

# Pacific 2020

BACKGROUND PAPER: AGRICULTURE

January 2006

## **Pacific 2020 Background Paper: Agriculture**

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### Disclaimer

This paper is one of a series of nine background papers written for the Pacific 2020 project, which was conducted by the Australian Agency for International Development (AusAID) in 2005. Pacific 2020 examines various components of the economies of the Pacific, Papua New Guinea and East Timor. It aims to generate practical policy options to contribute to stimulating sustainable, widely shared economic growth in these countries.

This paper is based on the discussion at a round table meeting of regional practitioners and experts, which occurred in June 2005. The findings, interpretations and conclusions expressed in this paper are based on the discussion at this round table, and from a subsequent peer review process. They are not necessarily the views of any single individual or organisation, including AusAID, the Pacific 2020 Steering Group, contributing authors, round table participants or the organisations they represent.

More information on Pacific 2020 is available online at [www.ausaid.gov.au](http://www.ausaid.gov.au).

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## SUMMARY

This paper offers projections of likely best and worst case scenarios for the agricultural sectors of the Pacific island countries in the year 2020. A discussion is then made of possible strategies to help achieve the projected best case scenario. This is followed by a number of recommendations for policy action.

The likely best case scenario would leave the Melanesian and the larger Polynesian countries with an increased level of sustainable prosperity and a higher degree of self-reliance. While the atoll micro-states and East Timor would remain relatively poor because of their special circumstances, they would be more self-reliant and better able to cope with the challenges of survival.

The likely worst case scenario would leave all countries decidedly worse off than they are today regardless of any developments in other sectors of their economies. The countries of western Melanesia, the atoll micro-states and East Timor would find themselves in dire straits. Unless appropriate policy actions and resource allocations are adopted, outcomes approaching the worse case scenario are likely.

### Develop agricultural opportunities.

Rural people could improve their livelihoods by taking advantage of identified agricultural opportunities:

- > enhancing household self-sufficiency
- > supplying growing urban, rural and tourism markets
- > increasing traditional tree crop exports
- > exporting to Pacific island and Asian communities, and
- > exporting new horticultural and spice products in which they have a comparative advantage.

### Empower people.

A key role for agricultural policy is to empower people to take advantage of agricultural opportunities. Such empowerment requires policymakers and donors to recognise small-scale farmers as part of the private sector. There is a need to build public and private sector partnerships that accept that agricultural development is led by the private sector, with government playing a facilitating role.

To take advantage of agricultural opportunities, the private sector needs:

- > infrastructure (roads, ports and jetties, affordable shipping, telecommunications and market facilities)
- > good governance
- > market access
- > information and skills

- > an enabling policy environment
- > access to affordable financial services, and
- > access to land and security of tenure.

Prioritise  
policy actions.

The agriculture round table identified three priority policy actions:

- > invest in infrastructure and its maintenance
- > generate, share and use information, and
- > improve policy formulation.

Of these, investing in infrastructure is deemed to be the most important.

## THE DIVERSITY OF PACIFIC ISLAND AGRICULTURE

There is great diversity in the region's agriculture. Countries such as Tuvalu (population 11 000) and Papua New Guinea (population approaching 6 million) have little in common other than proximity. Because of such diversity it is useful to group the island countries on the basis of resource endowments, size and the importance of agriculture (Table 1).

The relatively large countries of Melanesia have the best natural resources.

**Group 1**, the relatively large countries of Melanesia, comprises Papua New Guinea, Fiji, Solomon Islands, New Caledonia, and Vanuatu. These countries have the best natural resources (over 90 per cent of the land) and most of the population (around 85 per cent). The countries of western Melanesia (Papua New Guinea, Solomon Islands and Vanuatu) are agrarian societies in which agriculture provides the main source of employment and livelihoods. Despite rich resource endowments all three western Melanesian countries have a low ranking in terms of human development indicators. All Melanesian countries except Fiji have extremely high population growth rates. All, including Fiji, are experiencing moderate to high rates of urbanisation, although this is slowing in Papua New Guinea.

The Fiji economy is more diversified, with a higher percentage of the population living in urban areas. Yet sugar remains the largest net foreign exchange earner and the biggest employer of labour. The Fiji sugar industry is now in crisis with the loss of preferential access to the European Union and the non-renewal of many land leases to tenant farmers. This will place huge pressure on the Fiji economy and non-rural livelihoods.

Fiji has much higher per capita income, life expectancy and literacy levels than the countries of western Melanesia. This is reflected in a UN human development index (HDI) ranking of 81 for Fiji compared with 133 for Papua New Guinea.<sup>1</sup> Fiji's strategic location gives overwhelming advantages in terms of diversifying agricultural exports from the main island of Viti Levu.

The middle sized countries of Polynesia have more modest land resources.

**Group 2**, the middle sized countries of Polynesia, comprises Tonga and Samoa. These countries have more modest land resources. Tonga has enjoyed agricultural-led growth with the development of the vanilla and squash industries. For Samoa, taro was the lead export product until the industry was decimated by disease. Samoa continues to enjoy a relatively high level of domestic food security. These economies benefit from low population growth and high levels of remittances from their overseas communities. In recent years Samoa has had the best performing economy in the region in terms of growth, whereas Tonga's HDI ranking of 63 is the most favourable in the region. However, the Tonga economy is particularly vulnerable, with its high dependency on squash, which is grown in a largely unsustainable way and sold to a seasonal niche market in Japan.

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<sup>1</sup> <http://hdr.undp.org/statistics/data/>.

**TABLE 1 IMPORTANCE OF AGRICULTURE TO PACIFIC ISLAND COUNTRIES**

Country	Land area (km <sup>2</sup> )	Population <sup>a</sup>	Geographic type	Importance of agricultural sector
American Samoa	240	68 700 (2002)	High islands, with a few atolls.	Minor. Some subsistence and limited market gardening.
Cook Islands	180	20 400(2002)	High islands and atolls.	Important. Main export earner. Subsistence a significant component of GDP.
Federated States of Micronesia	702	133 150(2000)	High islands and atolls.	Some. Small export earnings, some domestic cash income, and some subsistence.
East Timor	18 900	930 000(2004)	Mountainous, with coastal plain.	Fundamental. Most of the population depends on subsistence agriculture. Coffee is the main non-oil export earner.
Fiji	18 376	824 700 (2000)	High islands. A few minor atolls.	Fundamental. Main employer and net foreign exchange earner. Subsistence a significant proportion of GDP.
French Polynesia	3 521	233 500 (2000)	High islands and atolls.	Some. Small export earnings, domestic cash income, and subsistence.
Guam	549	163 941 (2003)	High island.	Limited. Some domestic market gardening.
Kiribati	726	98 600 (2003)	Predominately atolls.	Considerable. Important for subsistence. Copra is important for outer-island cash income and some foreign exchange.
Marshall Islands	720	73 600 (2002)	Atolls.	Limited. Some subsistence and income earned from copra.
Nauru	21	12 329 (2001)	Raised coral island.	Insignificant.
New Caledonia	19 103	220 000 (2000)	High island.	Important, particularly in the south.
Niue	258	2 145 (2003)	Raised coral island.	Significant. Subsistence and some root crop exports.
Palau	475	19 000(2001)	High islands and atolls.	Some. Market gardening.
Papua New Guinea	461 690	5 100 000 (2003)	High islands – a few small atolls.	Fundamental. Overwhelming source of employment. Provides a significant proportion of net export earnings. Subsistence is a significant component of GDP.
Samoa	2 934	178 200 (2003)	High islands.	Fundamental. Traditional agriculture is the underlying strength of economy.
Solomon Islands	29 785	470 000 (2004)	High islands and a few atolls.	Fundamental. Predominant source of employment. Provides a substantial proportion of net export earnings. Subsistence is a significant component of GDP.
Tokelau	12	1 400 (2003)	Atolls.	Some. Subsistence.
Tonga	696	108 200 (2003)	High islands and a few small atolls.	Fundamental. Agriculture has led economic growth recently.
Tuvalu	26	11 000 (2002)	Atolls.	Some. Subsistence and some cash income from copra.
Wallis and Futuna	255	14 900 (2003)	High islands and atolls.	Some. Subsistence.
Vanuatu	12 189	199 500 (2003)	High islands and a few small atolls.	Fundamental. Predominant source of employment. Provides a substantial proportion of net export earnings. Subsistence is a significant component of GDP.

<sup>a</sup> Source: Secretariat of the Pacific Community <www.spc.org.nc>. Year of population estimate presented in parenthesis.

Note: GDP = gross domestic product.

The land-poor micro-states that are mostly atolls have very limited land but vast marine resources.

**Group 3**, the land-poor micro-states that are predominantly atolls, comprises Cook Islands, Kiribati, Tuvalu, Federated States of Micronesia, Marshall Islands, Niue, Palau and Tokelau. These are among the tiniest nations on earth, spread over vast areas of ocean. They have very limited land resources but vast marine resources, which makes agriculture relatively less important. Some earn meagre, but important, cash income from copra. Cook Islands (papaya) and Niue (taro) earn income from diversified agricultural exports.

In terms of human development measures such as life expectancy and infant mortality, these countries perform better than the countries of western Melanesia, but worse than Fiji and group 2 countries. They face serious environmental problems related to rising sea levels, coastal erosion, the depletion of inshore fishery resources and, for some, rapid population growth. All of these factors make these tiny states highly vulnerable to natural disasters.

East Timor's land for agriculture is comparatively poor.

**Group 4**, East Timor, is a special case where agriculture is of considerable importance for survival. East Timor is the second largest country in terms of population. The percentage of population dependent on subsistence agriculture is comparable with that of western Melanesia. However, the overall quality of land resources available for agriculture is poorer than that of all other non-atoll countries. Land degradation and high population growth make East Timor highly vulnerable to natural disasters. The country faces overall food insecurity for several months a year and nutritional problems year-round. It is the poorest country in the East Asia – Pacific region, with an HDI ranking of 154.

Special cases are not considered in this paper.

**Group 5**, special cases where agriculture is of limited importance, comprises Nauru, American Samoa, Guam and the Commonwealth of Northern Mariana Islands, which are not considered elsewhere in this paper.

## SCENARIOS FOR PACIFIC ISLANDS AGRICULTURE IN 2020

Broad projections for the agricultural sectors of the grouped Pacific island countries by 2020 are presented in Table 2 as likely best and worst case scenarios.

By 2020 the likely best case scenarios would leave the Melanesian and the larger Polynesian countries with an increased level of sustainable and broad-based prosperity and a higher degree of self-reliance. The atoll micro-states and East Timor would remain relatively poor because of their special circumstances. However, they would be more self-reliant and better able to cope with the challenges of survival.



**TABLE 2 LIKELY BEST AND WORST CASE SCENARIOS FOR THE AGRICULTURAL SECTORS OF PACIFIC ISLAND COUNTRIES BY 2020**

Country group	Likely best case scenario	Likely worst case scenario
<p><b>Group 1</b> Relatively large countries of Melanesia</p>	<p>Annual population growth in western Melanesia falls below 2%, facilitated by better and more universal education and health services in rural areas.</p> <p>HIV/AIDS epidemic begins to subside in Papua New Guinea. The incidence AIDS in other countries is kept at a manageable level.</p> <p>There is an improvement in governance, leading to better resource allocation and investor confidence in the sector.</p> <p>The productivity of traditional food production, including small livestock, has significantly increased.</p> <p>There is increasing household food security and decreasing pressure on land resources.</p> <p>Rate of land degradation has been checked.</p> <p>Rural communities are better able to cope with an increasing incidence of natural disasters.</p> <p>The volume of domestically marketed food has substantially increased, as has the quality of produce sold. There is a greater diversity of foods marketed.</p> <p>The oil palm industry has grown significantly in Papua New Guinea.</p> <p>The Solomon Islands oil palm industry has been re-established and returned to pre-crisis levels or has grown further.</p> <p>The export earnings of the PNG coffee industry have substantially increased as a result of an overall improvement in quality and infrastructure.</p> <p>The earnings from the western Melanesian cocoa industries have significantly increased as a result of increased production and improved quality.</p> <p>The coconut industries have diversified away from a dependency on copra.</p> <p>The countries of western Melanesia have established substantial indigenous nut export industries.</p> <p>Spices have also become important export industries.</p> <p>Fiji has a small but viable cane industry producing sugar, molasses and ethanol.</p> <p>Horticulture has replaced sugar as Fiji's main agricultural export earner.</p> <p>The tourism industries in Fiji and Vanuatu have become major buyers of agricultural products.</p> <p>Migration from rural to urban areas continues, but at a significantly lower rate than in 2005.</p> <p>Per capita consumption of imported grain remains unchanged.</p>	<p>The population growth rate in the western Melanesia remains high, which is not matched by increased food production.</p> <p>The HIV/AIDS epidemic in Papua New Guinea reaches southern African proportions, which undermines agricultural productivity. AIDS becomes a serious problem in the other countries.</p> <p>There is a deterioration in governance, leading to increased resource misallocation within the sector and an undermining of investor confidence.</p> <p>Land degradation has accelerated.</p> <p>Communities are less able to cope with natural disasters, the impact of which has increased due to global warming.</p> <p>The volume of domestically marketed food has increased only modestly.</p> <p>An overall deterioration in diet leads to a marked increase in the incidence of lifestyle diseases (diabetes, hypertension, etc.).</p> <p>There has not been significant growth in the PNG oil palm industry and the Solomon Islands industry has not been re-established.</p> <p>There has been no improvement in the quality of PNG coffee and cocoa, and export earnings have fallen.</p> <p>Diversification of the coconut industries has not materialised and the copra-based industries in western Melanesia are barely surviving.</p> <p>The Fiji copra industry no longer exists.</p> <p>The demise of the coconut industries has led to a further deterioration in the quality of shipping services to the outer islands.</p> <p>Indigenous nuts remain a minor local industry.</p> <p>The PNG vanilla industry has contracted to what it was in 2000.</p> <p>The Fiji sugar industry no longer exists and horticultural exports have not grown to anywhere near potential.</p> <p>The Fiji and Vanuatu tourism industries remain enclaves with respect to local produce purchases.</p> <p>The rate of migration from rural to urban areas has increased.</p> <p>The per capita consumption of imported grain has increased.</p>

(Continued on next page)

TABLE 2 (CONTINUED)

Country group	Likely best case scenario	Likely worst case scenario
<p><b>Group 2</b> Middle sized countries of Polynesia</p>	<p>Population growth rates remain below 1% and rural–urban migration remains low.</p> <p>Farming systems remain intact, underpinned by remittances that support traditional systems.</p> <p>The level of domestically marketed food has increased.</p> <p>Improvements in diet reduce lifestyle diseases from the current high levels.</p> <p>Taro has re-established its position as Samoa’s predominant food staple, with exports restored to pre-blight levels.</p> <p>Tonga continues to be an exporter of squash, now based on environmentally sustainable production.</p> <p>Tonga is still a significant exporter of quality vanilla.</p> <p>Samoa has developed a small horticultural export industry based on papaya and rambutan.</p> <p>Traditional exports to overseas Samoan and Tongan communities have increased.</p> <p>Per capita consumption of imported grain remains unchanged.</p>	<p>The level of remittances has declined.</p> <p>Communities are now less able to cope with the impact of natural disasters.</p> <p>Taro in Samoa remains a secondary staple and exports have not been restored.</p> <p>The squash export industry in Tonga no longer exists because of environmental degradation.</p> <p>Vanilla continues as a small export industry.</p> <p>Samoa is not successful in establishing horticultural exports.</p> <p>Exports of local produce to their overseas communities continue.</p> <p>There is an increase in rural–urban migration.</p> <p>Per capita consumption of imported grains increases.</p> <p>Diabetes and other lifestyle diseases become an even greater public health problem than they were in 2005.</p>
<p><b>Group 3</b> Resource-poor micro-states, predominantly atolls</p>	<p>Population growth rates fall below 1%.</p> <p>Increased migration from atoll countries suffering from rising sea levels has resulted in an increased inflow of remittances.</p> <p>There is some increase in household food security as a result of improved gardening techniques, the growing of tolerant fruit trees, and overcoming pest and disease problems threatening breadfruit production.</p> <p>The coconut industries have been able to diversify away from copra into biodiesel and edible oil production.</p> <p>For the short to medium term these communities are somewhat better able to cope with the impact of increasing natural disasters.</p> <p>Migration rates to urban centres have fallen to more manageable levels.</p>	<p>The high population growth rates in some atoll countries remain unchecked.</p> <p>Household food security has deteriorated further as result of the combined impact of population growth, increasing incidence of HIV/AIDS, rising sea levels and breadfruit pest and disease problems.</p> <p>Migration to urban areas has increased.</p> <p>There is a large increase in per capita grain consumption. These communities are now almost entirely dependent on aid to cope with the increased incidence of natural disasters and inundation.</p>
<p><b>Group 4</b> East Timor</p>	<p>The population growth rate has fallen to well below 2%.</p> <p>Household food security has improved as a result of improved and more sustainable farming practices, the adoption of improved varieties of vegetables and the increased planting of fruit trees.</p> <p>There has been a shift away from firewood toward kerosene, which has significantly reduced the rate of land degradation.</p> <p>There has been some growth in off-farm employment opportunities as a result of oil revenue.</p> <p>The organic coffee export industry has expanded significantly, based on quality and taking advantage of East Timor’s international image.</p> <p>Other niche export industries have emerged using the same model as coffee.</p> <p>There is an increase in per capita grain consumption financed by oil revenue.</p>	<p>Population growth remains high and land degradation has increased.</p> <p>Household food security has fallen, with the vast majority of rural people living in grinding poverty with increased vulnerability to natural disasters.</p> <p>The dependency on imported grain has increased significantly as a result of the failure of subsistence and the availability of oil revenue.</p> <p>Exports of coffee have collapsed.</p>

Outcomes approaching the likely worse case scenario would leave all countries decidedly worse off than they were in 2005, regardless of developments in other sectors of the economy. The countries of western Melanesia, Fiji's outer islands, the atoll micro-states and East Timor would find themselves in dire straits. The situation in East Timor could be cushioned by the availability of oil revenue. By 2020 the income-generating capability of the non-renewable resources sectors of Papua New Guinea and Solomon Islands are likely to have substantially diminished, although exports of gas from Papua New Guinea will provide some cushion. For most of these countries there is limited scope for developing manufacturing and service-based industries. Unless appropriate policy actions and resource allocations are adopted, outcomes approaching the worse case scenario are considered likely.

## AGRICULTURAL OPPORTUNITIES FOR RURAL PEOPLE

### ENHANCING HOUSEHOLD SELF-SUFFICIENCY

Smallholder agriculture has been the 'hidden strength' of these otherwise structurally weak economies.

Farming systems in the Pacific island countries are varied and complex and have proven to be usually robust and productive in the face of adversity. Smallholder agriculture has provided a generally high level of food security and been the 'hidden strength' of these otherwise structurally weak economies.

This is no more evident than recently in Solomon Islands where agriculture tempered the humanitarian disaster associated with the ethnic conflict. Similarly, in Bougainville, where there was a PNG government blockade of imports some 15 years ago, there was no indication of starvation.

The economic contribution of traditional self-sufficiency in agriculture is large. A combination of ability to grow, consumer preference and high cost of imported substitutes provides for a long-term competitive advantage. Recent estimates indicate that Solomon Islands produces around 430 000 tonnes of staple food annually, conservatively valued at around A\$65 million.<sup>2</sup> To put this value into perspective, the combined export value of copra and cocoa is about A\$15 million. Staple crop production in Papua New Guinea was estimated at 2.9 million tonnes in 2000, valued at about A\$1400 million.<sup>3</sup>

In Fiji the contribution of traditional crops to gross domestic product (GDP) is approximately equivalent to that of the sugar industry.<sup>4</sup> Food imports are still comparatively low and have fallen slightly as a percentage of total imports over the past decade or so.

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<sup>2</sup> RM Bourke, A McGregor, MG Allen, B Evans, B Mullen, A Pollard, M Wairiu and S Zotalis, *Solomon Islands: rural livelihoods strategy – agriculture contributing to broad based growth*, AusAID, Canberra, 2005.

<sup>3</sup> RM Bourke and V Vlassak, *Estimates of food crop production in Papua New Guinea*, Land Management Group, Australian National University, Canberra, 2004.

<sup>4</sup> Asian Development Bank, *The Fiji agricultural sector review: a strategy for growth and diversification*, Pacific Studies Series.

In some countries the economic contribution of the subsistence sector is underestimated.

In some countries the economic contribution of the subsistence sector is underestimated. In Vanuatu the official estimate of the value of subsistence is only about 7 per cent of GDP, compared with 15 per cent in Papua New Guinea. In Papua New Guinea a more realistic 'consumption' approach is used to measure the value of non-market agricultural production.<sup>5</sup> If the same methodology were used in Vanuatu the contribution of the subsistence sector to GDP would be around 16 per cent.<sup>6</sup>

The economic returns from achieving even modest increases in self-sufficiency can be very substantial, given the high level of grain imports.<sup>7</sup> For example, in Solomon Islands it was shown that only a 1 per cent increase in staple food production would represent around A\$1 million saving in rice import equivalents. To this has to be added the considerable health benefits from substituting locally grown food for refined imported foods.

Pacific island farmers are very responsive to changes in market conditions.

Pacific island farmers have shown themselves to be very responsive to changes in market conditions. In Papua New Guinea and Solomon Islands currency depreciations have resulted in sharp increases in the price of imported food and consequent static or falling grain imports. Farmers have responded by producing more food for both subsistence and sale.

Traditional farming systems are, however, under increasing pressure, particularly in western Melanesia and East Timor, where population growth rates remain high. Other factors limiting increases in subsistence food production are soil fertility and pest and disease problems. Unfortunately, knowledge to overcome these limitations tends to be poor.

#### SUPPLYING INCREASING URBAN, RURAL AND TOURISM MARKETS

Rapid urbanisation has resulted in large undersupplied markets for traditional and other food products.

Pacific island countries are experiencing moderate to rapid rates of urban population growth. Nearly half of Fiji's population now lives in urban and peri-urban areas. In Papua New Guinea, 700 000 people now live in towns and cities. Rapid urbanisation has created immense problems and challenges. However, it has also resulted in a large and undersupplied market for traditional staples and other food products. An indication of the extent that urban populations are undersupplied with traditional staples can be seen from a comparison of per capita consumption in urban and rural areas. Figure 1 illustrates the situation in Papua New Guinea.<sup>8</sup> Here an increase in urban sweet potato consumption of only 20 kg per person a year would represent an

<sup>5</sup> David Bain, *A guide to estimating the value of household non-market production in Pacific island countries*, South Pacific Commission, Noumea, 1996.

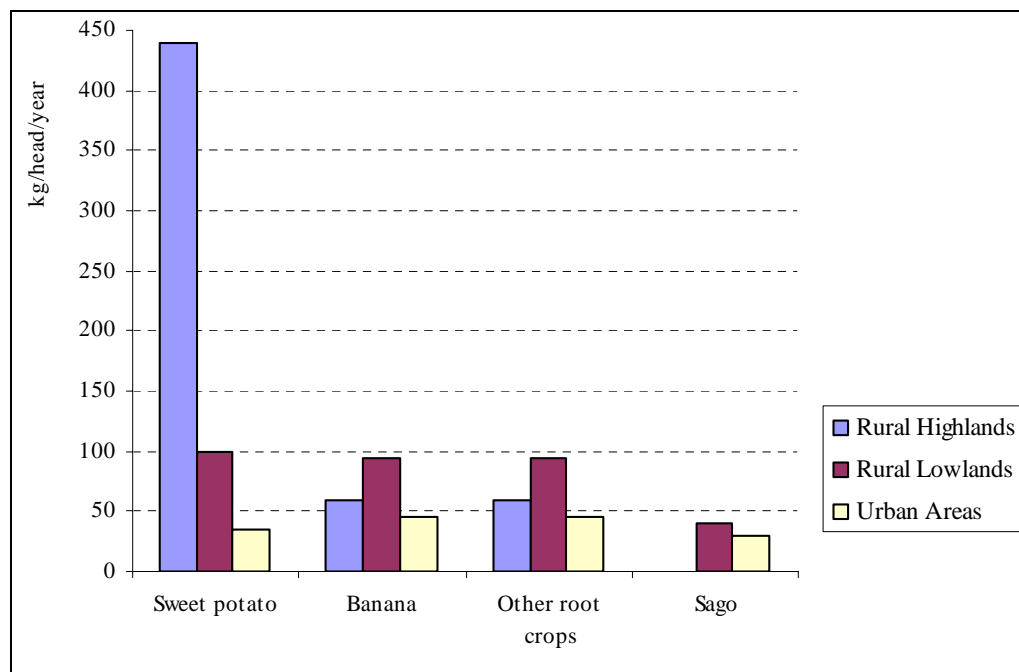
<sup>6</sup> Asian Development Bank, *Vanuatu: economic performance, policy and reform issues*, Pacific Islands Economic Report No. 9.

<sup>7</sup> Currently, annual rice imports are 28 000 tonnes in Solomon Islands, 30 000–40 000 tonnes in Fiji, 143 000–154 000 tonnes in Papua New Guinea, 8000–10 000 tonnes in Vanuatu and 10 000–15 000 tonnes in Samoa.

<sup>8</sup> J Gibson, 'Migration and dietary change: highlanders and the demand for staples in urban PNG', in *Food Security for Papua New Guinea*, ACIAR Proceedings No. 99, Canberra, 2001, pp. 88–93.

extra market of 20 000 tonnes. No root crop export market could go close to matching this.

FIGURE 1 AVERAGE CONSUMPTION OF STAPLES IN PAPUA NEW GUINEA



Source: J Gibson, 'Migration and dietary change: highlanders and the demand for staples in urban PNG', in *Food Security for Papua New Guinea*, ACIAR Proceedings No. 99, Canberra, 2001, p. 89.

In rural areas income derived from such things as tree crop commodities, royalties and remittances leads to significant demand for fresh food, betel nut, kava, firewood and other products.

Tourism can provide a substantial market for locally grown produce, marine products and packaged value-added products.

Fiji, Vanuatu, Cook Islands and Samoa have significant tourism industries. Fiji leads the way with annual tourist arrivals now exceeding 500 000. Tourism can provide a substantial market for locally grown produce and marine products and packaged value-added products.<sup>9</sup> These products in turn contribute to the value of the tourism product. However, tourism in the Pacific islands remains essentially an enclave industry with respect to the purchase of local produce. In some situations tourism, agriculture and fisheries have even become conflicting industries due to poor planning and policy formulation.

Hawaii provides a model of what can be achieved in terms of linking island agriculture to tourism. Here papaya and floriculture export industries are byproducts of the outward freight capacity created by tourist arrivals. The macadamia nut industry is built around exporting via the 'suitcases' of tourists.

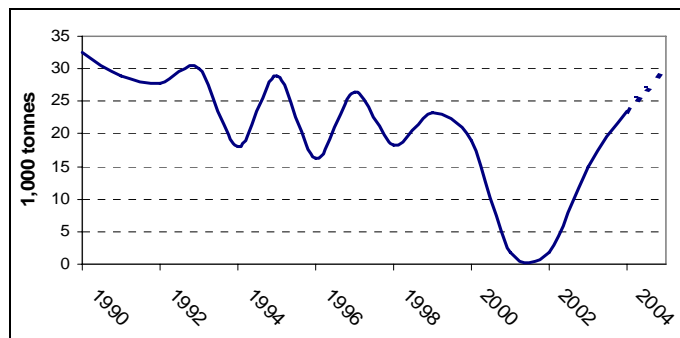
<sup>9</sup> Some simple calculations for core fruit show the extent that the Fiji tourism market is undersupplied. Around 500 000 tourists arrive annually and stay an average of eight days. If the average tourist consumes three papaya, two mangoes and one pineapple during a stay, the tourist market amounts to some 750 tonnes of papaya, 400 tonnes of mango and 400 tonnes of pineapple. These volumes are substantially larger than those expected for export markets, at least in the medium term.

## INCREASING TRADITIONAL TREE CROP EXPORTS

There remains considerable scope for enhancing the contribution of tree crop industries.

The countries of western Melanesia remain competitive producers of traditional tree crops. The same applies to the more recently developed East Timor coffee industry. This competitiveness is demonstrated in the remarkable recovery of the Solomon Islands copra and cocoa industries since 2002 (Figure 2). In Melanesia there remains considerable scope for enhancing the contribution of these industries to broadly based rural livelihoods by increasing productivity and improving quality.

FIGURE 2 SOLOMON ISLANDS COPRA PRODUCTION

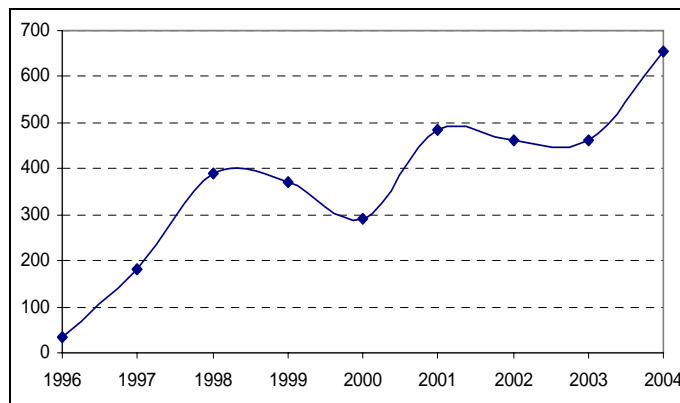


Source: Central Bank of the Solomon Islands.

## EXPORTING TO PACIFIC ISLAND AND ASIAN COMMUNITIES

New Zealand, Australia and the west coast of the United States have large and increasing Pacific island and Asian populations that offer a significant market for a range of horticultural products, including roots crops. Fiji and the Polynesian countries are in a position to take advantage of these opportunities. Smallholder horticulture is now, after years of disappointment, the fastest growing part of Fiji's agricultural sector. This is reflected in the rapid increase in exports of fruit fly host products handled by the industry-owned quarantine treatment facility (Figure 3). A fivefold increase in total exports is feasible without saturating the market.

FIGURE 3 FIJI EXPORTS OF PAPAYA, BREADFRUIT, EGGPLANT AND MANGOES TONNES



Source: Nature's Way cooperative (Fiji) Ltd.

## EXPORTING NEW HORTICULTURAL AND SPICE PRODUCTS

Substantial investment in product and market development is required for niche commodities.

Western Melanesia and East Timor are largely excluded from horticultural markets due to limited airfreight capacity, unfavourable fruit fly status and the absence of their own people living in target markets. Indigenous tree nuts are an important exception, offering the potential to become for Melanesia what the Brazil nut is for the Amazon or the macadamia nut is for Hawaii. Indigenous nuts with high export potential include *Galip/ngali/nangai/kaunigai* (*Canarium spp.*), cut-nut (*Barringtonia spp.*), sea almond and *okari* (*Terminalia spp.*). These nuts, despite their inherent quality, are largely unknown outside of Melanesia. To expand beyond identified niche markets, substantial investment in product and market development is required. The Hawaiian macadamia nut industry depended on the injection of substantial equity and risk capital. There has been no such capital available for new agribusiness ventures in the Pacific islands.

The experience of the vanilla industry in Papua New Guinea shows how beneficial high-value niche commodities can be for semisubsistence village farmers in remote locations, provided the right agronomic conditions exist. Even at normal prices, vanilla has a high unit value, can be produced on a small area of land without land title, requires only labour input, provides a high return to effort, and is non-perishable if cured correctly.

## EMPOWERING PEOPLE TO TAKE ADVANTAGE OF OPPORTUNITIES

Agricultural policy needs to recognise small-scale farmers as part of the private sector.

Agricultural policy needs to empower people to take advantage of opportunities. Such empowerment requires policymakers and donors to recognise small-scale farmers as part of the private sector. Such recognition often requires a fundamental change in mindset. There is a need to build public and private sector partnerships that accept that agricultural development is led by the private sector, with government playing a facilitating role, particularly in providing infrastructure.

The private sector has some basic needs.

To take advantage of agricultural opportunities the private sector needs:

- > infrastructure (roads, ports and jetties, affordable shipping, telecommunications and market facilities)
- > good governance
- > market access
- > information and skills
- > an enabling policy environment
- > access to affordable financial services, and
- > secure access to land.

adequate  
infrastructure

Adequate **roads** are a basic necessity for marketing. Through much of rural Melanesia this condition is not met. Unquestionably the economic returns from a strategically placed road are high. The establishment of the Highlands Highway in the mid-1960s led to the establishment of the coffee industry, Papua New Guinea's most important industry in terms of livelihood. The budgetary demands of such infrastructure are also high. Papua New Guinea's national budget allocation for maintaining all roads is around K5 million. However, well over K100 million a year is required to provide even minimally effective maintenance of the national road network, without any allowance for provincial and district roads.<sup>10</sup>

Comparable with the challenge of maintaining adequate roads is maintaining adequate **inter-island shipping services**. Overall there has been a marked decline in shipping services to the more remote areas. This can be linked to the demise of the copra industry and depopulation. Efforts to privatise shipping services have often floundered due to weak regulatory and incentive structures. Appropriately located 'all weather' wharfs where 'roll-on roll-off' vessels can safely berth are necessary for regular inter-island shipping services.

The positive impact of the **telecommunications** revolution is now starting to be felt in produce marketing in the region. Throughout much of Fiji, growers, buyers and transport providers are now benefiting from instant communications. Unfortunately, farmers and marketers in western Melanesia lag well behind and are placed at an increasing disadvantage. However, there have been some encouraging developments. In Solomon Islands the People First Network leads the way in developing internet-based communications for remote areas.

Some Pacific island municipal **marketplaces** are outstanding in terms of the array and quality of produce on offer. However, many open markets leave a lot to be desired in terms of stimulating produce trade. Perishable food is often directly exposed to the harsh tropical elements, which cause it to quickly deteriorate. As a consequence the income of farmers and traders fall, produce is wasted and consumers buy inferior quality produce. More affluent consumers turn to supermarkets, increasing the likelihood that they will consume imported produce.

The produce market is the commercial and social epicentre of Pacific island communities. It is here that micro-enterprises and small enterprise activities emanate. Investment in upgrading markets can provide a major stimulant to small-business development and generate substantial economic and social returns. Such investment can range from providing basic produce shelters to full market redevelopment.

security and good  
governance

In varying degrees security issues impinge on people's ability to take advantage of opportunities throughout the region. Law and order problems are directly manifested

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<sup>10</sup> AusAID, PNG Key Roads for Growth Maintenance Project feasibility study report, December 2002.



in the theft of crops and livestock before they can be marketed and the loss of cash earned from sales. A secure environment for people, property and goods is necessary for growers to produce for sale, for marketers to trade and for agribusiness to invest.

Other areas of governance that affect people's ability to take advantage of agricultural opportunities include the management of industry institutions and the formulation and implementation of policy.

**market access** Quarantine is a mandatory responsibility of government and is a weak link in the export marketing chain. Exporters face the ongoing frustration of 'open windows and glass doors' in realising identified export market opportunities.

To prosper, the agricultural sector requires timely protocol development for exports and efficient pest risk assessments for imported plant material while maintaining an acceptable level of quarantine security. Even Fiji, the most successful exporter of horticultural products, is making agonisingly slow progress in meeting these requirements. The papaya industry is a case in point. Until the early 1990s Fiji was a significant exporter of papaya to Australia. These exports ceased in 1995 when use of the chemical fumigant for fruit flies had to cease. Fiji responded quickly by acquiring the non-chemical quarantine treatment technology – high temperature force air (HTFA). Papaya exports to New Zealand recommenced in 1996. A further six years elapsed before papaya was granted access to Australia.<sup>11</sup> The loss to growers and exporters from this delay was in the vicinity of FJD10 million.<sup>12</sup> Other Fiji products suitable for HTFA treatment and with identified markets await access approval to Australia, New Zealand and the United States.<sup>13</sup>

This slow progress can be explained in part by these being minor products from a small country that are given low priority by importing countries when it comes to allocating resources to pest risk assessments. Yet much of the problem lies within the Pacific island countries themselves. Due to a lack of consultation with industry, quarantine services have been ineffective in determining market access priorities and have not been sufficiently proactive and technically competent to manage the process with the quarantine officials from importing countries.

Quarantine services in Samoa, Solomon Islands and Vanuatu have all benefited from substantial aid-funded projects to strengthen institutions, while quarantine services in Papua New Guinea have been corporatised and similar reforms are under way in Fiji. More than institutional reorganisation is required. With the onus now on scientific justification for phytosanitary measures, a successful quarantine service must have the necessary technical (particularly entomology and plant pathology) and management capabilities. Donor support needs to concentrate on these areas.

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<sup>11</sup> Department of Agriculture, Fisheries and Forestry – Australia, *Draft quarantine requirements for import of Fijian papaya to Australia*, Canberra, 1992.

<sup>12</sup> Natures Way Cooperative (Fiji) Ltd, *Strategic plan (2002–2006)*.

<sup>13</sup> The products include bitter melon, eggplant, breadfruit, various gourds, papaya, jackfruit, Fiji mango, Thailand guava and wi (hog plum).

Market access problems are not confined to quarantine issues. Noni (*Morinda citrifolia*), kava and various indigenous nuts are unique Pacific island products with considerable export potential. All face non-quarantine market access barriers, particularly in Europe. Pacific island governments, acting individually, have been ineffective in resolving these market access issues in a timely fashion.

**information and skills** Many producers and marketers have poor access to appropriate technology and market information. This limits their ability to make informed decisions to improve efficiency. This issue affects some key areas – pest and disease control, soil fertility maintenance, post-harvest handling of produce, food technology and realistic market information. It is critical to supply products that consumers want and to improve produce quality across the board.

Agricultural research is usually vested with the department responsible for agriculture and provided as a free service. The research often lacks focus and has tended to be out of touch with industry requirements. Departments of agriculture throughout the region operate diffuse extension services with weak links to research. These arrangements have proved unsatisfactory in intensifying and diversifying production. In some countries alternative models that are industry and community focused and managed are being adopted, with encouraging results. However, the sustainable funding of these initiatives remains a challenge.

The education levels of rural communities are low, particularly in Melanesia.<sup>14</sup> This severely constrains the pace of agricultural development. In terms of entrepreneurial experience, rural communities are ill equipped to make the transition to more commercially orientated agriculture. Little, if anything, has changed in this respect over the past 20 years. Much of the migration from rural areas is driven by households seeking education for their children. Education facilities in rural areas need to be upgraded as a priority, with emphasis given to providing practical skills and promoting farming as a business.

**an enabling policy environment** Agricultural development requires a stable macroeconomic environment that provides:

- > exchange rates that allow for remunerative returns from exports and permit local food to compete with imports
- > interest rates that make investment in agriculture profitable, and
- > sufficient public expenditure to meet the core infrastructure and service requirements.

Often these conditions are not met.

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<sup>14</sup> Fiji has higher overall education and literacy levels than most island countries. However, according to the agricultural census less than 5 per cent of the population has received secondary education, and almost 50 per cent has gone no further than primary school.

An appropriate policy decision can be instrumental in the development of an industry. In the mid-1960s the World Bank advised the PNG administration on the importance of competitive marketing for coffee and cocoa.<sup>15</sup> This advice was heeded, with neither of the newly formed coffee and cocoa boards becoming involved in physical marketing. The boards focused on improving quality standards, stabilising prices, and funding and directing research. These industries thrived and expanded to become major export industries. The competitive marketing structure that has served growers well for over four decades remains largely intact, despite the declining efficiency and performance of the regulatory institutions.

This contrasts with Fiji, Samoa and Vanuatu, all of which opted for parastatal monopolies to market cocoa. As a consequence, the Fiji and Samoa export industries now barely exist and the Vanuatu industry is performing well below its potential. Some countries' governments, often encouraged by donors, continue to become involved in marketing to the detriment of the sector. This can be explained by paternalistic political imperatives, inadequate institutional memory and invalid assumptions about the capability of the private sector.

Rice policy in the Pacific is another important example of inappropriate decisions. Priority is given to domestic rice production in Papua New Guinea and Solomon Islands. This policy is based on two premises: a high level of grain imports is a good indicator of food insecurity and the most appropriate way to reduce the foreign exchange drain from importing rice is to grow rice. In the context of Melanesia these premises, and thus the policy, are flawed. Rural communities meet their caloric needs by growing staples (particularly sweet potato) and producing export commodities (copra, cocoa and in Papua New Guinea coffee) that provide the cash to purchase food (particularly rice). With low yields and returns to labour from rice production, grower interest is usually not maintained once high levels of assistance are withdrawn. A more appropriate policy to reduce grain imports would have been to encourage increased substitution of other locally grown staples. Yet virtually no resources are devoted to improving the production and marketing of traditional staples.

access to  
financial services

Agriculture throughout the region faces a financing and investment crisis. This is a result of the withdrawal of commercial banks and, to a large extent, development banks from providing financial services to rural areas. There has been virtually no mobilisation of rural deposits, denying the sector a major source of investment finance. The lack of formal finance means that growth in rural small and medium enterprises (including commercial farming and produce wholesaling) has been seriously constrained and distorted.

Governments, supported by donors and the commercial banks, need to give priority to developing viable and sustainable microfinance industries to supply savings, credit

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<sup>15</sup> World Bank, *The economic development of the Territory of Papua Guinea*, Washington, DC, 1966.

and prudential services to rural areas. The recent experience of East Timor provides an indication of what is achievable. In 2002 the Asian Development Bank (ADB), with other donors, established a regulated microfinance bank, which is now serving about 14 000 clients with a cumulative loan portfolio of about US\$4 million.

A leading commercial bank in the region has expressed an interest in managing a loan program for viable rural enterprises, provided there are funds available from a third party agency or agencies. A major advantage of this type of proposal is that it uses the banking system to determine commercial viability rather than leaving it to the discretion of aid donors or ad hoc government programs ‘to pick winners’.

Even if there is significant development of microfinance institutions and the re-engagement of commercial banks it is inevitable that there will be a shortage of formal credit for agriculture. Thus it is important to encourage equity contributions from extended family or community groups, including those living and working overseas.

**access to land and security of tenure.**

To take advantage of agricultural opportunities, people need to have access to land and feel secure that they will reap the rewards of their efforts in using that land. These conditions are currently achieved to a sufficient degree to allow for the successful development of numerous smallholder-based industries throughout the region. Such industries include domestically marketed food (most countries), coffee (PNG and East Timor), sugar (Fiji), cocoa (PNG, Solomon Islands and Vanuatu), blockholder and village oil palm (PNG), vanilla (Tonga and PNG), export fruit and vegetables (Fiji), root crops (Fiji and previously Samoa), ginger (Fiji), squash (Tonga), noni (Samoa, Cook Islands) and kava (Vanuatu, Fiji and Tonga). However, land tenure distortions have created serious inequalities in land distribution and availability, which has adversely affected land-use patterns and productivity. This has accelerated migration to urban areas and, in some cases, created political instability.

The privatisation of land ownership does not provide for realistic solutions in the foreseeable future. However, there is much that can be done to improve land availability and security of use through appropriately designed leasing arrangements that do not impinge on the emotive issue of land ownership. Leasing arrangements can be applicable to those within and outside the landholding unit. If leasing arrangements are to have a legal basis, land registration is a prerequisite. Leasehold arrangements and communal land registration were the basis of the Fiji sugar industry for most of the 20th century – which proved, until recent times, a remarkable success story. It is encouraging to note that the PNG oil palm industry, the country’s most successful agricultural export industry, is developing innovative leasing arrangements for oil palm cultivation on customary land.

## PRACTICAL PRIORITY POLICY ACTIONS

The agriculture round table identified three priority policy actions:

- > invest in infrastructure and its maintenance
- > generate, share and use information
- > improve policy formulation.

Of these, investing in infrastructure was deemed to be the most important. Success in all three will require public and private partnerships.

## INVEST IN INFRASTRUCTURE AS A PRIORITY

Consult communities and stakeholders, and invest strategically.

Providing appropriate infrastructure amounts to directly investing in the livelihoods of rural people. The highest infrastructure priorities are roads (both trunk and feeder), all-weather jetties and wharves, and telecommunications. Investment is also required in airfields, market facilities and rural electrification. To realise infrastructure development anywhere near the idealised levels will require a substantial increase in capital budget allocations. In most countries coordinated donor support for this endeavour will be critical. Investment in this infrastructure also needs to be strategically planned and coordinated. A high degree of community and stakeholder consultation during rural infrastructure planning is necessary to achieve sustainable broad-based development that minimises conflict between sectors and interest groups.

Capital investment in new infrastructure needs to be in harmony with provisions for repair and maintenance. Road development programs throughout the region have been characterised by inadequate repair and maintenance, leading to scarce resources being wasted. Donor support for infrastructure development, particularly roads, needs to include provisions and mechanisms for maintenance. Increasingly maintenance will require community ownership and responsibility.

Develop public-private partnerships.

There is now recognition that governments alone cannot meet rural infrastructure needs in a reasonable timeframe, even with a high level of donor support. New mechanisms involving partnerships between the public and private sectors are required to supplement the process.

Research is needed to determine infrastructure investment and maintenance opportunities that are attractive to the private sector. There are some encouraging recent examples of what can be achieved. Mining companies in Papua New Guinea are now participating in the repair of the Highlands Highway, encouraged by the provision of tax credits. Oil palm companies have been similarly involved in maintaining road infrastructure in West New Britain. On North Malaita in Solomon Islands, cost-effective road repairs and small jetty construction have been possible

through community participation.<sup>16</sup> The remote Burum Valley community located on Papua New Guinea's Huon Peninsula has initiated its own road program, which enabled the local population to open up markets.<sup>17</sup> The initiative taken by the community enabled it to source additional funding for maintenance from the provincial government. Successful community-based initiatives usually have to make a connection at some point with government, an external non-government organisation or a donor organisation.<sup>18</sup>

**Establish a robust regulatory environment.**

A robust regulatory environment is necessary for effective public and private partnerships in developing and maintaining infrastructure. This is required for user-pays systems and for investment incentives to work efficiently for the benefit of the end users. One example of a user-pays system requiring a strong regulator is a fuel tax used to finance road maintenance, as is proposed for the PNG National Roads Authority. An independent Consumer and Competition Commission needs to be established as a regional advisory body that can set benchmarks and provide neutrality. The Eastern Caribbean Telecommunications Authority provides a model for consideration.

#### GENERATE, SHARE AND USE INFORMATION

**Strengthen institutions.**

Public, private and regional bodies need to be able to promote the uptake of proven technology. For the process to succeed, agricultural industries must be involved in setting priorities.

The research needs of significant export commodity industries are relatively well catered for. The PNG oil palm, coffee and cocoa industries operate and fund their own research institutions. In Vanuatu all tree crop commodity research is now conducted by the French-based Centre de coopération internationale en recherche agronomique pour le développement (CIRAD). There is no such commodity research capability in Solomon Islands. However, there are good opportunities for the Solomon Island tree crop industries to establish relationships and links with research institutions in neighbouring countries. In a global context, these tiny industries are not competitors.

The extension and outreach capability of the commodity industries has not matched that of research. The PNG oil palm industry is an important exception, with extension services being provided by the Oil Palm Industry Corporation. The oil palm model could be used by other large industries requiring central processing or

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<sup>16</sup> RM Bourke, A McGregor, MG Allen, B Evans, B Mullen, A Pollard, M Wairiu and S Zotalis, *Solomon Islands: rural livelihoods strategy – agriculture contributing to broad based growth*, AusAID, Canberra, 2005.

<sup>17</sup> Tingee Mandan with Hartmut Holzknicht, '*Nanak mutuk: development through self-reliance in the Burum Valley*', in *Effective development in Papua New Guinea*, Development Studies Network Development Bulletin no. 67, Australian National University, Canberra, April 2005.

<sup>18</sup> David Hegarty and Anthony J Reagan, 'Papua New Guinea: weak state, strong society', in *Effective development in Papua New Guinea*, Development Studies Network Development Bulletin no. 67, Australian National University, Canberra, April 2005.

handling. Such industries might include a future major Melanesian indigenous nut export industry or a large Fiji horticultural export industry requiring quarantine treatment.

Other more diffuse industries are devising innovative solutions based on contracting out extension services. While no one model is applicable to all circumstances, they provide guidance to industry policymakers on ways to proceed. In the response to its rundown extension capability the PNG Coffee Industry Corporation is now contracting providers of grower outreach services. This is being done under the auspices of the ADB's Smallholder Support Services Pilot Project. In Vanuatu the largest spice exporter uses the Farmer Support Association to provide extension services to its smallholder suppliers. A PNG vanilla exporter has forged a similar partnership with the non-government organisation Women in Agriculture (Didi Meri). It is no coincidence that the quality of the vanilla exported is regarded as world class.

It is in the area of domestically marketed food that research and extension capability is weakest. Farmers require improved planting material. They also need to be able to manage the pest, disease and soil fertility problems associated with more intensive land use. The Samoan experience has shown the potential for new species (eg rambutan) or varieties (eg papaya) of fruit. In some countries there is scope to strengthen existing departments of agriculture to provide these services. However, for the countries of western Melanesia there is probably little point in trying to rehabilitate the traditional extension functions of the departments of agriculture. Here alternative models need to be pursued.

In Papua New Guinea extension services for the fresh produce industry have been provided through the Fresh Produce Development Corporation (FPDC) Ltd. FPDC was created under the Companies Act with funding from the national government and aid donors. FPDC has enjoyed a reasonable degree of success in supplying information to the fresh produce industry and is credited with facilitating the development of the potato industry.<sup>19</sup> Perhaps the most important achievement of FPDC has been the establishment a low-cost community-based extension system based on a network of village extension workers. The FPDC model could be useful for the emerging PNG spice industry, where a lack of information on quality requirements is a major constraint to development. The concept of village extension workers has wide applicability in the region.

An encouraging development in recent years has been the emergence of smaller non-government initiatives for generating and disseminating information. These have emanated from industries, farmer groups, faith-based organisations and local communities. For example:

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<sup>19</sup> Andrew McGregor, Robert Lutulele and Brian Wapi, *The PNG horticulture sector study*, Secretariat of the Pacific Community, 2004

- > Natures Way Cooperative in Fiji has pioneered the commercial development of breadfruit exports involving small farmers.
- > The Farmer Support Association in Vanuatu operates an extension service for spice growers and is the agent for a major European organic certifier.
- > The Solomon Islands Planting Material Network produces quality vegetable seeds for distribution to farmers. The Solomon Islands Kastom Gaden Association is also involved with farmers and rural training centres in collecting and sharing staple food crop diversity. These farmer networks extend into Vanuatu and Bougainville through the recently formed Melanesian Farmers First Network, which is providing an effective mechanism for improving coordination and collaboration between agricultural non-government organisations in Melanesia.
- > The St Dominic's rural training centre in Western Province of Solomon Islands has pioneered integrated farming systems, local feed sources for commercial poultry production and the processing of coconut oil.

There is huge scope for governments and donors to support these initiatives, both financially and through technical inputs.

**Develop public-private partnerships.**

The future for agriculture in the region lies with industry-led research and extension. However, the desired outcomes cannot be achieved without the active engagement of governments and donor partners. A substantial increase in the public funding of research and development institutions is necessary. Only the larger PNG tree crop export industries and the Fiji sugar industry have the scale and fund-raising capacity to be self-sustaining in financing research. Research to enhance household self-sufficiency has been identified as a priority. Such research is a public good and as such should be almost entirely government or donor funded.

The principle of competing for public research funds to ensure a focus on industry needs is starting to take root. In Papua New Guinea AusAID initiated the Agricultural Innovations Grant Facility, which provides contestable grants of up to K150 000. At present the target is agricultural institutions (such as the National Agriculture Research Institute, the Fresh Produce Development Corporation and the Coffee Industry Corporation) and universities. In Fiji a similar competitive bidding arrangement has been established under the ADB-funded Alternative Livelihoods Project for the sugar industry. A pool of funds has been allocated for solving pressing research problems faced by various diversification industries. The funds are allocated on the basis of proposals submitted by industry associations and bodies. For example, the Fruit and Vegetable Industry Council has identified thrip damage on eggplant as a major quality problem for exports. Under the scheme the relevant research could be carried out by a range of entities, including the Ministry of Agriculture's Research Division, the University of the South Pacific, other research institutions or consultants.



These innovative funding arrangements now need to be greatly expanded. This will require a significant injection of funds and the establishment of institutional arrangements that ensure transparency and efficiency and encourage the leverage of private funding in solving industry funding. Departments of agriculture have a key role to play in the success of the process. They would be involved in setting research priorities for the sector and, in particular, ensuring that the interests of smallholders are taken into account. The government department responsible for the sector has the crucial advocacy role in securing public funds for research through the national budgetary process. The department would participate in technical committees that allocate funds, monitor and vet the research undertaken and disseminate research findings through subject matter specialists.

The same public and private partnership principles can be applied to extension. The benefits from an extension service that is industry focused and managed have been clearly demonstrated by the PNG oil palm industry. For smaller industries self-funding an extension service is not feasible at least initially. Under Fiji's Alternative Livelihoods Project it is proposed to provide supplementary funding to Natures Way Cooperative to establish a small extension service for the horticultural export industry. This service will work closely with government extension officers to focus their efforts on the needs of the industry. Within five years it is projected that the horticultural export industry will fully fund this extension activity.

Advances in information technology have made agricultural knowledge a much more democratic and readily available commodity. A key challenge is to facilitate the adaptation and use of this information. Most agricultural non-government and industry organisations now have internet access. A number are regular users of Pacific PestNet and Pacific SoilNet. These are free interactive email services that help people in the Pacific obtain rapid advice and information on pest and disease and soil-related problems. There is a strong case for strengthening the capability of the Secretariat of the Pacific Community to directly supply information to the agricultural community. The Secretariat needs also to facilitate local-level adaptation and uptake through interaction with local agencies.

#### IMPROVE POLICYMAKING FOR THE SECTOR

##### Improve policy analysis and advice.

There are many examples of the enduring benefits to the sector from implementing soundly formulated policy. Conversely the implementation of poorly formulated policy can have a prolonged negative impact. There is an urgent need to improve the quality of policy advice provided to governments and the ability of decision-makers to interpret this advice. Most departments of agriculture have policy units. Building capacity to analyse policy was a central component of the AusAID-funded Institutional Strengthening Project (ISP) at the Samoa Ministry of Agriculture. There are opportunities to implement similar projects in other countries. Such projects

should not only be directed at civil servants but should be extended to political decision-makers. For example, there is a fundamental need for politicians to have an understanding of how international commodity markets work and the principles of comparative advantage.

The political rhetoric given to the importance of agriculture is often not matched by the choice of cabinet appointments to the agriculture portfolio and national budget allocations to the sector. Stronger and more influential agriculture departments whose core function is to provide sound policy analysis and advice are required. This implies an overall upgrading of the competence and status of such departments, even though their overall staff numbers in most cases should be reduced as governments move away from the traditional front-line functions of research and extension.

**Take a multi-sectoral approach.**

Policies that impinge on agriculture are often multi-sectoral in their nature and impact. Exchange rate policy is such an example. The policy analysis capability of departments of agriculture must feed into ministries of finance and planning and central banks to ensure that consistent national policies are formulated. In developing rural livelihood strategies at the island and regional level it is important to ensure consistency in policies and programs. For example, a road program on a small island targeting the development of export agriculture could be to the detriment of inshore fishing and ecotourism. To ensure economic, environmental and social sustainability communities and concerned stakeholders need to be consulted. In developing infrastructure projects this is often not the case.

**Develop a regional policy body.**

It is unrealistic to expect that even the largest island country will have sufficient capacity to deal in a timely fashion with all the policy issues impinging on the agriculture and natural resource sectors. A smaller island country could not expect to have more than one or two trained and experienced economists responsible for policy analysis. There is scope for a small regional unit, along the lines of the Australian Bureau of Agriculture and Resource Economics (ABARE), to provide independent policy analysis and advice in the areas of agriculture and natural resources. The Forum Secretariat would seem to be the appropriate location for such a body. However, a regional capability is no substitute for national capacity. If an independent regional body is to be effective, national capacity would need to be strengthened in parallel. National staff would need to be able to ask the right questions and to interpret the answers given. One of the core functions of a regional policy advisory body would be to train national staff in policy analysis.

The primary purpose of a regional policy body would be to advise national governments. However, it would be highly desirable for industries to obtain independent policy analysis and advice from this body, even if this was contrary to what their national government was proposing. For example, the PNG Government is currently proposing to impose a duty on cocoa bean exports to provide an

incentive for a local processing plant to be established. The PNG cocoa industry may see it as useful to request such a regional policy advisory body to provide an independent assessment of the implications of this duty for cocoa growers. Providing advice to non-government entities would, however, represent a major departure from the way the Forum Secretariat currently operates. Agreement to allow such an approach would be hugely beneficial and would represent major progress in developing public and private partnerships.

**Develop public-private partnerships.**

At the national level, there is much scope for developing public-private partnerships to formulate policies for the agricultural and natural resource sectors. Governments have tended to formulate policy with minimal or no input from the industries and other concerned stakeholders. This top-down approach has led to far-from-optimum outcomes. In some countries there are positive indicators of genuine partnerships developing between governments and stakeholders in the formulation of policy. Under the Samoa ISP, mechanisms for collaborating with industry were established, which have led to the joint formulation of policies and supporting programs for rehabilitating the coconut and cocoa industries. However, in most countries there is a long way to go on this front.

## A SUMMARY OF PRACTICAL POLICY RECOMMENDATIONS

### **Infrastructure**

- > Substantially increase capital budget allocations to rural infrastructure.
- > Make rural infrastructure a priority for donor support.
- > Harmonise investment in new infrastructure with provisions for repair and maintenance.
- > Ensure donor support for infrastructure includes provisions for maintenance and community participation.
- > Recognise that the required level of investment in rural infrastructure and maintenance cannot be achieved without the substantial involvement of the private sector.
- > Identify infrastructure investment and maintenance opportunities that are attractive to the private sector and the incentives required to bring about that investment.
- > Involve communities and stakeholders in rural infrastructure planning.
- > Establish an appropriate regulatory environment for effective public-private partnerships in infrastructure development and maintenance.

## **Information**

- > Examine the feasibility of establishing an independent Consumer and Competition Commission along the lines of the Eastern Caribbean Telecommunications Authority.
- > Ensure that agricultural research and extension becomes industry led.
- > Emphasise the importance of generating and promoting the uptake of proven technology and information by strengthening public, private and regional bodies.
- > Establish twinning relationships between tree crop commodity research institutions in western Melanesia.
- > Provide substantial support (financial and technical) for non-government initiatives to generate and disseminate information.
- > Make research and extension directed at enhancing household self-sufficiency a priority.
- > Allocate public funds for research and extension on a competitive basis to ensure a focus on industry needs.
- > Substantially increase public funding of research and extension.
- > Establish institutional arrangements that ensure transparency and efficiency in the use of public funds and provide incentives for private funding.
- > Strengthen the capability of the Secretariat of the Pacific Community to directly supply information to the agricultural community in member countries.

## **Policy**

- > Recognise the urgent need to improve the quality of policy advice and its use.
- > Strengthen the departments responsible for agriculture and natural resources, whose core function is to provide sound policy analysis and advice.
- > Establish a small regional facility, within the Pacific Islands Forum Secretariat, to provide independent policy analysis and advice in the areas of agriculture and natural resources.