The Fiji agricultural sector

Paul Barbour and Andrew McGregor

This paper is an update of an agricultural sector review by McGregor and Hamilton-Peach (1996), which was funded by the Asian Development Bank. Since the last major review, undertaken in 1985 (McGregor and Macartney), there have been a number of important developments that impact on the sector. There have been fundamental adjustments in the focus of economic policy from import substitution and protection, to a more outward-looking export-oriented, deregulated approach with less direct government involvement.

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Sector performance and contribution to the national economy

The contribution of Fiji's agriculture sector to total GDP declined from 22 per cent in 1989 to 17 per cent in 1997 (Figure 1), with the sector being 'overtaken' by tourism and textiles. Sugar production and subsistence activities are still the dominant activities of the sector (Figure 2).

The foreign exchange earnings of the agricultural sector have remained fairly constant in real terms. Although agricultural workers are frequently underemployed, the sector remains the main source of employment.[1]

Despite significant government investment in various agricultural development projects over the last 13 years, growth rates in agriculture have been disappointing. The economy as a whole has grown by an average of 2.4 per cent per annum since 1989, whereas the agriculture, fisheries and forests sector has on average shrunk by 0.6 per cent per annum. The sector has shown much larger fluctuations in growth rates, with an average fluctuation of 4.5 per cent, against the overall economy that has fluctuated on average 3.5 per cent.

Subsistence agriculture: value equivalent to sugar

Subsistence crops are grown throughout Fiji. The contribution of these crops[2] to GDP each year is similar to that of sugar

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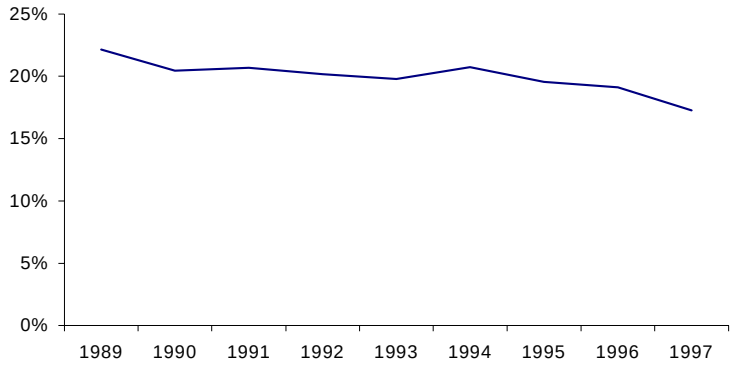
Figure 1 **Fiji: contribution of agriculture to total GDP—agriculture, fisheries and forests as a percentage of GDP, 1989–97** (current prices at factor cost)



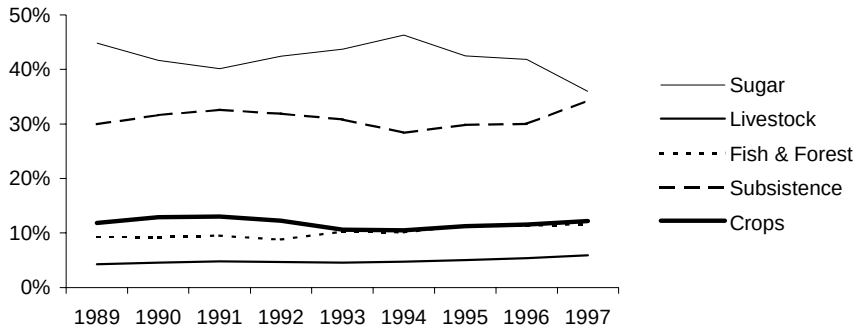
Source: Fiji Bureau of Statistics, *Current Economic Statistics*, Suva (various issues).

(average of 40 per cent of total agricultural GDP at current prices) (Figure 2). Although subsistence is an important aspect of agricultural production, the type of farming systems and the crops grown have not changed over the last 10 years. The nation's food security is dependent on the continuation of subsistence farming and its ongoing transformation to semi-commercial farming of crops in which Fiji has a comparative advantage.

Traded 'traditional' food crops: a hidden strength

Traditional food crops are grown throughout Fiji and represent a hidden strength of the economy. Levels of food imports to the country are still

Figure 2 **Fiji: percentage of agricultural GDP by activity, 1989–97** (current prices at factor cost)



Source: Fiji Bureau of Statistics, *Current Economic Statistics*, Suva (various issues).

Table 1 **Fiji: value of food imports as a percentage of total imports, 1985–95**

	Value of food imports (F$'000)	Value of total imports (F$'000)	Food imports (per cent of total imports)
1985	80,057	507,993	15.7
1990	128,047	888,779	14.4
1995	182,314	1,218,934	14.9

Source: Fiji Bureau of Statistics, *Current Economic Statistics*, Suva (various issues).

comparatively low, suggesting that domestic food supply has been able to expand with increases in demand from the growing urban population (Table 1). It is notable that food imports as a percentage of total imports have fallen slightly over the last decade despite deregulation. Lautoka and Suva city councils have had to expand the municipal food market facilities in order to cope with the increased trade. Estimates of current production and value (subsistence and traded) of a range of commodities sold in the local markets are shown in Table 2. The evidence of a strong upward trend in traded food crops indicates that Fiji's agricultural sector, far from stagnating at subsistence levels, has sustained a dynamic process of increased commercialisation through the decade. Government's investment in roading, particularly on Viti Levu, has contributed significantly to this process.

Non-sugar commodity exports: a miserable decade

Copra. The traditional cash crop of Eastern Vanua Levu and the outer islands, copra experienced a decade of overall decline, with only a limited revival in 1997–98. World prices for coconut oil were unfavourable on average, and the financial viability of the sector has relied heavily on the intervention price mechanism supported by government.

Table 2 **Fiji: estimated production and value of selected domestically traded food crops**

Item	Production (tonnes)	1995 value (F$ million)	1995 unit price (F$/kg farm gate)
Root crops	120,000	60.0	0.5
Kava	5,000	50.0	10.0
Pineapple	1,000	0.2	0.2
Water melon	1,000	0.8	0.8
Vegetables	11,000	6.0	0.5
Total	n.a.	117.0	n.a.

Source: Derived from 1991 Agricultural Census and MAFF Farm Management reports.

The decade saw the industry surpassed by ginger, kava and taro as an export earner. A number of attempts to diversify have been made, but with little success. Copra production varies with price—but the trend continues to be downward. In 1993 it hit an all-time low of 10,000 tonnes and the value of oil exports fell below F$4 million. Much of the total area under coconuts (65,114 hectares) has been abandoned (Fiji 1989). The proportion of total area under 'pure stand' has fallen by over 70 per cent since the 1968 census, and an estimated 60 per cent of bearing coconut trees are considered 'senile' and in need of re-planting. However, since 1995 two events have occurred to offer the industry some encouragement. First, a cyclone in 1995 negatively affected production in the Philippines, which led to a price revival. Second, in early 1998 the buying market price was deregulated by allowing an Australian-based company to purchase and export copra direct. This has led to a price war, with buying prices reaching F$600 per tonne, 50 per cent more than the minimum price set by the Coconut Board. The Board is unsure how long these high prices will last. These events have seen an upturn in production.

Cocoa. Cocoa achieved a high of 406 tonnes of dry beans in 1990, but has now almost disappeared. The declining world market price, and the high marketing margins of the sole, government-owned buyer (NATCO) yielded very low average farm-gate prices despite government price support. The policy of NATCO as sole exporter was abandoned in 1993, along with government price support. Despite large and long-term investments from government in production, processing and marketing, cocoa has failed to succeed due to the absence of competition in marketing mechanisms, and an over-emphasis on production, rather than quality and marketing efficiency and effectiveness. It is only now that government has moved from a controlling to a private-sector facilitating role that there are some prospects of recovery.

Horticultural and niche export market crops: finally starting to take off

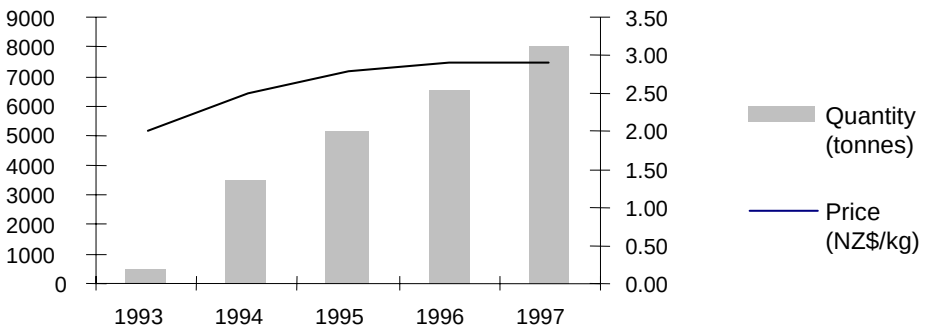
After many disappointments, this is now the fastest growing part of the sector. There are very few published summary statistics, but Fiji Quarantine Department data shows an impressive array of products traded to a range of markets. The development of the three most important crops (ginger, taro, and kava) has been entirely private-sector driven.

Ginger. Ginger, grown in high rainfall areas in close proximity to Suva, has been very successful. The value of total production increased to F$6 million in 1990, becoming the second most important export crop. It is estimated that there are 560 farmers growing ginger. However, recent problems with disease (fusarium rot) and farmers shifting resources to taro has resulted in a decline in production with the value of the industry falling to F$3.6 million in 1996 compared with F$6.4 million in 1990. The practice of growing ginger on steep slopes has created problems with loss of topsoil and associated siltation of the river systems. However, economic pressure is now pushing ginger production to flatter areas where land preparation can be mechanised.

Taro. Taro has now surpassed ginger as Fiji's second major export earner (F$9.4 million in 1996). Farmers and exporters responded to the high prices on offer in New Zealand and the United States resulting from the loss of Western Samoan exports due to disease (taro leaf blight) (Figure 3). Around 70 per cent of export taro now comes from Taveuni.

Kava. Kava has now also passed ginger as an export earner. The value of exports in 1996, mainly to the German pharma-

Figure 3 **Fiji: taro exports (total) and NZ wholesale price, 1993–97**



Source: Ministry of Agriculture, Fisheries and Forests Quarantine Department and SPTC–NZ.

ceutical industry, totalled F$2.25 million. Kava is the most profitable crop (per hectare) grown on any scale in Fiji. The industry, only now beginning to receive recognition in national statistics, plays a fundamental economic role in transferring income from the sugar industry and urban areas to growers with fertile land in mountainous and coconut areas.

Import substitution products: adjusting to the realities of competition

Fiji's import substitution industries (rice, dairy, poultry, beef, pork, and tobacco) had been protected by a complex array of quotas, tariffs, and subsidies. The first step in dismantling this system began with the August 1989 mini-Budget when import licensing controls were removed on 34 food items. Since that time de-licensing has widened and there has been a gradual reduction in the overall level of tariff protection. These measures have not yet had the expected adverse effect on the import substitution industries. Pork and especially poultry appear to be prospering in the new environment, while consumers have benefited from lower prices and wider variety.

Rice. The subject of changing agricultural policies during the decade, rice was strongly promoted and protected from cheaper imports. Since 1992, it has been grown in more direct competition with imports, with licensing controls being removed in the 1994 Budget. However production was in decline before deregulation, and this downward trend has just continued. The underlying reason has been the low returns to farmers. Production from the irrigation schemes, with the exception of Dreketi on Vanua Levu, has now ceased. However, low input traditional rice remains an important subsistence crop, particularly in the cane areas. Other minor import substitution grain crops, maize and sorghum, have not survived deregulation.

Dairy. The dairy industry, located in the Central Division, has been actively encouraged by government. Despite heavy protection through import licensing, domestic production has not been impressive, and a heavy reliance on milk powder and butter imports has persisted. Today there are no import licences required and tariffs range from

25 per cent to 35 per cent on imported products. Despite deregulation, dairy production has remained stable. However, in the longer term in a competitive environment it is probable that only the fresh milk segment of the industry is sustainable. This was recognised by the government in its compensatory adjustment package included in the 1994 Budget. The Rewa Co-operative Dairy Company still relies heavily on duty-free imports of milk powder for the manufacture of its dairy products such as cheese and yoghurt.

Beef. It is difficult to estimate total beef production, as so much is informal. Although there are some successful large-scale commercial ranches, most beef comes from draught cattle and dairy cows kept on small farms. Commercial production has been in decline. Government attempted to develop some beef schemes during the 1990s, but these have suffered from poor management, competition from cheap imported mutton and distorted marketing structures. Imported sheep meats are now only subject to a 9.5 per cent tariff. It is disappointing to note that the local canneries use negligible amounts of local beef in their product, particularly since Fiji cattle producers receive lower prices than those received in the countries supplying the canneries. This reflects major structural weaknesses in the industry that must be addressed if it is to prosper.

Poultry. The poultry industry developed rapidly during the 1970s under generous trade protection. Deregulation began in 1989, with licensing removed. Since that time tariffs have fallen progressively from 75 per cent to 25 per cent. In response, there have been increasing levels of imports from Australia. Yet domestic production has increased significantly over the period to stand at 9,600 tonnes in 1996, with 96 per cent self sufficiency. The highly integrated structure of the poultry industry, in contrast to the beef industry, has been a contributing factor to its strong market performance.

Pigs. There are about 120,000 pigs in Fiji , 25 per cent of which are in commercial farms who supply 70 per cent of the retail trade and 90 per cent of the hotel market (Fiji 1991). This commercial sector is well managed and vertically integrated. Deregulation has been in line with that of the poultry industry, and as with poultry appears to have had a minimal impact on the industry. With increasing efficiency commercial pork production increased strongly over the period reaching a record level of 791 tonnes in 1996. Further gains in efficiency (such as piglets per sow) are achievable and the industry has now reached the stage that it is more than competitive with imported fresh pork from New Zealand.

Assessment of agricultural policy and its implementation

In the decade following independence a policy of import substitution and development projects was vigorously promoted. In times of high commodity prices, protected local markets and quality management of the various government-funded projects and programs, this approach was reasonably successful in terms of increasing production. But the costs were high and the gains not sustainable.

The decline of 'government-led' development (1985–89)

The second half of the 1980s saw the continuation of a program of direct government investment in agricultural development, based on the policy of growing food locally to replace imported food. The main commodities affected were rice, beef, dairy, poultry and feed grains. There was also a drive to develop new

commodity exports—notably cocoa. There were a series of major loan and grant-aided projects to increase production: Central Division Agricultural Development Project, Northern Rice Development Project, Sigatoka Valley Rural Development Project, Yalavou Beef Scheme and the Uluisaivou Rural Development Project. Government not only set the policy, but also provided project managers, extension and administration staff to implement these projects. The role of farmers (the private sector) was merely to respond to the benefits provided and increase production.

In order to reduce competition from imported food, and to enable local producers to 'get a fair return for their labour', imports were restricted either by tariff or licence. Despite this protection, overall production did not meet the targets of the planners. There were several reasons for this: targets were set too high, government service provision was generally inefficient, the incorrect assumption that Fijian semi-subsistence farmers could acquire the attitudes of commercial farmers during projects, and the political upheavals of 1987.

Government also became involved in the processing and marketing of some goods (rice and cocoa) but these interventions proved detrimental to industry development. The aim was to fill the perceived gap in the marketing of agricultural produce, and to ensure that farmers did not suffer from wide variations in price and 'exploitation' by middlemen. In the case of rice, the government-funded rice mills competed directly with very efficient small mills in the farming areas. While these small mills could not produce high quality milled and polished rice, they were able to offer better prices to the farmers with lower transport costs. Cocoa marketing was handled exclusively by the National Marketing Authority, later called NATCO. Government deemed that it was not in the farmers' interest to allow private sector involvement in cocoa marketing. The consequent lack of competition and inefficiency led to huge marketing margins (ranging from 30 to 45 per cent) and farmers receiving a low price even when world market prices were high.[3]

The government's pursuit of import substitution goals cost the taxpayers a lot of money, and raised prices of basic food for the urban consumer.[4] Not only were the projects expensive, but the wide range of hidden subsidies in the form of cheap farm inputs, credit and mechanisation services consumed a large portion of the national budget each year. By the end of 1989, in a mood of deregulation, the Ministry of Finance turned its attention to the agriculture sector. Symbolically the last National Rice Day was held in 1991.

Deregulation and the rise of 'private sector-led' development (1989–95)

After decades of protection and government-led investment projects, the private sector grew dependent on government. Farming had been driven by the need for (subsistence) food, or in response to government direction. During the past decade circumstances have changed, and this has led to a growing awareness within government of the importance of facilitating rather than directing the growth of the sector. Starting in 1989, the agriculture sector became a part of the national policy of deregulation. There was a switch from licensing and import controls to tariff protection with a gradual reduction in tariffs. The monopoly status afforded NATCO for certain crops (cocoa and fresh fruit exports to Japan) was withdrawn. There was also a change in mind-set in terms

Table 3 **Fiji and Papua New Guinea cocoa prices, 1984–86**

	Fiji			Papua New Guinea		
	f.o.b. value ($F/tonne)	Grower price ($F/tonne)	f.o.b. value (K/tonne)	f.o.b. value ($F/tonne)	Grower price (K/tonne)	Grower price ($F/tonne)
1984	2,490	1,500	1,897	2,242	1,804	2,133
1985	2,453	1,500	1978	2,302	1,890	2,079
1986	2,192	1,700	2,013	2,343	2,010	2,196

Source: McGregor, A. and Coulter, H., 1989. *The Institutional Environment for Agricultural Development in the Pacific Islands,* Pacific Islands Development Program, East West Center, Honolulu.

of what government was perceived as being capable of doing and in attitude toward the private sector. The fundamental basis for this change in policy was a recognition that the sector will only have a future in a competitive world if it becomes more efficient.

The process of deregulation has not been easy, and the government has assisted some sectors, notably dairying, with transitional finance. It is not uncommon for the private sector to expect government to continue to assume a direct leadership role and dependency on government remains pervasive, but the private sector now finds itself faced with unfamiliar responsibilities—quarantine treatment facilities are now owned and operated by the fruit export industry, and ginger growers and exporters are now members of a Council that determines industry policy and raises funds for industry support. Deregulation means that the private sector (farmers, processors, and exporters) has to lead the way, and set the course for the sector (which crops, which markets). The role of government, and its ancillary organisations such as the Fiji Development Bank, is still very important. It is to facilitate the private sector's efforts, not by direct intervention in trading or production, but by the provision of cost-effective technical advice, the negotiation of quarantine agreements with importing countries and overseeing their enforcement, facilitating the development and transfer of appropriate technologies, provide access to credit for viable projects, and maintaining a stable economic environment.

A number of recent studies have shown the economic benefits to Fiji of this new approach (Fiji 1995, 1997; Asian Development Bank 1991; Lightfoot 1994, Lough 1991; Woodward 1995). Already, the agricultural sector has responded to the opportunities offered. The dramatic increase in taro exports, the diversification of tobacco farmers to papaya, a more coordinated approach to quarantine by the private and public sectors, private investment in ginger processing, planned diversification of the dairy industry to assist the wet processing of coconuts, the export of processed organic foods to Europe, and the adjustments made in the pork and poultry industries, are all examples of the benefits of deregulation and private sector led development. However, in 1996 a significant change took place, which has often been interpreted as a reversal of policy.

The Commodity Development Framework—a reversal of policy? (1996–)

In 1996 a change of Minister and Permanent Secretary in the Ministry of Agriculture led to the development of a four year (1997–2000) investment program, the Commodity Development Framework (CDF). This plan quadrupled capital expenditure over this four year period to F$69 million, with increased export earnings targeted at F$1.71 billion (F$425.81 million per year). The key commodities which have been identified for assistance are coconuts, ginger, dalo, yaqona, fruits, vegetables, dairy, beef and sheep. Apart from crops and livestock, increased funds are also being spent on fisheries development, and forestry. Funds are being spent on upgrading the services of Ministry of Agriculture, Fisheries and Forests staff (training, vehicles, computers and so on), increased funding for research, and capital investment in government owned parastatals (such as the Yaqara Beef Station). Some funds are also being spent on directly subsidising farmers with inputs such as seeds, fertilisers and tools.

The CDF is a very controversial program within government. The arguments for its commencement are based upon two key principles: that agriculture provides the best comparative advantage for Fiji exports, and that agriculture provides employment to more people than any other sector. However, there is a widespread perception that the CDF was pushed through the regular government channels, especially the Ministry of Finance, without being properly thought out. The original blueprint document has since been departed from significantly, with funds being spent on areas not originally envisioned (for example, a credit scheme for flower growers). Furthermore, the use of substantial CDF funds for government to once again become directly involved in production (as in the purchase of an equity stake in the 'Wonder Gardens' hydroponic farm and revival of the Batiri Citrus Orchard), and also on the resumption of direct subsidies to farmers, gives the impression that government's agriculture policy is at odds with the national economic policy.

The government-commissioned *Deregulation Review Report* (Fiji 1997) does, however, point out that the rural sector faces significant constraints in adjusting to the new deregulated environment. To a certain extent the CDF can be justified as providing transitional assistance to farmers to relieve these constraints, so as to lift the sector to a take-off stage of development. Furthermore, trade policy within agriculture is in line with overall government policy and tariff rates on imported agricultural products have remained stable since the inception of the Framework. Whatever its merits and demerits, the CDF has raised the profile of the agricultural sector and has improved the standing of the Ministry of Agriculture, Fisheries and Forests within the farming community.

Sector development issues

A number of issues are important to the future direction of agriculture in Fiji.

Land and environment

Fiji has some 2,900 square kilometres of land suitable for arable agriculture and a further 7,900 square kilometres is suitable for tree crops and grazing. The largest part of the land in commercial agriculture is leased from from the Native Lands Trust Board (NLTB) or the government ('crown land'). Tripartite discussions on the future of agricultural leasehold agreements are currently being held, involving the NLTB (representing the landowners), the tenants and

government (represented by the ALTA unit). A large portion of existing leases administered under the Agricultural Landlord and Tenant Act (ALTA) are due to expire towards the end of the century. No firm agreement has yet been reached in these negotiations. The Ministry of Agriculture has recently set up a special unit aimed at resettling displaced farmers onto currently vacant farm land.

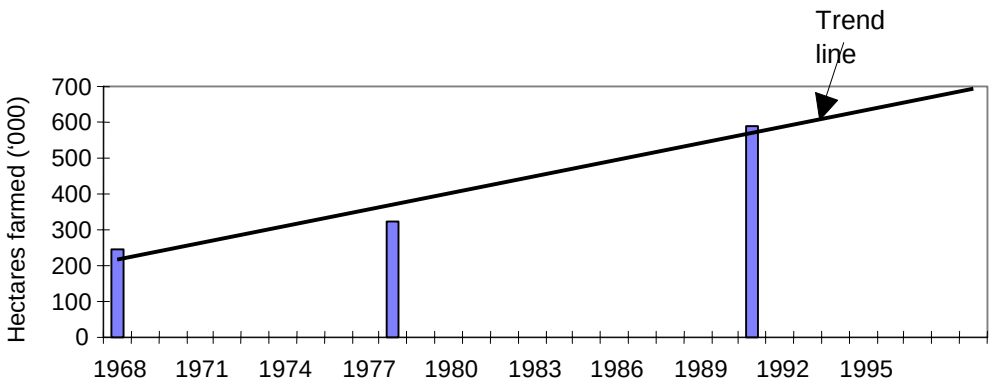
According to the 1991 Agricultural Census 45 per cent of land in Fiji is currently farmed as 95,400 farms—more than in previous years (Figure 4). This confirms the previously observed trend that over the last 25 years land use, has been increasing faster than rural population and agricultural production (Bienefeld et al. 1993).

Underuse or inefficiency in the use of farm land is still a problem, especially on larger farms. On smaller farms (1–2.9 hectares) 74 per cent of the land is cultivated, while on larger farms (more than 100 hectares) only 14 per cent is cultivated. *Mataqali* (traditional Fijian land holding unit) land is often incorrectly perceived as underused. In fact, almost 50 per cent of small farms (the most efficient) are on *mataqali* land.

The root cause of this inefficiency is the unequal distribution of land owning across all forms of land tenure (31 per cent of large farms are freehold). According to the census, more than 60 per cent of farms comprise only 7.3 per cent of the land with farm sizes of less than 3 hectares. In contrast, 2 per cent of farms were 50 hectares or larger and accounted for almost 40 per cent of all farmland.

Bringing more land into use and increasing the efficiency of existing farms will not be easy. The delays, risks and costs of leasing land are a deterrent to investors who might wish to use the land for commercial production. More attention might be given to the large quantities of under-utilised farm land classified as freehold—at least where clear title can be identified. Some of Fiji's best soils are found on Taveuni and around Savusavu. The new port of entry at Savusavu is an important step in unlocking the productive potential of this underutilised, but highly fertile, region of Fiji.

Figure 4 **Area of land farmed in Fiji, 1968–95** ('000 hectares)



Source: Fiji, 1991. *Fiji National Agricultural Census*, Ministry of Primary Industries and Co-operatives, Suva.

High-value niche exports have been identified as an area where Fiji could perform well. The high unit value of the products means that significant industries can be built on relatively small areas of land. This is a favourable characteristic where access to suitable land is a prime constraint.

Despite greater environmental awareness, land degradation has been increasing. The major problem is widespread and indiscriminate burning, particularly, but not exclusively, in the cane and pine areas of western Viti Levu. On some smaller islands, particularly in the Yasawa group, fire and over-grazing of goats is proving to be a devastating combination. Farming on excessive slopes continues to cause serious soil erosion problems in traditional ginger/root crop areas, and marginal sugar lands. Some of this land is now becoming of less use in agriculture due to a combination of land degradation and economic pressures. There is excessive chemical use and misuse amongst some taro and vegetable producers. While there is no shortage of legislation requiring good husbandry practices there has been an almost complete lack of enforcement in the post-independence era. A concerted effort is now required to educate landowners, users and the public on the detrimental impact of land degradation, particularly that resulting from burning. The positive financial benefits—for both current and future generations—resulting from adopting sustainable production practices needs to be highlighted in this campaign.

Increasing environmental and health concerns of importing countries have created both problems and opportunities for exports. The fumigant ethylene dibromide (EDB) (a carcinogen) was lost as a quarantine treatment (fruits and vegetables) in 1992, and methyl-dibromide (root crops) is being phased out because of the damage it causes to the ozone layer. Fiji has responded more quickly than most of its competitors to the loss of EDB by obtaining non-chemical quarantine treatment technology (HTFA). Meeting the low pesticide residue requirements of importing countries has increasingly become a part of the quality standards that must be met for successful high value exports. Going a step further, some of Fiji's farmers are starting to take advantage of significant and growing markets for certified organic products.

Quarantine: opportunities and constraints

Fiji's relative freedom from major pest and diseases allows access to markets from which potential competitors are excluded or restricted. This status needs to be protected and taken full advantage of. Fiji (thanks to cooperation between the Ministry of Agriculture, Fisheries and Forests and the South Pacific Regional Fruit Fly Agreement) is in a position to negotiate quarantine agreements with importing countries. Verifiable data can be presented on what fruit flies are present, their distribution, and host status. Importing countries will require maintenance of these data and resources will have to be made available for quarantine surveillance, field control and developing quarantine treatments.

The demands on the Ministry's Quarantine Department have greatly increased with the emphasis now on high-value export development. Fiji has become a member of the World Trade Organization, which places the onus on scientific justification for phytosanitary measures. Yet the service is having difficulty meeting current requirements as shown by the ongoing problems of eggplant shipments to New Zealand and chilli and mango exports to Australia. Increasing numbers of bilateral

quarantine agreements (BQAs) will need to be negotiated and enforced; regulatory supervision of the operations of the HTFA facility required; quarantine rules and regulations to minimise risk, but facilitate trade and allow farmers access to improved seeds, need to be formulated and implemented; and public awareness on the need for quarantine developed.

To meet these demands successfully plans are underway to strengthen and reorganise the Ministry's Quarantine Department into a modern quarantine service. The Ministry's plan for the Quarantine Department to become a Division in its own right is an appropriate response to the increasing importance of quarantine.

Focusing research and access to technology

Access to effective applied research and technology is critical for the sustained development of the sector. The Ministry of Agriculture, Fisheries and Forests Research Division has a cadre of competent scientists, who in recent years have been encouraged to work more closely with the private sector. However, to get the maximum benefit from the significant public resources devoted to research, a more efficient and accountable system conducive to meeting industry needs is required. The present civil servant-based system provides little incentive to produce timely information and disseminate results to the client agricultural community. A model of an alternative system is the Chemistry Laboratory whose upgraded services are in heavy demand on a semi-commercial, user-pays basis. These arrangements need to be expanded to other key technical services such as food technology. One possible solution to this would be the corporatisation of the research facilities into a Fiji Food and Agriculture Research Institute along the lines of New Zealand's HortResearch Ltd. As with HortResearch, the Institute would still receive significant government funding, but would be forced to bid for it.

The Ministry of Agriculture, Fisheries and Forests needs to continue to play a key role in the success of a corporatised research service, through

- leadership in setting research priorities
- ensuring the interests of small holders are taken into account
- advocating for public funds for research in the national budgetary process
- allocating these funds to the competing research institutions
- monitoring and vetting the research undertaken in the capacity of a client
- dissemination of research findings through subject-matter specialists.

Extension: need for reform

For a small country Fiji has a large, widely dispersed, and expensive agricultural extension service.[5] During the period of 'government-led' development these staff managed, implemented and supported government sponsored projects, and administered subsidies. However with deregulation and the moves toward private sector-led development the extension service needs to adjust accordingly. The increasing wages component of the Ministry's budget over the decade has meant that fewer funds have been available for accompanying expenditure requirements (Table 4). To facilitate private sector-led development the extension service needs to rationalise, obtain staff with a higher level of technical expertise and develop a more focused and industry-directed work program. The current dispersed frontline extension system often does not meet farmers' needs and better, more efficient

Table 4 **Fiji Ministry of Agriculture, Fisheries and Forests budget allocations, 1990–96** (F$'000)

	1990	1991	1992	1993	1994	1995	1996
Total expenditure	29,560	29,598	30,964	27,769	27,071	25,246	25,265
Salaries and wages	10,611	11,568	12,567	13,102	13,461	13,935	13,833
per cent of total expenditure	35.9	39.1	40.2	47.2	49.2	55.2	54.8

Source: Fiji, *Budget Estimates*, Suva, various issues.

ways to provide assistance need to be found.

Three key roles for extension officers have been identified

- assisting industry directed extension services
- technology transfer, particularly the promotion of profitable, sustainable and organic production practices
- supporting the implementation of BQAs.

Fiji's fresh produce exports currently provide an effective private sector extension service, and there is scope to focus extension efforts around these exporters and processors, including the secondment of staff to commercial industry associations and businesses. A key emphasis of these extension efforts should be on-farm demonstrations rather than generalised meetings with farmers. The creation of industry organisations in 1997 and 1998 has helped to involve the exporters and farmers in deciding what sort of assistance is required from the Ministry's extension service.[6]

The future well-being of the community depends on the adoption of agricultural production methods that are sustainable. Furthermore, profitable opportunities have been identified that capitalise on the health concerns and environmental awareness of consumers in importing countries. Trained and motivated extension officers can play a critical role in the development of the fledgling certified organic industry.

Most of the fruits that have been identified with strong potential can only be exported under a BQA. Currently the focus is on New Zealand—but in the future similar agreements will be required for the Australian and US markets. BQAs relate not only to the quarantine treatment and associated procedures but the whole production system. Field enforcement and certification of the BQA is a Ministry responsibility and adequate resources need to be devoted to this purpose if export markets are to be established and sustained. The process of transferring and training extension staff to become quarantine field officers as well has already begun. A corollary to this process is that Fiji College of Agriculture will need to accelerate its ongoing transition to training commercial farmers and farm managers rather than future government employees.

Macroeconomic environment

The agricultural sector has operated in a financially stable environment over the last decade, due to prudent fiscal and monetary policies, despite the upheavals of 1987. Inflation has been low (CPI increases averaged 5.5 per cent for the

decade), balance of payments have been sound (the ratio of gross foreign reserves to monthly imports has averaged 5.7 since 1988), and external debt has fallen to a manageable percentage of GDP (14.6 per cent in 1994 compared with 37.6 per cent in 1988).

The cost structure (that is, wages, exchange rate and the rate of interest) has been less favourable to the sector. Real agricultural wages have remained relatively constant over the decade. However, the availability of rural labour is often more a problem than its price, although there is considerable regional variability.[7] The competitiveness of the sector received a major boost in 1987 and 1997 when the Fiji dollar was devalued by 35 per cent and 20 per cent respectively. However, a significant component of the cost of exporting high value crops is freight, which is determined in foreign currency. The devaluations have also led to large price increases for imported animal feed, which negatively affected the poultry and pig sectors especially. In recent years real interest rates have been high (over the last 5 years the weighted average lending rate as been 12 per cent compared with an average inflation rate of 5 per cent). It can be expected that these high interest rates have been a contributing factor to the economy-wide low rate of private investment (less than 5 per cent of GDP since 1992). For non-sugar agriculture, access to credit is a greater constraint than the cost of borrowing.

Credit constraints on agricultural development

The Fiji financial system comprises six commercial banks, the Fiji Development Bank, and other non-bank institutions. Outstanding loans and advances from commercial banks to agriculture were F$104 million in December 1996 (roughly 12 per cent of total lending to all sectors), of which about 40 per cent had been provided by the Fiji Development Bank. Over the last decade the volume of lending to agriculture has generally increased, although both in 1996 and 1997 there was a decline. However, agriculture now receives significantly less of total lending than in 1986 (Figure 5). The sugar industry dominates lending to the sector. Despite agriculture's contribution to GDP, foreign exchange earnings and income distribution, it has received relatively modest amounts of credit.

Investors, including financiers, see agriculture as a risky venture due to its susceptibility to large and sudden changes in weather and market prices. This, allied to the commercial banks' need to have 100 per cent security on lending has restricted the levels of investment in the sector. Thus, even the Fiji Development Bank has become increasingly reluctant to lend to agribusinesses, even where financial and economic viability can be shown. The financial problems currently faced by the National Bank of Fiji have accentuated the adverse lending environment for agribusiness. It can be concluded that availability of credit is a constraint to growth for non-sugar cane commercial farmers, traders and processors of these crops.

The Fiji Development Bank was established as a statutory body in 1967 to facilitate and stimulate the promotion and development of the economy, giving special attention to rural and agricultural activities. Yet the Bank takes a very commercial (rather than developmental) approach to lending, in order to remain viable. The Fiji Development Bank faced major arrears in the sector, particularly where Fijian landowners offered their own leased land as security. The Bank now directs more of its resources towards the industrial and commercial

sectors. Thus the proportion of Fiji Development Bank lending to the sector (as with the commercial banks) has decreased substantially over the decade.

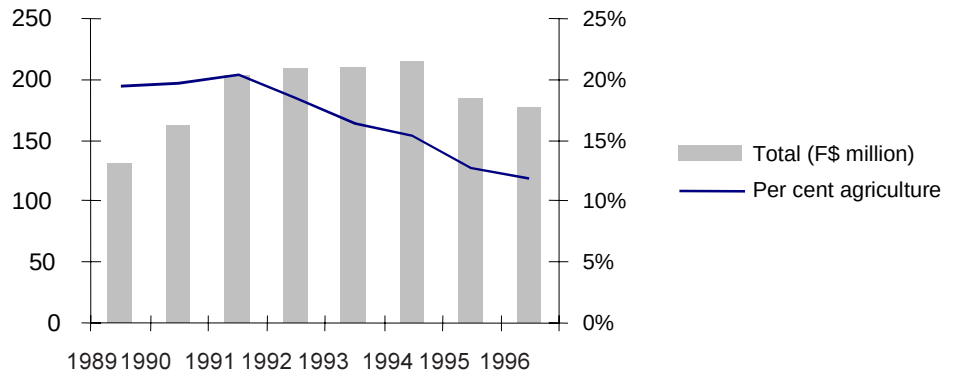
The efforts the Fiji Development Bank has made to develop the agricultural sector, and the problems it has encountered, are recognised. However as a development bank, it needs to able to develop means to better service the financing needs of the economy's most important sector. Working capital is a particular constraint for farmers wishing to grow high-value export crops. It is notable that the development of the highly successful Tongan squash industry was largely attributable to the provision of working capital by the Tonga Development Bank. A fresh approach to agricultural lending to the agricultural sector is now needed by the Fiji Development Bank and the commercial banks. There is also a need to encourage development of the informal credit sector which is more capable of assessing credit risk without the high costs that the formal sector incurs.

Incentives

During the government-led development era a wide range of subsidies were available. These extended to inputs such as fertiliser, fencing material, dryers, water supply, roading and credit, and at one time coconut planting and replanting and cocoa maintenance. These subsidies were ineffective and financially and administratively costly (McGregor and Lee 1986). They were largely abandoned as part of the government's deregulation program, but have since been partially resurrected under the Commodity Development Framework.

The Fiji Trade and Investment Board now offers attractive fiscal incentives to export-oriented businesses in all sectors. These include a 13-year tax holiday for firms qualifying under the tax-free factory scheme. As a part of the 1996 Budget, businesses producing primary agricultural products for export became eligible for 13-year export incentives renewable for a further five years. The

Figure 5 **Fiji: total commercial and Fiji Development Bank lending to agriculture, and per cent of total lending, 1989–96**



Source: Reserve Bank of Fiji, *Quarterly Bulletin*, Suva, various issues.

Board has the discretion to extend these benefits to other agribusinesses, who would already be eligible for a 5-year income tax holiday. In addition, agricultural machinery, planting material, seed and fertiliser enter duty free and most agri-chemicals enter duty free or are subject to only 10 per cent duty. Thus the lack of fiscal incentives is not a constraint to growth in the agricultural sector. Yet only a small number of agricultural investors seek incentives and an even smaller number proceed with the project for which the incentives were granted.[8] Most agricultural investors are local and do not approach the Fiji Trade and Investment Board as a matter of course, and there is a general lack of awareness amongst the agribusiness community regarding the incentives that are available. The Board needs to mount a promotional campaign targeted at the agricultural sector. All investors encounter the ongoing problem of having to obtain multiple permits and approvals, often discretionary, before operations can commence. It is hoped that the comprehensive *Foreign Investment Act* now before Parliament will be able to resolve these problems. However, overall the disappointing response of agribusiness to the Fiji Trade and Investment Board incentive package reflects more fundamental problems such as access to land and availability of finance.

Labour, management and entrepreneurial capability

Despite 65 per cent of the population living in rural areas, it is often reported that commercial farmers find labour in short and irregular supply and of low productivity. This is partly caused by the demands of subsistence agriculture on rural people which inevitably has first call on their time, but also because rural Fijians generally do not have an acquisitive nature.

Farmers do not have a very high standard of education. According to the Agricultural Census (Fiji 1991) less than 5 per cent have received secondary education, and almost 50 per cent have gone no further than primary school. This holds back the pace of development. Not only is the entrepreneurial spirit generally lacking for cultural reasons, but the ability is also scarce and needs to be nurtured.

The government has recognised this, and in response there exist interest rate business subsidies to indigenous Fijians through the Fiji Development Bank. Funds are also allocated annually (in the order of F$1.5 million) to the Fijian Affairs Board Equity Fund. The interest subsidies have had little impact on the Fiji Development Bank's lending policy to agriculture. Loans are still given primarily to risk-free sugar cane farmers. The subsidies cannot be used as a source of funds to educate the farmers in business methods. The Fiji Development Bank has established a system of training some clients, and programs such as this need to be encouraged more than direct interest rate subsidies and soft loans.

Conclusion

The 1990s have seen some significant changes in the agricultural economy of Fiji. The moves away from government-led development to a more deregulated environment have affected different commodities in different ways. Overall, agriculture continues to provide a large (but declining) contribution to GDP, with major employment and export earnings. With uncertainty surrounding the sugar industry, government has attempted (with mixed success) to diversify the agricultural base of Fiji.

As a diversification strategy, no single crop or group of crops has been identified

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that could replace sugar in the foreseeable future. Yet, while recognising the continued existence of sugar, there is an urgent need to accelerate Fiji's diversification efforts. These efforts need to be directed in the areas where Fiji has a comparative advantage—this could be in high-value niche exports and in the production of traditional food crops. Several factors stand in the way of achieving this goal (land tenure, skills training, credit access), and it is the task of the government and Ministry of Agriculture, Forestry and Fisheries over the coming years to minimise these problems effectively.

Notes

[1] Data on employment in Fiji is restricted to the FNPF contribution figures which are far from satisfactory. The 1996 population census contains data on income from agriculture, and the publication of this high quality data will significantly improve the level of knowledge about employment in agriculture.

[2] Estimates of subsistence are projected by the Fiji Bureau of Statistics from the 1983 survey (using the CPI for subsistence goods and changes in rural population). Due to the price effect on production, this leads to an underestimate of the value of subsistence agriculture.

[3] A comparison of Fiji and Papua New Guinea grower and f.o.b. prices provides strong evidence of the adverse effect of the NMA monopoly on grower returns (Table 3).

[4] The extent of government's commitment was represented by the minting of a one cent coin marked with a rice plant and the slogan 'Grow More Food'. In hindsight, a taro or a yam, crops in which Fiji has comparative advantage, might have been more appropriate.

[5] As of June 30, 1996 the Extension Division had a staffing complement of 343 (154 established, 145 unestablished, and administrative support 44).

[6] These are not as formal as the Ginger Industry Council, but are equally valuable. Councils created are rootcrops, kava, seafood, fruits and vegetable.

[7] According to Bureau of Statistics estimates, the mean daily agricultural wage rate is around F$13. However in some areas (for example, western Vanua Levu) labour can be secured for F$8 a day or even less. In other areas where there are employment alternatives (for example, close to hotels) or where there is surplus land available (for example, parts of Cakaudrove) adequate labour supply cannot be assured at even F$15/day.

[8] Over the period 1988–96 there were 48 agro-based projects approved of which only 19 were implemented.

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