

**Trade and Environment  
Dimensions in the Food and  
Food Processing Industries in  
Asia and the Pacific**

**A Country Case Study of**

**Fiji**

**DRAFT**

**Biman Chand Prasad**  
Associate Professor and  
Head of School of Economics  
Faculty of Business and Economics  
The University of the South Pacific

# **Trade and Environment Dimensions of the Food and Food Processing Industries in Fiji**

**Biman Chand Prasad<sup>1</sup>**  
**Associate Professor and**  
**Head of School of Economics**  
**Faculty of Business and Economics**  
**The University of the South Pacific**  
**Private Mail Bag, Suva, Fiji Islands**  
**Phone: (679) 3232568**  
**Fax: (679) 3232522**  
**Email: Chand\_b@usp.ac.fj**

**Report prepared for UNESCAP, Environment and Sustainable  
Division, Bangkok, Thailand; February, 2006.**

---

<sup>1</sup> I wish to thank Mr Yenteshwar Ram for providing research assistance.

## 1. Introduction

The Fijian economy's performance has been less than impressive; economic growth over the past 20 year period has averaged a meager 2.3 per cent per annum (Asian Development Bank, 2005). Part of the explanation for low economic growth has been a sustained period of political instability and the non-resolution of land leases since 1987 (Narayan and Narayan, 2004a and b; Prasad and Tisdell, 1996). As a result, Fiji neither has succeeded in diversifying its export base nor been able to attract foreign investment in export sectors. While Fiji's economic performance in the last 5 years since the coup in 2000 has been relatively modest, its export performance has been weak. For example, since 2000 the trade deficit has continued to increase and traditional export sectors such as sugar, copra, kava and fish have performed poorly and are on the decline. Fiji's garment exports have contributed significantly to the economy over the last ten years, but its prospects do not look promising, because under the WTO rules, the US has removed its preferential treatment of exports from countries like Fiji. This means that Fiji has to continue to rely on the tourism industry and primary exports through food processing such as sugar, fruits and vegetables, fish, copra and other root crops such as dalo and cassava.

The modernisation of food production has added new dimensions to people's idea about food safety. The sources of food now extend beyond one's dependent community, and many countries and communities are dependent on the export and import of food. Trade in food items now forms a very significant component of trade worldwide. Small developing island nations face unique challenges in terms of developing their trade potential and at the same time ensuring food security for their small populations.

The WTO agreement on the application of Sanitary and Phytosanitary Measures (SPS) protects tariff concessions and resolves the conflict that usually arises about food export and import from, cultural, social and religious perspectives. The resolution is in favour of commercial manufacturers and business consumers. This means that trade related issues such as import bans, health related product standards, and quarantine, testing and other requirements based only on local perceptions of what is safe to eat are unacceptable.<sup>2</sup> Developing countries who are members of the WTO have a responsibility to adopt the standards and requirements so that food exports are not hindered in the long term. However, to do this, many of them would require support from developed countries in building institutional capacity and human resources to handle the complexities of the obligations they have signed by being members of WTO.

---

<sup>2</sup> For details on food safety and the WTO see for Echols (2001).

## **2. Environmental Considerations in Trade in Food and Food Processing Products in Fiji**

### **2.1 Economic Importance of the Major Food Industries**

The three most important food and food processing industries in Fiji are sugar, fish, and fruits vegetables and root crops.

The sugar industry has been the mainstay of Fiji's economy for the last 125 years. Started as a colonial strategy to promote economic growth, the industry has grown over the years to become the leading industry. After independence in 1970, Fiji pursued an inward-looking import-substitution strategy for growth in agriculture and manufacturing. However, sugar production was the only key export in the economy. Sugarcane farming has driven the development agenda for Fiji since then. The relatively high rates of economic growth in the 1970s were a result of Fiji's booming sugar exports. While Fiji has adopted tourism and an export-led manufacturing strategy for the last decade as the basis for its economic growth, sugar exports still drive the rural economy where the bulk of the population resides. Currently, sugar production contributes about 6 per cent of the real gross domestic product (GDP) and generates 19 per cent of total domestic exports. It accounts for around 8 percent of total foreign earnings and generates direct and indirect employment for about 51,000 people. The government in its strategic development plans for 2003-2005 put forward a number of policy objectives. These include: the restructure of the sugar industry into a commercially viable and efficient industry; improving the milling efficiency and introduction of cane quality payment system; and improving the efficiency of sugarcane production, diversification of production into a range of sugar by-products and initiating long term reforms to make the sugar sector internationally competitive (Narayan and Prasad, 2004a).

In a 2001 Asian Development Bank (ADB) study on the contributions of the fisheries sector to the economies of the Pacific Island Countries, it was estimated that in Fiji, the catches by subsistence fishing are worth around US\$24,675,061, by coastal commercial fishing US\$15,231,519, and by locally based offshore fishing US\$25,639,724. The same study also calculated that this fishing is responsible for about 2.4 per cent of Fiji's GDP. Because fish processing and other post-harvest activities are considered in other sectors of Fiji's economy for GDP calculation purposes, the contribution of fisheries to the economy of Fiji is substantially larger than the 2.4 per cent from fishing alone.

The 1996 census showed that fishing provides jobs to 2.22% of the 280,505 people formally and informally employed in the country. The census also indicated that an additional 1,100 people are employed in "processing fish". With a massive growth in this sector over the past decade, the 2006 census is likely to provide much higher employment figures in this industry. Moreover, Fiji receives about US\$212,000 annually in fees for access by foreign fishing vessels to Fiji waters. In addition, data from the Fiji Islands Bureau of Statistics show that exports of fishery products currently account for about 9% of the total domestic exports from the country.

Fruits, vegetables and root crops also make up an important food industry. This sector accounts for around 3% of real GDP and constitutes for approximately 3% of domestic export earnings (Fiji Islands Bureau of Statistics Current Economic Statistics – various issues). Dalo makes up the largest component of this industry. Other prominent commodities include cassava, ginger, kava, okra, pawpaw and pumpkin. At the moment, the Fiji Islands Ministry of Agriculture, Sugar and Land Resettlement is doing a survey across Fiji to find out the number of people who are directly and indirectly involved in this sector (Waqainabete, 2006).

## **2.2 Constraints Faced in Conforming to Export Market Requirements (on environmental grounds)<sup>3</sup>**

To a large extent, the major constraint faced by the sugar industry in conforming to export market requirements (the primary one being to produce quality sugar) is the inability of the Fiji Sugar Corporation (FSC), over many years, to improve its efficiency and provide leadership to the industry. When Japan, for example, rejected a sugar shipment in early 2003 on grounds of poor quality, the FSC and the government immediately blamed the farmers for burning sugar cane before harvesting, which allegedly resulted in poor quality sugar. However, a closer look at the problem shows that the problem was not burnt cane, but the inability of the FSC, over the last couple of decades, to develop its milling capacity to mill cane within 24 to 48 hours of it being burnt and harvested. A contributory problem has been the FSC's inability to maintain the rail system so that cane could be quickly delivered to the mills for processing, hence, preserving the quality of sugar produced. In Brazil, for example, most of the cane supplied to the mills is burnt cane, yet the quality of sugar is still very high because the transport system is very efficient and cane is supplied to the mills within 36 hours (Narayan and Prasad 2004b).

In the last two decades, the FSC invested about \$300 million dollars in mill upgrading, averaging to about \$20 million dollars a year. But there is no evidence of any marked improvement in the milling capacity. At the Lautoka Mill, for example, in 2004, \$10 million dollars was spent on a new mill to improve efficiency; however, the crushing capacity of the new mill, at 30,000 tonnes per week, is 15,000 tonnes per week lower than the capacity of the older mill. This has resulted in long delays in milling as well as high levels of stand-over cane. In addition, at the start of the 2003 crushing season, the FSC announced that it had spent another \$6m in mill maintenance at Lautoka. But within the first week of crushing, the mill broke down (Narayan and Prasad, 2004b).

Allegations of corruption and mismanagement in the FSC have surfaced quite often. However, to date, there has been no systematic and independent investigation of the allegations. Bad governance is a high-ranking probability contributing to the financial crisis within the industry. So far, however, the authorities have not addressed this matter. The real question in the proposed restructure is: what will be the role of government in

---

<sup>3</sup> Most of the information used in this section was sourced from Andrew et. al (2004).

the industry? At the moment, the government owns 67% of the FSC shares. Its approach therefore is partial. As a shareholder, it wants a good return, and if this comes from exploiting the farmers, then the shareholder would have no qualms. But exploiting the farmers further would compound the problems. It is more than clear that the government cannot distinguish its role as a shareholder and its role as an independent arbiter ensuring a just and fair approach to restructuring. If the government's intention is to maintain FSC in a different form and expect the industry to bear all the costs, then the farmers, landowners and workers will have little incentive to make the industry work. The government needs to inject initial funds to ensure that the Stand-Alone Companies (SACs), to be owned by the landowners, growers and the workers, begin their operations. The attempt by the FSC and the government to keep the present structure, and demand that proceeds be shared after all the industry costs are met, would be like going back to the days of the Colonial Sugar Refining Company (CSR). This is bound to be rejected by the farmers as well as possibly the landowners, for any reduction in the cane proceeds to the farmers would have a consequence on the rental income that the landowners are receiving (Narayan and Prasad, 2004b).

With respect to the other two categories the fish and fruits, vegetables and root crop industries, the major constraints faced in conforming to export market requirements (on environment grounds) generally include the ones discussed here.

### ***2.2.1 Problems of access to information***

In this regard, the transmission to exporters of information on importers' environmental requirements is sometimes insufficient, distorted, delayed or even non-existent. For example, exporters in Fiji (such as the Food Processors Fiji Limited<sup>4</sup>) are sometimes caught by surprise, and therefore have insufficient time to respond before exports are affected. However, nowadays, with World Trade Organisation (WTO) notification procedures and the possibility of diffusion through the internet, this problem has become less acute. Two sets of reasons can explain why these difficulties particularly affect countries like Fiji. First, the Government's capacity is severely limited making the transmission of information difficult to economic operators. Second, foreign direct investment is very low in Fiji. Producers are therefore often isolated from the distribution networks that could market their products in developed countries and private networks do not pass on information as rapidly as in other developing countries.

In addition, exporters lack the capacity necessary to comprehend important details about the importer's measures or to have them translated. This problem is of course linked to the speed and quality of information flow, but is also a function of the technical complexity of the measure and the number of words required to describe it. According to the Manager of Food Processors Fiji Limited, his company faces a lot of difficulties trying to comprehend some of the requirements in the Food and Drug Regulations that are laid down to them by their buyers from the US, Australia, New Zealand and other

---

<sup>4</sup> This food processing and exporting company is based in Suva. It processes and exports tomatoes, breadfruit, coconut cream, duruka and other agricultural produce to buyers in Australia, New Zealand and the US.

countries. This is due to the fact that some of the requirements are written in a very technical and complex way.

Translation of necessary documentation does not come cheap. In some cases, the government of the exporting country may simply adopt a measure identical to the importers. This, in itself, may not be a bad thing - if the exporting country understands the purpose of such a measure and it is appropriate to its local circumstances.

### ***2.2.2 Inadequate means for adjusting to environmental requirements***

Exporters do not have the capacity necessary to apply certain measures or to conduct conformity assessment. Implementation and conformity assessment require monitoring systems, and access to supporting infrastructure comprising laboratories (public or private), metrology, data and trained agents. Quality or residues testing, notably, requires means, which the exporter, locally, often lacks. According to Solander (Pacific) Limited<sup>5</sup>, most testing of their fish and fish products is done in the countries that buy their products, since they have neither the facilities nor the technicians to operate the facilities locally. This problem occurs most often when the importer has fixed a limit on residues close to the detection limit for the substance. The risk of this type of situation arising is higher when the substance in question is a complex organic compound (insecticide or aromatic amines, for example), which must be measured by sophisticated (and expensive) laboratory equipment operated by highly qualified technicians. In this regard, the concern from Food Processors Fiji Limited is that they, as well as other food processors in the country, do not have an appropriate plant structure and other support infrastructure to conduct conformity assessment tests to ensure easier access in overseas markets for their products.

Moreover, exporters do not have the knowledge required to adapt to international processes or production methods, in particular because of the uniqueness of local conditions or insufficient prior research. To be able to comply with measures on limits on chemical residues, it may be worth replacing the use of chemical products by integrated pest-management methods. However, extensive research is often necessary to obtain proper results. For example, though the shift to organic production allows new markets to be targeted, in the short term, at least, it may involve lower returns.

In addition, the production methods transferred from developed countries that exporters are sometimes expected to apply are inappropriate to their local conditions. Even when environmental measures call for the application of production methods more suitable to local conditions, the knowledge of how to do that is lacking. In cases where major investments in productive capital or pollution control are required, exporters lack the necessary capital. This type of problem typically arises in fish and fruits, vegetables and root crop processing industries in Fiji.

---

<sup>5</sup> This fish company is based in Suva. It catches and exports frozen fish to buyers in the US, Japan, Australia and New Zealand. It also exports fish products (such as loins) to these markets.

Furthermore, exporters, particularly small and medium-sized enterprises, have weak bargaining power when dealing with requirements developed by commercial or non-governmental entities. According to Food Processors Fiji Limited and Solander Pacific Limited, their overseas buyers never consult them when these buyers come up with a new requirement (based on environmental and health grounds). Voluntary, non-governmental standards can sometimes be as constraining as mandatory governmental regulations. For example, buyers or final retailers that choose to conform to a voluntary standard may insist that certain environmental conditions be met along the production chain and the producer or exporter has little choice but to meet their requirements.

### ***2.2.3 Issues involving the development of standards and regulations***

In the case of the development of standards and regulations, the issue tends to be the increasing variation in environmental requirements by governmental authorities and Non-Governmental Organisations (NGOs) and regulations differing from international norms. In other words, one of the chief problems of market access that exporters face lies in the proliferation of technical measures - and the difficulty of complying with requirements that are heterogeneous. Examples of standards adopted by NGOs and private agencies show that there can arise “competition” between certification and labeling schemes addressing the same environmental problems. Where there are international norms, but countries decide to impose requirements that are stricter than these norms, exporters have complained of the costs of both keeping up with changing measures and having to deal with different regulations in different markets. According to Food Processors Fiji Limited, the Food and Drug Regulations from the US are much stricter than those from other export markets like Australia and New Zealand. In this regard, they have to spend extra time and money in meeting the regulations in different markets for the same products. Solander (Pacific) Limited also highlighted that the requirements that they face from the US (in terms of the freezing temperature, packaging, labeling and so on) are more stringent than those faced from Australia and New Zealand.

Moreover, there are environmental standards that are inappropriate to the ecology of the producing area. Measures inspired by domestic considerations, however justified they may be, may be established on the basis of parameters that are inappropriate to the exporter’s situation, as shown by certain measures intended to address the production phases of a product. Examples include standards relating to the sustainable harvesting of fish or organic methods of production of agricultural products that fail to take into account local environmental and cultural differences.

There are a number of companies which produce organic food and drinks. For example, Herbex limited produces organic kura juice and this is certified by “ecocert” in Germany. Organic Vanilla is also being produced in Fiji. However, the biggest problem in relation to organic production is that government does not have organic standards. This allows some producers to claim organic production on paper when they are actually producing non-organic products.

In addition, some requirements are actually designed to create new market opportunities for a “cleaner” production method, chemical agent or pollution-control technology. A

developed country may legislate the tightening of a residue limit, or impose a complete ban on a substance, once an economically and technically acceptable substitute becomes available. However, such substitutes are sometimes proprietary or expensive and not readily available to exporters from Fiji and other developing countries, either because of their high costs or technical complexity. It is particularly in respect of these types of situations that developing country exporters have sometimes alleged that other interests, and not just a desire to protect the environment or public health have motivated a measure. In this regard, Food Processors Fiji Limited has been instructed by its buyers from the US to use a particular canning and sterilization technology that meets the quality standards that they require. This technology also happens to come from the US.

Moreover, there is a need for greater openness and transparency, including early consultation and impact studies. Where notification and prior consultation procedures, e.g. as provided for in the WTO and other Agreements, have been minimalist or not followed, exporters from Fiji and other developing countries have felt slighted in not having been able to influence the development of the environmental requirement. Use of established prior consultation procedures appears to have facilitated two-way communication and has even in some cases led to revisions of (proposed) measures that exporting countries have found to be objectionable. Some national and non-governmental standard-setting procedures provide forewarning to exporters that a new environmental measure is being contemplated.

### *2.2.3 Issues with implementation and review mechanisms*

Sometimes there can be cases of insufficient, inconsistent and/or temporary deferral in implementation. Certain measures may provide, in their provisions, for deferral of their implementation in the case of developing-country exporters. They can thereby help solve the adjustment difficulties, which affect this category of exporters more specifically.

In addition, insufficient access to equivalence agreements can be a constraint. Separately from the process of technical harmonisation, an equivalence agreement can allow an importing country to recognize an exporting country's environmental, health or safety measure as equally effective in satisfying its appropriate level of protection. Equivalence thus safeguards the aim of the environmental requirements - protection of the environment - while allowing a certain degree of flexibility by choosing the means of achieving it. Country experiences, however, show that developing countries can encounter difficulties in negotiating such agreements.

Moreover, there are difficulties in negotiating mutual recognition of procedures for conformity assessment. Mutual recognition agreements (MRA) provide that conformity assessment procedures used by a certification society or accreditation agency will be accepted by others. In theory, therefore, they can prevent a multiplication of certifications, costly in time and money, from excessively limiting market access for developing-country exporters. Again, use of this type of instrument has generally been quite limited.

Also, there is a need for more regular review of environmental requirements. Certain environmental and health measures envisage at the outset that they will be subject to subsequent review in order to take into account developments in understanding of the consequence of the environmental problem or the data underpinning the original measure. In some cases, developing countries have expressed concerns about the continued relevance or actuality of an environmental measure.

### **2.2.3      *Export requirements for Fiji products to major trading partners***

Fiji's major export destinations are Australia, New Zealand, the USA, the European Union and to a lesser extent, Japan. Considerations for exporting include market requirements, market segments, and buyer focus and distribution channels. The risk factors include price competitiveness, product quality and quantity, and consistency. For both Australia and New Zealand, export licences are required if Fiji is exporting fruit, vegetables and root crops and also if the value of goods exported exceeds FJD \$1,000. Quarantine certificates are also required for both Australia and New Zealand and this applies to the export of eggplant, mango, breadfruit, chillies, taro and pawpaw.

For Fiji the Australian and New Zealand markets have several characteristics. Both countries, under the South Pacific Regional Trade and Economic Cooperation Agreement (SPARTECA), give preference based on rules of origin. Both apply generally low duty rates. Requirements for both are usually for small volumes by comparison with those for Japan, the USA and the EU. Both are quality markets demanding very high standards in packaging, delivery, quality and security. In addition, Australia applies no import quotas. Fiji exporters have to meet all the quarantine requirements for its exports to Australia and New Zealand.

The Australian Customs Service requires that all goods imported into Australia must be cleared by Customs, whether they are imported by air, sea or post. While imports of low value will generally be released by Customs for delivery direct to consignees, importers are responsible for obtaining a formal customs clearance for consignments of goods above set value limits (currently FJD\$250 for goods imported through the postal system: [www.customs.gov.au](http://www.customs.gov.au)). The Australian Quarantine and Inspection Service (AQIS) has a dual role of providing quality assurance facilities for Australian exporters and also monitoring the importation of goods. It inspects all imports and facilitates the importation of animals, plants and related products while maintaining protection against the entry and spread of exotic diseases and pests.

New Zealand requirements are similar to Australia's. For overseas inspection requirements the exporter or packer must remove all material, ensure the container is clean and check carefully for contaminants of biological origin including insects or other invertebrates; insect egg casings; any material of animal origin including blood, bones, meat, hair and feathers; plants and plant products including fruit, seeds, leaves, twigs, roots, bark; and water and or soil. These strictures are all required for environmental

protection and to prevent the spread of diseases. As island nations, both are very protective in their quarantine policies.

The USA has an approved list for Fiji and the following fruits and vegetables are allowed entry into the US: basil leaf, cassava, *Cinnamomum* spp. (leaf); dasheen (dalo), drumstick (pod, leaf), ginger root, indigo (leaf), ginger root, kava (*Piper methysticum*); lotus root, pineapple, tumeric and yam (subject to fumigation).-

Common impediments for Fiji exporters to Australia and New Zealand include the lack of quality assurance systems; the low standard of packaging and packing and inadequate scientific capacity to do appropriate food analysis. Market access in relation to quarantine, packaging, and packing and pricing of goods and services are deemed not to be competitive. Competition, especially from Asia, is capital intensive. In terms of fashion trends, all commodities lag behind market demand and transport costs are too high. Apart from these, other local impediments face exporters, such as lack of human resources, insecurity of land tenure and high costs of utilities.

### **2.3 Environmental Impacts**

Although increased production of sugar, fruits, vegetables and root crops is important to meet domestic and, more importantly, external demand, the domestic environmental impacts of production also have to be seriously considered. The major environmental problem associated with sugar, fruits, vegetables and root crops production is soil degradation, which occurs from widespread and indiscriminate burning, particularly but not exclusively in the sugar cane growing areas. Soil degradation is also caused by overgrazing and faming on steep slopes, and the cultivation of marginal sugar lands. Other forms of land degradation include excessive pesticide and fertilizer use in taro and vegetable farming. Conservatively, it is estimated that the cost of land degradation in Fiji, in terms of lost sugar production and increased fertilizer input, is about F\$16 million per annum (Nisha, 1994).

Apart from soil degradation, cane and sugar, and to a lesser extent, fruits, vegetables and root crops production also lead to the loss of natural habits leading to a reduction in biodiversity, excessive water consumption, water and air pollution, and runoff and leaching of nutrients (Asafu-Adjaye, 2004). In the case of forestry, environmental degradation is also a problem. However, the government has put in some measures to control that damage. It has put in place a national code of logging practice and certification and branding. This has been put in place to promote environment conservation and management as the basis for the sustainable development of the sector. There are strict rules on what kind of logs logging companies can extract and how it should be removed so there is minimum damage to the vegetation. The code also provides for selective logging with guidelines for different species.

As far as the fisheries sector is concerned, the major environmental impact has been the degradation or loss of the habitats structure of marine life during the fishing process. In this regard, considerable damage has been done to coral reefs during the process of

fishing. In addition, during the processing of fish, waste materials are discharged into the water and air, causing air and water pollution (Asafu-Adjaye, 2004).

### **3. National Experiences in Improving Export Competitiveness and Environmental Sustainability in the Food and Food Processing Industries**

#### **3.1 Sugar**

With regard to the sugar industry, the main government policy that has been put in place in order to improve market access is the proposed sugar industry restructure, which is likely to lead to lower production costs and better quality products, which in turn would be easily acceptable in overseas markets. The original restructure plan included dismantling the 4-mill company into four Stand Alone Companies, with the growers, workers and landowners having shares in these companies. However, this plan has been shelved and the government, in conjunction with the FSC, has developed its own plan, which includes amending the institutional structure within which the industry operates, and farming and milling changes. The intended reform agenda aims to reduce inefficiencies in production, harvesting, transportation and milling processes. The reform agenda embodies the ownership of all industry stakeholders and is based on consensus from extensive consultation undertaken. To support the necessary implementation of the reforms, the government will guarantee FSC a loan with \$86 million from the EXIM Bank in India (Supplement to the 2006 Budget Address).

To complement the industry restructure plans, the Government will also implement an alternative livelihoods project to help all those who may be affected by the restructure plans in any manner, including sugarcane farmers and other industry workers. Diversification of the sugar industry through the production of ethanol and the cogeneration of electricity will also be part of the reform agenda (Supplement to the 2006 Budget Address).

The Lome Convention under which Fiji's sugar received preferential prices amounting to about 3 times the world market price had elaborate implementation and monitoring procedures in relation to environmental conservation and management. Despite these provisions on soil erosion and conserving soil fertility, in reality very little is done to control soil degradation in the sugar cane farming areas. The Colonial Sugar Refining Company (CSR), an Australian owned company which managed the sugar industry used vetiver grass (*vetiveria zizanioides*) over a 50-year period as a vegetative soil conservation technique to prevent soil erosion. This was abandoned in the 1970s after the takeover by a government owned company, and continues to be overlooked. It reflects the ineffectiveness of various provisions in protecting the environment as a result of poor institutional mechanism in Fiji (Prasad and Kumar, 2004).

### **3.2 Fisheries**

The government is providing suitable, technologically appropriate, safe and cost effective fishing vessels, particularly for industrial fisheries segment to promote and expand sustainable competitive exports of living marine products. The government has also provided assurance of adequate airfreight for export production. It is also encouraging local value adding and down-stream processing with the aim of maximising the value of marine products. As far as the private sector is concerned, ongoing improvements are made by exporters (such as Solander Pacific Limited) in terms of storing, packaging, labeling and so on in order to be able to meet the environmental requirements laid down by importers (Fiji Islands Ministry of Fisheries and Forests). The government has clearly spelt out its objectives for the management marine resource in a way that maximises resource owner and community benefit whilst ensuring bio-diversity and conservation issues are taken fully into account.

### **3.3 Fruits, Vegetables and Root Crops**

Despite strong surges in domestic production of fruits, vegetables and root crops, export potential remains largely untapped (see Table 1). This can be attributed to low quality and inconsistency of supply by local producers. In this regard, government has focused assistance for the purchase of farm inputs, improvements in farm husbandry and extension services to boost the quality of agricultural output. Government programmes also aim to develop value-adding processes that increase the shelf life of local agricultural produce, mainly for enhancing export potential. In addition, improved market access has been secured under various bilateral quarantine agreements for pawpaw, egg pant, chilies, herbs, pineapple, breadfruit and mango, amongst others (Supplement to the 2006 Budget Address).

As far as the private sector is concerned, continuous efforts are being made by exporters such as Food Processors Fiji Limited to comply with the requirements made by overseas markets. In an interview with the Production Manager of Food Processors Fiji Limited, it was discovered that the company takes into account serious consideration issues like the freezing of products at the right temperature (to maintain freshness), sterilisation, and the use of labels that provide all the necessary information that consumers need to decide whether to buy the product.

In order to protect the environment, exporters try to ensure that most of the produce that they get from farmers is as organic as possible. According to the Manager of Food Processors Fiji Limited, about 90% of the produce that they get from farmers does not have any chemical content in it.

**Table 1: Sugar, Fish and Fruits, Vegetables and Root Crops Export Earnings (F\$M)**

	<b>Sugar</b>	<b>Fish</b>	<b>Fruits, Vegetables and Root Crops</b>
<b>2000</b>	131.0	70.5	19.0
<b>2001</b>	255.2	91.2	19.2
<b>2002</b>	131.2	78.4	17.8
<b>2003</b>	191.7	79.4	23.8
<b>2004</b>	178.0	81.4	31.0
<b>2005 (f)</b>	197.0	88.1	28.3

Source: Macro Policy Committee (Taken from the Supplement to the 2006 Budget Address)

#### **4. Recommendations**

The stringent sanitary and health requirements of the market places are intended to ensure the supply of clean and safe food from the farm to the table, for enhancing market access and export competitiveness. To meet these challenges we propose the following recommendations.

The government and the private sector could:

- Rise in government, the private sector and among other stakeholders awareness of emerging environmental requirements.
- Improve dissemination of standard-related information to all domestic stakeholders, including notifications under the WTO and other Agreements and information received from international standardization bodies, with a view to commenting on them. Furthermore, as already done in some countries, one might consider creating an early warning system for exporters on new and emerging standards in overseas markets. A number of Pacific Island countries in the region could team up to develop this system, which would benefit exporters in all of these countries.
- Strengthen national and regional institutions to conduct risk analysis and testing; monitor enforcement of standards and carry out certification.
- Support technology, innovation and enterprise development (e.g. innovation through new methods for processing and packaging with greater emphasis given to environmentally friendly production methods and inputs).
- Promote research and development and exchange of information on traditional and environmentally preferable production methods suitable for local conditions.
- Promote business partnerships between foreign and local firms as a means to strengthen capacities to comply with standards and enhance competitiveness.
- Adopt specific measures for SMEs, consistent with WTO rules, such as technological support, support for investment in improving infrastructure and support for certification.
- To ensure that regulatory measures are carried out as intended and that a coordinating role is played as desired, trained and motivated staff is necessary. Besides, hands-on training with practical exercises is relevant to quality

production and supply management. Research and development should also go hand in hand.

- As a developing country, it is neither possible, nor feasible for Fiji to undertake the above-mentioned measures on its own. This, therefore, calls for donor support in the form of both financial and technical assistance and that, too, in a coordinated and comprehensive way to maximize the benefit.

## 5. References

Andrew, D, Dahou, K and Steenblik, R (2004) "Addressing Market Access Concerns of Developing Countries Arising From Environmental and Health Requirements: Lessons From National Experiences", *OECD Trade Policy Working Paper No. 5*. Retrieved on 20<sup>th</sup> January, 2006, from [http://www.oalis.oecd.org/oalis/2003doc.nsf/43bb6130e5e86e5fc12569fa005d004c/028bb89ef4f06073c1256f19003c65dd/\\$FILE/JT00169927.PDF](http://www.oalis.oecd.org/oalis/2003doc.nsf/43bb6130e5e86e5fc12569fa005d004c/028bb89ef4f06073c1256f19003c65dd/$FILE/JT00169927.PDF).

Asafu-Adjaye, J. (2004) "Integrating Economic and Environmental Policies: The Case of Pacific Island Countries". Retrieved on 15<sup>th</sup> January, 2006, from [http://www.unescap.org/pdd/publications/dp25/dp25\\_ch1.pdf](http://www.unescap.org/pdd/publications/dp25/dp25_ch1.pdf).

Echols, M.A. (2001) *Food Safety and the WTO: The Interplay of Culture, Science and Technology*, Kluwer Law International: London.

Gillett and Lightfoot (2001). "The Contribution of Fisheries to the Economies of Pacific Island Countries", Asian Development Bank, Manila.

Narayan, P.K and Prasad, B C (2004a) "Economic Importance of the Sugar Industry in Fiji: Simulating The Impact of a 30% Decline In Sugar Production", *The University of the South Pacific Economics Department Working Paper*, 2004/12.

Narayan, P.K and Prasad, B.C (2004b) "Fiji's Tourism, Garment and Sugar Industries: A Survey of Performance, Problems and Potentials", *Journal of Fijian Studies*, Vol. 1, No.1. Retrieved on January 20, 2006, from [www.fijianstudies.org/dload/vol1no1/fijis\\_sugar\\_tourism\\_and\\_garment\\_industries.pdf](http://www.fijianstudies.org/dload/vol1no1/fijis_sugar_tourism_and_garment_industries.pdf).

Narayan, P.K., and Narayan, S. (2004). Determinants of demand for Fiji's exports: An empirical investigation, *The Developing Economies*, XLII, 95-112.

Narayan, P.K., and Narayan, S. (2004) Estimating Income and Price Elasticities of Imports for Fiji in a Cointegration Framework, *Economic Modelling* (in press, available from [www.sciencedirect.com](http://www.sciencedirect.com)).

Nisha, F., (1994). "Land Degradation in the Sugar Industry: a hidden disaster", unpublished manuscript, Department of Economics, The University of the South Pacific, Suva.

Prasad, D (2006) Manager of Food Processors Fiji Limited, Suva. Personal Communication.

Prasad, B.C. and Tisdell, C. (1996) "Institutional Constraints to Economic Development: The Case of Native Land Rights in Fiji", *Asia Pacific Development Journal*, Vol.3, No.2, pp.49-71.

Prasad, B.C. and Kumar, P. (2004) "Environmental impacts of the Lome Trade Agreement and Fiji's Sugar Exports", *Fijian Studies*, Vol2, No.1, pp.75-110.

B.C. Prasad, "Impediments to Market Access for Exports and Environmental Requirements under the World Trade Organisation (WTO): The Case of Fisheries, Sugar and Garment Industries in Fiji", September 2005, United Nations, IAS, [http://www.ias.unu.edu/binaries2/Fiji\\_WTO.pdf](http://www.ias.unu.edu/binaries2/Fiji_WTO.pdf)

Radhika (2006) Accountant for Solander (Pacific) Fiji Limited, Suva. Personal Communication.

The Republic of Fiji Islands Bureau of Statistics (various issues) Current Economic Statistics, Government Printery, Suva.

The Republic of Fiji Islands Ministry of Finance and National Planning (2005). *Economic and Fiscal Update Supplement to the 2006 Budget Address*, Government Printery, Suva.

The Republic of Fiji Islands Ministry of Fisheries and Forests (nd) "Fisheries Sector Policy and Strategy 2002-2004". Retrieved on January 10<sup>th</sup>, 2006, from [http://www.fiji.gov.fj/publish/m\\_fish\\_forest.shtml](http://www.fiji.gov.fj/publish/m_fish_forest.shtml).

Waqainabete, P (2006) Economic Planning Officer – Ministry of Agriculture, Sugar and Land Resettlement. Personal Communication.