

# Development Opportunities

The Review Team was required to consider development opportunities in agriculture and fisheries and to establish clearly Vanuatu's comparative advantage. This section considers Vanuatu's comparative advantage and discusses characteristics of promising export commodities.

The Vanuatu economy is highly distorted by policies that alter relative rates of return to different activities. This means that the allocation of resources among competing activities and the pattern of production and trade in Vanuatu are unlikely to reflect its underlying comparative advantage. Analyzing the impact of the many distortions on relative rates of return, with the use of a general equilibrium model of the Vanuatu economy, would provide estimates of the effective rates of assistance to different sectors of the economy. These would show the amount by which the production and value added of each sector is higher or lower than it otherwise would be without Government intervention.

In most cases, agriculture would have high negative effective rates of assistance, indicating that the range of Government interventions has reduced the relative rates of return from producing these commodities, and therefore also the amount produced and exported. However, some import-competing producers (dairy and poultry, for example) are protected by high import tariffs and may therefore be larger than they would otherwise be. These activities would most likely contract if protective tariffs were removed. Similarly, though the fishing industry is penalized by policy-induced distortions, the very high tariff on imported seafood allows Vanuatu fishers supplying the Port Vila and Luganville markets to charge high prices (largely to cover their high costs of catching fish and delivering the catch to markets).

There is no general equilibrium model of the Vanuatu economy. Hence, the Review Team's assessment of Vanuatu's opportunities based on comparative advantage is only indicative. In many respects this is not a shortcoming, since the policies the Team would advocate are not selective (in the sense of seeking to assist a specific group of commodities). Rather the policies advocated are economy-wide and are designed to produce an undistorted economy wherein the forces of competition will induce resources to flow to activities with the highest relative rates of return. In other words, the only way to discover Vanuatu's true comparative advantage is to remove the distortions and then observe the commodities or activities that emerge

from market competition. This approach recognizes that comparative advantage evolves over time. While Vanuatu may currently have a comparative advantage in the production and export of high-value/low-weight organically produced agricultural commodities, with economic development and the accumulation of human capital its comparative advantage may shift toward the provision of services, for example.

### **Vanuatu's Comparative Advantage**

Before discussing where profitable opportunities for agricultural producers might lie, it is important to discuss the concept of comparative advantage. An economy derives its comparative advantage from its relative endowments of factors of production. These factors include natural resources (such as minerals, forests, fertile soils, environment, and fish stocks), human resources (labor and the skills of its population), and physical capital stock. Generally speaking, the theory of comparative advantage states that countries will maximize their income from specializing in the production of goods and services that are relatively intensive in the use of inputs in which the country is relatively well endowed. For example, a country where there are large deposits of high-grade, accessible mineral resources but where labor is scarce could be said to have a comparative advantage in mining and a comparative disadvantage in labor-intensive manufacturing.

Vanuatu has a number of natural disadvantages that will preclude the profitable development of certain industries. It is prone to natural disasters in the form of earthquakes and frequent cyclones, which add considerably to the risks and costs of business. Resources will thus naturally be allocated to activities that are less affected by such calamities. With a small, widely dispersed population, Vanuatu does not have a comparative advantage in labor-intensive activities. Moreover, the small size of the population means that if activities are based on supplying local markets, small scale will mean high costs. This will apply to infrastructure services such as roads, internal transportation, electricity supplies, and communications. However, it is possible to overstate Vanuatu's disadvantages and to confuse underlying or natural disadvantages with disadvantages made worse by policies and regulations that restrict competition and raise costs.

Vanuatu has a relatively underdeveloped stock of physical and human capital. These days, physical capital is less of a constraint as it is internationally mobile. The lack of human capital will continue for

some time. It reflects the basic educational system in Vanuatu, which has prevented the working population from acquiring skills. The absence of a skilled workforce will preclude the development of knowledge-intensive industries in Vanuatu for some time. However, this disadvantage is not permanent and with development and investment in education, Vanuatu's stock of human capital, or the level of work skills of the population, will rise over time, as was the case in many of the rapidly growing Asian developing economies.

Diseconomies of scale can be overstated, as technological change, in electricity and communications<sup>25</sup> in particular, has reduced minimum efficient scales of supply. To overcome the constraints of small domestic markets and the relatively low scale implied, agricultural activities need to be export-oriented if they are to capture the economies of large-scale production.

There are also economies of scale in shipping and other forms of transportation. At current scales of output and demand for freight, it may well be that scale economies are not exhausted and therefore that transport costs will remain relatively high. However, such economies of scale can be overstated, and if they are so important, it is of interest why shipping in Vanuatu at the moment is not more highly concentrated in the hands of a few dominant shipping companies. Distance from markets is also often given as a reason why Vanuatu's transport costs will remain high. Once again, this does not hold much weight as Vanuatu is close to major markets in Australia, New Zealand, and Asia. The introduction of competition in the provision of airfreight and shipping, both interisland and international, would see rates fall toward those available in other countries. High shipping costs are therefore unlikely to be as serious an underlying problem as often stated.

In terms of natural resources, Vanuatu is well endowed relative to the size of its population. Mineral resources are likely to be modest, as the country has virtually no tradition of even small-scale artisanal mining. Vanuatu's fishery resources are also naturally limited, compared with other countries, and would not be able to support a major fishing industry, except possibly for offshore tuna fishing.

<sup>25</sup>Telecommunications and power supply have traditionally been considered natural monopolies in that, even for economies larger than Vanuatu, economies of scale relative to the size of the market dictate that only one supplier can profitably service the market. However, recent developments in electricity-generating technology and in mobile telephones have drastically reduced the minimum efficient scale of operations with the result that a number of firms employing this newer technology can now compete for markets that were previously dominated by single firms.

Vanuatu is well endowed in agricultural land relative to the size of the population and much of this land is highly fertile. A very wide range of tropical and temperate crops can be grown in Vanuatu. This means that, provided sustainable farming practices are maintained, Vanuatu has an advantage in the production of organically grown crops and beef. This is so because traditional farming practices and the land used have minimized the use of fertilizers and other chemicals. Moreover, Vanuatu has at present fewer crop disease and pest problems than many other countries, and so the use of pesticides and chemicals is limited. The endowment of fertile soils and isolation from major pests and disease would, in itself, suggest a comparative advantage in the production of organic crops and meat products to meet a growing world demand for organic foods.

Vanuatu is well endowed in environmental resources. It has a very diverse flora, with many plants unique to the region. This provides Vanuatu with an advantage in tourism, although many other factors (including cost) contribute to the development of tourism. The uniqueness of a number of indigenous nuts, kava species, and other undeveloped food and herbal plants may also contribute to profitable export opportunities.

It is generally assumed that Vanuatu has a comparative advantage in the export of products of high value relative to their weight, which can bear the cost of transport between islands and from Port Vila or Luganville to distant markets. Products such as kava, orchids, coffee, indigenous nuts, and fresh seafood are often cited in this regard. The need for further processing of copra, cocoa, and coffee is also based on the view that Vanuatu should export more highly processed and therefore more valuable products to minimize the disadvantage of distance and high transport costs.

While there may be some merit to this view, a number of strong reservations need to be made. Higher-value products do not necessarily mean higher value added or higher profits. Adding value usually costs money. The presence of a raw material, such as tuna, for example, does not lead to the conclusion that Vanuatu can profitably export high-grade and high-value sashimi by air to markets in Asia and North America. To convert tuna freely swimming in the ocean, however abundant, to exportable products requires the application of large amounts of capital, skills, low-cost electricity, and low-cost, reliable airfreight direct to markets.

Similarly, for Vanuatu to move along the coconut chain from copra to oil to coconut cream requires more than an abundant low-cost source of nuts. The new coconut oil mill on Santo is an important

development that has come about partly because reforms in the economy have reduced the costs of copra and the investment risks. However, adding value to copra and coconut oil will ultimately require access to capital, skilled labor, competitively priced electricity, and markets.

Returns to copra production have been modest in the past. This does not mean to say that there is no future in copra production. Copra producers have faced a wide range of constraints that reduced the returns to growers. The removal of these constraints will make copra production a more profitable activity and could lead to an expansion in production, to supply both the Santo oil plant and overseas buyers. Returns to beef, cocoa, and coffee producers would also increase as reforms remove constraints on development that have artificially reduced returns to these activities.

In seeking an improved performance and a greater contribution to development from agriculture and fisheries, it is important that the Government not snub traditional exports and focus its attention disproportionately on exciting “niche” commodities, the economics of which have been largely untested. Many new opportunities were mentioned in the ADB (1997) review. But then why has there been virtually no development of these products if, indeed, they are so promising? Of course, these products are subject to constraints but so too are the traditional exports.

Comparative advantage is a well-established theoretical concept (almost a law of economics) with which there is little dispute. However, comparative advantage is notoriously difficult to measure because of the very wide range of factors involved in the production of even the simplest commodity or service. One approach to the measurement of comparative advantage is that of revealed comparative advantage. Crudely speaking, this says, look at those export commodities that have been most disadvantaged by the range of government interventions in the economy and that is where true comparative advantage is likely to lie. In the case of Vanuatu, such products would most likely include copra, coffee, beef, kava, forestry products, and cocoa.

The policy implications that arise from this discussion of Vanuatu’s comparative advantage are these. Governments should never try to predict comparative advantage or to attempt to influence comparative advantage by providing selective assistance, as past governments in Vanuatu did. They encouraged and subsidized growers to grow diversification crops selected by bureaucrats or by donor agencies, rather than the private sector. The results were not positive. Govern-

ment and donors are often tempted to continue to “pick winners” rather than allow freely functioning markets and their private-sector participants to seek out profitable opportunities. Government has a role to play in supporting the private sector, but its support needs to be neutral in that it does not make it more attractive to grow one crop instead of another.

## Opportunities in Agriculture

### Nuts

The Review Team was expected to assess the potential of indigenous nuts. As yet there has been little technical and economic research on indigenous nuts, and their commercial development is at an early stage.<sup>26</sup> In 1994, a conference on South Pacific indigenous nuts, held in Port Vila, drew scientists and private-sector interests from around the region. Among the recommendations for research and development put forward by the conference participants were the following:

- Assessment of Vanuatu’s nut tree resource
- Development of existing resources and plantations<sup>27</sup>
- Research into the agronomics of the nangai tree
- Research on processing and storage, including hygiene and packaging materials
- Training in post-harvest handling techniques
- Evaluation of composition of oil and its variability
- Resolution of storage and transport constraints

Some individuals who are currently developing businesses based on nuts indicated to the Review Team that a sensible market development strategy could be directed first at meeting domestic demand for fresh or roasted nuts. For the tourist (suitcase export) markets, these nuts would be processed and packaged attractively as niche market products. This strategy is akin to the suitcase export strategy profitably employed in Hawaii and other tourist locations.

<sup>26</sup>The Team Leader did have the opportunity to examine a feasibility analysis for a private development. While the assumptions upon which the net-present-value calculations were based had to be taken as given, the project did indicate an exceptionally high rate of return on investment from nuts and timber. Moreover, there are several ancillary projects in furniture and confectionery with some promise.

The recommended indigenous nuts that have potential for commercial development are *Canarium spp.* (nangai), *Barringtonia spp.* (navele), and *Terminalia spp.* (natapoa).

McGregor (2000), a report on the economics of the indigenous nuts industry, focuses on nangai, navele, and natapoa and provides a positive assessment of their potential as well as their development constraints.

<sup>27</sup>It is not clear that this recommendation was based on a detailed feasibility study.

Overseas markets are for nut-in-shell and kernel, as well as for oil, particularly from nangai. Domestic market outlets include the commercial nakamals (there are about 60 in Port Vila and 16 in Luganville); supermarkets and urban stores catering to the higher-income urban consumers, who are more willing to pay premium prices; hotels and airlines offering complimentary packets of nuts; and tourists. For international markets, the nuts could be grown and exported as certified organic products. Both nangai and natapoa trees have good-value timber, which can be harvested after 20 to 25 years. Their wood is used locally to produce artifacts and canoes, and could potentially be used in making domestic furniture. The supply of hardwood export markets also offers potential.

The limited size of the resource of wild indigenous nut trees is, at present, the main constraint on commercial development. Future development will be based on smallholder plantings and on plantations rather than the gathering of nuts in the wild, both of which are under development at present. For nangai, there is also a need for on-farm storage systems. For navele, cultivar selection and improved processing are needed to reduce the unacceptable level of bitterness of the nuts. For natapoa, the constraints are the low kernel-to-nut ratio and the high moisture content.

### Copra

Further processing offers some potential. Already, a coconut mill has been established, although this will add only moderately to the value added of the industry. Processing to oil does not necessarily increase returns from copra. This depends on the crushing margin. Moreover, world coconut oil prices are still volatile and the oil suffers from competition from low-cost substitutes. Opportunities for profitable by-product sales are limited, as there is no demand for copra meal in the Santo cattle industry. Disruptions in supply, due to cyclones and other reasons, will affect costs, which are highly sensitive to the rate of capacity utilization.

Other higher-value-added coconut products could be profitably developed by the private sector. A range of high-value, niche market products have been identified in past studies as having development potential in Vanuatu (see ADB 1997 and McGregor 1999 and 2000). Opportunities that do not need large capital outlays include fuel, cosmetics, premium-quality soap, and certified organic oils and creams. According to these studies, the use of coconut shell to produce activated carbon is feasible if enough shells are available at competitive prices.

### Cocoa

The Vanuatu Land Use Planning Project considers it viable to expand smallholder cocoa production provided the price prospects are reasonable. With improved marketing and infrastructure and the re-introduction of competition into the industry, cocoa exports and returns to growers can be increased.

Any significant increase in new plantation cocoa is unlikely, given the constraints on land availability and tenure, and labor requirements. New plantings will most probably be in the food garden or under mature coconut trees. Price prospects do not seem to justify the more expensive clearing of bush to plant coconuts.

While recent reforms will improve returns to growers, cocoa is likely to remain a relatively low-return activity and this could inhibit the growth of the industry. On the other hand, previous studies have pointed to the potential for Vanuatu to supply emerging niche or specialty markets for cocoa. According to ADB (1997), there is a rapidly expanding market for high-quality certified organic cocoa. The recent sale of 70 tons of cocoa through the efforts of the Producers Organization Project (POP) illustrate the potential of this crop. There is also the potential to add value by developing local confectionery manufacturing capacity, although input costs would need to become more competitive.

### Kava

Vanuatu has experienced problems in meeting market requirements in terms of price, consistency of supply, and quality control. There is a concern that while a potentially large market exists for kava exports, continuing supply and quality problems in Vanuatu could see the market going to plantations established in other countries.

Significant export development will require an increase in supply and lower prices. In 1998, most exports were airfreighted despite the suitability of dried kava to sea freight. Pressing demand and lack of direct shipping from Vanuatu to the US markets may explain the predominance of airfreight. Growth in kava exports by air is constrained by the availability of freight space and the lack of direct flights to major markets.

Kava processing for industrial use in Vanuatu may be commercially viable, but would involve substantial investment, and problems of poor quality control and inconsistent supply need to be resolved. Recently, Vanuatu Brewery Ltd. has developed a bottled kava beverage.

### Coffee

Vanuatu has had a long history of coffee growing with limited success. Recently, the privatized Tanna Coffee Development Corporation has shown some promise, particularly as the managers are experienced in coffee growing and have overseas outlets. Under the new management, Tanna Coffee has reduced its workforce substantially and has moved away from a stand-alone plantation to a nucleus estate, drawing additional supplies from smallholders on Tanna. It is believed that there is considerable market potential for organically grown Tanna coffee in both the tourism sector and the growing market for organic coffee offshore. However, the present volume of production is below that required by overseas markets, and transportation, even to Port Vila, subjects the produce to damage and is very expensive.

### Beef

According to the ADB (1997) review, there is potential for increased beef exports. However, Vanuatu will be at a disadvantage in competing for the same markets with the low-cost Australian and US beef producers. To develop its exports further, Vanuatu needs to exploit the specific characteristics of its beef. Vanuatu offers high-quality beef from grass-fed cattle, which is produced without the use of chemicals. At present, the Vila abattoir exports its high-quality beef predominantly to low-quality markets in Papua New Guinea and the Solomon Islands. The organic certification of this product would open up markets in Europe and Japan. For this, certification systems that satisfy the strict requirements of various organic beef markets would need to be introduced.

### Other opportunities

The ADB (1997) review identified a range of opportunities for the supply of niche markets, including opportunities arising from seasonal “gaps” in normal supplies. Opportunities were identified for fresh fruit and minimally processed fruits (papaya, mango, pineapples), spices (ginger and vanilla), yams, taro, squash, and floriculture. While all these products grow well in Vanuatu, none of these products have been exported in significant quantities, apart from squash exports for a few years in the mid-1990s. This is not to say that there is no potential. However, a major constraint on exporting these perishable items on a commercially viable scale is the availability and cost of airfreight to overseas markets.

## Opportunities in Fisheries

There is potential in a number of areas for the development of commercial and subsistence fishing. However, various policy-induced and natural constraints stand in the way of these opportunities. For the moment, it is assumed that an effective regulatory regime exists in the fishing sector and that the CRP will lead to the removal of inappropriate regulations and policies.

The history of Vanuatu's extensive involvement in tuna confirms that the country is well located to take advantage of the regional tuna resource, particularly in respect of tuna targeted by longliners. The fact that longline operators have successfully established sashimi export operations in neighboring countries with similar characteristics suggests that the resource is not the binding constraint on investments in sashimi-grade tuna export facilities.

The estimated sustainable yield from the tuna resource in Vanuatu's exclusive economic zone (EEZ) is as follows: yellowfin, 2,500 tons; bigeye, 2,000 tons; and albacore, 3,500 tons.<sup>28</sup> However, fishing vessels based in Vanuatu can also fish adjacent high seas and, under negotiated access agreements, the EEZs of neighboring countries such as Fiji, New Caledonia, and the Solomon Islands. Thus, the accessible resource should be considerably more than that estimated for the Vanuatu zone alone.

In addition to the direct economic benefits shore-based tuna facilities will generate,<sup>29</sup> the development of a shore-based tuna industry would create linked opportunities for small-scale fishermen. In association with such enterprises, it should be possible to negotiate arrangements for exports of high-quality poulet or other marine product to be consolidated in shipments with tuna. As a result, fishermen operating close to tuna export facilities would have access to markets previously unavailable to them. In addition, there may be possibilities for small-scale fishermen to sell occasional catches of high-value tuna to the export operations. For example, large bigeye and yellowfin available to a near-shore handline fishery, even if only on a seasonal basis, if delivered to the export facility in prime condition, would provide small-scale fishermen with a valuable income-earning opportunity. Although they will have to import almost all their bait requirements, occasional large catches of scad and small surface-swimming tuna would be in demand by the longliners.

<sup>28</sup> Kingston et al. (1996)

<sup>29</sup> Kingston et al. (1996) developed a hypothetical model that estimated the local benefit generated by a small locally based longline operation to be Vt13.5 million annually.

The successful establishment of a shore base concentrating on the export of fresh tuna could therefore provide numerous development opportunities for linked fisheries and industries. There is potential for the development of a local tuna export industry and the MAQFF has a role to play in establishing an efficient resource management regime and in identifying and removing impediments to investment. Although there may be prospects for developing fisheries within the EEZ, the assessment of their commercial viability should be left to the private sector to determine.

An issue raised during the review was the possibility of greater cooperation with New Caledonia and the possibility of granting access to Vanuatu's EEZ to vessels operating in New Caledonian waters. It is understood that New Caledonia has fifteen 16- to 45-meter longline vessels operating at present, with six more scheduled to start fishing from the northern provinces in the near future. Three French seiners are expected to begin fishing shortly in the western central Pacific from a base in northern New Caledonia. It is possible the longliners may seek seasonal access to Vanuatu waters once the fleet grows, but at current levels they can probably survive in the New Caledonian zone and adjacent high seas. The purse seiners may also seek occasional access to the Vanuatu EEZ for surface-swimming schools.

No freshwater resources are commercially exploited in Vanuatu, although small artisanal fisheries for freshwater shrimp and eels do exist on some islands. Nevertheless, with a relatively pristine environment and a reasonable amount of suitable coastal habitat and abundant supplies of clean freshwater and seawater, the long-term potential for aquaculture is significant. Rather than the Fisheries Division becoming involved in an aquaculture development program, it is recommended that it stand ready to facilitate should any potential investor approach the Division for assistance and advice.

## Conclusions

Vanuatu has significant potential to increase its agricultural exports and, to a much lesser extent, to increase the value of its fishery exports. Many commodities have been identified in previous reviews as having the potential for profitable export. Common characteristics of these potential products are that they capitalize on the organic nature of Vanuatu's farming practices and have relatively high value-to-weight ratios to minimize the disadvantage of distance. However, most of these products require access to efficient, reliable, and rapid transportation modes to be acceptable to overseas markets. At

present the private sector does use airfreight to ship live and fresh products from outer islands to markets in Port Vila and Luganville. However, unreliable service and insufficient dedicated freight capacity leaves too much produce rotting at jetties and on tarmacs (including such high-value, and scarce, species as lobster and coconut crab). Free entry and competition in domestic airfreight and interisland shipping markets is a prerequisite for realizing any of the opportunities in the fresh-food trade.

There is potential for Vanuatu to add value to its traditional exports, such as copra, cocoa, and coffee, but not at existing cost levels. The constraints on the realization of the potential for further processing are addressed in the next section. It is within the power of the Vanuatu Government to remove many of these constraints.