benefits will be meaningless unless Fiji produces products that are about to take advantage of the facilities offered.

SOUTH PACIFIC REGIONAL TRADE AND ECONOMIC CO-OPERATION AGREEMENT (SPARTECA)

The agreement was signed on 14 July 1980 at Tarawa, Kiribati. The signatories to the agreement are the Governments of Australia, the Cook Islands, Kiribati, New Zealand, Niue, the Solomon Islands, Tonga, Tuvalu and Western Samoa. Fiji acceded to SPARTECA on 2 December 1980.

The agreement is a non-reciprocal trade agreement under which Australia and New Zealand provide access concessions for exports from Forum Island sovereign states including duty free, unrestricted access, or other special concessions for most goods produced or manufactured in the member states.

FIJI EXPORTS TO AUSTRALIA AFFECTED BY THE SPARTECA AGREEMENT

Australian tariff no.	Description of goods	Import duty
08.11.100	Passionfruit pulp, preserved	PDC: A$0.14/Lt
08.11.100	Pawpaws, mango, pineapple, avocado, guavas, preserved	A$0.02/Lt
20.07.30	Passionfruit juice	A$0.13/Lt

The above table relates only to items currently produced in Fiji.

FIJI EXPORTS TO NEW ZEALAND AFFECTED BY THE SPARTECA AGREEMENT

CCN	Description of goods	Tariff	Licensing
20.06	Fruit otherwise prepared or preserved, whether or not they contain added sugar - pineapple	10%	-
20.07	Fruit juices whether or not they contain added sugar. Pineapple juice in bulk containers	-	On demand
	Pineapple juice (other)	10%	On demand
	Orange juice (other)	10%	-
	Lime juice in bulk containers containing added sugar	10%	-
	Lime juice (other)	10%	On demand
	Grapefruit, passionfruit juice in containers, not containing added sugar	-	On demand
	Other grapefruit juice and passionfruit juice	10%	On demand

ACP-EEC CONVENTION - LOME II

The Lome Convention is a trade and aid agreement between the EEC and the 57 African, Caribbean and Pacific States comprising the ACP group. Lome II was signed in October 1979 and expires in March 1985. The aid package is US$7.2 million compared to US$4.3 for Lome I. As an added stimulus Lome II has allocated a further US$55.2 million for regional cooperation programs. The financing vehicles are the European Development Fund (EDF) and the European Development Bank (EDB).

Fiji is a member state of the ACP Group and a full beneficiary of Lome II. The Lome Convention guarantees free access to the EEC markets for 99.5 per cent of ACP exports. The 0.5 per cent are products covered by the Common Agricultural Policy (CAP) of the EEC.

Importance is attached to trade promotion for which financial and technical assistance are made available. However, to date, ACP countries have taken little advantage of this trade related aid. Some countries attribute this to extended bureaucratic and procedural delays in obtaining EDF funds. Only 2 per cent of allocated funds have so far been taken up.

Notwithstanding free access guaranteed to ACP members, EEC agriculture is heavily protected and virtually impenetrable to all outside suppliers. For principal cereals, sugar, dairy products, beef, veal and sheepmeat an intervention, or floor price, is applied to acquire, store and resell products in the market.

About 25 per cent of production, particularly certain fruits, vegetables, and flowers is subject to an external protection system.

For certain products, e.g. soya, tropical products and out-of-season produce, EEC is reliant upon outside suppliers. Imports are regulated by changing tariff rates and introducing quotas. The system is especially favorable to ACP countries and represents about 9 per cent of EEC imports from the ACP countries.

Free access to the agriculture supply sector by ACP countries is on the basis of quota, where exports of the specific product constitute a significant component of the national economy. A special provision of importance to Fiji is sugar. Under the Sugar Protocol, the EEC undertakes to purchase at guaranteed prices, specific quantities of cane sugar, raw or white, which originate in ACP member states. As will be noted from the following schedule, Fiji receives the second highest allocation:

CURRENT SUGAR QUOTA IN THE EEC MARKET

	Tonnes
Mauritius	487,200
Fiji	163,600
Guyana	157,700
Jamaica	118,300
Swaziland	116,400
Trinidad and Tobago	69,000
Barbados	49,300
Malawi	20,000
Madagascar	10,000
Congo	10,000
Tanzania	10,000
Kenya	5,000
Uganda	5,000
Total	1,300,000

Rules of origin are laid down in the agreement and are summarized in a World Bank Working Paper No. 1980:2 of the Commodities and Export Projection Division.

STABEX is a system for guaranteeing stabilization of export earnings derived from ACP states' exports to the EEC, by direct subsidies to ACP states, based on past records of export performance. The system applies only to products on which the ACP country's economies are dependent, and which are affected by fluctuations in price and quantity. To qualify for STABEX, minimum earnings of the scheduled product must not be less than 7.5 per cent of total export earnings. Article 25 of the Lome Convention lists 44 products covered by STABEX.

Generalized System of Preferences (GSP)

The GSP is a system whereby industrialized countries grant special treatment to imports from developing countries, in the form of concessions, reductions, or duty free access for their products. The GSP is a non-reciprocal scheme.

As far as Fiji is concerned the GSP is replaced by the ACP/EEC Lome Convention for the nine member countries of the EEC, and by the SPARTECA Agreement for Australia and New Zealand.

Consequently, Fiji would benefit from the GSP preferences applied by the USA, Japan, Norway, Switzerland, Sweden, Canada, Austria and certain Comecon countries.

GSP benefits are not automatically conferred upon developing countries and Fiji exporters should make a point of checking whether goods destined for the USA, Japan and Canada, for example, are eligible for special concessions.

The majority of GSP schemes are expected to expire in 1982, but the Canadian and U.S. Schemes are operational until 1984 and 1986 respectively. Selected agricultural products are included subject to special treatment.

Special conditions govern the quantity of goods that are granted access under GSP. Annual tariff ceilings and quotas are imposed on the GSP schemes of the USA and Japan. Definition of rules of origin vary according to the GSP donor country.

The GSP scheme for the USA lists a number of items which are relevant to Fiji of which the following are a short list:

Guavas fresh, dried or pickled in brine	7% ad val
Guavas prepared or preserved	3.5% ad val
Mangoes, fresh	3.75¢ per lb
Mangoes, prepared or preserved	2.1¢ per lb
Pawpaws, prepared or preserved	4% ad val
Pineapple jellies, jams, etc.	5% ad val
Candied, crystallized or glaced vegetable substances	20% ad val
Ginger root, ground, not candied or preserved	1¢ per lb

(Media release 11 March 1982 by the Australian Ministry for Business and Consumer Affairs)

REPORT ON GINGER AND GINGER PRODUCTS

The Minister for Business and Consumer Affairs, the Hon. John Moore, MP,and the Minister for Primary Industry, the Hon. Peter Nixon, MP, today announced that the Government has accepted the recommendations of the Industries Assistance Commission in its report of 15 June 1981 - Ginger and Ginger Products.

In accepting the recommendations, the Ministers said the Government has noted the Commission's finding that the Australian ginger industry was efficient and well suited to the Australian economic environment. The Ministers said that the industry held a dominant position in the domestic market and had also developed substantial export markets.

Furthermore, the industry had good prospects for future growth and in this regard was currently undertaking a major expansion of processing facilities, which are mainly directed towards an expansion of its export sales.

Acceptance of the Commission's recommendations means that dry ginger would continue to be assisted by a sliding scale duty designed to provide a buffer against an unexpected or drastic fall in world ginger prices. Duty will be payable on imported dry ginger only where the price is less than $1.20 per kilo.

Gingerin will be dutiable at 10 per cent ad valorem in line with the tariff assistance recently accorded other fragrances and essences. Other goods under reference, e.g. preserved ginger products, will be dutiable at minimum rates.

The Commission's report will be available from the Australian Government Publishing Service bookshops in each of the capital cities in the near future.

DATA AND OTHER INFORMATION ON GINGER

Australia's Role in Expanding the International Market for Syrupped and Crystallized Ginger

Buderin Ginger Growers' Cooperative Association Ltd. is Australia's largest exporter of syrupped and crystallized ginger, and ranks among the more efficient industries. Buderin controls its grower members through production quotas geared to market indicators. Entrants to the Buderin Cooperative must satisfy strict qualifications in regard to irrigation, production standards and quality control.

Buderin holds about 90 per cent of Australia's domestic market, and supplies nearly 50 per cent of the world's requirements 1/ for ginger in the syrupped and crystallized form. The export market also accounts for over 50 per cent of the tonnage and value of Australian production. With the exception of 1978, exports of ginger in this form increased yearly, from 761.6 tonnes in 1975/76 to 1,272 tonnes in 1978/79, and from A$900,000 to A$1,475,000: increases of 70 per cent on volume and 64 per cent on value.

Ginger in syrup accounts for about 65 per cent of the value of exports and crystallized ginger for about 20 per cent. Australia's principal market for all forms of ginger is Britain which takes nearly 60 per cent. Australia is committed to a strategy of increased penetration of markets in Western Europe. To this end Buderin embarked upon a major expansion program in 1979 which aims to double its production capacity by 1982, and double its exports to 2,000 tonnes by 1985.

Buderin's prices for bulk ginger in syrup as in July 1980 are set out as an indicator in the following Table 7f.

1/ Source: Industries Assistance Commission - Australia.

Table 7f: BUDERIN GINGER PRICES, JULY 1980

Bulk ginger in syrup	A$ per kg f.o.b.
1st quality - whole root	1,836
1st quality - diced (crystallizing unit)	1,729
1st quality - diced (standard chocolate cut)	1,836
1st quality - small diced	1,920
1st quality	1,651
Young stem tips or small sliced	1,494
2nd quality	1,421

Source: Queensland Department of Primary Industries.

SELECTED WHOLESALE AND RETAIL PRICES IN NEW ZEALAND, MAY 1982

CANNED FRUITS - PINEAPPLE

Product code	Bulk order qty.	Item	Wholesale price	Selling Price Disc.	Selling Price Usual
176-583	CN 24	Can Gold Circle Sw. Piece 225g.	5.51DZ	.53	.55
177-903	CN 24	Can Gold Circle Unsw. Pcs. 225g.	5.51DZ	.53	.55
177-911	CN 24	Can Gold Circle Unsw. Slc. 225g.	5.69DZ	.55	.57
176-591	CN 24	Can Gold Circle Sw. slices 225g.	5.67DZ	.55	.57
178-098	CN 24	Can Mal Primax Sw. crush 227g.	4.39DZ	.43	.44
180-009	CN 24	Can Mal Primax Sw. pieces 227g.	4.49DZ	.44	.45
125-997	M/OCN 48	Can Mal Sweet Pieces 8 oz.	4.49DZ	.44	.45
180-815	M/OCN 48	Can Malayan Sweet Slice 227g.	4.70DZ	.46	.47
179-558	CN 24	Can Mal Primax Sw. Slices 227g.	4.70DZ	.46	.47
175-919	CN 48	Can Mal Unsweet Pieces 8 oz.	4.04DZ	.39	.40
175-927	CN 48	Can Mal Unsweet Slices 8 oz.	4.22DZ	.41	.42
175-889		Can Taiwan Geisha Sw.Pcs. 241g.	3.83DZ	.37	.38
174-068		Can Phillip. Dole Slices 234g.	5.18DZ	.52	.52
126-059		Can Chinese Sw. pieces TK 425g.	6.89DZ	.66	.69
181-099	M/OCN 24	Can Mt. Elephant pieces 425g.	6.25DZ	.63	.63
176-158	M/OCN 24	Can Lunch SW pieces 425g.	6.46DZ	.64	.65
176-885	M/OCN 24	Can Mt. Elephant Sw. slices 425g.	7.70DZ	.76	.77
176-265	M/OCN 24	Can H. Temple Sw. Crush 425g.	4.60DZ	.44	.46
126-063	CN 24	Can Mal Sweet Crushed 16 dz.	7.15DZ	.69	.72
176-176	M/OCN 24	Can Lunch Sw. crush 425g.	5.76DZ	.55	.58
173-010	CN 24	Can Malaysan Sw. Pieces 16 oz.	7.85DZ	.77	.78
126-098	CN 24	Can Mal Unsw. Pieces 16 oz.	7.13DZ	.68	.71
176-257		Can Siam Food Unsw. Pieces 425g.	5.88DZ	.56	.59
174-971	CN 24	Can Malay Sw. Slices 16 oz.	7.89DZ	.78	.79

(canned pineapple - cont'd.)

Product code	Bulk order qty.	Item	Wholesale price	Selling Price Disc.	Selling Price Usual
175-935	CN 24	Can Mal. Unsw. Slices 16oz.	7.29DZ	.69	.73
168-025	CN 24	Can Cook Island Crushed 454g.	6.91DZ	.66	.69
168-041	CN 24	Can Cook Island Pieces 454g.	6.91DZ	.66	.69
168-041	CN 24	Can Cook Island Slices 454g.	6.91DZ	.66	.69
175-781	CN 24	Can Gold Circle Crush Sw. 450g.	8.75DZ	.83	.88
173-290	CN 24	Can Gold Circle Uns.Pieces 450g.	9.05DZ	.85	.91
174-769	CN 24	Can Gold Circle Sw. Pieces 450g	9.05DZ	.85	.91
175-803	CN 24	Can Gold Circle Sw. Slices 450g.	9.47DZ	.89	.95
175-811	CN 24	Can Gold Circle Unsw.Slices 450g.	9.47DZ	.89	.95
171-611	CN 24	Can Ketum Peruvian Pieces 560g.	6.47DZ	.64	.65
176-078	CN 24	Can Hoja R. Peru Clices 570g.	7.77DZ	.78	.78
171-549	CN 24	Can Phillip. Dole Slices 567g.	9.79DZ	.94	.98
174-726		Can Malay Sw. Pieces 20 oz.	7.71DZ	.77	.77
174-211		Can Malay Sw. Slices 20 oz.	7.77DZ	.74	.78
175-897		Can Lunch Sw. Pieces 850g.	9.45DZ	.93	.94
179-434	M/OCN 24	Can Geisha Sw. Pieces 850g.	9.45DZ	.93	.94
126-179		Can Chinese Sw. Piece Htem 850g.	9.13DZ	.91	.91
170-968	M/OCN 24	Can Chinese Mt. Elephant pc 850g.	8.84DZ	.85	.88
180-572	CN 24	Can Gold Circle Crushed 850g.	14.54DZ	1.43	1.45
175-943	CN 24	Can Gold Circle Sw.Pieces 850g.	14.89DZ	1.47	1.49
175-951	CN 24	Can Gold Circle Sw. Slices 850g.	16.02DZ	1.58	1.60
179-868	CN 24	Can Malayan Sw. Crushed 793g.	13.80DZ	1.37	1.38
173-398	CN 24	Can Malayan Sw. Pieces 28 oz.	14.17DZ	1.39	1.42
126-195	CN 24	Can Malayan Sw. Slices 28 oz.	15.30DZ	1.52	1.53
149-403		Can Top K Crushed 105 oz.	43.47DZ	4.35	4.35
175-978	CN 6	Can Gold Circle Sw. Crush 3.2Kg.	50.97DZ	5.09	5.10
174-777	CN 6	Can Gold Circle Pieces 3.2Kg.	50.97DZ	5.09	5.10
174-785	CN 6	Can Gold Circle Slices 3.2Kg.	53.29DZ	5.29	5.32
175-994	CN 6	Can Mal Sweet Crushed 105 oz.	57.32DZ	5.69	5.73
172-065	CN 6	Can Top K Pieces 105 oz.	40.39DZ	4.04	4.04
175-986	CN 6	Can Mal Sweet Pieces 105 oz.	48.90DZ	4.88	4.89
126-209	CN 6	Can Mal Sw. Slices 105 oz.	56.08DZ	5.59	5.61

CANNED FRUITS - PEACHES

Product code	Bulk order qty.	Item		
126-241	CN 24	Can Everyday Chunks	425g.	1 Tall
126-276	CN 24	Can Oak Sliced	425g.	1 Tall
126-284	CN 24	Can Oak Sliced	820g.	2 1/2 Tall
126-306	CN 24	Can Watties Sliced	310g.	11 F
126-314	CN 24	Can Watties Sliced	425	1 Tall
126-322	CN 24	Can Watties Sliced	820	2 1/2 Tall

Wholesale price	Selling Price Disc.	Usual
8.84DZ	.84	.88
9.80DZ	.93	.98
17.28DZ	1.65	1.73
7.58DZ	.72	.76
10.08DZ	.85	1.01
17.66DZ	1.68	1.77

WORLD IMPORTS OF DRY GINGER

Importing country	1976		1977		1978		1979		1980	
	Amount (tonnes)	Value (US$'000)	Amount (tonnes)	Value (US$'000)	Amount (tonnes)	Value (US$'000)	Amount (tonnes)	Value (US$'000)	Amount (tonnes)	Value (US$'000)
EEC										
Belgium - Luxemburg	41	33	47	107	42	74	55	89	61	61
Denmark	37	74	98	1	69	112	36	71	41	61
France	151	210	199	199	242	459	403	567	314	407
Germany, Fed. Rep.	891	871	853	1,397	1,002	2,228	1,230	1,932	867	1,224
Italy	6	7	11	22	16	33	14	20	n/a	-
The Netherlands	371	354	319	513	486	778	618	750	505	586
United Kingdom	3,091	2,409	3,383	4,327	3,039	4,628	3,802	4,570	2,734	3,201
Eastern Europe										
Czechoslovakia	-	-	-	-	-	-	-	-	-	-
Germany (Dem. Rep.)	-	-	-	-	-	-	-	-	-	-
Hungary	-	-	-	-	-	-	-	-	-	-
Poland	-	-	-	-	-	-	-	-	-	-
USSR	120	113	99	180	225	386	-	-	-	-
Other European countries										
Austria	-	-	-		47	111	51	93	58	81
Finland	117	99	16	40	13	43	52	165	19	29
Norway	-	-	-	-	-	-	-	-	-	-
Spain	12	16	20	14	21	48	30	43	-	-
Sweden	123	143	119	232	128	283	154	262	150	220
Switzerland	-	-	-	-	-	-	-	-	-	-
Yugoslavia	-	-	-	-	-	-	-	-	-	-
North and Latin America										
Canada	746	652	663	810	873	999	634	729	758	867
United States	3,773	3,103	3,323	3,705	3,592	4,797	4,302	4,319	4,170	3,495
Argentina	-	-	-	-	-	-	-	-	-	-
Brazil	-	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	-	-	-	-	-	-
Venezuela	-	-	-	-	-	-	-	-	-	-
North Africa and Middle East										
Algeria	34	36	-	-	-	-	-	-	-	-
Egypt	-	-	-	-	-	-	-	-	-	-
Libya	-	-	-	-	-	-	-	-	-	-
Morocco	398	466	533	992	727	1,352	1,114	590	2,300	1,518
Tunisia	-	-	-	-	-	-	-	-	-	-
Dem. Yemen	571	667	-	-	-	-	-	-	-	-
Iran	289	263	92	110	312	535	-	-	-	-
Jordan	-	-	-	-	-	-	-	-	-	-
Kuwait	-	-	-	-	-	-	-	-	-	-
Saudi Arabia	1,805	2,200	1,700	3,023	2,340	3,891	3,949	5,340	1,594	1,359
Syria	-	-	-	-	-	-	-	-	-	-
Far East and Oceania										
Hong Kong	8	5 1/	1	- 1/	62	117 1/	364	421	25	32
Japan	6,459 1/	5,709 1/	8,516 1/	11,910 1/	5,338 1/	7,497 1/	2,980	3,911	2,407	2,426
Singapore	3,173	714	3,788	1,848	4,145	1,937	399	427	508	414
Australia	32	53	43	47	56	122	197	342	-	-
New Zealand	52	54	62	103	79	133	93	140	18	24
Total	22,309	18,241	23,852	29,795	22,824	30,563	20,477	24,801	16,529	16,005

1/ Includes fresh ginger.

Source: Compiled by ITC from the National Foreign Trade Statistics of the countries surveyed.

EXPORTS OF PROCESSED GINGER, 1972-MARCH 1981

Country	1972/1973		1973/1974		1974/1975		1975/1976		1976/1977		1977/1978		1978/1979		1979/1980		9 mths-3/81 1/	
	kg	A$'000	kg	A$'000	kg	A$'000	kg	A$'000	kg	A$'000	kg	A$'000	kg	A$'000	kg	A$'000	kg	A$'000
Ginger preserved by sugar 2/																		
Canada	4,432	5	4,764	5	9,956	13	11,617	18	11,212	21	12,825	24	10,240	19	19,419	39	30,017	80
Germany (Fed. Rep.)	-	-	-	-	7,131	9	8,619	13	18,513	29	12,073	19	29,605	54	47,040	90	37,190	88
United Kingdom	50,269	56	137,563	130	116,728	162	48,908	88	77,047	131	93,431	172	125,207	253	126,313	282	159,547	404
USA	62,032	52	25,461	25	31,155	40	30,706	44	31,796	50	11,924	22	18,780	41	15,695	32	26,029	70
Other	19,737	18	34,074	28	16,487	20	14,539	20	16,164	21	37,912	56	26,311	62	26,311	56	46,043	114
Total	136,470	131	201,862	188	181,457	244	114,389	183	154,732	252	168,165	293	212,854	429	234,778	499	298,826	756
Ginger otherwise prepared or preserved 3/																		
Canada	45,336	34	46,682	39	48,898	53	20,695	27	38,199	44	54,040	74	28,619	44	52,304	75	61,945	114
The Netherlands	107,094	60	43,204	33	19,099	18	31,511	41	21,111	30	280,283	301	159,613	180	175,620	215	327,649	491
S. Africa	85,795	57	124,229	96	114,720	105	118,085	131	44,686	55	56,975	77	61,355	92	101,581	152	111,955	182
USA	23,319	20	35,492	33	24,621	24	18,872	23	43,388	51	48,631	65	11,770	14	28,180	37	16,954	27
New Zealand	90,459	55	50,540	31	-	-	3,625	4	-	-	-	-	-	14	-	-	7,140	8
United Kingdom	836,683	561	547,351	389	701,215	560	452,015	493	766,617	695	749,195	651	733,397	616	745,708	818	566,404	710
Other	7,986	6	19,514	10	22,118	12	2,463	3	22,479	28	30,154	40	64,655	100	93,195	148	86,446	174
Total	1,196,672	793	867,012	631	930,671	773	647,266	722	936,480	903	1,219,278	1,208	1,059,409	1,046	1,196,588	1,455	1,178,493	1,706

1/ Australian Export Commodity Classification number 053.20.21 to 1977-79 to year to date.

2/ Australian Export Commodity Classification number 053.90.02 to 1978-79 to year to date.

3/ Figures are preliminary and subject to revision.

Source: Australian Bureau of Statistics, Overseas Trade.

JAPAN: IMPORTS OF PAWPAWS (FRESH)

Country of origin	1978 Quantity (Kg)	1978 Value ('000 yen)	1979 Quantity (Kg)	1979 Value ('000 yen)	1980 Quantity (Kg)	1980 Value ('000 yen)
USA	2,524,623	1,060,342	2,359,421	997,817	2,537,513	1,265,264
Taiwan	--	--	250	123	--	--
Total	2,524,623	1,060,342	2,359,671	997,940	2,537,513	1,265,264

JAPAN: IMPORTS OF MANGOES (FRESH)

Country of origin	1978 Quantity (Kg)	1978 Value ('000 yen)	1979 Quantity (Kg)	1979 Value ('000 yen)	1980 Quantity (Kg)	1980 Value ('000 yen)
Taiwan	24,550	13,296	22,000	12,005	23,545	15,029
Philippines	332,969	151,658	471,690	203,026	524,283	292,024
Mexico	763,939	365,173	579,081	314,260	661,646	406,748
Fiji	4,678	2,357	814	509	6,421	3,844
USA	462,127	214,348	798	381	--	--
W. Samoa	1,342	505	--	--	--	--
Total	1,589,605	747,337	1,074,383	530,181	1,215,895	717,645

Source : JETRO.

PACKAGING OF AVOCADOS, MANGOES AND PAWPAWS FOR AIR TRANSPORT

General

In the case of avocados, mangoes, pawpaws and fruit and vegetables in general, reference should be made to OECD document 85, published in 1967 and entitled "Recommendations on the International Standardization of Packaging for Fruit and Vegetables" 1/. The document gives detailed recommendations for various types of packaging materials and package design from the standpoint of dimensions, quality and mechanical strength.

Since the document was drafted with rail or sea transport in view, in which palletization is increasingly used, some adaptation is needed, the concern here being with air transport. To begin with, a number of the recommended types of packaging have to be discarded either because of their form (e.g. packaging without a lid) or construction, (e.g. wooden crates, which are too bulky and heavy).

In addition to the types of packaging required for air transport (i.e. strong and light), the main point to be noted in the OECD document is the range of dimensions recommended in Europe. Their use is often required, if not by regulations, then at least by importers. The choice of dimensions suitable for palletization is strongly recommended in view of the terminal rail or road journey between the airport of destination and the place of sale.

Form of Packaging

The following types of fibreboard box could be used:

(a) telescopic box with flaps, No. 0320 in the FEFCO code (the photographs on pages 62 and 64 of the OECD document should be consulted);

1/ Obtainable from the Organization for Economic Co-operation and Development, 2 rue Andre Pascal, Paris 16e, France

(b) telescopic box No. 0301 in the FEFCO code;

(c) telescoping box consisting of case No. 0422 for the bottom (or for the lid) and of case No. 0423 for the lid (or for the bottom) (see photograph on page 45 of the OECD document referred to above);

(d) box with flaps, No. 0201 in the FEFCO code (see photograph on page 48 of the OECD document).

The last mentioned box could be used only for products which are not fragile or for short-distance shipments.

The telescopic box with flaps should be used either for not very fragile fruit which is packed loose or preferably, for fruit which is placed in cell-trays (of moulded cellulose, for example) similar to the one shown in the photograph on page 62 of the OECD document.

Whatever the constituent material (e.g. moulded cellulose, paper, plastics), the cell-trays should be adapted to the size of the fruit and should not cause irritation or damage.

Telescopic boxes (b) and (c) with internal heights of not more than six inches (15 cm) should be used for fruits which are fragile or need to be well displayed, either in a single layer with or without a cell-tray or in not more than two layers with a cell-tray.

Quality of the Material

Telescopic boxes (a), (b) and (c) referred to in the previous section should be in double-face corrugated fibreboard. In the case of fruits and vegetables, it would be preferable to determine the mechanical resistance of packaging according to the principles set out on pages 91 et seq. of OECD document 85 instead of specifying the quality of the papers to be used for the manufacture of the corrugated fibreboard or the properties of the corrugated fibreboard itself.

Day-to-day experience shows that "good" packaging cannot be obtained with mediocre materials but "bad" packaging can, unfortunately, be obtained with good quality materials. If the conditions under which the board is manufactured are unsatisfactory, the results will be disappointing whatever the raw materials used.

Satisfactory results will be obtained by using all-kraft liners of at least 220 g/m^2 weight for boxes of double-face corrugated fibreboard. Liners, also of kraft, for boxes of double-face corrugated fibreboard should each have a minimum weight of 200 g/m^2.

Ventilation

In order to allow gaseous exchanges with the atmosphere, packages should be provided with perforations in an opening, as described below.

The ends of the package, i.e. the small vertical sides, should each have a lengthwise perforation of about three inches by one inch, rounded at the ends and situated in the center of the top third of the panel. These two orifices would serve the double function of ensuring ventilation and providing a hold to facilitate handling. In the case of telescopic packaging, it is obvious that the perforations in the bottom and the lid must coincide. This type of perforation is illustrated on pages 2 and 3 of the FEFCO code.

The faces of the package, i.e. the two large vertical sides should be provided either with two perforations in a line or with four perforations in a square, each approximately 1/2 inch in diameter.

The top outer flaps of boxes with flaps need not meet but could be spaced about 1/2 inch apart to provide for ventilation from above without allowing the contents to escape.

Closure

Boxes (b) and (c) referred to above do not usually need a closure if lids and bottoms fit sufficiently closely. It is recommended, however, that strips of adhesive tape should be affixed to the bottom lid joint. If these are printed with the exporter's trade mark, they can, in addition to sealing the package, provide evidence that it has not been opened during transport.

The same remarks apply to boxes (a), but they, like boxes (d), must have a closure for the flaps. The use of gummed paper tape is not recommended in order to avoid blocking the air vents. The flaps should preferably be closed by stapling, as shown on page 5 of the FEFCO code.

PERSONS CONTACTED WHOSE NAME COULD

Mr. Batimio	Agricultural Officer
Ram Jatti Sewak	Principal Agric. Officer
Reg Woodman	General Manager
Dale Macallister	Production Manager
Wally Smith	General Manager
Douglas M. Kerr	General Manager
Graeme S. Thorpe	Managing Director
K. Roberts	Chairman
Ratu David Togannali	Minister
Ross MacDonald	Manager
A.M. Chandhary	Central Buyer
Nigel Burrill	Project Coordinator
Jeet Prasad	General Manager
R. M. Ellison	General Manager
Narendra P. Singh	Director
Shari Ramiv	Senior Trade Officer
Ian Stockwood	Trade Commission
K. McHugh	Trade Commission
Arthur Mar	Managing Director
R. Campbell	Managing Director
Ross Marlow	Assistant Trade Commissioner
Mr. Iqbal	- - -
Steven Vete	Marketing Officer
John Franklin	Senior Marketing Officer
G. Wiseman	EEC Desk Officer

1/ SPEC - South Pacific Economic Development Commission.

BE RECORDED

DREKETI Rice Project - N. Division
N. Division
Stinson Pierce Holdings
Fiji Citrus Products Ltd. - Batiri
Fiji Citrus - Batiri Project
National Marketing Authority (NMA)
Baltham International
Manufacturers Association
Ministry of Commerce & Industry
CASP Ltd. (Burns Philips Ltd.)
Morris Hedstrom
ITC UNCTAD-GATT
Balthan Industries Ltd.
Fiji Sugar Corporation
Economic Development Board
Economic Development Board
New Zealand
Australia
UNO Ltd.
Crest Mills Ltd.
New Zealand
Sigatoka Agricultural Research Stn.
SPEC 1/
SPEC 1/
SPEC 1/

Peter Jarvis	Managing Director	Tasti Products Ltd. - Auckland
R. J. Hubbard	Food Technologist/Prod. Director	Tasti Products Ltd. - Auckland
Keith Owen	Special Projects Manager	TPL Group - Napier
Ian B. Johnston	Director	Radley & Co. Ltd. - Auckland
Nick F. Emery	Supervising Quarantine Officer	Ministry of Agric. and Fish.
John Austin-Smith	Export Marketing Manager	J. Wattie Canneries
Dexter Taylor	General Manager	TNL Group Ltd.
Stavros Kolovos	Export Marketing Manager	TNL Group Ltd.
J. M. Butland	Chairman	Butland Industries Ltd.
Ken Dickey	Director	James Crisp Ltd.
Allan W. Beanfoy	General Manager	Tumers & Growers Ltd.
John Watson	Manager	Tumers & Growers Ltd.
J. Lorimer	- -	Auckland Chamber of Commerce
Gordon Harris	Director	Foodtown Supermarkets Ltd.
Don Tappling	Overseas Buyer	Foodstuffs (NZ) Ltd.
Arthur Leed	General Manager	Watties Canneries Ltd.
W. Richardson	General Manager	W. F. Tucker Ltd.
Japanese Exp. Trade Organiz.	- -	Auckland
John Ellis	General Manager	Fiji Affairs Board

THE FIJI ISLANDS

Geography

Fiji is made up of about 332 islands which vary in size from 10,000 square kilometers to tiny islets a few meters in circumference. These spread over thousands of square kilometers of ocean in the heart of the South Pacific. About one third of these islands is inhabited.

The total land area of Fiji is 18,333 square kilometers. The largest island, Viti Levu, is 10,429 square kilometers and the second largest, Vanu Levu is 5,550.

Situated in the hub of the Southwest Pacific, Fiji has become the crossroads of air and shipping services between North America and Australia-New Zealand. Travellers and international vessels enter the country via the international airports at Nadi or Navoori or the natural harbors at Suva and Lautoka.

History

Most authorities agree that people came into the Pacific from the Southeast via the Indonesia islands. Here the Melanesians and the Polynesians mixed to create a highly-developed society long before the arrival of the Europeans.

The first European discoveries of the Fiji group were accidental, occurring when the early navigators were on their way elsewhere. The first of these discoveries was made in 1643 by the Dutch explorer, Abel Tasman. English navigators, including Captain James Cook who sailed through in 1774, made further explorations in the 18th century.

Major credit for the discovery and recording of the islands goes to Captain William Bligh who sailed through the group after the mutiny on the "Bounty" in 1789.

The first Europeans to land and live among the Fijians were shipwrecked sailors or run-away convicts from Australian penal settlements. Sandalwood traders and missionaries came by the mid-19th century.

Cannibalism was rampant throughout the islands, but this quickly disappeared as the missionaries gained influence. When Ratu Seru Cakobau accepted Christianity in 1854, the rest of the country soon followed and tribal warfare came to an end.

From 1879 to 1916, Indians came as indentured laborers to work the sugar plantations. After the indentured system was abolished, many stayed on as independent farmers and businessmen. Today, the Indians outnumber the indigenous Fijians and represent more than half the population.

The 20th century brought about important economic changes in Fiji as well as the maturation of its political system. Fiji developed a major sugar industry and established productive copra milling, tourism and secondary industries. As the country now diversifies into small scale industries, the economy is strengthened and revenues provide for expanded public works, medical services and education.

Fiji became independent in 1970 and accepted a democratic system of constitutional government based on the British Westminster model.

The country's central position in the region has been strengthened by recent developments in sea and air communications. Today, Fiji plays a major role in regional affairs and is recognized as the focal point of the South Pacific.

Government

As a member of the Commonwealth, Fiji maintains close ties with Great Britain and pays homage to Queen Elizabeth II, also proclaimed Queen of Fiji. The nation gained independence on 10 October 1970 - 96 years to the day when Fijian chiefs ceded the islands to Queen Victoria in 1874.

Fiji has a seat as an independent member of the United Nations General Assembly.

The Queen's representative in the country is the Governor-General. Except for certain constitutional functions, he is required to act in accordance with the advice of government ministers.

Parliament

Parliament consists of two chambers, one elected and the other appointed.

The House of Representatives has 52 elected members while 22 appointed members make up the Senate.

The main function of the House of Representatives is to enact legislation. When in session, the representatives introduce bills and debate and amend these as needed.

The Governor-General appoints the Senate on nomination by the Great Council of Chiefs (eight), the Prime Minister (seven), the Leader of the Opposition (six) and the Council of Rotuma (one). The Senate's general purpose is to review legislation from the House of Representatives. It does have the one important power of final say on matters concerning native land. It has extended its watchdog role by debating special motions and appointing select committees of inquiry.

The current Parliament was elected in the third general election of the country's independent history. It took place in September 1977 and the Alliance Party won 36 seats. The National Federation Party won 15 and the remaining seat was taken by an independent.

Government is led by the Prime Minister who appoints a Cabinet of ministers to administer national policies. The Opposition in Parliament is led by the Leader of the Opposition. He is consulted on some matters concerning the governing of the country.

Population

Fiji's population on 30 June 1980 was 634,151. This compares with a population figure of 588,068 in the 1976 census. The average annual growth rate for the past five years has been 1.8 per cent.

The mid-1980 total showed the following ethnic breakdown: Fijians 44.5 per cent, Indians 50 per cent, Europeans 0.6 per cent and all others 4.9 per cent.

Economy

The economy of Fiji is primarily agrarian and sugar is its backbone. Grown mainly on small holdings, the sugarcane is crushed and partly-refined by the Government-owned Fiji Sugar Corporation and remains the country's major export.

Other high export earners are copra, coconut oil and fish. Rising export earners are timber, ginger, food products and tourism.

The main economic aim of the Government is to break away from the country's dependence on sugar. It is attempting to diversify into broader agricultural products and greater industries.

Pine is expected to be of primary importance by the 1980s. Indigenous timber is becoming a high export item and it is hoped that lumber will match sugar in export revenue. Beef production is gaining momentum as more cattle schemes are implemented by the Government. Farmers are also encouraged to grow more food, especially traditional root crops such as dalo, cassava and yams.

Secondary industries have grown rapidly over the past eight years and have provided a widening range of goods for home consumption and export to other Pacific island countries.

Through diversification, Government expects to reduce its trade gap. Essential imports, like food stuffs and medical supplies, cannot be stopped, but Government does impose duty on those imports the country can produce locally. These include garments, cosmetics and footwear.

The 1982 budget calls for a total of F$346.6 million, an increase of 10 per cent over the 1981 figure. Of this F$276.7 million has been allocated for recurrent spending and F$69.9 million for capital expenditure.

Government is placing great emphasis on developing those areas that have lagged behind in the country's contemporary development. This entails channelling government resources to mainly rural regions that do not necessarily show the greatest growth potential. Major changes were made to the country's tax structure, providing relief for individual taxpayers and concessions to areas of the agricultural sector experiencing difficulties and the building industry.

At the same time, Government is striving to ensure the substantive growth of the overall economy and the encouragement of all business and investment.

Industry

The processing of sugarcane and copra, along with gold mining and timber production, are the nation's main industries, but local industry is continuing to expand.

The gross output of the manufacturing sector including mining and quarrying and electricity, gas and water during 1978 (latest figures available) was F$276,516,000 for manufacturing, F$9,035,000 for mining and quarrying and F$306,244,000 for electricity, gas and water.

In recent years, there has been a considerable increase in the number of new industries, besides the expansion of existing ones. Products manufactured are intended for both home consumption and export.

These include aluminium products, agricultural equipment, boats, beverages, building materials, cement, cigarettes, concrete products, footwear, handicrafts, ice cream, jewellery, masi, matches, meat products, plastic, plywood, packaging materials, soap products, sugar (castor and icing), tea packing, wood products and wrought iron products.

In addition there is a fisheries base which includes a freezing plant and cannery; there are rice and timber mills and there are servicing industries that include general engineering, civil engineering, electroplating, printing, marine engineering and slip-way, management, real estate and advertising agencies, and data processing by computer system.

Telecommunications

Fiji is steadily expanding its network of postal, telephone, radio telephone and telex services in urban and rural areas.

The Post and Telecommunications Department handles radio, telephone, telegraph and telex services to the other islands and to neighboring Pacific Island countries.

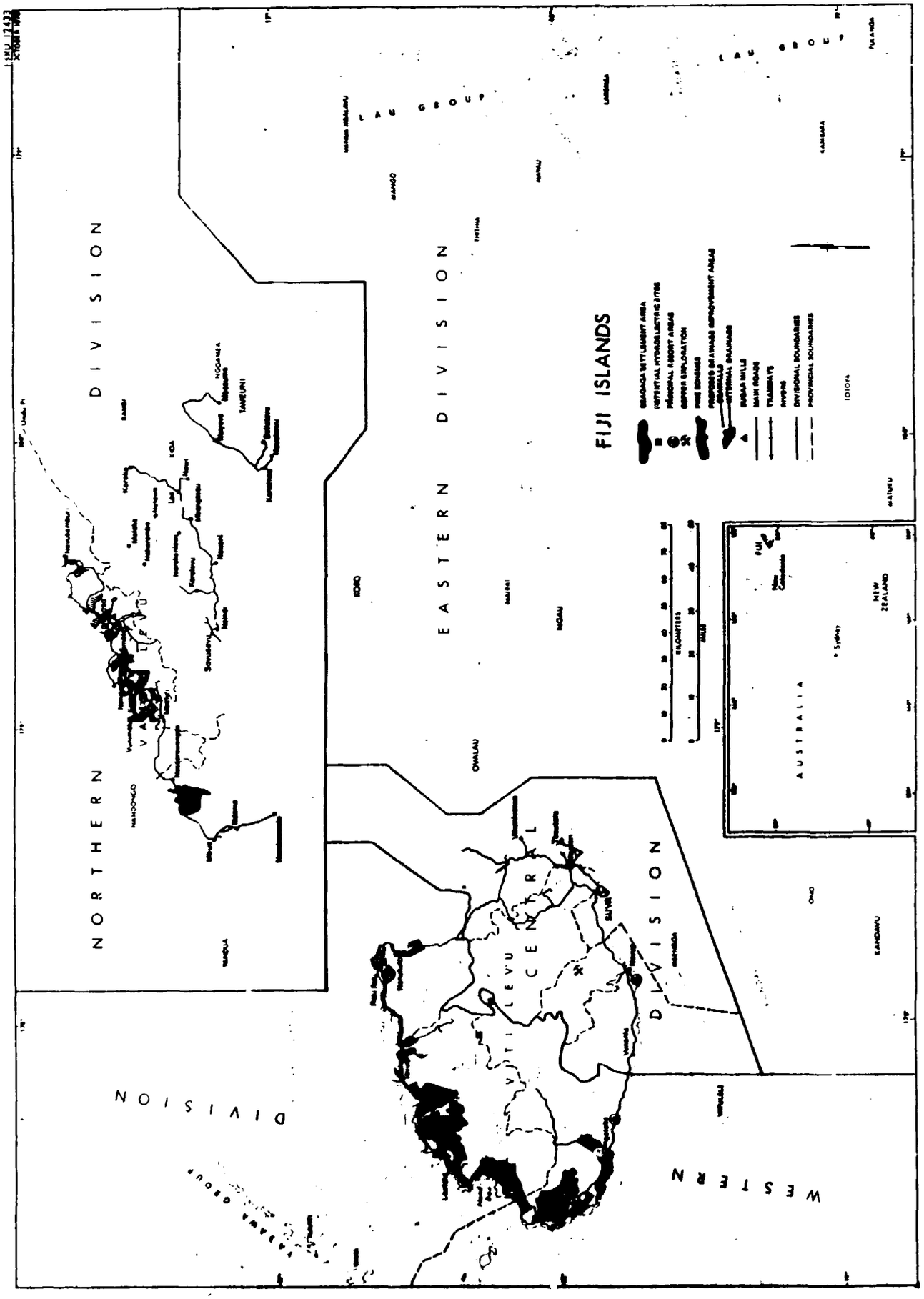
Fiji operates the Earth Station at Wailoku near Suva which connects Fiji with a world-wide communications system that uses artificial satellites to relay messages around the earth.

Transport

There is a 500 kilometer highway that circles Viti Levu. The section between Suva and Lautoka along the southern coast is the Queens Road and between the cities along the northern coast is the Kings Road.

Fiji has almost 3,300 kilometers of roads of which 1,200 are all-weather links.

Source: Fiji Today, 1981.


FIJI ISLANDS
NORTHERN DIVISION
EASTERN DIVISION
CENTRAL DIVISION
WESTERN DIVISION
VITI LEVU
VANUA LEVU
AUSTRALIA
NEW ZEALAND
Sydney
Suva
Nadi
Lautoka
Labasa
Savusavu
Rotuma
Kadavu
Lau Group
Yasawa Group
Mamanuca Group