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ALTA or NLTA: What's in the Name? Land Tenure Dilemma and the Fiji Sugar Industry

P. Lal, H. Lim-Applegate, and M. Reddy

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P. Lal and **H. Lim-Applegate**

National Centre for Development Studies, ANU

(Padma.Lal@anu.edu.au)

M. Reddy

University of the South Pacific, Fiji

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Contents

ACRONYMS

ACP	African, Caribbean and Pacific countries
ALTA	Agricultural and Landlord Tenants Act
ALTO	Agricultural Landlord and Tenant's Ordinance
CSR	Colonial Sugar Refining Company
EU	European Union
FSC	Fiji Sugar Corporation
GVP	gross value of production
NLC	New Lease Consideration
NLTA	Native Lands Trust Act
NLTB	Native Land Trust Board
SCGC	Sugar Cane Growers' Council
SCOF	Sugar Commission of Fiji
UCV	unimproved capital value

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INTRODUCTION

Land has always been a sensitive issue in Fiji, but it has taken on a new dimension since the 1987 military coups and more recently since 1997, when the agricultural leases on Native land, issued under the 1976 Agricultural and Landlord Tenants Act (ALTA), began to expire. The difficulties raised are of particular concern as a large proportion of agricultural leases is used for sugar cane production. The sugar industry is the main commodity export earner for Fiji, directly contributing about 22% of the national GDP and supporting over 25% of the country's active labor force. Fiji's sugar exports rely heavily on preferential access to the European Union (EU) and the USA, and bilateral contractual arrangements with countries such as Malaysia and Japan. Fiji exports 80% of its sugar production, earning on average of $250-300 million in foreign exchange annually.

Of the 97,046 hectares of land under cane, 63% is leased from indigenous Fijians who own about 83% of some 1.8 million hectares of land in Fiji. In 1996, there were over 12,500 sugar cane growers farming over 60,000ha of Native land.

By law, such land cannot be bought or sold. When the majority of leases began to expire in 1997, indigenous landowners wanted ALTA abolished and for land to revert to the landowners for their own use or to be placed in reserve, or for leases to be reissued under the Native Lands Trust Act (NLTA), which was in force before leasing of agricultural lands began under ALTA and its predecessor the Agricultural Landlord and Tenant's Ordinance (ALTO).

Under ALTA, tenants held 30-year, fixed leases with the Native Land Trust Board (NLTB), the communal land management organization established in 1940 as the custodian of the land interests of indigenous Fijians. Lease rent is fixed at 6% of the unimproved capital value (UCV) determined administratively under ALTA, which also includes administrative mechanisms for resolving disputes by the Sugar Industry Tribunal.

As recently as January 2001, the post-coup interim administration decreed that ALTA be abolished and that agricultural leases on indigenous or Native land be offered under NLTA. Under the pre-1976 NLTA, when lease arrangements were subject to greater degree of discretion, rents depended on the negotiating power of the respective parties. However, since tenants did not have many options, they were in a weak position. Moreover, although disputes

could be taken to an independent arbitrator, this did not often occur because the process was rather complicated and often costly.

Since leases held under ALTA begun to expire in 1997, several options have been suggested. These include: non-renewal of leases, with the land reverting to Fijian owners; renewal of ALTA but with land rents pegged to the gross value of production (GVP) instead of the UCV; sharecropping and contract wage arrangements; and abolishment of lease arrangement under ALTA with leases to be issued under an institutional arrangement guided by NLTA.

If leases were to be renewed under NLTA, they could be offered on a sharecropping basis, with tenure based on rolling 5-10 year terms and with the rental negotiated at each renewal, or tenure could be based on terms and conditions negotiated on an individual basis. Predictably, the abolition of ALTA is unacceptable to the present tenants, the majority of whom are IndoFijians. Seventy eight percent of sugar cane growers are descendants of Indian indentured laborers who were recruited in the late 19th century to work on the sugar plantations controlled by the Colonial Sugar Refining Company (CSR).

The land tenure system adopted will have a significant impact not only on the efficiency of the sugar cane sector but also on Fiji's ability to meet its international obligations of sugar exports. This paper explores the land tenure dilemma facing Fiji today. It assesses the economic implications of the various forms of land lease system proposed. This analysis is carried out in terms of efficiency, equity, and risk sharing in the current preferential market access environment and under possible future world market conditions. Fiji's ability to meet its international sugar market obligations (and sustainable use of land under ALTA and NLTA) is also assessed. Suggestions are made on institutional arrangements that could enhance efficiency in resource use and encourage sharing of production risks that arise due to variability in factor prices and climatic conditions as well as sugar prices.

SUGAR CANE LAND TENURE—BACKGROUND

The sugar industry has been the backbone of the Fijian economy for over a century. Since 1975, the industry has expanded to its current level with the support of preferential access to the EU, which has been the main importer of Fiji sugar. Around 80-90% of sugar produced is exported, with the EU accounting for 44% on average (within a range of 36-56% of total sugar exports during the period 1984-96—see table 1), under the Sugar Protocol of the Lome Convention. Under this agreement, Fiji presently has a quota of 197,000 tons, and prices received are usually two to three times the world market price.

Until the mid-1970s, the UK was the main buyer of Fiji sugar. Following the UK's entry into the European Community in 1973, Fiji gained access to the wider sugar market of other European Community countries under the Lome Convention, the trade pact between the EU and the African, Caribbean and Pacific (ACP) countries signed in 1975. In 1995, the Special Preferential Sugar agreement signed between the ACP countries and Portugal, Finland and France came into force, providing Fiji an additional quota of 25,000 tons. Special Preferential

Sugar prices are linked to the prices received under the Lome Convention, which in turn are linked to EU domestic prices. Fiji currently has a quota equivalent to 0.9% of the total US sugar import quota. (Over the period 1994-96, exports to the US averaged 14,000 tons.) The bilateral agreement with Malaysia allows for the export of 90,000 tons of sugar per year.

Table 1: Sugar Exports 1993-96

	EU	ACP	Malaysia	UK	Japan	Others	Total exports (Kt)	Total sugar production (Kt)	% Exported
1994	169.0	0	113.4	11.2	143.1	36.0	472.7	516.6	92
1995	193.0	55.4	90.0	10.2	31.5	33.8	358.4	454.4	79
1996	137.6	30.2	90.0	20.0	77.3	55.0	379.8	454.0	84

Source: FSC Annual Report, 1999

Production sector

The CSR, a subsidiary of the Australian CSR, developed the sugar industry using indentured labor and as the monopoly milling company processing sugar cane into raw sugar and exporting to Australia. At the time, sugar cane was grown on CSR estates on land bought or leased from the indigenous Fijians or the Crown. Because of the unsuitability or unwillingness of the indigenous Fijians (and other Pacific Islanders) to work as paid laborers, people of Indian origin were recruited under the indenture system. From the time the first shipload of laborers on board *Leonidas* arrived in Fiji on 14 May 1879 to the abolition of the indenture system in 1920, some 60,000 men women and children arrived from different parts of India to work on sugar cane plantations managed by CSR (see Lal 1992).

After indenture was abolished, CSR offered the “freed” Indians 10 acre (4ha) parcels for sugar cane farming. CSR also encouraged indigenous Fijians to lease their land in similar parcels (Moynagh 1981). Today, virtually all sugar cane farms are on average 7 hectare plots tilled mainly by descendents of Indian indentured laborers and processed by the monopoly Fiji Sugar Corporation (FSC), in which the government has 68% equity. FSC, which took over from CSR in 1973, owns and operates four mills. Three of the mills are in the northwest of the island of Viti Levu—Lautoka, Rarawai, and Penang—and the fourth is in Labasa on the island of Vanua Levu.

In support of these mills, FSC also owns and operates the industrial infrastructure, including railway tracks and locomotives, many of which are considered to be highly inefficient (Davies 1997). Altogether these mills employ around 4,500 workers. In addition, there are 14,300-15,000 cane cutters and about 2,000 lorry operators whose livelihood depends on the industry. Many towns in the sugar belt area are thus totally dependent on the sugar industry.

Many issues relating to the sugar industry take on an ethnic dimension since IndoFijians comprise approximately 78% of all sugar cane growers (see table 2). Of all the mill areas, only Penang has proportionately more indigenous Fijians operating cane farms—approximately 48% compared to the 21% average for the other mills. In 2000, of the 23,420 cane growers, about 18,270 are of Indian origin.

Small farms are a characteristic feature of the Fiji sugar industry, with each grower holding on average, during the 1984-96 period, about 7.1ha of land, 59% (4.2ha) of which was used for cane cultivation. The remaining 3ha or so is used as homesite and growing other crops for subsistence.

Table 2: Ethnic breakdown of sugar cane growers in Fiji, 1998

	#	%
IndoFijians	16,710	78.1
Fijians	4,579	21.4
Others	107	0.5
TOTAL	**21,396**	**100**

Source: FSC grower database.

Between 1973 and 1984, the total sugar growing area has increased by over 40%, following the government's acquisition of the milling company from CSR (Landell Mills 1991) and Fiji's access to the EU sugar market under the Lome Convention. There has not been much change in the area under cane between 1984 and today, with the total area harvested remaining around 100,000ha.

Over the 1993-96 period, of 100,000ha cultivated, only 74,000ha were harvested. On average, only 25% of the area cultivated was planted cane, with the rest being under first, second, third or more ratoon crop. Ratoon crops have lower yield than planted cane, but require less labor. Plant cane yields about 70t/ha as compared with the ratoon crop average of 53t/ha.

Production, harvesting and transportation costs of a ratoon crop are almost 54% that of plant cane, which amount to about $3,233/ha; but with net revenues being almost double that of the plant cane (table 3). For an average farm, with 24% of the area under plant cane producing 70t/ha, and 76% of the area producing ratoon crop yielding 53t/ha, the net return per hectare of cane land is $842, assuming an average price of $53/ton received during 1991-98. Net returns per farm vary with land productivity.

Table 3: Average net returns per hectare of land and management for ratoon and plant cane

	Yield t/ha	Price $/t	Cultivation cost $/t	Harvest, delivery + drainage costs $/t	Gross revenue	Total costs $/ha	Net revenue $/ha
Plant	70	53.08	26.7	19.5	3716	3233	482
Ratoon	53	53.08	15.6	19.5	2813	1858	956
Average farm*	57	53.08			3030	2188	842

*assuming each grower has 24% under plant cane and 76% under ratoon, as recorded in the FSC database. This varies slightly from what is usually assumed by FSC/SCGC of 20% plant and 80% ratoon.

Source: Costs figures are as of March 2001 (FSC personal communication); yield data are based on average yield data, 1991-96 (FSC grower census database); the price is the average between 1993 and 1999.

Since payment is on the basis of weight of cane supplied, rather than the sugar content, farmers optimize their production choosing varieties and farm management practices that favor higher cane yields. The cane payment system is expected to change as the industry adopts a system based on cane quality, using the newly-tested infrared technique introduced from Australia.

Land tenure system—ALTA and NLTA

Sugar cane farming, similar to any other form of economic activity in Fiji, including tourism, is largely reliant on land leased from indigenous Fijians, who as mentioned before "own" 83% of the land. Only 8.2% of the total land area is freehold, of which only a small proportion is agricultural land. The remaining 9.3% are classed as state land (Crown land before Fiji became a republic following the 1987 coups), which is land obtained legally by the Crown or land for which no rightful owners could be found at the time land was registered during the colonial period. The latter classified as Schedule A and B totals about 95,000ha or 5.4% of all land. These Schedule A and B lands have been transferred to the NLTB, following a decree issued by the interim government in August 2000. Thus, indigenous Fijians now control over 88% of all land.

With leases accounting for 82% of all land under sugar cane (see table 4), and with the majority of cane growers of Indian origin, the threat of non-renewal of leases is a major issue.

Table 4: Sugar cane area by tenure type, 1996*			
Tenure Type	**Number of growers (=90% of total cane farmers)**	**Total area (ha) cultivated by 90% of growers***	**% area cultivated, by tenure**
Freehold	2,532	10,381	12
Crown land	3,922	16,080	19
Native land	11,350	53,345	63
Vakavanua	1,480	4,292	5
ALL	19,284	84,850	100
*This data reflects only 90% of growers, for whom the FSC and Sugar Industry Tribunal data had land tenure information recorded.			

Source: FSC grower census, 1999.

Native land

Native land is owned by communal landowning units, mainly *mataqali*,[1] but is "managed" by the NLTB. The NLTB, a statutory body, has complete control over all Native land and the Board is expected to manage the land for the benefit of the Fijian owners under a landownership and use rights system instituted by the colonial government which supposedly reflects the land tenure system that existed in pre-colonial time. It has been argued, however, that the land system was more complex than interpreted by the colonial government and that many Fijians at the turn of the century had argued for an individual landownership arrangement (Ward and Kingdon 1995; France 1969).

A statutory monopolistic body, the NLTB was created by the colonial government in 1940 following increasing pressure in the 1920s and 1930s for increased land to be made available for agriculture. During this time the sugar industry was expanding and needed additional supplies of cane from non-CSR farms. Based on their experience of contract farming under the company managed estate, CSR encouraged the formation of small farms, thus requiring division of Native lease land into small units (Moynagh 1981). But dealing with an undefined number of

[1] In Fiji's pre-colonial period, resources were owned by different units of Fijian society: *vanua*, *mataqali* or *itokatokas*. Vanua, the largest unit, consisted of "agnatic descendents of common ancestors or ancestral gods living in the same area." Each vanua would have one or more *yavusa*, the members agnatically related. A yavusa comprised several mataqalis whose members were in turn related to the descendent of their yavusa's founder. One or more extended families, itokatoka, form a mataqali (Ward and Kingdon 1995). The British colonial government that formalized landownership in Fiji recognized communal ownership at the mataqali level.

indigenous Fijian landowning units proved difficult. The creation of the NLTB resolved that difficulty. All Native land transactions are now administered by the NLTB under the NLTA.

ALTA

Since the mid 1960s, agricultural land has been managed by the NLTB but under the terms and conditions of ALTO and its successor ALTA. ALTA was introduced to rationalize the leasing of all land for agricultural purposes. Under the ALTA, the primary role of the NLTB as the trustee of Fijian land was recognized while also protecting landowners' and tenants' interests. ALTA covers all agricultural land in Fiji except where the landholding is less than one hectare, or where tenancies are held by members of a registered co-operative society, where the society is the landlord (often indigenous Fijians), or where land is situated within a Native reserve. Reserved Native land is not available for non-Fijian use. Leasing of reserve land to Fijians, called "J" class, may only be allowed under the provision of ALTA and then only under exceptional circumstances as determined by the Minister of Fijian Affairs. Although leasing of land classified as reserved for Fijian use is subject to the provisions the NLTA, in practice much of the reserve land is, for reasons discussed below, leased outside of the NLTA or ALTA.

Following revisions to the ALTA, all leases granted since 1 September 1977 had to be for a minimum duration of 30 years. The holders of leases granted before this date (the great majority of which were for a term of ten years under ALTO) were entitled to a single extension of 20 years under ALTA. At the expiry of the 30-year lease or the 20- year extension, there is no automatic right of renewal. In the event of non-renewal, the Act states that the tenant must be compensated by a sum equivalent to the value of the improvements carried out.

Two of the main provisions of ALTA that have been the subject of much recent debate relate to the duration of the lease and the method for assessing, and periodically reviewing, rents levied by the landlords. ALTA restricts the rental amount that can be levied by the landlord to 6% of the UCV. UCV is administratively determined according to the agricultural potential of the particular parcel of land by a government-appointed committee of valuers. The committee comprises four land valuation experts appointed by the Minster, a public officer who is a land valuer, a private land valuer, an employee of the NLTB, and a person who has appropriate knowledge, experience or qualifications in agriculture matters. The basis for the 6% rate is not clear, although it appears to have been the market interest rate at the time the legislation was passed. Nor is the theoretical basis for the UCV estimation clear.

Under the ALTA, "improved capital value" is defined as the value of an agricultural holding held as if it were fee simple, unencumbered by any mortgage and minus any improvements. The UCV is supposed to reflect the agricultural productivity of the land (see table 5) and the "purpose for which the land is issued and not the actual use of the land or any other purpose for which the land could be used" (ALTA S 21(3)). "Improvements" include buildings, fences, drainage works, roads, and crops planted. The UCV has been estimated using past sales of freehold land, Crown leases or Native leases. However, the land market in Fiji is very thin, particularly as sale of Native land is prohibited except to the Crown for limited national uses. Native leases can,

however, be sold and transferred to new tenants. Of 211 land transfers during 1995-97, 41.7% involved Native leases (Sugar cane Growers Council 1998).

Table 5: Land classification and most recent UCV estimates

Land classification	Characteristics	Expected cane yield	Declared UCV-1997 $/ha	Rental value = 6% UCV $/ha
Class I *Flat. Very few limitations Suited to wide range of crops. Permanent agriculture without improvement. High yields*	**Contour**: Nearly level land **Soil**: Deep—well drained, naturally fertile, minimum use of fertilizer, high moisture holding capacity; ordinary crop management required to maintain productivity	85t/ha or more	$8,000	$480
Class II *Flat to gentle slopes, moderate limitations Suited to wide range of crops as for Class I but lower yields per ha. Permanent agriculture without improvement.*	**Contour**: Land with gentle slope, Moderate erosion hazard. **Soil**: Lower natural fertility. Poorer soil structure, restricted drainage, presence of gravel/ sand and small stones. Application of fertilizer necessary.	50-85t/ha	$5,000	$300
Class III *Moderately steep, severe limitations. Lower yield. Requires some improvements*	**Contour**: Moderately steep slopes. High erosion hazards. **Soil**: Shallow, moderately fertile. Requires intensive erosion control measures and fertilizer application	35-50t/ha	$2,500	$150
Marginal Land *Steep slopes. Very severe limitations. Suited to a limited range of crops other than sugar cane Major improvements required.*	**Contour**: Steep slopes, severe erosion hazards; wet flats. **Soil**: Very infertile. Very shallow and low moisture retaining capacity or very badly drained. Heavy dosage of fertilizer required.	Less than 35t/ha	$900	$45

Source: Agricultural Landlord and Tenant Act Subsidiary Legislation Chapter 270 Rev. 1985: S7-8. 1997 UCV estimates provided by Sugar cane Growers Council (personal communication.).

As noted, the valuation committee is expected to use recent market sale prices as the basis for UCV and subtract from it the value of "improvements" on the land and an amount equivalent to the value of timber that may have been cleared at the time the land was first put to agricultural use. The sum derived is supposed to be the value of Native land equivalent to unimproved freehold value (see table 6).

Table 6: Unimproved capital value estimation system used in Fiji—actual case study of 7.7ha of marginal land in Korokula, Momi Back Road, Nadi, 1998

Sale Price (date of sale 1995)	$5,000
Less Improvements	$4,235
Lessee's land interest	$765
Annual rental equivalent present value of $1 p.a. for 12 years of unexpired term in lease at 10% interest rate	$112 (= $765/ 6.81)
Plus one years rent	$190
Indicated market rental	$302 (112+190)
At 10% interest rate, capitalized value	$3,020 (= 302/0.1)
UCV for 7.7036ha of the land parcel	$3,020
UCV per unit area	$392/ha

Source: Pacific Valuation 1998 report to Sugar Cane Growers Council.

Apart from the absence of any theoretical economic or real estate basis for the manner in which the UCV is determined, in its application, too, there appears to be great deal of discretion applied, as evident from several NLTB valuation reports that were presented at a case brought before the Sugar Industry Tribunal (see Pacific Valuation 1998). In assessing rental amount for specific Native leases, the NLTB used the sales value of crown land and freehold as the starting point (but excluding recent sale of Native leases) and subtracted from it the value of improvements. This, they noted, represented the lessee's interest. They then proceeded to calculate the lessor's interest, before arriving at a UCV which was twice what would have been derived using market value minus the value of improvements as stipulated in the NLTA. Such inconsistencies in estimation and the use of formulae not stipulated in the ALTA may explain why many rent dispute cases were brought before the Tribunal, and often resulting in the rental value being reduced. Such Tribunal rulings have been used recently by the Fijian landowners and the interim administration to argue that ALTA is not in the landowners' interests, adding to concerns that the rent received by NLTB has been unfairly low (World Bank 1998 and Davies 1999).

Table 7: Rent payable under ALTA by land class and rent as a percentage of GVP								
Class type (proportion of total cane land, 1993-99)	**Yield range** (t/ha)	**Production costs** ($/ha = $18.20)	**Harvest & delivery** +misc. = $19.5/t	**Total costs** ($/ha = $37.70)	**Gross revenue** (@ $53.09/t) $/ha	**Net revenue** ($/ha)	**UCV based rent-1997** $/ha	**Rent as a proportion of GVP** (%)
Class I (0.1%)	>85	1075	1658	2732	4513	1781	480	10.6%
Class II (7.5%)	50-85 (70)	1075	1365	2440	3716	1277	300	8.1%
Class III (20.1%)	35-50 (42)	1075	819	1894	2230	336	150	6.7%
Marginal (72.3%)	<35	1075	683	1757	1858	101	54	2.9%
Arithmetic average		1075	1131	2206	3079	874	246	8.0%
Weighted average	39	1636	1090	2726	2968	243	101	3.4%

Source: Class data derived from FSC database, 1993-99; average cane prices 1991-98, supplied by FSC; UCV based rent from ALTA legislation, and farm costs data from FSC/SCGC, March 2001 (personal communication).

When one considers UCV-based rental value for each class of agricultural land, further discrepancies become apparent. The 1997 UCV-based rent, expressed as a percentage of GVP, ranges from 3% for marginal land to 11% for class I (table 7). Taking into account the weighted average of rent payable as a percentage of weighted average GVP per unit area,[2] the UCV-based rent is only 3.4% of weighted GVP. This figure is comparable to the 3% figure often quoted by the interim administration and Fijian landowners (see Davies 1999).

The UCV has been revised only three times since the first valuation in 1977. The most recent revision took place in 1997. As expected, the nominal rent levels have increased over time (table 8). The magnitude of increases has been a cause of concern for the tenants. The period between 1977 and 1987 saw the highest increase in UCV: 540%. In real terms (in 1996 dollars), the increase was 240%, but starting from a low base.

Table 8: Nominal UCV/ha for sugar cane growing areas in Fiji: 1977, 1987, 1992 and 1997

Land Classification	1977	1987	1992	1997
Class I	$500-$900	$2700-$4500	$6500	$8000
Class II	$200-$500	$1650-$2700	$4500	$5000
Class III	$85-$200	$1100-$1650	$2000	$2500
Marginal Class	$50-100	$	$750	$900

Note: Although land in different regions have different UCV estimates and usually a range estimates was reported in the local gazette, since 1992, an agreement was reached to use only the lower UCV estimates rather than a range.

Dissatisfaction with the NLTB

Landowners have not only been unhappy about the formulae used to estimate land rents but also with the powers vested in the NLTB and the manner in which the Board has made decisions. In the minds of mainly non-chiefly members of mataqalis, the NLTB has not always been seen to act with the interests of the indigenous Fijians at heart. How such a perception may have developed is not difficult to understand since the NLTB has not consulted with the landowners before renewing or issuing leases. The Courts have tended to literally interpret section 4(1) of the NLTA, which vested control of all Native land in the NLTB, and have ruled that individual landowners have no right or capacity to be involved in the leasing of their land.

[2] The weighted average is calculated from the GVP for each land class multiplied by the proportion of land in the different classes.

Dissatisfaction with the NLTB appears to be "widespread and longstanding" (Nayacakalou 1971; Ravuvu 1983). Nayacakalau, himself a commoner, has argued that the NLTB "should be abolished because it administers land not in the interest of the owners." Recently, one landowner articulated that "[the] NLTB were not owners of the land" (Daily Post 20/8/2000) and criticized the manner in which they make decisions about land, arguing that the Board showed insensitivity to Fijian protocol.

Such discontent with the NLTB could explain why many landowners have opted to negotiate leases directly with potential tenants and independently of the NLTB, entering into "tenancy at will" or "vakavanua" tenancy outside of ALTA. Subletting or sharecropping is explicitly not permitted under ALTA. Direct negotiations with potential tenants have also been discouraged by the NLTB and the chiefs. According to Ward and Kingdon (1995, p. 244), "any freeing up of the lease market which allowed direct lease negotiations would probably result in a marked drop in income for many chiefs." Heads of landowning units receive 22% of the gross rent collected. Members of landowning units have also been unhappy about the proportion of rent taken by the NLTB for its administration. The NLTB deducts 25% of the gross rent collected whereas the rest of the mataqali divided amongst themselves only 52% (table 9).

Table 9: Sharing of Native land rent

NLTB	**25%**
Head of Vanua	3.75%
Head of Yavusa	7.5%
Head of Mataqali	11.25%
Subtotal	22.5%
Rest of mataqali members	**52.5%**

Source: Kamikamica and Davey 1988, p. 289. From 1999, returns to NLTB have been reduced to 20% and the share is expected to be reduced further to 15% by 2001 (Chairman, SCOF personal communication, January 2001).

Today it seems it is mainly the heads of landowning units who are arguing for the continued role of the NLTB, particularly as they gain disproportionately from the existing system.

Vakavanua

Vakavanua, or customary arrangement, was traditionally used by some landowners to allocate land in culturally appropriate ways to Fijian migrants from other areas. According to Eaton (1988) a vakavanua arrangement was also used by traditional "land controllers," who had *veimada* (fallow) rights over land traditionally cultivated for own use, to lease their land to non-

Fijians. In the cane belt, only 7.7% of all Native leases are recorded as vakavanua, and in terms of actual area cultivated, vakavanua leases accounted for only 5%(table 4). These figures are likely to be under-reported as such arrangements are illegal and often not formally reported or recorded. Eaton (1988) found that a great deal of tobacco was grown under vakavanua arrangements that tenants negotiated directly with landowners. In one region near the Nadi airport, the main tobacco area, up to 72% of 690 farmers surveyed grew tobacco on land leased under vakavanua.

Although illegal, both landowners and tenants have indicated that vakavanua is in their interest (Ward and Kingdon 1995). The rents are higher, with Eaton (1988) reporting almost ten times the NLTB set lease value. Under vakavanua tenancy, Fijian landowners retain control. They do not share the rent with the NLTB, which almost doubles their returns. Where Fijians with veimada rights are involved, land rents may not be shared with other members of the mataqali. Under vakavanua arrangements, Fijians can also lease their land for periods shorter than the 30 years stipulated under the ALTA.

IndoFijians, too, see some advantages from vakavanua. They can make arrangements more quickly through private negotiation and can access better quality land—land which has been put into reserve and which cannot be leased to non-Fijians. Often land newly released by the NLTB is of poor quality. But vakavanua arrangements also entail uncertainty in tenure renewability. It is understood that vakavanua tenancy may involve fixed lease payments, with or without goodwill payments, or sharecropping on terms which could be exploitative. The extent of vakavanua arrangements is, however, not known, nor are the terms and conditions of such an arrangement made explicit. Since the land leases began to expire, newspaper reports suggest that there has been an increase in such informal tenancy arrangements, apparently out of desperation on the part of the tenants. Such informal lease arrangements may, however, not be as efficient in cane production as would a Crown, Native or freehold lease given to an IndoFijian, as seen below.

Cane production by tenure type and ethnicity

Efficiency in the use of land, as reflected in the average yield, is greatly influenced by the type of lease. Across all mills, cane yield per hectare is greatest in the small numbers of 99-year Crown leases (62t/ha), followed by freehold farms (60t/ha), Native leases (57t/ha) and vakavanua (52t/ha) (table 10). There is also some difference in cane yield between mill areas, particularly reflecting the availability of quality land.

The differences in production levels have been as much a function of the lease arrangements as they were of the ethnic backgrounds of the operators.[3] The IndoFijians on average produce higher yields than their Fijian counterparts at 60 and 51 tons per hectare respectively (table 10). Some of the main reasons quoted for this difference in yield between the two ethnic communities include the difference in management and technological know how, consistency in application of

[3] The differences in yields between ethnic groups are statistically significant at (>) 5% significance level.

key inputs, labor, fertilizer and pesticides, and cultural differences in emphasis in profit maximization (Verebalavu 1998 and Reddy 1998). It is also possible that some of the differences may be due to difference in the quality of land, a hypothesis that needs to be tested in the future.

Table 10: Cane yield, t/ha, by ethnicity and lease type, 1984-96

	Fijian	IndoFijians	Other	All races
Freehold	48.5	60.2	59.2	60.1
Crown lease	51.2	62.3	62.1	62.0
Native lease	49.5	59.5	43.7	57.4
Vakavanua	52.2	54.7	54.9	52.3
All lease types	50.5	60.3	52.2	58.4

Source: FSC Grower Census Database 1993-99.

Expiry of ALTA leases

The expiry of the Native leases is a hotly discussed issue, particularly as both the tenants and the landowners stand to lose from a non-decision. Under ALTA, Native leases began expiring in 1997, with at least 4,800 contracts estimated to expire by 2005 (SCOF 1999). Between 2001 and 2002, about 44% of all Native lease are due to expire, and by 2009, two years after which the current non-reciprocal tariff preferences under the new ACP-EU Partnership Agreement expires, about 91% of all land leases would have expired (table 11). By then Fiji may well be forced to face the vagaries of the world sugar market.

Table: 11: Proportion of Native leases due to expire between 1997-2014					
Year	**IndoFijian**		**All cane leases**		**Cumulative % of all land expired**
	Number	**Area (ha)**	**Number**	**Area (ha)**	**%**
1997	27	232	27	232	1
1998	120	1398	128	1463	5
1999	158	1708	170	1962	10
2000	1133	8217	1218	8838	33
2001	1494	7861	1542	8337	54
2002	310	2670	322	2912	61
2003	435	2945	465	3240	69
2004	216	2250	231	2390	75
2005	228	2297	245	2490	81
2006-9	294	3186	319	3810	91
2010-14	199	2060	239	2621	98
2015-24	45	65	65	886	100
TOTAL	**4659**	**34889**	**4971**	**39181**	

Source: NLTB 1995.

Delays in non-renewal seem to be motivated by the desire on the part of indigenous Fijians to put all agricultural Native leases under NLTA and to change the rental formulae. Even Prime Minister Qarase of the interim administration has recently called for a revision in the land rental formulae when speaking at the Commonwealth Ministerial Action Group in New York (*Fiji Sun* 16/8/2000). He argued that the current UCV-based system is unfair to the Fijian landowners, with landowners not recovering any benefits of higher cane prices that accrue from preferential access to the EU markets. On the other hand, the tenants whose leases are not renewed would face eviction, and for most there would be few employment opportunities or options for finding areas to reside on. All IndoFijian lessees agricultural leases were also their residential leases.

Key differences between the two institutional land tenure frameworks are summarized in table 12.

Table 12: Differences in institutional arrangements under ALTA and NLTA		
Terms and conditions	**ALTA**	**NLTA**
Lease tenure	Minimum 30 years (de facto maximum)	Rolling 5-10 years
Basis of rent fixation	6% unimproved capital value (UCV)	NLTB's valuation reflecting "market price"
Renewability	Non-renewable beyond 30 year maximum/minimum	Renewable subject to NLTB's consent. Recently renewable with additional goodwill payment to NLTB as well as to the landowners.
At expiry—compensation	Value of improvements payable by landowners if approved by them	Compensation as determined by the Board or independent arbitrator
Choice of land utilization	Tenant	Stipulated in the Act
Subletting/ Sharecropping	Illegal, though common	Possible, but with NLTB's permission
Settlement of disputes	By the Fiji Sugar Industry Tribunal	By an independent arbitration

Source: Agricultural Landlord and Tenant Act chapter 270 and Native Land Trust Act Chapter 134.

LAND TENURE DILEMMA

Both institutional arrangements have their strengths and weaknesses for both landowners and tenants. Can a land tenure system be agreed upon that not only encourages efficiency in the use of human and other natural resources, including land, but is also fair to the tenants and the landowners alike, allowing them to share equitably in the benefits and the risks?

Finding such a solution is vital if the Fijian sugar industry is to survive the effects of the lower world sugar prices which Fiji may be forced to face if the current agreement with the EU is not renewed, as well as to cope with the problems raised by political events. To find such a solution, many dilemmas relating to land tenure, discussed above and summarized below need to be carefully addressed.

Renew current leases or not?

If the leases are not renewed then the options are:

- land is used by native landowners to grow sugar cane
- land is left idle
- land is used by native Fijians but in some sharecropping or subletting arrangement with the IndoFijians under vakavanua arrangements.

If renewed under ALTA or NLTA, then what should be the:

- basis of rent charges?
- duration of tenure?
- renewability of leases?

These issues are examined in detail below.

Non-renewal of leases

The extreme position could be that most, if not all, leases are not renewed and the land reverts back to the landowners. Between 1997 and 1999, only 26% of the leases (313) that expired were renewed to existing tenants and the rest were either leased to members of landowning units (54%) or not issued at all (20%). If continued, such a "policy" will have dire consequences for the tenants whose leases are not renewed and could have dire consequences for the sugar industry and the economy as a whole.

Although initially the landowners took a hard line about non-renewal, more recently, many have been willing to issue residential leases. Of those tenants evicted, particularly since the 2000 coups, many have moved in with their extended families. Last year many families evicted from their cane land (and other Native leases) have been forced to move to Girmit Centre in Lautoka and are currently living on charity. The extent of poverty may increase considerably. Some families may move to the urban areas, where squatting, problems of waste disposal, pollution and crime are already considerable.

Fijian landowners will lose a guaranteed source of income if leases are not renewed. While no recent information has been compiled, in 1989 (the most recent year for which land rent information is available, Tadulala 1998), the NLTB was reported to have earned $3.4 million, equivalent to $246/ha. In 1999, the NLTB estimated that the active cane tenants would have paid about $6.7 million, of which $5.5 million would have come from IndoFijian farms (table 13). It is worth noting that IndoFijians appear to pay on average higher rent than Fijian lessees. If the leases were reissued, and 54% went to the Fijians, the NLTB and the landowners would incur a net loss in income of about $1.6 million.

Without such income, the NLTB would face greater difficulty in meeting its overhead than before, when the Government had to provide annual grants to cover expenditures. Despite such annual grants in the past, NLTB has periodically reported losses. In 1997 these were estimated to be about $4.3 million (Tadulala 1998).

Table 13: Expected cane lease revenue—2001

Race type	No leases	Total rent	Avg. rent	Total area (ha)	Rent ($/ha)
Chinese	5	$3,270.00	$654.00	66	49.48
European	10	$5,548.00	$554.80	49	112.35
Fijian	2,135	$1,124,772.44	$526.83	26,228	42.88
Indian	7,702	$5,453,135.53	$708.02	72,427	75.29
Other	101	$137,917.30	$1,365.52	2,155	63.98
TOTAL	**9,953**	**$6,724,643.27**	**$675.64**	**100,926**	**66.63**

NB: These figures may include some leases that may have expired but not cancelled. Also there are some discrepancy between this data and what Tadulala presented using the same NLTB source, which appears to be the result of misreporting by NLTB.

Source: NLTB, January 2001 (personal communication).

It is possible that land not re-leased to current tenants may not be utilized for sugar cane farming. This will have a significant impact not only on the sugar industry but also on the entire economy. As mentioned earlier, the sugar manufacturing alone directly contributes almost 22% of GDP and around 40% of merchandise exports, a crucial consideration for a small developing country like Fiji in need of foreign exchange to meet the cost of essential imports. The contribution to national income of sugar cane farming is even greater when considering the linkages to the local distillery, fertilizer and other industries.

Land utilized for cane by Fijians

An optimistic scenario is one where Fijians who begin sugar cane farming are able to produce on average cane yield equal to those achieved by average Fijian farmers. Nationally, an average Fijian farmer produces about 10t/ha less than an IndoFijian farmer (see table 10). This scenario would mean a net loss of about 300,000 tons by year 2005, which would result in a reduction of 28,700 tons of sugar.[4] The table below demonstrates the orders of magnitude of the decline in production as leases expire under such a scenario.

[4] This is assuming 10.31 tons of cane is required to produce 1 ton of sugar as was the case in 1999 (Sugar Cane Research Centre Annual Report, 1999-2000).

Table 14: Loss in output due to productivity differential, 1999-2024				
Year of lease expiry and entry of new farmers	**Number**	**Area (ha)**	**Reduction in sugar cane output (tons) (@10t/ha)**	**Cumulative loss (tons) @10t/ha**
1997	27	232	2,320	
1998	120	1,398	13,980	16,300
1999	158	1,708	17,080	33,380
2000	1,133	8,217	82,170	115,550
2001	1,494	7,861	78,610	194,160
2002	310	2,670	26,700	220,860
2003	435	2,945	29,450	250,310
2004	216	2,250	22,500	272,810
2005	228	2,297	22,970	295,780
Averages over remaining years				
2006-09	294	3,186	31,860	327,640
2010-14	199	2,060	20,600	348,240
2015-24	45	485	4,850	353,090
Total 1999-24	6,743	57,473	574, 730	

Source: Lease expiry information from NLTB (1995); Differential yield data derived from FSC Grower Data.

A more realistic scenario would be that only a proportion of the expired leases revert to Fijians, as was the case between 1997 and 1999. Of the 1212 expiring leases, 54% were issued to members of landowning units.[5] Although many of the new lessees have the basic knowledge and skills required for cane husbandry (FSC survey results reported to the ALTA Task Force December 2000), over 90% did not have the necessary capital to start farming. The government has agreed to set up a Farming Assistance Scheme to allocate $10,000 per farmer plus a basic farm management training scheme.

[5] This figure differs from the figures provided in the above table although both have been provided by NLTB. It appears that the difference is due to the cut off date used to determine when a lease expired. Some used the beginning as the date of expiry whereas at other times the end of the year was used (Director, Information Technology, NLTB, personal communication). The figures could not be reconciled because access to raw data could not be obtained.

Given this pattern of lease renewal, plus government assistance to get Fijians started in cane farming, based on past experiences (particularly in Seaqaqa) it is expected that the total cane production will still decrease in the short to medium run. There are two basic reasons: Fijians cultivate a smaller proportion of land leased to them and they produce lower yield when compared with IndoFijians.

The Seaqaqa project, which was set up to encourage Fijian participation in the sugar sector, provides a good basis for making projections about future production as most of the Fijians involved, if not all, were first time commercial agriculturists and first time cane growers. Although Fijians and IndoFijians were issued roughly the same size farms of fairly similar land quality, Fijians on average harvested cane on 25% of the area leased as compared with 48% by the IndoFijian (table 15).

Table 15: Performance comparisons between Fijian and IndoFijian cane farmers in Seaqaqa

	Fijian	IndoFijian
Mean area cultivated (ha)/grower	5.33	8.47
Mean lease area (ha)	21.2	19.32
% flat or rolling (%)	64	69.2
% lease area cut (%)	25.20	48.40
Yield/ha (t/ha)	41.31	49.65
Total production per grower (tons)	220	420

Source: Forsyth and Verebalavu (1994: 22).

Cane yields between the two ethnic groups differed by about 10t/ha, similar to the difference in national yields over the period 1993 and 1999 (see table 10). Therefore, as leases expire, and if the pattern of renewable leases between 1997-99 were followed, the total production will still decline in the short to medium term. It will decline substantially even if one assumed the current political situation did not affect farmers' behavior, and the Fijians adopted the recommended farm management. Based on these scenarios, only 558,000 tons of cane would be produced per year by the time all leases expired in 2024. This is equivalent to a loss in production of 83% of the 3.3 million tons of cane that would have been produced had all the leases been renewed to sitting tenants, including sitting Fijian lessees.

If the current pattern of lease renewal continues, by 2005, when 81% of leases will have expired, a loss of 1.3 million tons of cane will be realized. This is 74% of the 1.78 million tons

that would have been produced had all the leases been reissued to sitting tenants. This is equivalent to 173,000 tons of sugar, or less than 40% of total sugar production.

Reissue of leases to Fijians: land utilized for cane but farms managed by non-Fijians or sharecropping

It is also quite likely that landowners, realizing that they do not have the necessary capital or know-how to farm the land themselves, may enter into formal or informal arrangements with IndoFijian farmers, as happened in Seaqaqa. Forsyth and Verebalavu (1994) in their post-implementation report on the Seaqaqa project said that between 1981 and 1993 about 40% of farms originally issued to Fijians were still under their management, with about 10% of leases "sold" to IndoFijians and the rest being managed or farmed on a sharecropping basis. In 1993, at least 27% of the 354 Fijian leased farms, which had loans from the Fijian Development Bank, were managed by someone other than the farmer, primarily an IndoFijian. Another 10% of the growers who were not customers of the Bank were also identified as having their farms managed by IndoFijians. No detailed information is available about yield differences between such tenure arrangements and registered Native leases held by Fijians or IndoFijians. Preliminary results suggests that there could be a difference of at least 5t/ha on farms managed on a vakavanua basis and Native-leased farms.

Renewal of land leases

It is more than likely that land leases held by non-indigenous Fijians will be renewed under NLTA rather than ALTA. As discussed previously, NLTA provides for shorter land tenure of rolling 5-10 years or more and a rent that is fixed on an individual basis by the NLTB's land valuer. This arrangement contrasts markedly with the leasing of non-agricultural land, particularly for tourist development, which is individually negotiated and is generally based on a percentage of gross returns plus a fixed sum, and granted for 50-99 years (Tadulala 1998; Prasad 1998).

There are two reasons given for proposing these tenure arrangements for agricultural leases. Firstly, it allows the members of the landowning unit to get their land back sooner for their own use. Secondly—and this seems to be supported by recent demands for payments of goodwill and higher rents—it allows the landowners to obtain higher returns on their land reflecting "market value." Between 1997 and 1999, many Fijians, and more recently the interim government, have been asking for a greater share of the higher cane prices received by growers under the Lome Convention.

The downside for tenants of such an arrangement, besides the higher rents, is that 5-10 years is likely not long enough to encourage them to invest in long-lived assets on land, thus productivity growth would be less than under longer leases.

Fixed percent UCV plus "goodwill" payment

In addition to fixed lease payments made by the tenants to the NLTB under ALTA, tenants have been known to pay a premium or "goodwill." It has been reported that about 86% of farmers have provided either one-off or some regular but varying levels of goodwill payments to local landowning units. A "standard" goodwill payment, prior to about 1997, had been a year's rent and at times other payments were demanded. This was in addition to the land rent deducted at source by the FSC before cane proceeds were paid out to farmers (Prasad 1998). In the case of non-payment of the goodwill, tenants are threatened with non-renewal of leases. In some cases violent confrontations have been reported. Until recently, this goodwill payment was often not acknowledged.

More recently, as expired leases were considered for renewal, NLTB introduced a New Lease Consideration (NLC) fee, variously called goodwill or a premium. According to the NLTB, the NLC is supposed to reflect "the value of improvements on the land at the date of expiry" and "landowners' goodwill to again give up their exclusive possession" of land (NLTB submission to the Sugar Industry ALTA Task Force, Dec. 2000). It has also been argued that it reflects "opportunity foregone by landowners." But it seems unfair to ask sitting tenants to pay goodwill for these reasons, because they are the ones who have made the improvements to the land and the rent paid is supposed to reflect the opportunity cost of land to the landowner. An acceptable argument for such goodwill payments could be that it, together with the annual rent, is designed to give landowners the market value of lease rent. That is, provided that the goodwill is based on the expected returns to land and not some arbitrarily set figure as seems to have been the case.

Goodwill payments 1997-2000

The NLC levied by the NLTB seems to be on an ad hoc basis. It is estimated that the NLC has ranged from $2,000 to $22,000 per lease.[6] There is no apparent pattern in the payment paid. For example, the range of goodwill paid for class I land is between $600 and $9,900/ha (with 50 such renewals noted in 1999). For class II land, the goodwill amount ranged from about $300 to $10,300/ha (30 leases). For class III land, it was $860 to $1,730 (two leases). The average goodwill paid to the NLTB is $7,600/lease or $3,300/ha.

Landowners have also directly charged goodwill for consenting to lease their land. This is in addition to the goodwill payment charged by the NLTB This additional goodwill has been in the order of $500/ha—$1,500/ha in some localities. These payments could be seen to reflect a proportion of monopoly rent extracted by the landowners and the custodian, the NLTB. In December 2000, the NLTB agreed that, whereas before they required a letter of consent, they no

[6] These estimates have been derived using the loan, equivalent to 90% of the NLC, approved by the Sugar Cane Growers Fund to growers who have been in cane farming for at least three years, and who could provide a deposit of 10% (Sugar Cane Growers Fund, personal communication, Feb. 2001).

longer will require it for renewal of leases. This may perhaps prevent the landowners from also extracting additional goodwill payments.

Using a conservative figure of $15,000 total goodwill charges levied by the NLTB and the landowners, plus an average UCV-based rent charged under ALTA, gives an average market value of $20,916 for a 7.1ha block.[7] This figure gives an average annual rent of $174/ha or 7.3% of the weighted average GVP of $2,401/ha.

One needs to be cautious when using these average estimates as they represent just that—an average case. As we have seen, land ranges in productivity from 35t/ha for marginal land to over 85t/ha for class I land. For class I land, the annual rent will be in the vicinity of 14% of GVP of $4,250/ha, assuming the land is leased in perpetuity (table 16). On the other hand, for class III land (with a yield of less than 50 t/ha but more than 35t/ha), the rent, including goodwill, will be about 13% of the average GVP of $1750/ha/ year. For marginal land, rent after including the goodwill payment will result in a rental scheme based on 10% of maximum GVP achievable.

Table 16: Effect of a fixed goodwill of $15,000 on annualized rent as a proportion of GVP of different class land

	Class I	Class II	Class III	Marginal
Rent ($/ha)	480	300	150	54
Market price based on rent ($)	57,600	36,000	18,000	6,480
Market price based on goodwill and rent ($)	72,600	51,000	33,000	21,480
Annual rent per farm ($)	4,356	3,060	1,980	1,289
Annual rent /ha ($)	605	425	275	179
GVP/ha ($)	4,250	3,500	2,100	1,750
Rent (incl. goodwill)/ha % of GVP	14.2	12.1	13.1	10.2

If the tenure were for a shorter period, and goodwill were charged each time the lease was to be renewed, the effective rent would depend on the duration of the tenure. Thus, for example, if the lease is renewed for 15 years and goodwill of $15,000 is paid for that duration, an average tenant would pay an additional rent equivalent to $1,545/farm or $215/ha. This is equivalent to 15.5% of the weighted average GVP/ha. This suggests that although there is a huge variation in the goodwill payments to the NLTB and the members of the landowning units, on average, under

[7] The weighted average rental payment estimated using a UCV-based rent for each class of land and the distribution of land in each class is $50 per hectare. The figure of $20,916 is derived by adding $15,000 plus the present value of annual rent of $50/ha or $355/ 7.1ha farm in perpetuity at 6% interest.

the current system of land lease renewal, NLTB and the individual mataqali landowners are able to extract about 16% of the GVP.

In aggregate, if one were to treat the goodwill payment as a forward payment of land return, using an average goodwill payment of $7,500 to the NLTB and $8,890 to the landowners for all expiring leases, the landowners would be able to obtain a significant proportion of the future resource rents. In the year 2000-01, if such goodwill payments were made, the NLTB and mataqali owners could obtain over $21 million in goodwill payments (table 17).

Table 17: Income transfer to NLTB and landowners from goodwill payments, 2001-2005

Year expiry	No	Ha	Amount paid to NLTB ($) @ $7500	Amount paid landowners* ($)	Total ($)
2001	1,494	7,861	11,205,000	9,708,335	20,913,335
2002	310	2,670	2,325,000	3,297,450	5,622,450
2003	435	2,945	3,262,500	3,637,075	6,899,575
2004	216	2,250	1,620,000	2,778,750	4,398,750
2005	228	2,297	1,710,000	2,836,795	4,546,795
2006-2009	294	3,186	2,205,000	3,934,710	6,139,710

*Goodwill to landowners = $500/acre or $1235/ha

If a goodwill payment-based lease renewal system were to continue, if the leases were issued under the NLTA, and if the NLTB and the native landowners extracted monopoly rent, inefficient allocation of resources is certain. Furthermore, under the NLTA the land will be issued on 5-10 year leases, which is also likely to distort the lease market. To avoid distorting the lease market, the goodwill payment plus rent should reflect the returns to land, or resource rent and the length of leases should long enough to allow tenants to recover the value of long lived assets. As a minimum, the duration of leases should be increased to a term consistent with, for example, the period used by commercial banks to recover their loan. In Fiji, financial institutions use a minimum period of 15 years to recover their initial capital outlay.

There are other reasons why a longer tenure is desirable. Many researchers, including the World Bank (1991) and Pretty (1995), have noted that a lack of adequate security or length of tenure for leaseholders discourages capital improvements and good on-farm conservation practices. Even if stricter conservation practices are stipulated, as could be done under the NLTA, growers with short tenure will have every incentive to overexploit the land and environmentally degrade it, since they will not have a long term interest in it.

Thus although IndoFijians would prefer to renew their leases under ALTA, the NLTA with an appropriate rental system and long enough tenure could still encourage efficiency in cane production and environmental conservation, as well as ensuring an equitable sharing of risks and gains from the EU subsidy. However, this can only occur if the tenure is long enough and the formula used to assess land rent reflects true resource rent values as discussed below, and there is no "sovereign" risk of the landowners changing their mind and asking for additional payments as has often been reported in the past. Operationally, too, the system used to assess rents and to renew leases must also be transparent for it to be acceptable. The current system of native land administration is highly complex, unwieldy and lacks transparency, which creates uncertainty and scope for disputes.

APPROPRIATE LEVEL OF LAND RENT

The NLTB is proposing to charge annual rent on the basis of market value, as stipulated in the NLTA. How this will be determined is difficult to see as there is a thin market for Native leases and the agricultural land market is almost non-existent—and will become more so after Schedule A and B Crown land is transferred to Fijians, giving ownership rights over about 88% of all land in Fiji.

A rental system based on market value

Under an ideal situation with perfect information, the real estate value and economic value of land are identical. The real estate value means the land and its improvements (US Army of Corps of Engineers 1993). The economic land value reflects demand and supply of land and, in a perfectly competitive market, the economic value of land, the resource rent, is the return expected from its use. This annual resource rent is gross income net of all costs, including labor, capital and management. The economic value of land, or its price, is equal to the present net value of an annual flow of net returns to land.

$P = \sum_{t=a}^{t=\infty} \frac{Annualrent}{(1+r)^t}$; where P is the market value of land; r = interest rate; t= time. Annual rent $= \frac{Annualrent}{r}$

= GVP—costs of all inputs, including returns to labor and management

GVP = gross value of product = price of cane times quantity of cane produced.

Therefore, the more productive the land, the more valuable the crops the lower the costs, the higher the net returns. The higher the net returns, the greater the annual rental value and the higher the expected price of land. Conversely, the greater the value of activity to which the land can be put, the higher the price of land will be for that use. This is one of the reasons why, in general, urban land is more costly than land that is primarily for agricultural use.

The expected net return is equivalent to the net return after consideration of the probabilities of the various states of the environment and market conditions. Thus, the land price would also reflect all the uncertainties in expected annual returns due to uncertainties in prices, input costs and climatic variability. Rental value thus reflects what the tenants are willing to pay, and this would reflect the maximum expected net returns to land (Barlowe 1979; Pagiola 1999).

Where a land market does not exist or land is not extensively traded, as is the case in Fiji for agricultural land, the true market value of agricultural land is likely not revealed. Furthermore, because of the limited amount of fee-simple land available in Fiji, the demand for agricultural land is tied in with the demand for residential sites. In this situation the market for Native leases would not reveal the net value of land for agricultural use. Nor will the agricultural leases be put to efficient use, as is evident in many peri-urban areas where sugar cane farming is a part-time activity.

Estimation of gross and net value of product

Estimating gross returns from cane land is relatively easy as the FSC maintains a census record for each grower with a registered cane contract. On the other hand, detailed costs of inputs, including returns to management, are currently unavailable. Where detailed cost information is unavailable, other second best options could be considered in the short run. Indigenous Fijians, including the Prime Minister in the interim administration, have proposed that land lease rents should be based on a percentage of GVP received by the growers. This proposition is based on the premise that where rent is a fixed percentage of the UCV, the rent is too low (World Bank 1991) and the landowners have not benefited from the higher prices received for Fiji sugar under the preferential access arrangement. Indigenous Fijians, and the interim government too, believe that only the growers have gained from the subsidy provided by the EU under the Lome Convention. Throughout the world, including Fiji, rent as a percentage of GVP has been used as a second best option to determine access fees to fisheries resources, royalty payments for forestry, and lease rents for land used for hotel development. In the case of tuna, an annual access fee of 5-6% GVP has been negotiated Pacific-wide.

For cane, the annual rental value has ranged from a mere 2.9% GVP for marginal land to 10.6% for Class I land (see table 7), or a weighted average of 3.4%. This compared with about 3% received in the UK and 1.3% charged in Belgium, and 10% received for cane land in Queensland. Since the UK joined the EU, its agricultural land rental value has increased to 10-15% of GVP (Ravenscroft, Gibbard, and Markwell 1999). It is also worth noting, however, that although growers on marginal land contributed only 2.9% of their value of cane in rent, their costs as a percentage of GVP was also very high, at 95%, leaving a net return of only $47/ha. This is compared with a return, net of all costs including current land rent, of $1,301/ha, $977/ha, and $186/ha respectively for Class I, II, and III land types. It should also be noted though that only 40% of growers have land belonging to class I and class II. This suggests that for the majority of growers farm class III and marginal land and for them cane farming is only marginally profitable.

Rental system and efficiency in resource use

Ideally, as long as the rent charges closely reflect expected returns net of all costs, the formulae used to fix land rent—whether rent is estimated as a fixed fee, fixed percentage of the GVP, or some other formula—would not affect efficiency in resource use by risk-neutral tenants. That is, when land rent charges capture the expected resource rent, the tenants' incentive structure is optimal. They will invest their labor and capital until the expected marginal benefit just equals marginal cost, thus achieving Marshallian efficiency. However, in an uncertain environment, risk averse tenants would be prepared to forgo a proportion of income for more secure average returns. On the other hand, a risk-averse landowner would be better off under a fixed lease since he/she will not be exposed to any risks. Tenants will bear all the risks of climate fluctuations, pests and disease outbreaks and/or price variability.

Efficiency can be improved only if the level of fixed rent closely reflects expected returns to land based on average land productivity, average land use potential and climatic conditions, and monopoly rents are not extracted. Long run efficiency can be maximized provided there is a built-in mechanisms for the level of rent charged to be responsive to market condition and the rent amount is allowed to vary with changes in the profitability of the land use activity.

Risk Sharing

It has been argued that when rent is based on 6% of the UCV, landowners have not benefited from EU subsidy received under Lome Convention. Nor, it is contended, have they benefited from any devaluation of the Fiji dollar (Davies 1999). However, what Davies does not mention is that landowners do not bear any risks under a fixed rent system and fixed rent plus goodwill system.

A rent based on GVP would mean sharing risk in yield and price fluctuations between tenants and landowners. However, landowners will be subject to greater risk, when compared with the existing system of a fixed percent of UCV due to fluctuations in price and variable output due to droughts, floods, diseases and pests. The tenant will still bear all the risks associated with changes in other input prices. If one assumes that both the IndoFijians and the Fijians are risk-averse communities, then both would/should opt for the form of contract that minimizes their risk and optimizes the trade-off between risks and returns.

Reid (1976) argues that the choice among contract types is determined by the relative risk aversion of contracting parties, with the less risk-averse party bearing all risk. Hence, wage contracts are most likely to be chosen if tenants are more risk-averse, rent contracts are chosen if the landlord is more risk-averse.

Sharecropping

Although many studies have indicated a loss in efficiency in sharecropping relative to owner–operated farms (Shaban 1987; Binswanger, Deininger and Feder 1993), sharecropping could provide an efficient option if there is equal sharing of risks and rewards by sharing returns as well as costs (Johnson 1950 and Heady 1991).

In Fiji, sharecropping has been practiced under the vakavanua arrangements since the turn of the 20th century, although the extent of sharecropping is not known. FSC grower data indicates only 7.7% of cane growers (but 5% in area) are currently farming under this arrangement. However, based on Eaton's observation of the tobacco industry where over 75% of tobacco growers were involved in sharecropping, it is possible that, if leases are not renewed, farmers might enter into sharecropping arrangements, particularly as their homestead site is part of the agricultural lease. Tabuya's (1998) research indicates that in Rakiraki, where 70% of leases were not renewed, about 75% of the farmers entered into a sharecropping arrangement on the basis of a 50/50 share of gross revenue. Growers paid all the costs.

Under this arrangement, Fijian reserve land or land that has reverted to Fijians after Native leases expired has been "illegally" sublet to IndoFijians, usually on the basis of a share in the gross returns. A v*akavanua* arrangement could be seen as a risk-minimizing strategy on the part of the Fijian landowners who realize that they do not have the human or managerial capacity to obtain the maximum returns from their land. It has also been seen as a means by which the native landowners "extort money from occupiers for drink and gambling" or other expenses in a form of "parasitic landlordism" (Rutz 1987, p. 547).

It is not surprising to find sharecropping in Fiji between indigenous landowners and landless IndoFijians. At times IndoFijian leaseholders also enter into a sharecropping arrangement with other IndoFijians, particularly when family labor is unavailable for working on sugar cane farms. Such subletting of leases is informally carried out with the leaseholder receiving one-third of the GVP, with two-thirds accruing to the "sub-tenant." In this case, the tenant and sub-tenant share in the risks associated with the output in the ratio of 1:2, whereas the subtenant bears all the risks associated with input variability. Other forms of sharecropping in Fiji include where a farmer negotiates to pay a "fixed" sum annually, after taking out a "crop lien." Farmers may also take out a short lease to grow a crop for a fixed rent, and vacate the land once the harvest is completed. There is no security in such arrangements, and the sub-lessee is not wholly reliant on the agriculture for income and/or as a homesite.

Binswanger and Rosenzweig (1984) note that distortions in or an absence of markets for land, along with the presence of non-tradable inputs and asymmetrical information, may encourage sharecropping. In the case of Fiji, Fijians also lack human capital, management skills and capital to purchase bullocks and farm equipment. This also encourages them to enter into sharecropping where IndoFijians provide these inputs plus some labor in return for a share in the farm output.

IndoFijians have also entered into sharecropping arrangements with other IndoFijians as they are "forced" to establish separate households upon marriage and existing leases held by their parents cannot no longer support another family. In many cases, with the availability of few alternative employment opportunities and residential sites to rent in rural areas, sharecropping is seen as a way to obtain a place to live and to at least provide subsistence living for their families. Thus ALTA leases have been used as a form of "quasi-social security" (Boydell 2000). For those families with non-farm income, but also engaged in part-time cane farming, it is also possible that if residential areas were separated from agricultural leases, they may give up their

agricultural leases. Efficiency in the sugar cane farming could also be improved if market mechanism were allowed to allocate such agricultural lands to those who are more efficient in its use, or for that use which could generate better returns. Boydell (2000) has argued that some tenants could use only about 1ha of their land to grow alternative crops such as chilies or ginger and still obtain higher net returns than farming their 4.5ha of land for cane. But because of the tied residential and agricultural leases and a particular tradition of growing cane, farmers may have no option but to retain their agricultural leases and go into sharecropping to retain their cane contracts.

Share farming *per se* is not inefficient; it is the terms and conditions under which sharefarming is commonly practiced that may lead to inefficient production. In the classical economics literature, share contracts are held to be inefficient compared with rent contracts because under sharecropping both landlords and tenants view their interests separately and violate the marginal condition required for maximum output (Johnson 1950). Under a 50:50 arrangement of sharing gross returns, a tenant will apply resources only up to the point where his marginal cost is equal to the value of the marginal output. The landlord will not invest in land assets unless the value of his marginal product is twice the marginal cost (Heady 1991). Tenants will farm extensively and the landlord will not invest in improvements that would be more profitable under a more rational method of pricing land.

Under a proportional share of gross returns, although tenants and landlords share in the risks associated with climatic and price variability, tenants bear all risks related to input variability. In a case like Fiji, where less than 9% of land is available on the free market (of which only a small proportion is rural agricultural land), and there is a monopolistic land management institution, it is possible that sharecropping could lead to an "inert, repressive and inefficient" arrangement which is also highly exploitative and "feudal." (Robertson, qtd. in Prasad 1998, p. 161). Such were the experiences in India, which has made IndoFijians somewhat wary of seriously considering sharecropping, as proposed by the interim government and NLTB, as an alternative to leasing on fixed rent basis.

Heady (1971) has demonstrated that efficiency in production can be increased if landowners and tenants share the gross returns and costs in the same proportion. If there is an uneven sharing of returns and costs, tenants' optimal input use will not be the same as that required under a global maximization condition. The balance between the landowners and tenants share of returns and costs is an equity issue, reflecting the negotiating strength of the respective parties. Ultimately, the power structure in society is an important determinant of the kinds of institutional structures that emerge (North 1981).

Growers who reside on land obtained through agricultural leases are more than likely to find themselves entering into sharecropping arrangements under terms and conditions that could be considered as exploitative, and the resource allocation could be inefficient. Since only 8% of land is available through the market, many landless growers are in a weak bargaining position.

Given the choice, many sugar cane growers are more likely to not renew their agricultural leases, provided that they had access to alternative residential sites. In a recent survey, 42%

indicated that they are willing to accept the $28,000 offered by the government and move out of agriculture altogether (Reddy and Naidu 2000). Reddy and Naidu also found that a large proportion of households with off-farm income was interested in separating residential leases from agricultural leases. About 38% of the growers surveyed indicated they would move out of cane farming altogether if given the option.

To improve efficiency in cane production, homestead sites should be separated from the agricultural leases. When families are not reliant on agricultural leases for residential purposes, they are likely to leave cane farming particularly when their opportunity cost of staying on farm is higher than the net returns expected from cane farming and have sources off farm income. This would encourage tenants whose leases are expiring to leave agricultural farming if they so wished. This would also help alleviate the pressure on agricultural land. Those wishing to continue sugar cane farming may also be able to obtain additional blocks of land. This may encourage growers to adopt new technologies and taking advantage of the potential economies of scale.

Landowners will also be better off. The residential and agricultural land market will be separated and the supply and demand of land for the two different uses will determine their respective "market clearing" prices. The lease value of agricultural land is more likely to reflect the expected net returns from the use of that land than is the case under the current system. Landowners are more likely to be able to obtain higher rental value for the residential leases. At the same time, allowing people to lease residential plots in rural areas could help prevent urban drift and associated problems.

CONCLUSION

An important challenge facing Fiji is the negotiation of the most appropriate system of land tenure. Two distinctly different institutional arrangements have been proposed under ALTA and NLTA. At the same time, a rental system based on a fixed UCV and a fixed percentage of GVP, with or without goodwill payment, and various models of sharecropping have also been suggested. Each of the options has limitations in terms of efficiency, equity, risk sharing and incentives for proper land management and soil conservation, as summarized in table 18.

Without going into the emotional aspects of the nonrenewal of land leases, in the short to medium term Fiji would lose economically if IndoFijian farmers are removed from cane farms. Based on the differences in cane yield from farms managed by Fijians and non-Fijians, the country could lose anywhere from 200,000-400,000 tons in sugar cane output if all the leases are not renewed and the land reverted to the landowners. In purely economic terms, this could mean a net loss in direct social welfare of about $20 million. This estimate is based on a difference of $500/ha returns to land and management obtained from farms managed by IndoFijians and Fijians.

Table 18: Risk sharing and incentives for soil conservation practices under alternative rental system

Rent formula	Tenants	Landowners
%UCV—no theoretical basis	Bear all risks. No incentive for soil conservation unless tenure is long-term	Secure income and no risks
% GVP- a second best option	Share output and revenue risks Bear all production costs risks No incentive for soil conservation unless tenure is long-term	Share output and revenue risks
Resource rent—ideal system	Share output, revenue and production costs risks No incentive for soil conservation unless tenure is long term	Share output, revenue and production costs risks
Sharecropping : share gross returns	Share output and revenue risks Bear all production costs risks No incentive for soil conservation unless long tenure	Share output and revenue risks
Sharecropping : share returns and costs	Equal share in output, revenue and production costs risks No incentive for soil conservation unless tenure is long-term	Equal share in output, revenue and production costs risks

A rental system based on the actual market value of land, which is equivalent to the present value of annual net returns to land, encourages the most efficient use of resources, provided the duration of tenure is long-term. This assumes that there is a competitive, open and a well-functioning land market. This assumption does not hold in Fiji, where 88% of the land cannot be bought or sold. At the same time, many of the lessees use agricultural leases for residential as well agricultural purposes and the Native land is managed by a monopolistic organization.

In the absence of a well-functioning land market, the rental value could in the short term be based on the value of gross net return of all input costs, including management, or the resource rent. For such a system to work in Fiji, a transparent system would need to be established involving all the stakeholders, landowners, growers, millers, and Government. The land tenure system must reflect the true expected return to land possible from the use of the land, be it under cane or other crop. In such a system, lease should be sufficiently long enough to provide

adequate economic incentives to farmers to invest in appropriate farm management practices that maintains, and improves, land quality.

Operationally, rents payable should be based on real time data that both the cane growers and the landowners have faith in. Currently, only FSC has access to grower data and time series price information. There is, however, no real time cost data regularly collected in Fiji that could be used to estimate the resource rent equivalents for the different classes of land. It is understood that FSC annually collects input and output data on an annual basis from a limited number of growers in each sector, but these records have gone missing.

Such data need not be collected for the whole grower population, the cost of which could be exorbitant. A well-structured, stratified sampling technique could suffice and SCOF could compile and maintain such as a database which could be shared by the FSC, the Cane Growers Council, representing the growers, and the NLTB, representing the landowners.

Only as a short-term measure, a rental value based on a percent of GVP could be used until detailed cost data is obtained. The appropriate percentage of gross value product would need to be agreed to by the landowners and tenants; current land rents on average, as seen above, are equivalent to about 3-14% GVP.

In the long run, it would be more equitable and efficient to move towards a rental system based on expected net returns, particularly as Fiji enters into the highly variable world sugar markets. Whatever system is used to determine the rental value for agricultural leases, residential blocks should be separated from agricultural leases and issued under separate residential leases. There must also not be any “sovereign” risk, whereby members of landowning units dissatisfied by the rent-sharing arrangement adopted by the NLTB, are allowed to demand additional payments, as has been the case in the past.

Regardless of what system of Native land tenure Fiji finally decides to adopt, it will not resolve the issue of the sharing of the rental income between NLTB, the chiefs and the members of the landowning units. This is an issue that only indigenous Fijians can resolve. Moreover, whatever rent sharing formulae they settle on, the Fijian hierarchy would need to be cognizant of the fact that the NLTB has to improve its consultative process and increase its administrative efficiency. The NLTB has to become more accountable to its stakeholders, the indigenous Fijian population, and not expect Government to regularly bail it out.

In conclusion, it does not matter whether the land is leased under ALTA or NLTA, the landowners and the tenants can have their cake and eat it too provided the land tenure system encourages efficiency in resource use and equitable sharing of returns to land and management between the tenants and the landowners.

REFERENCES

Asian Development Bank. 1996. *Fiji Agricultural Sector Review: A Strategy for Growth and Diversification*. Suva: Asian Development Bank and Fiji Ministry of Agriculture.

Barlowe, R. 1972. *Land Resource Economics: the Economics of Real Property*. Sydney: Prentice Hall.

Baron, D. 1982. "The Effects of Tenancy and Risk on Cropping Patterns: A Mathematical Programming Analysis." *Agricultural Economics Research* 34(4): 1-9.

Binswanger, H.P. and M. Rosenzweig. 1984. "Contractual Arrangements, Employment and Wages." *The Rural Labour Markets in Asia*. London: Yale University Press.

Binswanger, H.P., K. Deininger, and G. Feder. 1993. "Power, Distortion, Revolt, and Reform in Agricultural Land Relations." World Bank, WPS 1164.

Boydell, S. 2000. "Coups, Constitutions and Confusions in Fiji." *Land Tenure Center Newsletter* 80: 1-6, 10.

Davies, J. 1997. *An Analysis of the Efficiency of Fiji's Sugar Cane Rail System.* Suva: University of the South Pacific.

_____. 1999. "Reforming the Leasing and the Use of Agricultural Land in Fiji: An Economic Incentive Approach" Report prepared for NLTB.

Eaton, C. 1988. "*Vakavanua* Land Tenure and Tobacco Farming." In *Rural Fiji*, edited by J. Overton, pp. 19-30. Suva: Institute of Pacific Studies, University of the South Pacific.

France, P. 1969. *The Charter of Land: Custom and Colonization in Fiji.* Melbourne: Oxford University Press.

Forsyth, D. and J. Verebalavu. 1994. *The Seaqaqa Project: A Post Implementation Evaluation.* Unpublished report. Department of Economics, University of the South Pacific, Suva, Fiji.

Heady, E. O. 1971. "Optimal Sizes of Farms Under Varying Tenure Forms, Including Renting, Ownership, State and Collective Structures." *American Journal of Agricultural Economics* 53(1): 17-25.

Johnson, D. Gale. 1950. "Resource Allocation Under Share Contracts." *Journal of Political Economy* 58: 111-123.

Kamikamica, J.A. and T. Davey. 1988. "Trust On Trial—the Development of the Customary Land Trust Concept in Fiji." In *Land, Government and Politics in the Pacific Island States*, edited by Y. Ghai, pp. 284-303. Suva: Institute of Pacific Studies.

Lal, B. 1992. *Broken Waves: a History of Fiji Islands in the Twentieth Century.* Honolulu: University of Hawaii Press.

Landell Mills Commodity Studies. 1991. *A Review of the Sugar Industry in Fiji*. Report prepared for the Sugar Commission of Fiji. Oxford: Time.

MAFF (Ministry of Agriculture, Forestry and Fisheries). 2001. "Land Resource Development and Management." Internal memo. Suva: MAFF.

Moynagh. 1981. *Brown or White? A History of the Fiji Sugar Industry, 1873-1973*. Pacific Research Monograph No. 5. Canberra: Australian National University.

Nayacakalou, R.R. 1971. "Fiji: Manipulating the System." In *Land Tenure in the Pacific*, edited by R. Crocombe, pp. 206-26. Melbourne: Oxford University Press.

Native Land Trust Board Annual Reports. Various years. Suva.

North, D.C. 1981. *Structure and Change in Economic History.* Norton: New York.

Overton, J., editor. 1988. *Rural Fiji.* Institute of Pacific Studies, University of the South Pacific, Suva.

Pacific Valuations. 1998. Report to the Sugar Cane Growers Council, Lautoka.

Pagiola, S. 1999. "Economic Analysis of Rural Land Administration Projects." Land Policy Thematic Team, Environment Department, World Bank. http://wbln0018.worldbank.org/networks/eesd/icdb 18/2/2001.

Prasad, B. 1998. "Property Rights, Economic Performance and the Environment in Fiji: A Study Focussing on Sugar, Tourism and Forestry." Unpublished Ph.D. dissertation. University of Queensland, St. Lucia, Brisbane.

Pretty, J. N. 1995. *Regenerating Agriculture: Politics and Practice for Sustainability and Self Reliance.* London: Earthscan.

Ravenscroft, N., R. Gibbard, and S. Markwell. 1999. *"Private Sector Agricultural Tenancy Arrangements in Europe: Themes and Dimensions A Critical Review of Current Literature."* Working Paper 28. Madison: Land Tenure Center, University of Wisconsin.

Ravuvu, A. 1983. *Vaka I Taukei: The Fijian Way of Life*. Suva: Institute of Pacific Studies, University of the South Pacific.

Reddy, M. 1998. Production Economic Analysis of Fiji Sugar Industry. Unpublished Ph.D. dissertation. Honolulu: University of Hawaii.

Reddy, M and V. Naidu. 2000. "ALTA and Expiring Land Leases: A Survey of Farmers' Views and Perceptions on Expiring Land Leases and their Future." Mimeo. Suva: University of the South Pacific, Fiji.

Reid, J.D. 1976. "Sharecropping and Agricultural Tenancy." *Economic Development and Cultural Change* 24: 549-76.

Roumasett , J. and W. James. 1979. "Explaining Variations in Share Contracts, Land Quality and Population Pressures and Technological Change." *Australian Journal of Agricultural Economics* 23: 116-127.

Rutz, H.J. 1978. “Fijian Land Tenure and Agricultural Growth.” *Oceania* 49(1): 20-34.

SCGC. 1998. UCV files.

———. 1999. FSC Submission to the ALTA Task Force. Mimeo, ALTA Task Force Files.

SCOF. 1997. *Industry Strategic Plan—Action Plans, 1997-2000.* Lautoka: SCOF.

———. 1999. “Sugar Industry Submission to the Native Land Trust Board—the Future Leasing of Native Land for the Production of Cane.” Lautoka: SCOF.

Shaban, R. 1987. “Testing Between Competing Models of Sharecropping.” *Journal of Political Economy* 95: 893-920.

Stiglitz, J. 1974. “Incentives and Risk-Sharing in Sharecropping.” *The Review of Economic Studies* 41: 219-55.

Tabuya, J. D. 1998. *Sugar Cane Sharefarming in Fiji: Its Implications under the Equity-Led Sustainable Development Model.* MA Major Research Exercise, SSED, USP.

Tadulala, M.1998. “State of Investment on Native Lands in Fiji.” Parliamentary of Fiji Information and Research Unit Background Paper 2(5). Suva.

Tongpain, S. and Jayasuriya S.K. 1984. “Tenancy, Farming Practices and Income Differences: a Study of Rice Farmers in Central Thailand.” *Agricultural Administration* 16(2): 99-111.

US Army Corps of Engineers. 1993. National Economic Development Procedures Manual—National Economic Development Costs. Institute of for Water Resources Report 93-R-12. Fort Belvoir, VA: Institute of for Water Resources.

Verebalavu, J. 1998. *Indigenous Fijians in Business—a Study of Cane Farmers.* Unpublished Master’s thesis. Suva: University of the South Pacific.

Ward, R. G. and E.B. Kingdon. 1995. *Land, Custom and Practice in the South Pacific.* Hong Kong: Cambridge University Press.

World Bank. 1991. *Pacific Island Economies: Towards Higher Growth in the 1990’s*. Washington, DC: World Bank.

———. 1996. *Fiji Restoring Growth in a Changing Global Environment*. Washington, DC: World Bank.