



# Pacific Horticultural and Agricultural Market Access Program (PHAMA)

Technical Report 43: Feasibility Study on Developing Exports of  
Selected Products from Solomon Islands to Australia (SOLS13)

25 JANUARY 2013

Prepared for  
AusAID

255 London Circuit  
Canberra  
ACT 2601  
AUSTRALIA

42444103

**URS**

**KALANG**

Project Manager:

  
Sarah Nicolson

**URS Australia Pty Ltd**

**Level 4, 70 Light Square  
Adelaide SA 5000  
Australia**

**T: 61 8 8366 1000  
F: 61 8 8366 1001**

Project Director:

  
Robert Ingram

Author:

David Young  
STA Agricultural  
Economist/ Market  
Specialist

Reviewer:

Dale Hamilton

Date:

**25 January 2013**

Reference:

42444103

Status:

Final

**© Document copyright URS Australia Pty Ltd**

This report is submitted on the basis that it remains commercial-in-confidence. The contents of this report are and remain the intellectual property of URS and are not to be provided or disclosed to third parties without the prior written consent of URS. No use of the contents, concepts, designs, drawings, specifications, plans etc. included in this report is permitted unless and until they are the subject of a written contract between URS Australia and the addressee of this report. URS Australia accepts no liability of any kind for any unauthorised use of the contents of this report and URS reserves the right to seek compensation for any such unauthorised use.

**Document delivery**

**URS Australia** provides this document in either printed format, electronic format or both. URS considers the printed version to be binding. The electronic format is provided for the client's convenience and URS requests that the client ensures the integrity of this electronic information is maintained. Storage of this electronic information should at a minimum comply with the requirements of the Commonwealth Electronic Transactions Act 2000.

Where an electronic only version is provided to the client, a signed hard copy of this document is held on file by URS and a copy will be provided if requested.

## Table of Contents

<b>Executive Summary</b> .....	<b>v</b>
<b>1 Introduction</b> .....	<b>1</b>
1.1 Background .....	1
1.2 Rationale .....	1
1.3 Study Methodology .....	3
<b>2 Economic, Policy and Agricultural Sector Background</b> .....	<b>4</b>
2.1 The Economy .....	4
2.2 National Development Strategy .....	4
2.3 The Agricultural Sector .....	6
2.4 Institutional and Regulatory Framework .....	7
2.5 Marketing Infrastructure and Transport Services .....	7
2.6 Export Potential .....	7
<b>3 Australian Market Opportunities</b> .....	<b>9</b>
3.1 Overview of the Australian Market .....	9
3.2 Target Market Sectors .....	10
3.3 Analysis of Export Marketing Opportunities .....	11
3.3.1 Bananas .....	13
3.3.2 Cassava .....	13
3.3.3 Coconuts .....	14
3.3.4 Pineapples .....	14
3.3.5 Taro .....	15
3.3.6 Coffee .....	15
3.3.7 Honey .....	16
3.3.8 Canarium (Ngali) Nuts .....	16
3.3.9 Vanilla .....	17
3.3.10 Chillies .....	17
3.3.11 Eggplant .....	18
3.4 Wholesale Market Characteristics .....	18
<b>4 Value Chain Analysis</b> .....	<b>22</b>
4.1 Overview .....	22

<b>4.2</b>	<b>Value Chain Methodology</b> .....	<b>23</b>
<b>4.3</b>	<b>Results of the Value Chain Analysis</b> .....	<b>23</b>
<b>4.4</b>	<b>Coconuts</b> .....	<b>24</b>
<b>4.5</b>	<b>Chillies</b> .....	<b>25</b>
<b>5</b>	<b>Conclusions and Recommendations</b> .....	<b>27</b>
<b>5.1</b>	<b>Priority Commodities</b> .....	<b>27</b>
<b>5.2</b>	<b>Recommendations</b> .....	<b>28</b>
<b>6</b>	<b>Limitations</b> .....	<b>29</b>

## Tables

Table 3-1	Summary of supply and demand issues.....	12
Table 4-1	Estimated returns to growers and exporter: coconuts .....	25
Table 4-2	Estimated returns to growers and exporter: chillies.....	26
Table 5-1	Principal reasons for exclusion .....	27
Table 5-2	Factors contributing to positive assessment.....	28

## Figures

Figure 3-1	Australian imports of horticultural produce (A\$ million per annum: 1998–2011).....	9
Figure 3-2	Australian imports of coconuts 2001–2010.....	19
Figure 4-1	Summary of value chain analysis for coconuts (SBD per bag) .....	23
Figure 4-2	Summary of value chain analysis for chillies (SBD per kg) .....	24

## Appendices

Appendix A	Solomon Islands Market Access Strategy
Appendix B	Solomon Islands Smallholder Agriculture Study: Markets and Marketing Issues
Appendix C	Australian Wholesale Market Analysis
Appendix D	Value Chain Analysis: Coconuts
Appendix E	Value Chain Analysis: Chillies
Appendix F	List of Persons Contacted
Appendix G	Bibliography

## Abbreviations

<b>Abbreviation</b>	<b>Description</b>
ACIAR	Australian Centre for International Agricultural Research
AQIS	Australian Quarantine Inspection Service
AusAID	Australian Agency for International Development
CEMA	Commodity Export Marketing Authority
CIF	Cost Insurance and Freight.
DAFF	Australian Department of Agriculture and Forestry
DME	Direct micro expelling
EIF	Solomon Islands Enhanced Integrated Framework Project
FACT/IACT	Facilitating Agricultural Commodity Trade Project
FAO	Food and Agricultural Organization
FOB	Free On Board
GDP	Gross domestic product
HACCP	Hazard Analysis and Critical Control Points
HTFA	High Temperature Forced Air
IACT	Increasing Agricultural Commodity Trade
ICON	Import Conditions Database
IT	Information technology
MAFBNZ	Biosecurity New Zealand
MAL	Ministry of Agriculture and Livestock
MAWG	Market Access Working Group
NGASI	Nut Growers Association of Solomon Islands
NGO	Non-governmental organisation
NZ\$	New Zealand dollar
PACER	Pacific Agreement on Closer Economic Relations
PARDI	Pacific Agribusiness Research for Development Initiative
PHAMA	Pacific Horticultural and Agricultural Market Access Program
PICs	Pacific Island Countries
PICTA	Pacific Island Countries Trade Agreement
RDP	Solomon Islands Rural Development Programme
SBD	Solomon Islands dollar
SS/SC	Semi-subsistence/semi-commercial
SIAQS	Solomon Islands Agriculture Quarantine Services
SIPA	Solomon Islands Port Authority
SPARTECA	South Pacific Regional Trade and Economic Cooperation Agreement
SPS	Sanitary and Phytosanitary
UHT	Ultra-heat treated
URS	URS Australia Pty Ltd
US\$	United States dollar
WTO	World Trade Organisation

## EXCHANGE RATES

Australian Dollars (A\$) 1.00 = Solomon Islands Dollars (SBD) 7.00

New Zealand Dollars (NZ\$) 1.00 = SBD 5.54

United States Dollars (US\$) 1.00 = SBD 6.75

## Executive Summary

**Background:** The Solomon Islands Market Access Working Group requested that the Pacific Horticultural and Agricultural Market Access Program (PHAMA) conduct a review of the feasibility of developing exports to Australia of selected commodities, including the following eleven items:

- Bananas
- Cassava
- Chilli
- Coconuts
- Coffee
- Eggplant
- Honey
- Canarium (Ngali) nuts
- Pineapples
- Taro
- Vanilla.

The study is intended to identify commodities that have good prospects of commercial success as the basis for selecting two or three products for which production and marketing pathways can be developed. Consideration of potential products focussed on those for which market access procedures are already in place, or where there are reasonable chances of market access procedures being developed.

**Rationale:** Despite a longstanding priority of the Government to develop agricultural exports, exports outside the traditional commodities (timber, fish, copra and cocoa) remain low. However, the demand side of the equation is positive. Eastern Australia is a large market with almost 11 million people in the three eastern capitals, a high degree of cultural diversity, a strong exchange rate and high domestic prices for most food items. On the supply side, Solomon Islands has abundant production potential for a wide range of tropical agricultural commodities. However, farming systems are oriented towards subsistence needs for the 80% of households that live in rural areas, with occasional/incidental surpluses offered for sale in the local markets. Most farmers do not produce for the market, and other than commodities such as palm oil, copra and cocoa, almost nobody grows crops for the export market.

The study aims to provide a clearer direction for future market access requests to Australia, as well as other production development initiatives. The underlying rationale for this approach is the need to identify promising starting points for building the capacity of Solomon Islands to profitably export high value agricultural commodities. It is important to focus initially on a small number of products or product groups in order to build capacity to consistently produce export quality commodities and forge the value chain linkages needed for viable marketing pathways.

**Approach and Methodology:** A number of commodities and products were assessed in terms of their prospects for profitable penetration of the Australian east coast market. A three-stage process was employed:

- Analysis of supply issues, including the current volume and seasonality of supply, grading, packing and transport requirements, experience in exporting, and other factors influencing Solomon Islands' capacity to supply the target markets;

- Analysis of demand issues, based on market information from the eastern Australian wholesale markets, and a review of the structure and operations of the Australian market for high value agricultural and horticultural commodities; and
- Value chain analysis of marketing costs and margins for selected commodities to estimate the revenues available to share among growers and exporters.

**Export Potential:** The strengths of the agricultural sector lie in the strong subsistence base and the export-oriented commodities, including cocoa, copra, edible oils, fish and timber. While there is good potential for producing a wide range of exportable items, diversification beyond these commodities has not generally been successful. The poor performance can be explained by a combination of factors, including a weak entrepreneurial private sector, poorly defined pest and disease status, and a lack of transport links to export markets.

The potential for expansion of exports varies between commodity groups. For the traditional export commodities which are all non-perishable, the potential for further expansion is sound, especially for cocoa, copra, palm oil and possibly coffee. However, the potential for developing exports of bulky, perishable products such as most fruits and root crops is severely constrained by infrastructure limitations, the inherently low value of these items, and domestic market prices that are often higher than prices available in export markets. The commodities with best potential for export include high value nuts and spices, as well as high value perishable commodities suitable for export by air freight. However, across all commodity groups there is a lack of capacity to export in the private sector.

**Australian Market Potential:** The Australian market for horticultural products is by far the largest in the region, with more than 22 million relatively affluent consumers. However, domestic production supplies almost all of that market year round. This is unique among developed countries. There are a number of reasons why Australia exhibits such a high degree of self-sufficiency:

- Australia has a high degree of agro-ecological diversity, enabling supplies of many products to be maintained year round.
- There are high levels of quarantine protection, ranging from total import bans for some items (e.g. bananas) to strict procedures and protocols for others.
- Compliance with import protocols incurs significant inspection and clearance fees charged by the Australian Quarantine Inspection Service (AQIS).
- Food retailers are increasingly concerned about food safety and require their suppliers to employ formal food safety risk mitigation and traceability measures and “ethical sourcing” protocols.
- Australian consumers are accustomed to obtaining the bulk of their food supplies from Australian sources and are strongly averse to buying imported produce.

These five factors combine to make the Australian market difficult and expensive to access. However, there are positive influences as well. First, Australia has a high degree of ethnic and culinary diversity, which creates niche markets for a number of specialty foods. Second, Australian food prices have become very expensive in recent years, accentuated by the strengthening of the Australian dollar, which makes imported items more competitive in the Australian market.

**Target Markets:** The three eastern seaboard cities (Brisbane, Sydney and Melbourne) present the most attractive and accessible sectors. These have a population of 11 million, which is 50% of the national total, or perhaps 65% if nearby cities are included. These markets are very large relative to Solomon Islands’ capacity to export. Selection of the target markets is therefore influenced mainly by transport linkages. Brisbane is recommended as the target market for air freight commodities because

of the direct flight connections, and Melbourne for sea freight commodities because there is less competition from Northern Australia during the winter months when prices for fresh produce are highest. The most accessible market entry point is via the wholesale markets in each capital city.

**Marketing Opportunities:** The eleven candidate commodities were assessed in terms of their prospects for profitable penetration of the Australian market. The commodities are grouped into three categories: (i) bulky / low value commodities: banana, cassava, pineapple and taro – these are best suited to export by sea; (ii) non-perishable high value commodities: coffee, honey, Canarium (Ngali) nuts and vanilla – these could be exported by air or by sea; and (iii) perishable commodities: chilli and eggplant – these are only suitable for export by air freight. The assessment of marketing opportunities for these items is as follows:

- **Bananas** have very limited prospects for profitable access to the Australian market. No banana exporting country has ever succeeded in accessing Australian market, and development of an export protocol for bananas would be extremely difficult, with no guarantee of success.
- **Cassava** is a low value, bulky and semi-perishable product with limited prospects for profitable access to the Australian market. Other Pacific Island Countries have established marketing pathways for cassava (fresh and frozen).
- **Coconuts** are currently being exported and there is potential for expansion and diversification into fresh drinking nuts. The logistics of collecting nuts on the outer islands and transporting them to Honiara to assemble export shipments impose significant costs. However, the margins are adequate to cover these costs. Coconuts are therefore considered **high priority**.
- **Pineapples** grown in Solomon Islands are of very high quality. However, the prospects for establishing a profitable export marketing pathway are limited. The cost of sending pineapples to Australia by refrigerated sea container, plus quarantine and customs clearance, wholesale agent's fees etc., would make pineapple exporting marginally profitable at best and rather risky. Selling pineapples in the domestic market yields higher net returns.
- **Taro** is a low value perishable commodity with high internal transport costs. Solomon Islands does not have an adequate supply base to develop a taro export industry.
- **Coffee** is considered low priority for the time being but with good potential in the long term. The supply base is currently inadequate to develop a coffee export industry. However, if coffee production continues to expand, exports will need to be considered at some point. In the interim, however, the domestic market offers the best opportunities.
- **Honey** production is recovering. However, the domestic market is likely to absorb all of the honey produced for several years at least, and offers attractive prices.
- **Canarium** (Ngali) nuts are a harvested wild product which is not produced commercially, although some are sold for cash in the local market. Lack of consistency of supply and quality are significant constraints. Papua New Guinea is making efforts to develop Canarium as a commercial crop and there are promising indications that this will be successful in the long term. The Pacific Agribusiness Research for Development Initiative (PARDI) program is also working with stakeholders in Solomon Islands and Vanuatu to improve processing techniques and examine potential export markets, including Australia.
- **Vanilla** is a very high value commodity that grows well in Solomon Islands. However, it is considered low priority due to the insignificant amount of vanilla currently produced.
- **Chilli** exports present a high margin / low volume business opportunity targeting the Brisbane wholesale market in the winter-spring period. Prospects are best for the smaller/hotter varieties such as birdseye and habanero. Solomon Islands has a natural comparative advantage due to

seasonality and the labour intensive nature of production. Chillies are therefore considered **high priority** – but would require substantial investment to develop the production base and collection, grading and packing facilities.

- **Eggplant** is a relatively low value commodity in Australia with low bulk density and high perishability. Export of eggplant from the Solomon Islands would require the introduction and testing of new varieties and establishment of a high temperature forced air (HTFA) facility. The margins generated by air freight exports are unlikely to be commercially attractive.

**Priority Commodities:** Of the eleven commodities evaluated, only two – coconuts and chillies – are classified as high priority for exporting to Australia. This reflects the inherently difficult status of Solomon Islands as an exporter of horticultural and agricultural commodities, particularly in relation to infrastructure limitations, the capacity of the private sector to export non-traditional products, and the ability of national institutions to provide the necessarily technical support and regulatory services.

In the case of **coconuts**, value chain analysis indicates that coconut exporting is a moderately profitable and fairly low risk activity that is well-suited to the capacity of Solomon Islands growers and exporters. All elements of the value chain are in place and functioning to some extent and there are no significant market access barriers. Increasing the volume of exports, improving value chain efficiency through better transport and storage logistics, and/or diversifying into fresh drinking nuts all represent fairly low cost / low risk initiatives. In the future, exporters will probably require Hazard Analysis and Critical Control Points (HACCP) certification to maintain access to the Australian supermarkets

Value chain analysis for **chillies** indicates that exporting is likely to be a profitable activity, but one that would require considerable capacity development and industry organisation. Most of the elements of the value chain for chillies are not currently in place. The establishment of a chilli exporting enterprise will require a fully integrated system with contract growers, a collection system, packing facilities, cold storage and an exporter consigning regular shipments to an importer/wholesaler in Brisbane. Such a system would require considerable investment and development over a number of years. Initially, several years of work would be required to develop a market access protocol for Chillies, in parallel with initiatives to select suitable varieties, develop agronomic packages, train a core group of growers and build capacity among potential exporters.

**Recommendations:** The two priority commodities differ widely in their marketing characteristics and potential, and call for very different approaches. Coconuts are an established export with a large production base, no significant market access problems and potential to be expanded and diversified at relatively low risk. This suggests two main activities that PHAMA could facilitate:

- Support to the existing coconut exporter to expand and diversify his exports to Australia through developing quality control (such as HACCP) and traceability procedures to allow access to higher value market sectors such as the supermarkets and fresh drinking nuts; and
- The development of detailed marketing guidelines and model budgets for coconut exporting and the provision of training to encourage other enterprises to take up coconut exporting.

Chillies represent a longer-term and riskier export marketing opportunity. The first step would be to lodge a market access application, and develop a set of market access protocols over the next two years or so. Only when this has been successful would it be prudent to invest in developing production capacity and undergoing trial shipments.

**PHAMA Strategy:** The limited number of high priority export commodities identified in this feasibility study also has implications for the strategic direction of PHAMA in Solomon Islands. In particular, the

findings strongly support the current PHAMA strategy of focusing efforts on the three principal export commodities (fish, timber and cocoa) with quality assurance, testing and certification services. These ongoing activities are expected to generate immediate and significant benefits and with lower risks compared to the development of new export marketing channels for non-traditional exports.

# 1 Introduction

## 1.1 Background

The Pacific Horticultural and Agricultural Market Access Program (PHAMA) is an aid-for-trade program financed by the Australian Government through AusAID, which aims to increase exports of high value primary products from Pacific Island Countries (PICs) by working collaboratively with relevant government agencies and export industries to address regulatory aspects associated with gaining and maintaining access to key markets. This reflects the generally poor export performance of PICs during an era of strong growth in global trade, and Australia's very low level of horticultural and agricultural imports from the Pacific.

Each of the PHAMA participating countries (Fiji, Samoa, Solomon Islands, Tonga and Vanuatu) has a Market Access Working Group (MAWG) and a National Market Access Coordinator. The MAWGs are responsible for prioritising the market access activities for PHAMA support, and for overseeing implementation of these activities.

The Solomon Islands MAWG requested that PHAMA conduct a review of the feasibility of developing exports of selected commodities to Australia, including the following eleven items:

- Bananas
- Cassava
- Chilli
- Coconuts
- Coffee
- Eggplant
- Honey
- Canarium (Ngali) nuts
- Pineapples
- Taro
- Vanilla.

A study was undertaken during October–November 2012 in Solomon Islands and Australia to assess the commercial prospects for these commodities. The feasibility study is intended to identify commodities (species, varieties, products) that have good prospects of commercial success as the basis for selecting two or three products for which production and marketing pathways can be developed. Consideration of potential products focussed on those for which market access procedures are already in place, or where there are reasonable chances of being able to develop market access arrangements.

## 1.2 Rationale

Solomon Islands has a significant domestic agricultural sector valued at around SBD600 million annually. Despite a longstanding policy priority of the Solomon Islands Government to develop agricultural exports, export volumes and values outside the traditional commodities (timber, fish, copra and cocoa) remain low. Limited air and sea freight links mean that Australia is the only developed market that is easily accessible on a regular basis, particularly for perishable products such as fruits and vegetables. However, it is difficult for exporters to access and assess information on market pricing and potential supply opportunities. This has hindered exporters and the Ministry of Agriculture and Livestock (MAL) from developing a better understanding of potential products to target for export. This is true both for products that already have market access to Australia (such as pineapples, root crops and vanilla) and for products that have been discussed by the Solomon Islands MAWG as potential candidates for export (subject to obtaining access), such as chilli and eggplant.

The demand side of the equation is positive. Eastern Australia is a large market with almost 11 million people (half the population) in the three eastern capitals (Brisbane, Sydney and Melbourne), a high degree of cultural diversity, a strong exchange rate relative to the Solomon Islands dollar, and high domestic prices for most food items. New Zealand is a considerably smaller market, but with similar demand characteristics and a more limited capacity to supply its own market during the winter months.

On the supply side, Solomon Islands has abundant production potential for a wide range of tropical agricultural commodities. However, farming systems are generally oriented towards subsistence needs for the 80% of households that live in rural areas, with occasional/incidental surpluses offered for sale in the local markets. Most farmers do not produce for the market, and other than commodities such as palm oil, copra and cocoa, almost nobody grows crops for the export market. In the domestic market, traditional staple foods such as bananas, taro and sweet potato have to compete with low-cost imported carbohydrates, especially rice, noodles and bread. There are a number of well-established exporters handling fish, timber, copra, cocoa, coconut oil and palm oil, but the capacity to export non-traditional commodities is currently very limited. There are a number of significant constraints<sup>1</sup> that limit the capacity to expand and diversify exports, including:

- Infrastructure issues, which often limit the access of producers and traders to road and sea transport and suitable storage and handling facilities;
- Underdeveloped value chains, which limit supply and the quality of product;
- High input costs (such as utilities and fuel), which result in high processing costs, limiting competitiveness;
- Lack of external freight options and high freight costs;
- Limited government capacity to progress market access issues and negotiate export/import protocols;
- Limited government capacity to maintain required biosecurity standards such as pest and disease surveillance;
- Limited government and private sector capacity to develop product and processing standards and support verification, testing and certification systems;
- Limited private sector capacity for processing, quality assurance and marketing activities;
- Lack of a clear national export development strategy;
- Limited market information systems;
- Limited research and development capacity to underpin development of new products and exports;
- Lack of private and public sector collaboration and coordination on export development; and
- Lack of access to finance to support agricultural and export development.

PHAMA has been requested by the Solomon Islands MAWG to undertake a feasibility study to identify specific products that have good potential for developing an export trade to Australia, providing a clearer direction for future new market access requests to Australia, as well as other production development initiatives. The underlying rationale for this approach is the need to identify promising starting points for building the capacity of Solomon Islands to profitably export high value agricultural commodities to Australia. It is important to focus initially on a small number of products or product groups in order to build capacity to consistently produce export quality commodities and forge the value chain linkages needed for viable export marketing pathways.

<sup>1</sup> Source: Solomon Islands Market Access Strategy for Agricultural Sector 2011–2015 (see Appendix A)

### 1.3 Study Methodology

The study is the first stage in a process of developing the capacity for Solomon Islands to export high value products other than the traditional export commodities such as fish, timber, copra, cocoa and palm oil. It is intended to lead to a series of further steps involving the development of producing and exporting capacity. During this first stage, the scope of work included:

- (i) Assessing prices, demand levels, variety and product type preferences, quality requirements, market structure and major distribution channels for the specified target products into the Australian market;
- (ii) Identifying sources of competition for supply in the target market and the strength of this competition;
- (iii) Identifying any market niches or seasonal window opportunities that may be available for Solomon Islands product;
- (iv) Assessing seafreight/airfreight availability and cost;
- (v) Calculating indicative Free On Board (FOB) (Solomon Islands Port) prices;
- (vi) Undertaking analysis of local capacity to supply an export trade, including current production areas and volumes; continuity of supply; seasonal supply characteristics; potential for expansion; infrastructure requirements and availability (e.g. packing / coolstorage / internal transport / consolidation); packaging, etc. Identifying likely major supply-side constraints;
- (vii) Assessing local cost of production to farmgate and to port, including realistic allowance for commercial margins;
- (viii) Identifying those products for which establishment of an export trade to Australia is likely to be most viable. Where possible, providing recommendations on the type of importer/buyer/wholesaler/distribution relationships appropriate to establish for the type and volume of the identified export products; and
- (ix) Providing recommendations to the Solomon Islands MAWG on the relative merits of pursuing formal market access for any products that do not currently have access.

A number of commodities and products were assessed in terms of their prospects for profitable penetration of the Australian east coast market (comprising the cities of Brisbane, Sydney and Melbourne). A three-stage screening process was employed:

- Analysis of supply issues, including the current volume and seasonality of supply; grading, packing and transport requirements; experience in exporting; and other factors influencing Solomon Islands' capacity to supply the target markets. This work was undertaken in close collaboration with the Marketing Unit of MAL, the Solomon Islands MAWG, other relevant Ministries and Institutions and a number of commercial agribusiness enterprises;
- Analysis of demand issues, based on market information from the eastern Australian wholesale markets and a review of the structure and operations of the Australian market for high value agricultural and horticultural commodities, as well as visits to the Brisbane and Sydney markets for discussions with importers, wholesalers and retailers; and
- Value chain analysis of marketing costs and margins for selected commodities to estimate the revenues available to share among growers and exporters.

This screening and analysis methodology provided some initial conclusions on the priority products that should be targeted and the actions needed for the development of new export pathways.

## 2 Economic, Policy and Agricultural Sector Background

### 2.1 The Economy

The Solomon Islands economy is continuing to recover from the sharp contraction experienced during the early 2000s. The erratic growth trajectory with years of contraction followed by recovery has produced a decade-long average gross domestic product (GDP) growth rate of 2.9%. With population growing at around 2.7% over the same period, GDP per capita has stagnated and remains amongst the lowest of the PICs.

Solomon Islands (like other parts of Melanesia) is heavily dependent on natural resources. Due to a slow pace of industrialisation, services dominate with 56% of GDP, followed by agriculture at 38%. The land area is about 28,000 sq km, of which less than 5% is arable. Subsistence-based livelihoods continue to dominate economic activities of the majority (80%) of the population. Apart from subsistence agriculture, major activities include tuna fishing, timber extraction and mining. The current human development index ranking is 142, which is at the lower end of the range for the PICs, although its value has increased from 0.502 in 2005 to 0.510 in 2011. The major exports include timber, fish, copra, palm oil and cocoa, which are sold in the Asia markets, mostly China. Total exports were US\$226 million or 56% of imports (US\$405 million) in 2010.

### 2.2 National Development Strategy

The Solomon Islands Market Access Strategy for the Agricultural Sector (a document developed with assistance of the Rural Development Program and PHAMA; see Appendix A) provides an overview of the national development policy framework as it relates to market access. The overall policy environment includes clear recognition of the need to improve sustainable economic growth and livelihoods, the importance of diversifying exports and expanding value adding opportunities, and the need for capacity building in government and the private sector to achieve this.

The Government Policy Statement (2010–2014) sets high-level policy objectives to alleviate poverty and improve economic growth and incomes. The National Development Strategy (2011–2020) builds on these strategic goals with actions intended to address the infrastructure and enabling environment constraints, improve downstream processing, increase capacity to meet international trade standards, and improve information sharing and decision-making on product development and export markets. The Policy Statement also includes specific objectives on improving public sector capacity to facilitate trade and improve biosecurity within the country, as well as areas of priority for support to industry, including:

- Establishment of more copra milling facilities in rural areas to facilitate the production of coconut oil, biofuel, animal feed and other downstream processing products for export;
- Improving domestic and export marketing infrastructure (storage, accessibility, facilities, information and management) for agriculture products;
- Upgrading quarantine services and facilities to comply with international requirements and to facilitate importation of improved animal stocks and crop planting materials and export of local products to overseas markets;
- Assisting farmers to establish spice farms for domestic consumption and export;
- Containment, control and eradication of exotic pests and diseases through legislation and in collaboration with the private sector, neighbouring countries and international organisations; and
- Promoting the development and export of kava.

The National Agriculture and Livestock Sector Policy (2009–2014) also recognises the key constraints faced by the agricultural sector. The policy focuses on the national development objectives of improving rural livelihoods, food security, generation of job opportunities and economic growth. To achieve these objectives, the policy notes the importance of taking a strategic approach to expand efforts for the development of export markets. It details the need for capacity building for export development in terms of improved regulatory frameworks, technical capacity and standards, and recognises the importance of cross sectoral cooperation on trade facilitation and public/private sector collaboration. These expected capacity building outcomes are also aligned with the National Agriculture and Rural Development Strategy (see Box 1), which includes strengthening of sanitary and phytosanitary capacity as a priority area in improving agricultural support services.

**Box 1: Agriculture and Rural Development Strategy Recommended Actions**

1. Make better use of available resources:
  - Strengthen planning
  - Strengthen public budgeting process
  - Improve public financial management.
2. Improve rural service delivery mechanisms:
  - Strengthen local government
  - Strengthen community involvement in local development
  - Strengthen the capacity of the private sector and non-governmental organisations (NGOs) to deliver services.
3. Implement policies supportive of rural development.
4. Focus on agricultural support services:
  - Strengthen agricultural sector management
  - Facilitate the diffusion and adoption of innovation and market development
  - Strengthen agricultural sector skills.
5. Improve access to rural infrastructure services:
  - Upgrade rural transportation
  - Expand access to telecommunications
  - Facilitate access to rural energy supply.
6. Pave way for the development of rural finance services.
7. Support the adaptation of land tenure systems.
8. Prepare for structural changes in the forestry sector.
9. Improve fisheries resources management through local and international partnerships.

MAL is charged with implementation of these objectives in the agriculture sector. The MAL Corporate Plan 2009–2013 is aligned with national policy statements and includes a goal to encourage and develop export-orientated commodities with a stated strategy to create an environment conducive for trade in agricultural commodities. This is also in line with the expected values of MAL’s engagement with stakeholders taking a consultative and partnership development approach, and to facilitate the involvement of the private sector in agricultural trade development.

At an industry level, agreed development strategies are in place for the coconut and cocoa industries. Both these strategies recognise the same constraints as noted in national policy documents, including the lack of collaboration and coordination between the public and private sectors. The National Cocoa Development Policy (2010–2015) identifies the improvement of quality assurance and the promotion of value-adding opportunities as areas of strategic priority in order to improve the value of exports. It specifically identifies the need to improve cocoa quality standards and testing capacity to underpin

improvements in quality assurance. Implementation of the cocoa policy is to be undertaken by the Cocoa Steering Committee, working with MAL.

The Coconut Sector Strategy (2011–2020) identifies the need to improve quality assurance and opportunities for downstream value-adding as strategic priorities. It identifies increased processing of copra for coconut oil and diversification into production of other coconut-derived products for export as priorities. Implementation of the coconut strategy is to be undertaken by the Coconut Secretariat, working with the Ministries of Agriculture and Commerce.

The Solomon Islands Market Access Strategy is intended to reflect these various national policy goals in improving livelihoods and promoting economic growth through diversified exports. The strategy is intended to help provide some specific focus for implementation of work towards those goals and to complement the implementation of the existing commodity or industry-specific development plans that may include consideration of market access issues. In implementing this strategy, it is intended that operational links be established with the bodies engaged in delivery of the commodity/industry development plans.

## 2.3 The Agricultural Sector

### *Overview*

Agriculture plays a crucial role in Solomon Islands. Agricultural value addition increased by 5.9% in the period 2005–2009, and the Food and Agriculture Organization (FAO) food production index increased by 1.7% per annum. However, this productivity gain must be compared with the rapidly growing rural population and increasing rural poverty rates. Correspondingly, output per worker in the rural sector has actually declined. The customary land tenure system governs utilisation of the 87% of land under indigenous communal ownership. In the forestry subsector, deforestation (due to widespread and often poorly regulated logging) causes soil erosion, siltation and decline in vegetation succession, posing major threats to agriculture. The economy is endowed with abundant marine resources and water resources (rainfall averages 2,700–3,500 mm per annum,) but safe drinking water is a problem.

### *Agricultural Exports*

The export of timber and agricultural products are, along with fish, the primary export earners for Solomon Islands. Unprocessed round logs remain the largest export by value, with only relatively small exports of value-added timber products occurring. Exports of copra and cocoa make up 17% of export earnings and these production systems form an important part of rural livelihoods. Apart from these relatively large scale commodities, the export of other agricultural, horticultural or forestry related products is very limited, with only small exports of kava, spices and some fruits and vegetables occurring, mainly to other PICs. Apart from crude palm oil and coconut oil, and their associated meals, the export of value-added agricultural products is limited to small amounts of powdered kava and very small amounts of virgin coconut oil.

Overall, the economy is currently heavily dependent on the export of unprocessed products from resources such as logging and fishing that are not necessarily being utilised sustainably. PHAMA is currently developing relevant activities in the forestry and fisheries sectors to support market access for value-added timber and fish products. There is a pressing need for Solomon Islands to broaden its export base into other products and to make the most of opportunities for downstream processing and value adding.

## 2.4 Institutional and Regulatory Framework

Solomon Islands is a party to a number of international and regional trade agreements that include obligations in regard to sanitary and phytosanitary (SPS) aspects and technical standards for trade and also have relevance to development assistance available for trade development:

- Member of the World Trade Organisation (WTO)
- Party to the Melanesian Spearhead Group
- Party to Pacific Island Countries Trade Agreement (PICTA)
- Party to South Pacific Regional Trade and Economic Co-operation Agreement (SPARTECA)
- Signatory to the Pacific Agreement on Closer Economic Relations (PACER) and currently involved in discussions on its successor PACER Plus
- Member of the African Caribbean Pacific states currently involved in negotiation of the Economic Partnership Agreement with the European Union.

Engagement with trading partners and trade agencies on the terms of these various trade agreements is principally the responsibility of the Department of External Trade. The Solomon Islands Agricultural Quarantine Service (SIAQS) in MAL is principally responsible for negotiating with importing countries on SPS market access issues for agricultural products. MAL, in line with national policy, has a stated strategy of pursuing trade in compliance with these trade agreements and international standards.

## 2.5 Marketing Infrastructure and Transport Services

Infrastructure constraints have a major impact on the capacity of Solomon Islands to export agricultural and horticultural products, which results in a focus on non-perishable commodities (copra, coffee, cocoa, etc.) that can be handled within those limitations. Much of the infrastructure destroyed or damaged during the tensions is yet to be repaired or replaced. Of the 1,500 kilometres of roads, less than 50 kilometres are paved, of which some is in poor condition. The road network is sparse, reaching less than a quarter of villages, with the remainder reliant on sea transport. Many bridges are in need of repair and some are closed to traffic. Less than 20% of the population has access to electricity and electricity supply only extends for a few kilometres outside Honiara and the provincial capitals. Telecommunications are developing rapidly but are still quite expensive.

Marketing infrastructure is also severely limiting. Inter-island transport of agricultural produce is undertaken on small/medium sized ships with no facilities for handling fresh produce and no cold storage or loading/unloading facilities. There are no cold storage facilities available to exporters in Honiara and no packhouses.

Sea transport services to Eastern Australia are generally satisfactory, with weekly services available to Brisbane and Melbourne. Refrigerated containers are generally available. However, direct air linkages are limited to Brisbane and air freight space is not always available.

## 2.6 Export Potential

The strengths of the Solomon Islands agricultural sector lie in the strong subsistence base and the export-oriented commodities, including cocoa, copra, edible oils, fish and timber. While there is good potential for producing a wide range of exportable items, diversification beyond these commodities has not generally been successful. McGregor (2006) notes that in export diversification, the country has lagged behind Fiji (root crops, fresh fruit and vegetables, ginger), Tonga (squash and vanilla), Vanuatu (beef, kava, spices and indigenous nuts) and Papua New Guinea (vanilla). The poor performance in

this area can be explained by a combination of factors, including a weak entrepreneurial private sector, poorly defined quarantine pest and disease status, and a lack of suitable transportation links to export markets. Past efforts have shown that successful diversification remains a complex and elusive goal. Given the constraints faced, the country is fortunate that it still maintains a strong subsistence and tree-crop commodity base.

The potential for expansion of agricultural and horticultural exports varies between commodity groups. For the traditional export commodities, which are all non-perishable, the potential for further expansion is sound, especially for cocoa, copra, palm oil and possibly coffee. However, the potential for developing exports of bulky, perishable products such as most fruits and root crops is severely constrained by infrastructure limitations, the inherently low value of these items, and domestic market prices that are often higher than prices available in export markets. The commodities with best potential for export include high value nuts and spices, as well as high value perishable commodities suitable for export by air freight. However, across all commodity groups there is a lack of capacity to export in the private sector.

PHAMA is assisting Solomon Islands to realise its export potential. PHAMA's vision and mission in Solomon Islands is very much aligned with that stated in the Solomon Islands Market Access Strategy (see Appendix A):

**Strategic Vision:** That Solomon Islands be sufficiently capable of gaining and maintaining appropriate market access for its agricultural products so as to facilitate increased and sustainable economic growth, and improved rural livelihoods, from improved export returns.

**Strategic Mission:** To develop Solomon Islands' capability to address market access issues and opportunities by fostering effective private/public sector collaboration; establishing effective processes for considering and progressing market access issues and opportunities in a coordinated manner; and securing adequate resources to implement required capacity building in a well-planned, timely, cost effective and sustainable way.

In pursuit of this vision and mission, **four strategic objectives** have been identified and PHAMA is working with stakeholders towards these as appropriate within its delivery scope. These objectives are elaborated in Appendix A:

- Objective 1: Establish an effective partnership mechanism between private sector and government to identify and progress market access issues and opportunities.
- Objective 2: Establish effective processes for identification of market access issues and opportunities and for prioritisation, allocation of resources, and coordination of the implementation of required activities to progress market access.
- Objective 3: Establish sufficient capacity within MAL and the private sector to support implementation of market access activities.
- Objective 4: Secure sufficient resources to implement activities required and to complete required capacity building.

### 3 Australian Market Opportunities

#### 3.1 Overview of the Australian Market

The Australian market for horticultural products is by far the largest in the region, with more than 22 million relatively affluent consumers. However, domestic production supplies almost all of that market year round. This is unique amongst developed countries, most of which source fresh produce supplies from around the world, depending on prices and availability.

**Figure 3-1 Australian imports of horticultural produce (A\$ million per annum: 1998–2011)**

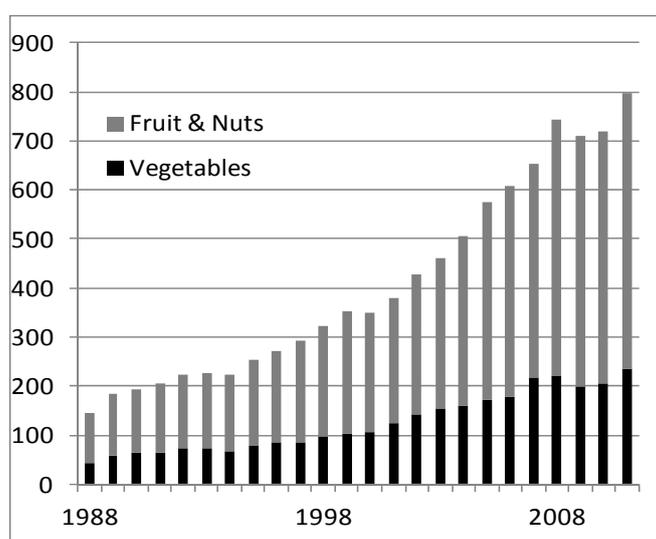


Figure 3-1 shows that imports have grown steadily in line with population and household incomes. Imports of vegetables<sup>2</sup> now generally exceed A\$200 million per annum and fruits<sup>3</sup> exceed A\$500 million. While these quantities may sound large, they only represent 0.05% of GDP and around 0.08% of household expenditure.

Fruit imports are markedly seasonal, with higher levels prevailing in the second half of the calendar year when local temperate fruits are in limited supply. Vegetable imports tend to be less seasonal.

There are a number of reasons why Australia exhibits such a high degree of self-sufficiency in its horticultural produce markets, all of which need to be considered by PICs in formulating market access strategies:

- Australia has a high degree of agro-ecological diversity, ranging from tropical to cool temperate. Supplies of many products are maintained year round, from the tropical areas in winter and the temperate areas in summer.
- There are high levels of quarantine protection, ranging from total import bans for some items (e.g. bananas) to strict procedures and protocols for others. No item can be imported unless there are established country-specific and product-specific protocols.

<sup>2</sup> Defined as “vegetables, fresh, chilled, frozen or simply preserved (incl. dried leguminous vegetables) and roots, tubers and other edible vegetable products, not elsewhere specified, fresh or dried.”

<sup>3</sup> Defined as fruit and nuts, excluding oil nuts, fresh or dried.

- Compliance with import protocols incurs significant inspection and clearance fees charged by the Australian Quarantine Inspection Service (AQIS), and the time taken to inspect consignments adds to transit times.<sup>4</sup>
- Food retailers, particularly the large supermarket chains, are increasingly concerned about food safety and require their suppliers to employ formal food safety risk mitigation and traceability measures. The supermarkets also employ “ethical sourcing” protocols that require all suppliers to be independently audited with regard to social and environmental standards.
- Australian consumers are accustomed to obtaining the bulk of their food supplies from Australian sources and are strongly averse to buying imported produce. The reasons for this are unclear, especially since so many Australians are recent immigrants. However, retailers report that imported produce is very difficult to sell unless local supplies are limited or not available, or the imported alternative is significantly cheaper.

These five factors combine to make the Australian market difficult and expensive to access. However, there are positive influences as well. First, Australia has a high degree of ethnic and culinary diversity, which creates niche markets for a number of specialty foods which may not be of particular interest to mainstream consumers. Second, Australian food prices have become very expensive in recent years relative to other developed countries such as Europe and the United States. This trend has been accentuated by the strengthening of the Australian dollar against most other currencies, which makes imported items more competitive in the Australian market (see Appendix C, Figures C-1 to C-3).

### 3.2 Target Market Sectors

In terms of **geographic** target, the three eastern seaboard cities (Brisbane, Sydney and Melbourne) present the most attractive and accessible sectors. These have a combined population of 11 million, which is 50% of the national total, or perhaps 65% if nearby cities such as Gold Coast (Brisbane), Newcastle and Wollongong (Sydney) and Geelong (Melbourne) are also included.

These markets are very large relative to Solomon Islands’ capacity to export. Selection of the target markets is therefore influenced mainly by transport linkages, with **Brisbane** being the most accessible for air freight and **Melbourne** for sea freight. Solomon Airlines flies to Brisbane four days per week in its Airbus A320, with about 1.2 tonnes of air freight capacity per flight. Pacific Air Express also operates a freight service to Brisbane once a week with a capacity of 8–10 tonnes. There are three shipping lines servicing Honiara with both northbound (Asia) and southbound (Australia and New Zealand) services. Swire, the largest of the shipping lines, operates weekly services to Melbourne and/or Brisbane. None of the shipping lines offer a service direct to Sydney. Voyage times are around five days to Brisbane direct and 6–7 days to Melbourne. Brisbane is recommended as the target market for air freight commodities because of the direct connections, and Melbourne for sea freight commodities because there is less competition from Northern Australia during the winter months when prices for fresh produce are highest.

The most accessible market entry point is via the **wholesale markets** in each capital city: Rocklea in Brisbane, and Footscray in Melbourne. These are all large, well-managed wholesale markets that supply the retail sector as well as food service and institutional customers. The operators in these markets include agents who sell on commission, as well as buyers and distributors for retail and other

<sup>4</sup> Some major exporting countries (e.g. the United States) have arranged pre-clearance procedures whereby AQIS inspects and clears consignments before they are shipped. This creates cost savings and reduces clearance times after arrival in Australia.

customers. Some of the supermarkets source supplies through the wholesale markets, whereas others have contracts with direct suppliers. Supply chains are often defined along ethnic lines, with middle-eastern market operatives supplying middle-eastern greengrocers, Chinese supplying Asian grocers etc. Solomon Islands exporters will generally find it easier to work with agents who are well connected to the ethnic supply chains rather than those who supply the supermarkets and up-market/boutique greengrocers, where food safety, traceability and “ethical sourcing” procedures can be onerous.

### 3.3 Analysis of Export Marketing Opportunities

The eleven candidate commodities were assessed in terms of their prospects for profitable penetration of the Australian east coast market. A qualitative analysis is shown in Table 3-1 on the following page, with the positive influences highlighted in green and the negative factors in red. The commodities are grouped into three categories:

- Bulky/low value commodities: banana, cassava, pineapple and taro – these are best suited to export by sea;
- Non-perishable high value commodities: coffee, honey, Canarium (ngali) nuts and vanilla – these could be exported by air or by sea because of their non-perishable nature; and
- Perishable commodities: chilli and eggplant – these are only suitable for export by air freight.

Table 3-1 Summary of supply and demand issues

	Bulk commodities					Non-perishables				Perishables	
	Banana	Cassava	Coconut	Pineapple	Taro	Coffee	Honey	Canarium	Vanilla	Chilli	Eggplant
<b>Supply issues</b>											
Production volume	High	High	High	Medium	Medium	Medium	Low	Low	Low	Low	Medium
Production system <sup>a/</sup>	SS/SC	SS/SC	SS/SC	Com	SS/SC	Com	Com	SS/SC	Com	SS/SC	SS/SC
Annual or perennial	Perennial	Annual	Perennial	Biennial	Annual	Perennial	Annual	Perennial	Perennial	Annual	Annual
Financing needs	High	Low	Low	High	Medium	High	Medium	High	High	Low	Low
Seasonal	No	No	No	Yes	No	No	No	Yes	No	No	No
Suitable for sea freight	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Fruit fly host	Yes	No	No	No	No	No	No	No	No	Yes/No	Yes
Established export	No	No	Yes	No	Yes	No	No	No	No	No	No
Exporter interest	No	No	Yes	No	Yes	Yes	No	Yes	No	No	No
Value addition?	No	No	No	No	No	Yes	Yes	Yes	Yes	No	No
Exports to New Zealand	No	No	Yes	No	Yes	No	No	No	No	No	No
Exports to Australia	No	No	Yes	No	No	No	No	No	No	No	No
<b>Demand issues</b>											
Target demographic sector(s)	Pacific	Pacific Asian	Pacific Asian	General population	Pacific	General population	General population	Pacific	General population	Asian	General population
Market size	Large	Small	Small	Large	Small	Large	Large	Very small	Medium	Medium	Large
Domestic competition	High	Low	Low	High	Low	Low	High	None	None	High	High
Type 1, 2 or 3 <sup>b/</sup>	3	3	1	2	2	1	1	3	1	1	1
Australian import policy	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Target market(s)	Melbourne	Melbourne, Brisbane	Melbourne, Brisbane	Melbourne	Melbourne	Brisbane	All	All	All	Brisbane	Brisbane
Price seasonality	Low	Low	Low	Medium	Low	Low	Low		Low	High	High

<sup>a/</sup> SS/SC = semi-subsistence/semi-commercial; Com = commercial

<sup>b/</sup> Type 1 = existing markets that can be immediately expanded; Type 2 = market opportunities that can be developed in a short period; Type 3 = opportunities that could possibly be exploited in the longer term.

### 3.3.1 Bananas

#### Supply Issues

- Bananas are a principal food staple in Solomon Islands and are grown in large quantities over the entire country.
- Production is mostly within semi-subsistence/semi-commercial farming systems.
- Not currently an established export crop and no exporters are known to be interested.
- Quality and storage life limit potential for exports.
- Bulky, perishable crop that requires very good transport and storage infrastructure.
- Limited possibilities for value addition.

#### Demand Issues

- Mostly cooking varieties, which are a very minor part of the Australian banana market.
- Fruit fly and other pest/disease issues make Australian market access very unlikely.
- Banana imports to Australia are not permitted for any country.
- Australian market is large but with strong competition from Queensland producers.
- Australian Banana Growers Council would campaign very strongly against any moves to import fruit from Solomon Islands.

#### Conclusions re: Bananas

- Very limited prospects for profitable access to the Australian market.
- No banana exporting country has ever succeeded in accessing the Australian market.
- Development of an export protocol for bananas would be extremely difficult, with no guarantee of success.
- **Low priority.**

### 3.3.2 Cassava

#### Supply Issues

- Widely produced and in large volumes throughout Solomon Islands.
- Mainly produced within semi-subsistence/semi-commercial farming systems.
- Grown as a food crop – not used for agro-industrial purposes.
- Annual crop, non-seasonal, easy to grow by smallholders.
- Semi-perishable but could be exported by refrigerated sea freight.
- Not currently an established export crop and no exporters are known to be interested.

#### Demand Issues

- Approved for export from all PICs to Australia.
- Small domestic market, mainly confined to Pacific Islanders and Asians.
- Limited domestic competition.
- Australian prices are not attractive relative to prices in the Solomon Islands domestic market.

#### Conclusions re: Cassava

- Cassava is a low value, bulky and semi-perishable product with limited prospects for profitable access to the Australian market.
- Other PICs have established marketing pathways for cassava (fresh and frozen).
- **Low priority.**

### 3.3.3 Coconuts

#### Supply Issues

- Vitrally important crop in most rural and coastal communities.
- Grown mainly as a semi-subsistence/semi-commercial crop with no inputs other than labour.
- Total production about 26,000 tonnes per annum.
- Semi-perishable but can be exported by refrigerated sea container. Shipping services are adequate.
- Can be used for a range of value-added products, including copra, coconut oil, biofuel, timber, coconut cream, etc.
- Mature fresh coconuts are currently being exported to Australia and New Zealand by sea freight. The exporter is eager to expand exports.

#### Demand Issues

- Approved for export from all PICs to Australia.
- Demand for dry nuts in Australia is modest (about 2,600 tonnes) but has increased significantly in recent years.
- There is almost no competition from domestic suppliers.
- Other countries exporting coconuts to Australia include Thailand, Samoa and Tonga.
- The Australian market for fresh drinking nuts is small but developing rapidly.
- Retail prices are high – around A\$2.50 per dry nut and A\$2.80 for drinking nuts (SBD17.50 and 19.60 respectively).
- Wholesale prices are around A\$24–29 per bag of 20–22 nuts (equivalent to SBD7–8 per nut).
- Supermarkets are keen to increase turnover of coconuts but require full traceability and Hazard Analysis and Critical Control Points (HACCP) certification.

#### Conclusions re: Coconuts

- Coconuts are currently being exported and there is potential for expansion and diversification into fresh drinking nuts.
- The logistics of collecting nuts on the outer islands and transporting them to Honiara to assemble export shipments impose significant costs.
- However, the marketing margins (see value chain analysis in Appendix D) are adequate to cover these costs.
- Established export with **high priority** for expansion and diversification.

### 3.3.4 Pineapples

#### Supply Issues

- Solomon Islands produces very high quality rough leaf pineapples.
- Most of the production is on Malaita, with the fruit transported in bunches by ship to Honiara market.
- Fruit handling in the domestic marketing pathway is below the standard required for export.
- There is significant seasonality in production.
- Pineapples are one of the few crops grown by small-scale commercial growers specifically for the domestic market (rather than subsistence).
- Prices in the domestic market vary between SBD10 and SBD20 per fruit, depending on size and the volume on offer.

#### Demand Issues

- Approved for export from Solomon Islands (also Philippines, Sri Lanka and Thailand) to Australia, but with strict conditions regarding grower registration and pest/disease monitoring.
- The Australian market for pineapples is mainly supplied from Queensland producers, with very limited imports from the Philippines and Sri Lanka.
- Prices in Melbourne (see Appendix C) are higher than in Brisbane and range between A\$20 and A\$25 per carton (14–16 fruits).
- Rough leaf pineapples sell for a premium of around 30% over other varieties and are in short supply in March–April–May.
- Wholesale prices in Melbourne would yield a net return to an exporter of no more than SBD 6–7 per fruit, with the possibility of losing money on some shipments.

### Conclusions re: Pineapples

- Despite the very high quality of Solomon Islands pineapples, the prospects for establishing a profitable export marketing pathway are limited.
- The cost of sending pineapples to Australia by refrigerated sea container, plus quarantine and customs clearance, wholesale agent's fees, etc., would make pineapple exporting marginally profitable at best and rather risky.
- Selling pineapples in the domestic market yields higher net returns.
- **Low priority.**

### 3.3.5 Taro

#### Supply Issues

- Taro is not a major food staple in Solomon Islands – cassava and sweet potato are much more widely available.
- The costs of transporting taro from outer islands to Honiara for export would be substantial.

#### Demand Issues

- Approved for export from Solomon Islands to Australia.
- Small market, which is adequately supplied by well-established PIC exporters, particularly Fiji, and some domestic production.

### Conclusions re: Taro

- Solomon Islands does not have an adequate supply base to develop a taro export industry.
- Taro is a low value perishable commodity with high internal transport costs.
- **Low priority.**

### 3.3.6 Coffee

#### Supply Issues

- Solomon Islands can produce good quality Arabica coffee above about 1,500 metres.
- Production collapsed during the tensions and is in the early stages of recovery.
- There is one local processor (Varivao Holdings) that sells roasted and packaged coffee on the domestic market under the "Solomon Gold" brand as an organic product.
- The local processor procures parchment coffee from groups of growers on Isabel and Guadalcanal, amounting to less than ten tonnes per annum.

#### Demand Issues

- Approved for export from Solomon Islands to Australia.
- The domestic market can currently absorb all of the roasted coffee produced, with the deficit made up by imports from Papua New Guinea.
- The Australian coffee market is highly quality conscious and highly competitive, with prices generally below those available in the domestic (Solomon Islands) retail market.
- The major coffee importers are not interested in the low volumes currently available from Solomon Islands.
- Some specialty / single origin and organic coffee dealers may be interested in small volumes.

### Conclusions re: Coffee

- Solomon Islands does not currently have an adequate supply base to develop a coffee export industry.
- However, if coffee production continues to expand, exports will need to be considered at some point. In the interim, however, the domestic market offers the best opportunities.
- The specialty / single origin and organic coffee dealers in Australia and tourist hotels in Fiji should be considered as target markets when significant volumes of coffee become available for export.
- **Low priority** for the time being but with good potential in the long term.

### 3.3.7 Honey

#### Supply Issues

- Solomon Islands has previously exported small amounts of honey to New Zealand and Malaysia. However, most production capacity was destroyed during the tensions.
- Production has been severely adversely affected following the introduction of the invasive Asian Honey Bee in the early 2000s.
- Island Beekeeper Supplies provides hives and buys honey from beekeepers.
- Production is recovering and there are now some 3–4,000 hives.
- However, production is still only about 20% of the level before the tensions.
- Honey dealers currently have very little honey for sale.

#### Demand Issues

- Approved for export from Solomon Islands to Australia.
- Island Beekeeper Supplies pays local beekeepers SBD35 per kg for honey.
- This price is about 25% higher than prices received by beekeepers in Australia and the United States.
- The domestic market for honey is strong and growing, and Island Beekeeper Suppliers has no interest in exporting.

#### Conclusions re: Honey

- The domestic market is likely to absorb all of the honey produced for several years at least, and offers attractive prices.
- **Low priority** as an export.

### 3.3.8 Canarium (Ngali) Nuts

#### Supply Issues

- Indigenous nut, harvested from scattered wild trees in most parts of Solomon Islands.
- No commercial plantation-type production and wide variability in varieties and product characteristics.
- Popular snack food sold as fresh nuts in banana leaf wrappings in local markets and shopping centres.
- Nut Growers Association of Solomon Islands (NGASI) is an NGO that aims to promote production and marketing of indigenous nuts.

#### Demand Issues

- *C. indicum* and several other species approved for export from Solomon Islands to Australia.
- Widely known and appreciated as a snack food in markets throughout Melanesia and South East Asia.
- Not yet a recognised internationally traded commodity, although Papua New Guinea is making efforts to commercialise Canarium (known in Papua New Guinea as galip nut) production and marketing.

#### Conclusions re: Canarium (Ngali) Nuts

- Canarium (Ngali) nuts are a harvested wild product that is not produced commercially, although some are sold for cash in the local market. Lack of consistency of supply and quality are significant constraints.
- Papua New Guinea (with donor support) is making efforts to develop Canarium as a commercial crop and there are promising indications that this will be successful in the long term. The Pacific Agribusiness Research for Development Initiative (PARDI) program is also working with stakeholders in Solomon Islands and Vanuatu to improve processing techniques and examine potential export markets, including Australia (particularly tourism-related exports in Vanuatu).
- However, in the short term, Solomon Islands has very limited capacity to produce for export.
- **Low priority** for the time being, but continue to monitor developments in Papua New Guinea and Vanuatu. PHAMA will maintain links with the PARDI program and its value chain and market development work.

### 3.3.9 Vanilla

#### Supply Issues

- Supply has contracted in recent years.
- Very high value commodity but extremely labour and skill-intensive to produce satisfactorily.
- The number of vanilla growers has reduced from more than thirty to less than ten.
- There is one local dealer (Varivao Holdings) that sells packs of 1–5 beans in the domestic market.
- Total production of cured beans is only 150–200 kg per year.
- Prices are around SBD180–200 per kg for cured beans.

#### Demand Issues

- Approved for export from Solomon Islands to Australia.
- Internationally traded commodity.
- Australian importers are not interested in small volumes available from Solomon Islands.

#### Conclusions re: Vanilla

- Very high value commodity that grows well in Solomon Islands.
- **Low priority** due to the insignificant amount of vanilla currently produced.

### 3.3.10 Chillies

#### Supply Issues

- Generally available in fresh produce markets all year round but in low volumes.
- Mainly grown as a backyard crop for home consumption, with small amounts sold in local markets.
- Not currently produced with quantity or quality suitable for export.
- Range of varieties produced, including birdseye and habanero types.
- Good smallholder crop – labour intensive nature gives Solomon Islands an advantage in the Australian market.
- Can be produced year round, but easier in the dry season, which corresponds with the seasonal price peak in Australia.
- Not recognised as a fruit fly host in immature form.
- Also suitable for processing into dried products, sauces, capsicum spray, etc.

#### Demand Issues

- Not approved for export from PICs to Australia
- Mainstream commodity in the Australian market, with sales of at least 200 tonnes per month on the eastern seaboard.
- Sales volumes and prices increasing with the growing popularity of Asian foods.
- Many varieties of chilli represented in the Australian market.
- Australian costs of production are high due to the labour intensive nature of production.
- Average wholesale prices have remained above SBD50 per kg for most of the last six years. During 2012, prices ranged between SBD50 and SBD100 per kg.
- Birdseye red chillies consistently sell for 40–50% more per kg than other varieties.
- There is significant seasonality in chilli prices, with below average prices in March–April–May and premium prices in August–September–October.

#### Conclusions re: Chillies

- Chilli exports present a high margin / low volume business opportunity in the Australian market.
- Target the Brisbane wholesale market in the winter-spring period when prices are highest.
- Prospects are best for the smaller/hotter varieties such as birdseye and habanero.
- Solomon Islands has a natural comparative advantage due to seasonality and the labour intensive nature of harvesting, grading and packing.
- Value chain analysis (see Appendix E) indicates that the total gross margin available to growers and exporters is likely to be in the range of SBD15–35 per kg – average round SBD25 per kg.
- **High priority** – but would require substantial investment to develop the production base and collection, grading and packing facilities.

### 3.3.11 Eggplant

Supply Issues	Demand Issues
<ul style="list-style-type: none"> <li>Well supplied in the domestic market, mainly with long purple varieties.</li> <li>Fragile, highly perishable product requiring refrigeration.</li> <li>Mainly grown as a backyard crop for home consumption, with surpluses sold in local markets.</li> <li>Not currently produced with quantity or quality suitable for export.</li> </ul>	<ul style="list-style-type: none"> <li>Not approved for export from Solomon Islands to Australia.</li> <li>Eggplant is sold in fairly large volumes in all Australian wholesale markets.</li> <li>Total sales in the eastern seaboard wholesale markets are around 600 tonnes per month.</li> <li>There are many varieties sold, including large black (“continental”) types, smaller thin (“Lebanese”) types and small round (“Thai apple”) types.</li> <li>Long purple varieties are not widely used in the Australian market.</li> <li>Prices are only weakly seasonal but tend to be higher in winter and early spring.</li> <li>Fruit fly host that would require high temperature forced air (HTFA) treatment to be exported to Australia – Solomon Islands does not have an HTFA facility.</li> <li>Bulky commodity – wholesale prices are generally in the range of SBD7–10 per litre of carton volume (equivalent to SBD20–30 per kg), but sometimes fall to very low levels during periods of heavy supply.</li> </ul>

#### Conclusions re: Eggplant

- Export of eggplant from Solomon Islands would require the introduction and testing of new varieties to supply the major wholesale markets, with the smaller “Lebanese” and “Thai apple” types most likely to succeed.
- Eggplant is a relatively low value commodity in Australia with low bulk density and high perishability.
- Development of an export pathway would require establishment of an HTFA facility in Solomon Islands.
- The margins generated by air freight exports to Australia are unlikely to be commercially attractive and would very likely incur losses during periods of low prices.
- Low priority.**

## 3.4 Wholesale Market Characteristics

Of the eleven commodities evaluated in Section 3.3, only two – coconuts and chillies – are classified as high priority for exporting from Solomon Islands to Australia. This section presents a more detailed analysis of the market characteristics for these two commodities.

### Coconuts<sup>5</sup>

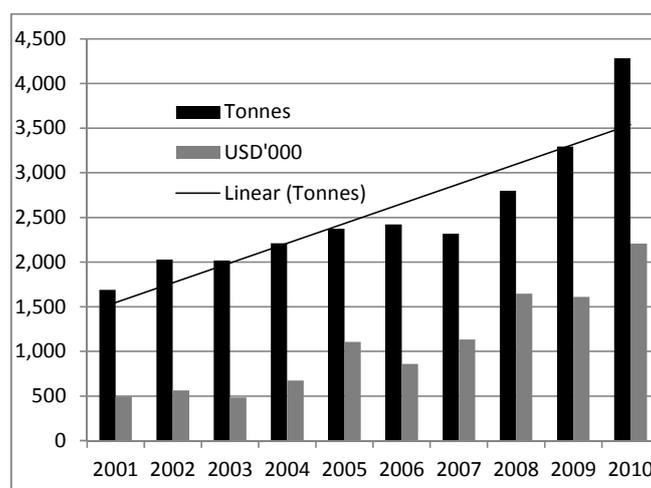
The Australian market for coconut products includes the following items:

- Coconut cream
- Coconut oil (including crude, refined/bleached/deodorised and DME [direct micro expelling] extra virgin oil)
- Activated carbon from coconut shells
- Desiccated coconut
- Copra and copra meal
- Fresh mature coconuts.

<sup>5</sup> Source: Pacific Islands Trade and Investment Commission (2009) “Exporting Coconuts from the Pacific Islands”

The analysis here focuses on fresh mature coconuts, often known as “dry nuts”. The Australian market for coconuts is distinctive in that it is one of the only fresh produce lines that is supplied entirely by imports. Exporters from Solomon Islands therefore compete with other exporters, principally Thailand, Samoa and Tonga. Coconuts are approved for export from all PICs to Australia provided husks are removed, subject to the usual phytosanitary certification and inspection on arrival. Coconuts with husks require methyl bromide fumigation.

**Figure 3-2 Australian imports of coconuts 2001–2010**



Source: FAO statistics

Figure 3-2 shows that total Australian imports of coconuts increased from 1,700 tonnes in 2001 to almost 4,300 tonnes in 2010, a compound annual growth rate of 11%. Between 2007 and 2010, the volume imported increased by 85%. Most of these imports were fresh mature nuts. On the basis of wholesale market turnover (see Appendix C, Figure C-6), it is estimated that the total Australian market for coconuts is currently around 5,000 to 5,500 tonnes and continuing to grow. Prices have also increased significantly – from around US\$290 per tonne in 2001 to US\$516 per tonne Cost Insurance and Freight (CIF) in 2010. Thailand is the largest supplier, with Samoa and Tonga being the main sources within the PICs.

The largest markets for fresh mature coconuts are Sydney and Melbourne. These two cities consume almost 75% of all the fresh coconuts sold in Australia, because of their larger Asian and Islander communities.

Fresh coconuts are permitted duty free entry into Australia from all sources. There are no quarantine restrictions in Australia on de-husked fresh coconuts. Fresh de-husked coconuts are, however, subject to quarantine inspection and shipments that are found to contain any soil or pests are either fumigated in Australia or destroyed. Quarantine officials are particularly concerned about the possible presence of African snail and any shipments found to contain this pest have to be destroyed.

Fresh coconuts are imported by a relatively small number of specialist fruit and vegetable importers/wholesalers. The importers sell to the large supermarket chains (Coles, Woolworths, Franklins, Aldi) and the independent retail outlets, mostly through their operations at the centralised fruit and vegetable markets in Sydney and Melbourne.

Over the last six years, wholesale prices in Melbourne (see Appendix C) have mostly been in the range of A\$25–30/bag (18–22 nuts), equivalent to A\$1.00–1.20 per nut. In SBD terms, prices in 2012 were around SBD9.50 per nut. The most common size of fresh coconuts sold in the market is 10–13 cm in diameter. Ideally, all the coconuts should be close to 11.5 centimetres in diameter. Importers and retailers are very particular about the size of the coconuts they buy. They do not want mixed bags of coconuts as they have found from experience that the consumers always pick the larger nuts, leaving the smaller nuts behind. Suppliers must, therefore, pay very careful attention to the grading of the coconuts.

Usually the larger nuts are packed 18–20 per red-net bag and the smaller ones at 22 per bag. In the past, the preference was for very tight packaging of 25–30 nuts in polypropylene bags. Exporters are now required to use new netting bags. The nuts should be packed as tightly as possible – this helps to prevent breakages. There was a move in the past to pack between 12 to 15 coconuts in cardboard cartons, but this did not prove successful.

The major problem encountered by Australian importers is the quality of the coconuts sourced from overseas. The coconuts must be harvested close to the shipment date and old coconuts will not be accepted. Any coconuts that have begun to germinate will be rejected. The nuts should be sorted and graded at the point of collection, and re-sorted prior to stowing in the container. Prior to shipment, the coconuts must be stored in a cool area to prevent spoilage.

The importers insist on refrigerated containers for freight to Australia. They have found that the extra cost of the refrigerated container is more than justified by the much lower spoilage rate. Approximately 800–900 red-net bags of 20–22 coconuts can be shipped in a refrigerated container. The larger importers will order 30 containers a year (that is, around 500,000 nuts per year). During the peak period – just prior to school holidays – up to ten containers may be ordered in the one month. The most widely available pacific coconuts are sold under the “Jungle Produce” brand and are sourced mainly from Samoa. The importer/distributor is FMP Marketing Pty Ltd (see box below).

**FMP Marketing Pty Ltd** is a family-owned Australian company that has been involved in the importation of fresh mature coconuts and dried fruit to Australia since the 1970s. Their mature brown coconuts come from Samoa and Tonga, with the revenue from coconuts important at the grass roots of village income in both countries.

Their coconuts are distributed to supermarkets under the “Jungle Produce” brand, each coconut bearing a “Coconut Kid” label. FMP Marketing supplies Woolworths and Coles supermarkets on a national basis and they hold HACCP, Coles and Woolworths Quality Assurance certifications to international standards.

Source: <http://www.fmpmarketing.com.au/about-our-company.asp>

A recent development in the Australian market has been the rising popularity of coconut water as a beverage. Fresh drinking nuts are being imported from Thailand by air freight and are retailing through supermarkets for around A\$3.00 per nut, with three branded products available. Packaged coconut water is also being offered in UHT (ultra-heat treated) cartons. Most of this is also sourced from Thailand.

## Chillies

In contrast to coconuts, chillies are supplied entirely from domestic sources. During 2012, all of the chillies traded in the Brisbane wholesale market were sourced from Queensland. There were no recorded sales of imported chillies or even sales from other Australian states. The absence of imports reflects the fact that there is no approved import procedure for supply of chillies from any PIC or from Asia, although imports are approved from Europe under strict conditions. However, Fiji has submitted a market access request with support from PHAMA.

Appendix C presents detailed market information for chilli in the Brisbane wholesale markets. Prices for chilli are quoted per kg and incorporate a range of varieties in the following broad categories:

- Small birdseye types, which may be green, yellow or red
- Long chillies similar to the hot rod and red fire varieties grown in a number of PICs
- Habanero types similar to chilli “bongo” produced in Fiji
- Jalapeno chillies
- Larger fleshy and sweet types, in various colours, often known as “bull horns”.

Wholesale chilli prices have generally been between A\$5 per kg and A\$10 per kg for most of the last six years, except for a marked price spike in 2011 related to the Queensland flood earlier in that year. In SBD terms, average wholesale prices have remained above SBD50 perkg for most of the last six years. During 2012, prices ranged between SBD50 and SBD100 per kg.

There is significant seasonality in Brisbane chilli prices, with below average prices in March–April–May and premium prices in August–September–October. Retail prices are in the A\$20–30 range. There are large differences in prices for the different types of chilli, with birdseye red chillies consistently selling for 40–50% more per kg than other varieties. Habanero varieties also sell for higher prices. This suggests a favourable seasonal price window and varietal selection for chilli from Solomon Islands.

Monthly average sales of chilli in the Brisbane market have doubled from 20 tonnes to 40 tonnes over the last five years. This reflects the growing popularity of Asian and other spicy foods in Australia. If throughput levels are similar in Sydney and Melbourne, the eastern seaboard wholesale market for chilli would total about 2,300 tonnes.

There is no standard carton size for chillies, but the most common is a plastic lined carton of around 20 litres containing about 5 kg of produce.

In common with most other horticultural products, there is growing emphasis on product quality, packaging and labelling, as well as traceability in the supply chain. Certification and quality assurance programs are increasingly important. Consumers want to know where their product is from and how it is grown.

## 4 Value Chain Analysis

### 4.1 Overview

The value chain analyses in Appendix D (coconuts) and Appendix E (chillies) present a scenario of the estimated costs and revenues of a fully functional and vertically integrated system for exporting coconuts and chillies from Solomon Islands to Australia. The export pathway is assumed to be by sea freight to Melbourne in the case of coconuts and by air freight to Brisbane for chillies.

In the case of **coconuts**, all elements of the value chain are in place and functioning to some extent and there are no significant market access barriers. This is also the case in several other PICs (Samoa and Tonga) that are exporting coconuts to Australia. Increasing the volume of exports, improving value chain efficiency through better transport and storage logistics, and/or diversifying into fresh drinking nuts all represent fairly low cost / low risk initiatives.

Most of the elements of the value chain for **chillies** are not currently in place. The analysis in Appendix E is based on a fully integrated system with contract growers, a collection system, packing facilities, cold storage and an exporter consigning regular shipments to an importer/wholesaler in Brisbane. It is recognised that such a system would require considerable investment and development over a number of years, probably incurring losses initially while volumes are low and the skills of the growers and exporters are developing. Initially, several years of work would be required to develop a market access protocol for chillies<sup>6</sup>, in parallel with initiatives to select suitable varieties, develop agronomic packages, train a core group of growers and build capacity amongst potential exporters.

However, the analysis shows that there is potential to establish a profitable and sustainable export industry in Solomon Islands based on chillies or similar high value horticultural products. The keys to success are the selection of a commodity that sells for high prices, with a seasonal price premium during the winter months. The key elements of an export industry of the type envisaged include the following:

- A commercial chilli growing operation as a nucleus farm that is able to provide planting material and technical support to outgrowers;
- A group of outgrowers, each growing chillies on a commercial basis under contractual arrangements with the nucleus farm;
- MAL undertaking varietal screening and agronomic work to develop guidelines for chilli growing, and providing training and extension services to the outgrowers, preferably making use of low cost grower-to-grower learning methods based on the Farmer Field School approach;
- An exporter (probably the same business entity as the nucleus farm) that collects chillies from the outgrowers, grades and packs them for export, arranges the necessary export inspection and certification, and consigns the produce to an importer. This will require access to a packhouse facility with appropriate cold storage capacity;
- SIAQS, which will be required to inspect and certify material for export as required by the importing country (in this case AQIS in Australia);
- A freight forwarding business to arrange air freight to Brisbane, together with the necessary export documentation;

<sup>6</sup> This could be coordinated with similar initiatives by PHAMA to gain market access for chillies from Fiji and Tonga (currently being assessed).

- An importer based in Brisbane who can arrange customs and quarantine clearance, transport and storage of the produce in the appropriate conditions and sale to retail customers; and
- An independent auditor to verify that all transactions between the partners are fully transparent and properly documented.

## 4.2 Value Chain Methodology

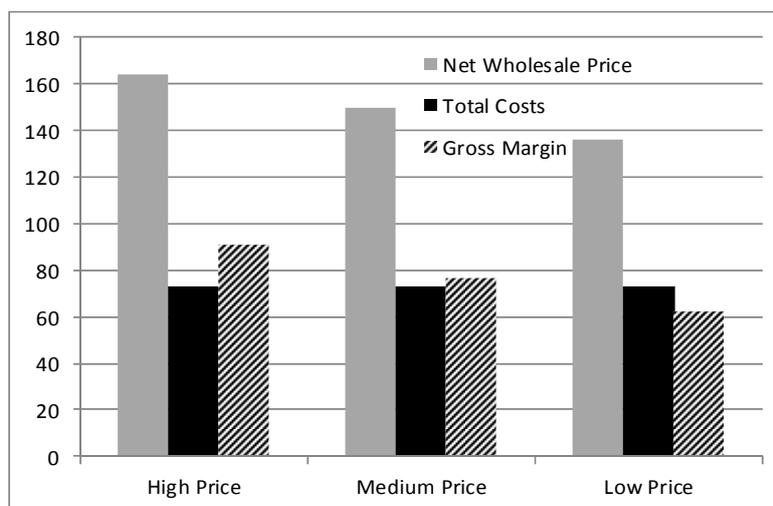
To assess the commercial feasibility of exporting the selected items from Solomon Islands, two value chain analyses have been conducted. The analysis for coconuts (Appendix D) demonstrates the costs and revenues for an existing export commodity that could be expanded or diversified at relatively low cost and low risk. The analysis for chillies (Appendix E) represents a system that would require considerable investment to establish over a number of years, which is clearly a very different proposition involving considerable risk, and almost certainly requiring external funding. Coconuts are already approved for export to Australia, whereas chillies are not.

The analyses estimate the costs incurred at the various stages along the value chain, including: (i) on-farm production costs; (ii) collection and transport costs from farm to packhouse, involving inter-island transport in the case of coconuts; (iii) costs of grading and packing; (iv) cost of transport from Solomon Islands to Australia by sea (coconuts) or air (chillies) and cost of quarantine inspection and clearance in Australia; and (v) the wholesale market revenue after allowance for product losses and agent's commission. This information is used to estimate the total gross margins available to Solomon Islands growers and exporters based on high, medium and low wholesale prices, with the high and low range being around 20% above/below the medium price.

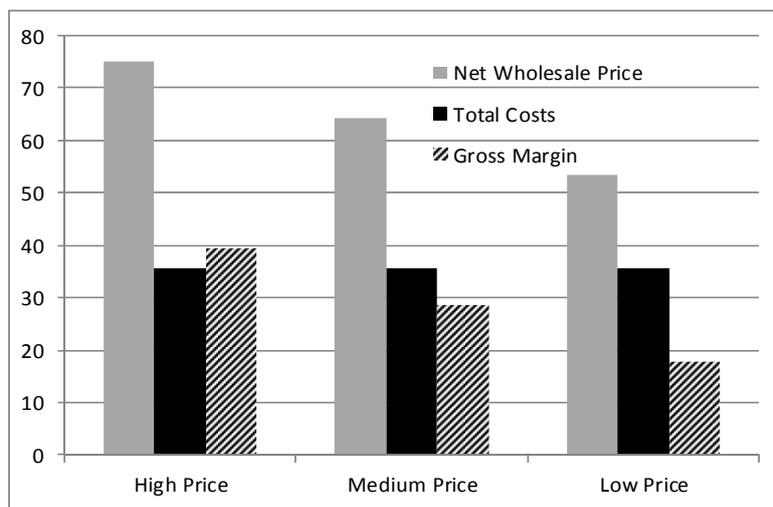
## 4.3 Results of the Value Chain Analysis

Results of the analysis are summarised in Figure 4-1 and Figure 4-2 below and detailed in Appendix D and Appendix E, together with all of the key assumptions on costs and revenues.

**Figure 4-1 Summary of value chain analysis for coconuts (SBD per bag)**



**Figure 4-2 Summary of value chain analysis for chillies (SBD per kg)**



## 4.4 Coconuts

The coconut value chain analysis shown in Appendix D, Tables D1 to D-6 is based on the export of fresh mature (dry) coconuts by refrigerated sea container to Melbourne for sale through the Melbourne wholesale market. Melbourne is the preferred market because of the regular direct shipping service and the slightly higher prices for coconuts than the other major east coast cities. The coconuts would be collected and de-husked on outer islands, packed in poly-sacks (25 nuts per sack) and transported to Honiara by sea. They would then be graded and re-packed into new red-net (onion type) bags in a packhouse in/near Honiara and transferred to a refrigerated container (900 bags x 20–22 nuts per bag = 19,000 nuts per container) and shipped to Melbourne. The wholesale price in the Melbourne market is expected to be between A\$24 and A\$29 per bag, depending on size and quality.

Figures C-7 and C-8 in Appendix C show that wholesale coconut prices in Melbourne over the last two years have averaged about A\$26.50 per bag, with a range of between A\$24 per bag and A\$29 per bag, depending on quality and demand. After allowing for 5% losses and 15% agent's commission, this amounts to a net wholesale price per bag shipped of between about SBD136 and SBD164, to be shared between the exporter and the growers.

Tables D-5 and D-6 in Appendix D show the costs, revenues and gross margins per bag shipped over the entire value chain. Total gross income (net wholesale price) would be in the range of SBD136–SBD164 per bag, to be shared between the growers and the exporter. If the growers are paid SBD34 per bag shipped (equivalent to their cash costs plus the value of their labour at SBD25 per day), this would generate a gross margin for the exporter of between SBD31,400 (A\$4,500) and SBD45,500 (A\$6,500) per container (see Table 4-1)

**Table 4-1 Estimated returns to growers and exporter: coconuts**

Exporter's margins	Wholesale Price		
	High	Medium	Low
Net wholesale price (SBD/bag)	164	150	136
Less grower return (SBD/bag)	31	31	31
Less packing and transport costs (SBD/bag)	42	42	42
Gross margin (SBD/bag)	91	77	63
Gross margin (SBD/container)	45,531	38,466	31,400
Gross margin (AUD/container)	6,504	5,495	4,486

On this basis, coconut exporting is a moderately profitable and fairly low risk activity which is well suited to the capacity of Solomon Islands growers and exporters.

## 4.5 Chillies

The chilli value chain analysis shown in Appendix E, Tables E-1 to E-7 is based on the export of birdseye chillies by air freight to Brisbane. Brisbane is the preferred market because of the regular air service operated by Solomon Airlines. Birdseye is the recommended variety because its production is more labour intensive than other chilli varieties, giving Solomon Islands a competitive advantage and because it attracts considerably higher prices than other varieties in the Brisbane market. Production would be undertaken by a number of small growers operating in partnership with an exporter. There would be one crop per year targeting the August–September–October period in Australia, when prices are generally about 20% higher than in other months. The exporter would organise a collection round about three times a week, with the produce graded and packed for export in a packhouse in or near Honiara. The wholesale price in the Brisbane market is expected to be between A\$10.00 and A\$14.00 per kg, depending on quality and competition, although higher prices are sometimes available.

Chillies are not currently produced commercially in Solomon Islands, so there is no information available on costs and revenues. The cost estimates shown in Table 4-2 are therefore based on budgets for chilli production in Fiji. The cost of collection and transporting produce from the smallholder growers to an export packhouse are based on three collection rounds per week, with field crates dropped off in the morning and the produce collected in the afternoon. Collection would be undertaken in a 2 tonne truck. The chillies would be sorted and graded in a packhouse in or near Honiara. This would involve grading for size, maturity, colour etc, removal of any defective material and packing in plastic lined cartons imported from Fiji.

The largest costs incurred in the value chain are air transport to Brisbane and quarantine inspection and customs clearance. The cost of air freight to Brisbane is SBD11.20 per kg, plus fees for the airwaybill and phytosanitary certificate. AQIS inspection and customs agent fees in Brisbane amount to A\$800 and A\$550 per consignment, respectively. Together, the total cost of transport and quarantine clearance amounts to SBD23 per kg shipped. Because the AQIS and customs agent fees are per shipment, cost per kg would be somewhat reduced by shipping larger amounts per consignment.

Figures C-17 and C-18 in Appendix C show that wholesale chilli prices in Brisbane over the last two years have generally ranged between A\$8 and A\$15 per kg. However, this is an average of all chilli varieties. Birdseye chillies sell for substantial premiums due to the labour intensive nature of

production. There is also a seasonal premium during the winter-spring period when local supplies are at their lowest. On this basis, birdseye chillies exported from Solomon Islands are expected to sell for between A\$10 per kg and A\$14 per kg, occasionally higher. After allowing for 10% losses and 15% agent's commission, this amounts to a net wholesale price per kg shipped of between about SBD53 and SBD75.

Tables E-6 and E-7 in Appendix E show the costs, revenues and gross margins per kg shipped over the entire value chain. Total gross income (net wholesale price) would be in the range of SBD55–SBD75 per kg, to be shared between the growers and the exporter. If the growers are paid SBD15 per kg shipped (SBD11.25 per kg collected) (equivalent to their cash costs plus a margin, plus the value of their labour at SBD25 per day), this would generate a gross margin for the exporter of between SBD8,030 (A\$1,150) and SBD29,450 (A\$4,210) per one tonne consignment (see Table 4-2). On this basis, the growers would generate a total cash return of about SBD48,000 per hectare (A\$6,800) or SBD38,000 per hectare (A\$5,400) if the cost of labour at market prices (SBD25 per day) is included.

**Table 4-2 Estimated returns to growers and exporter: chillies.**

Exporter's margins	Wholesale Price		
	High	Medium	Low
Net wholesale price (SBD/kg)	75	64	54
Less grower return (SBD/kg)	15	15	15
Less packing and transport costs (SBD/kg)	31	31	31
Gross margin (SBD/kg)	29	19	8
Gross margin (SBD/tonne)	29,453	18,743	8,033
Gross margin (AUD/tonne)	4,208	2,678	1,148

On this basis, chilli exporting is likely to be a profitable activity, but one which would require considerable capacity development and industry organisation at both production and marketing levels.

## 5 Conclusions and Recommendations

### 5.1 Priority Commodities

Of the eleven commodities evaluated, only two – coconuts and chillies – appear to have reasonable prospects for export from Solomon Islands to Australia. This reflects the inherently difficult status of Solomon Islands as an exporter of horticultural and agricultural commodities, particularly in relation to infrastructure limitations, the capacity of the private sector to export non-traditional products, and the ability of national institutions to provide the necessarily technical support and regulatory services.

There are three main reasons why most of the eleven commodities are considered low priority (see Table 5-1). The quarantine barrier for bananas is considered to be insurmountable, since no banana exporting country has ever succeeded in accessing the Australian market. In the short–medium term, the quarantine barrier for eggplant is also insurmountable, since it is a recognised fruit fly host and Solomon Islands does not have the necessary HTFA treatment facilities. Eggplant is also a low value commodity in Australia with strong domestic competition and prices too low to cover the cost of air freight. Cassava, pineapples and taro could all be exported by sea freight, but prices are generally unattractive. In the case of pineapples, there is strong competition from domestic suppliers (with better prices obtainable in the Honiara market) and for cassava and taro there is strong competition from other well-established PIC exporters. Five of the remaining commodities are unsuitable for export at present because of domestic supply limitations. These include taro, coffee, honey, Canarium (ngali) and vanilla. However, coffee production is recovering and it may become a serious candidate for export to specialised niche markets in a few years' time. Export development work on Canarium in Papua New Guinea and Vanuatu may also result in an export driver developing for Canarium in the future.

**Table 5-1 Principal reasons for exclusion**

<b>Commodity</b>	<b>Insurmountable quarantine barrier</b>	<b>Low prices/strong competition in Australia</b>	<b>Domestic supply limitations</b>
Bananas			
Cassava			
Pineapples			
Taro			
Coffee			
Honey			
Canarium (ngali)			
Vanilla			
Eggplant <sup>a/</sup>			

<sup>a/</sup> Fruit fly host requiring HTFA treatment.

The factors contributing to the positive assessment for coconuts and chillies are summarised in Table 5-2 below.

**Table 5-2 Factors contributing to positive assessment**

<b>Coconuts</b>	<b>Chillies</b>
<ul style="list-style-type: none"> <li>• Widely grown throughout Solomon Islands – no supply constraints.</li> <li>• Currently being exported to Australia and New Zealand.</li> <li>• Easy to transport – low perishability.</li> <li>• Suitable for transport to Australia by refrigerated sea container.</li> <li>• No significant quarantine barriers for de-husked nuts.</li> <li>• No domestic competition in the Australian market.</li> <li>• Australian market is expanding.</li> <li>• Potential for diversification into fresh drinking nuts.</li> <li>• Value chain analysis demonstrates that gross margins are likely to be attractive.</li> </ul>	<ul style="list-style-type: none"> <li>• Very high prices available in the Australian market for selected varieties during the winter months.</li> <li>• Reasonable prospects of being able to achieve market access.</li> <li>• Not currently an approved import from PICs or Asia – therefore no competition from other exporters at present.</li> <li>• Labour intensive production gives Solomon Islands a competitive advantage over Australian producers.</li> <li>• Value chain analysis demonstrates that gross margins are likely to be attractive.</li> </ul>

## 5.2 Recommendations

The two priority commodities differ widely in their marketing characteristics and potential, and call for very different approaches. **Coconuts** are an established export with a large production base, no significant market access problems and the potential to be expanded and diversified at relatively low risk. This suggests two main activities that PHAMA could facilitate and include in its 2013–2014 annual work program:

- Support to the existing coconut exporter to expand and diversify his exports to Australia through developing quality control (such as HACCP) and traceability procedures to allow access to higher value market sectors such as the supermarkets and fresh drinking nuts.
- The development of detailed marketing guidelines and model budgets for coconut exporting and the provision of training to encourage other enterprises to take up coconut exporting.

**Chillies** represent a longer-term and riskier export marketing opportunity. The first step would be to lodge a market access application, and develop a set of market access protocols over the next two years or so. Only when this has been successful would it be prudent to invest in developing production capacity and undergoing trial shipments.

For both commodities, there may be opportunities for PHAMA to work with other development partners on establishing or improving export supply chains. Potential partners include Australian Centre for International Agricultural Research (ACIAR), PARDI (AusAID funded), Increasing Agricultural Commodity Trade (IACT) (European Union funded), the Solomon Islands Rural Development Programme (RDP – World Bank / AusAID / International Fund for Agricultural Development funded), which works with the Ministry of Agriculture, and the Enhanced Integrated Framework Project (EIF) and Standards and Trade Development Facility, both of which are based with the Solomon Islands Department of Foreign Affairs and External Trade.

The limited number of high priority export commodities identified in this feasibility study also has implications for the strategic direction of PHAMA in Solomon Islands. In particular, the findings strongly support the current PHAMA strategy of focusing efforts on the three principal export commodities (fish, timber and cocoa) with quality assurance, testing and certification services. These ongoing activities are expected to generate immediate and significant benefits and with lower risks compared to the development of new export marketing channels for non-traditional exports.

## 6 Limitations

URS Corporation Pty Ltd (URS) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of AusAID and only those third parties who have been authorised in writing by URS to rely on the report. It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this report. It is prepared in accordance with the scope of work and for the purpose outlined in the Contract dated 20 January 2011.

The methodology adopted and sources of information used by URS are outlined in this report. URS has made no independent verification of this information beyond the agreed scope of works and URS assumes no responsibility for any inaccuracies or omissions. No indications were found during our investigations that information contained in this report as provided to URS was false.

This report was prepared between 21 October 2012 and 25 January 2013 and is based on the conditions encountered and information reviewed at the time of preparation. URS disclaims responsibility for any changes that may have occurred after this time.

This report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties.

## Appendix A

# Appendix A Solomon Islands Market Access Strategy

### Strategic Vision

That Solomon Islands be sufficiently capable of gaining and maintaining appropriate market access for its agricultural products so as to facilitate increased and sustainable economic growth, and improved rural livelihoods, from improved export returns.

### Strategic Mission

To develop Solomon Islands' capability to address market access issues and opportunities by fostering effective private/public sector collaboration; establishing effective processes for considering and progressing market access issues and opportunities in a coordinated manner; and securing adequate resources to implement required capacity building in a well-planned, timely, cost-effective and sustainable way.

### Strategic Objectives

The strategic vision will be realised by pursuing the following objectives and their component activities.

#### **Objective 1: Establish an effective partnership mechanism between private sector and government to identify and progress market access issues and opportunities.**

Required Actions:

- Establish a representative working group on agricultural market access made up of appropriate private sector individuals and government staff (the Market Access Working Group).
- Establish defined terms of reference for this group's operation.
- Establish effective governance and communication procedures for this group, including reporting channels and linkages to other relevant industry and trade bodies and potential implementation partners.
- Establish approval for this group via a cabinet paper seeking endorsement of the strategy and providing a mandate for the group's operation.
- Establish sustainable funding support for the group's effective operation.
- Ensure mainstreaming of market access related work into government ministry planning cycles.

#### **Objective 2: Establish effective processes for identification of market access issues and opportunities and for prioritisation, allocation of resources, and coordination of the implementation of required activities to progress market access.**

Required Actions:

- Establish criteria and a systematic process for identification and assessment of agricultural products of sufficient value that warrant work to gain or improve market access to particular target markets (criteria should include economic significance, market demand, potential impact, financial viability, infrastructure requirements, quarantine barriers, level of private sector interest and costs of likely measures).
- Establish a process for prioritising work based on clear demonstrable and sustainable benefits in terms of improved economic returns and improved livelihoods (this may include export market feasibility assessments, value chain analysis, quarantine issue examination and research on product development).

## Appendix A

- Establish a documented process for identifying, planning and allocating the specific tasks needed to progress identified market access work.
- Establish structured work plans and responsibilities for identified market access issues.
- Establish monitoring and feedback systems to allow updating of work plans and effective communication of progress made to all stakeholders.
- Establish a yearly process of review of the overall efficacy of the strategic actions.

### **Objective 3: Establish sufficient capacity within MAL and the private sector to support implementation of market access activities.**

#### Required Actions:

- Establish capacity in MAL to update and maintain pest and disease lists.
- Establish capacity in MAL to negotiate quarantine standards with trading partners, and develop export protocols and certification systems.
- Establish capacity within MAL and private sector to access required technical information on quarantine standards and market information.
- Establish capacity within private sector and MAL to conduct required pre-export treatments.
- Establish capacity within private sector and public sector to meet quality and food safety standards and testing requirements.
- Establish infrastructure for specific commodities as may be required (e.g. treatment facilities, cool stores, storage facilities).
- Establish legislation that enables Solomon Islands to meet required biosecurity and trade standards and that facilitates the implementation of market access related work as required.

### **Objective 4: Secure sufficient resources to implement activities required and to complete required capacity building.**

- Utilise the strategy document to articulate resourcing needs to government, development partners and private sector.
- Establish effective linkages with potential regional and national resource providers and implementation partners to support implementation of required market access work and complete required capacity building in public and private sector.

### **Planning and Resource Allocation**

Implementation planning for the strategy is broken down into two levels:

- Action Plan for Implementation of the Strategic Objectives (2011–2015)
- Action Plan for Specific Priority Market Access Issues or Opportunities (2011–2012).

Implementation presents challenges in terms of resourcing. Government funding availability remains limited. Similarly, the industry base from which to seek private sector funding is currently often too small to finance some of the activities required, particularly when looking at product development and market feasibility. An important role of the MAWG will be to promote mainstreaming of market access related activities in public sector budget planning processes. As an example, it is expected that MAL annual budget and strategic planning cycles should, via SIAQS input, include consideration of the activities and resource needs identified.

Fortunately, significant opportunities currently exist to engage with several bilateral and multilateral donor funded programs to assist with implementation. It is expected that growth in the export sector as a result of improved market access will provide opportunities in the future for a larger funding base to

## Appendix A

be established to continue supporting the mechanisms for strategy implementation after an initial period of donor assistance. Details of relevant sources for this implementation assistance include potential engagement with:

- Pacific Horticultural and Agricultural Market Access Program (PHAMA)
- RDP
- PARDI
- Food Security and Sustainable Livelihoods Program
- Facilitating Agricultural Commodity Trade Project (FACT) / IACT
- Solomon Islands Enhanced Integrated Framework Project (EIF)
- ACIAR
- Australian Fumigation Accreditation Scheme
- Sea Container Hygiene Scheme
- Secretariat of the Pacific Community
- FAO
- Australian Department of Agriculture and Forestry (DAFF)
- AQIS
- Cocoa Livelihoods Improvement Programme
- Biosecurity New Zealand (MAFBNZ)

Coordination of the engagement with these programs and agencies will be a key role of the MAWG. In some cases, engagement will require regular communication with other national coordinating bodies (such as with the EIF Steering Committee, Coconut Secretariat and Cocoa Steering Committee). Consideration will need to be given at operational level as to how best to maintain effective communication links with these bodies.

In terms of resourcing, PHAMA will be of particular assistance in establishing the MAWG mechanisms and processes; providing secretariat-type support to MAWG operations and communications; and providing technical assistance to examine market access opportunities and issues. A degree of the capacity building work relating to biosecurity to underpin market access has also already begun with SIAQS utilising the assistance of RDP and PHAMA, and proposals for sustained capacity building assistance to SIAQS by MAFBNZ and DAFF are in development via SIAQS with the assistance of RDP. The availability of these funding resources provides an excellent opportunity to make significant progress towards the strategic objectives within the 2011–2015 timeframe.

### **Governance and Reporting Mechanisms**

The MAWG will meet regularly, based on the terms of an established charter including terms of reference. Representation will be drawn from across private and public sectors (such as MAL, Ministry of Commerce and Department of External Trade). Functions of the MAWG will be to assess market access issues and priorities against set criteria, develop action plans for specific activities, engage with potential resource providers, monitor implementation and communicate progress to stakeholders as part of a structured communication plan. Reporting against relevant government policy objectives will be conducted via MAL and the Ministry of Commerce. The MAWG will maintain regular communication with relevant industry and project steering committees and other forums to facilitate coordination and resource allocation. To assist with reporting and communication activities, PHAMA will initially fund a national coordinator position. In the longer term, should the continuation of that role beyond PHAMA be deemed necessary by the MAWG, consideration will need to be given to either

## Appendix A

absorption of the role into one of the Ministries or establishment of a funding mechanism shared with private sector to support the role and its related secretariat type support.

### **Implementation of Specific Market Access Activities**

The strategy includes a summary of the initial market access activities identified by stakeholders as priorities for action in 2011–2012. Included are definitions of basic justification, required tasks, required resourcing and any progress to date. These market access priorities have been established based on the findings of stakeholder consultations on market access held over the past three years and MAWG meetings to date. The MAWG is responsible for assessment of priorities and opportunities and approval of activities. A detailed action plan is to be agreed by the MAWG at the beginning of each year, including definition of activities, responsibilities and resource allocation required. Implementation of the action plan will be monitored quarterly as part of MAWG meetings and amended as necessary depending on progress, demand for inclusion of other activities, and resource availability.

### **Review and Evaluation**

A review of the effectiveness of activities should be undertaken by the MAWG on at least an annual basis to evaluate progress towards the strategic objectives and consider revision of the strategy content and approach. Consideration will need to be given to integrating stakeholder feedback received in that review activity. The review should take account of the results of activities in terms of the planned improvement in market access; the degree, value and sustainability of any trade that has occurred as a result; and, where possible, the cost benefit of the activity conducted. Consideration should also be given to improvements that can be made in delivery of activities, assessment procedures, governance and communication arrangements, and potential opportunities for engagement with new implementation partners.

## Appendix B

### Appendix B Solomon Islands Smallholder Agriculture Study: Markets and Marketing Issues

*The Solomon Islands Smallholder Agriculture Study is a series of five volumes that document the development of recommendations for a set of agricultural interventions supporting both subsistence agriculture and income-generating activities for rural communities. This Annex presents a summary of Volume 3 on Markets and Marketing which was prepared by McGregor (2006).*

Solomon Islands has a highly dualistic economy that depends on agriculture. Even before the ethnic tension of 1998 to 2003, most of the rural population survived on an annual cash income of less than US\$300.

The population was fortunate to have had a strong subsistence base for support. The ability of people to feed themselves during the loss of cash income, displacements and fighting associated with the ethnic tension bears testimony to the strength and importance of the subsistence agriculture sector.

The relatively good past performance of the tree crop industries can be explained by a combination of factors:

- A competitive advantage of smallholders in growing these crops;
- The absence of alternative income-earning opportunities compared with producers in Tonga, Samoa, and to some extent Fiji;
- A functioning marketing system, although imperfect, compared with a number other Pacific island countries tree-crop industries; and
- A depreciating exchange that has favoured agricultural industries.

The ongoing recovery of the coconut and cocoa industries provides an encouraging base for growing rural livelihoods. It is doubly fortunate that both commodities are enjoying a period of favourable prices. The prospects for the oil palm industry are now more positive with the decision of a Papua New Guinea company to invest in the rehabilitation of Solomon Islands Plantations Ltd.

There are good prospects for the Solomon Islands industrial tree crop sector to return to, and even expand beyond, pre-ethnic tension levels. Indigenous nuts offer significant opportunities. Profitable export markets are available for a number of spices and other minor products. There are very substantial opportunities for import substitution, particularly for traditional staples, fresh fruit and vegetables and livestock products.

The main commodities or commodity groups considered in this review are coconuts, oil palm, cocoa, food crops, indigenous nuts and livestock products. For each major commodity, consideration is given to financial and economic viability; market opportunities; marketing arrangements and performance; marketing problems and constraints; and prospects for industry rehabilitation. Recommendations are made on how marketing, rehabilitation and expansion might be improved. These are listed below.

## Appendix B

<b>Product or issue</b>	<b>Recommendation</b>
<b>Coconuts</b>	<ol style="list-style-type: none"> <li>1. Expand the Community Programme Rehabilitation Fund pilot copra dryer distribution program.</li> <li>2. Support a promotional campaign to encourage the increased use of virgin coconut oil in the local market.</li> <li>3. Provide marketing support for virgin coconut oil.</li> <li>4. Provide a small, once-off injection of working capital for buying agents in more remote locations.</li> <li>5. Construct a small jetty at Malu'u on North Malaita.</li> <li>6. Provide ongoing technical assistance in the development of biofuel.</li> <li>7. Re-establish a small coconut seed garden network.</li> </ol>
<b>Oil palm</b>	No specific interventions for AusAID involvement have been identified; however, there may be future opportunities to work with New Britain Oil Palm Ltd to facilitate smallholder participation in the industry.
<b>Cocoa</b>	<ol style="list-style-type: none"> <li>1. Include steel flues for cocoa driers as part of the pilot copra drier program.</li> <li>2. Rebuild the centralised cocoa facility at Marasa on the Guadalcanal Weather Coast.</li> <li>3. Include cocoa in support provided for organic certification.</li> <li>4. Facilitate the introduction of improved black pod-resistant varieties of cocoa from Papua New Guinea.</li> <li>5. Employ or attach a cocoa specialist in the Ministry of Agriculture and Livestock (MAL).</li> </ol>
<b>Food and fresh produce</b>	<ol style="list-style-type: none"> <li>1. Upgrade urban and provincial markets.</li> <li>2. Provide marketing information.</li> <li>3. Propagate and distribute improved fruit and vegetable planting material.</li> <li>4. Support a program of on-farm trials for new, improved planting material.</li> <li>5. Provide horticultural technical expertise to work with DAL and appropriate NGOs.</li> <li>6. Facilitate road rehabilitation and upgrading.</li> </ol>
<b>Rice</b>	<ol style="list-style-type: none"> <li>1. Complete a comprehensive study on the comparative advantage of rice and other staple food crop production in Solomon Islands, to improve agricultural policy formulation for rice production.</li> </ol>
<b>Indigenous tree nuts</b>	<ol style="list-style-type: none"> <li>1. Recognise, at the national policy level, the unique and substantial economic opportunity offered by indigenous nuts.</li> <li>2. Include nuts in Solomon Islands trade and investment promotion efforts.</li> <li>3. Provide diplomatic representation to the European Union on the Novel Food Regulations.</li> <li>4. Develop appropriate handling techniques for fresh nuts.</li> <li>5. Provide continued identification of superior propagation material for cloning.</li> <li>6. Provide continued evaluation of planting material for commercial cultivation.</li> <li>7. Provide continued development of appropriate harvesting and processing techniques.</li> <li>8. Develop appropriate packaging for fresh and processed nuts.</li> <li>9. Support general agronomic research for establishing nut orchards.</li> </ol>
<b>Vanilla</b>	<ol style="list-style-type: none"> <li>1. Provide existing and potential farmers with information on where vanilla can be successfully grown, how it should be grown and, most importantly, how it can be successfully cured (this can be done through a pictorial manual and through workshops).</li> <li>2. Provide support for restocking and propagating vanilla planting material in North Guadalcanal.</li> </ol>
<b>Chillies</b>	<ol style="list-style-type: none"> <li>1. Increase planting material for chilli production for the Soltai factory at Noro.</li> <li>2. Train villagers in postharvest handling and drying of chillies.</li> <li>3. Prepare a pictorial manual on the growing, postharvest handling and drying of chillies in Solomon Islands.</li> <li>4. Provide support and assistance for Soltai, MAL, Commodity Export Marketing Authority (CEMA) and growers to re-establish chilli supply chains by promoting chilli production and developing provincial grower groups.</li> </ol>

## Appendix B

<b>Product or issue</b>	<b>Recommendation</b>
<b>Ginger and turmeric</b>	<ol style="list-style-type: none"> <li>1. Develop a comprehensive pest list for ginger in Solomon Islands as a first step in accessing the New Zealand market.</li> <li>2. MAL to acquire the technical and organisational ability to certify ginger free of the nematode pest <i>Radophilus similis</i>, to help in accessing the Japanese market.</li> <li>3. Ask Australia to re-examine its quarantine ban on ginger from PICs.</li> </ol>
<b>Coffee</b>	<ol style="list-style-type: none"> <li>1. Provide assistance for niche marketing of Solomon Islands coffee.</li> </ol>
<b>Livestock products</b>	<ol style="list-style-type: none"> <li>1. Improve subsistence and small-scale commercial pig production in all provinces.</li> <li>2. Develop small- and medium-scale commercial pig production in Guadalcanal and Malaita.</li> <li>3. Improve the productivity of subsistence poultry systems throughout Solomon Islands.</li> <li>4. Improve participation of smallholder poultry farmers in supplying commercial markets in the provincial capitals.</li> <li>5. Re-establish medium-scale poultry production units on Guadalcanal.</li> <li>6. Re-establish smallholder cattle production in provinces for supply of beef to commercial markets in the provincial capitals and Honiara.</li> <li>7. Support the continued development of honey production for supply of local and export markets and to increase the number of people involved in the industry.</li> </ol>
<b>Cross-commodity issues</b>	<ol style="list-style-type: none"> <li>1. Rehabilitate and upgrade roads.</li> <li>2. Provide incentives for the shipping industry to better service remote locations.</li> <li>3. Expand the IT network to service at least all the main provincial centres.</li> <li>4. Promote farm-supply businesses.</li> <li>5. Develop a market information system.</li> <li>6. Resume and expand the Central Bank of Solomon Islands loan guarantee scheme.</li> <li>7. Make funds available for a loan scheme for rural areas managed by a commercial bank (commercial bank loans could be considered).</li> </ol>

Solomon Islands has not been successful in developing non-traditional agricultural exports. In export diversification, the country has lagged behind Fiji (root crops, fresh fruit and vegetables, ginger), Tonga (squash and vanilla), Vanuatu (beef, kava, spices and indigenous nuts) and Papua New Guinea (vanilla). The poor performance in this area can be explained by a combination of factors, including a weak entrepreneurial private sector, poor quarantine status, and a lack of suitable transportation links to export markets. Without progress in the diversification of its smallholder agriculture, Solomon Islands remains highly vulnerable to the vagaries of international commodity markets. Past efforts have shown successful diversification remains a complex and elusive goal to achieve. Given the constraints faced, the country is fortunate that it still maintains a strong subsistence and tree-crop commodity base.

## Appendix C

### Appendix C Australian Wholesale Market Analysis

#### Exchange Rates and Price Trends: 2007–2011

Figure C-1: Exchange rate: SBD per A\$, monthly averages

Figure C-2: Inflation in Australia: quarterly price indices

Figure C-3: Index of fruit and vegetable prices in Australia adjusted for the A\$/SBD exchange rate

#### Coconut Wholesale Prices in Brisbane: 2007–2012

Figure C-4: Coconut prices in Brisbane: A\$ per bag

Figure C-5: Coconut prices in Brisbane: SBD per bag

Figure C-6: Monthly average volume of coconuts traded in the Brisbane wholesale market

#### Coconut Wholesale Prices in Melbourne: 2007–2012

Figure C-7: Coconut prices in Melbourne: A\$ per bag

Figure C-8: Coconut prices in Melbourne: SBD per bag

#### Pineapple Wholesale Prices in Brisbane: 2007–2012

Figure C-9: Pineapple prices in Brisbane: A\$ per carton

Figure C-10: Pineapple prices in Brisbane: SBD per carton

Figure C-11: Monthly average pineapple prices in Brisbane: A\$ per carton

Figure C-12: Monthly volume of pineapples traded in Brisbane market (tonnes)

Figure C-13: Percentage price premiums for rough leaf pineapples: Brisbane market

#### Pineapple Wholesale Prices in Melbourne: 2007–2012

Figure C-14: Pineapple prices in Melbourne: A\$ per carton

Figure C-15: Pineapple prices in Melbourne: SBD per carton

Figure C-16: Monthly average pineapple prices in Melbourne: A\$ per carton

#### Chilli Wholesale Prices in Brisbane: 2007–2012

Figure C-17: Chilli prices in Brisbane: A\$ per kg, average of all varieties

Figure C-18: Chilli prices in Brisbane: SBD per kg, average of all varieties

Figure C-19: Monthly average prices for chilli in Brisbane: A\$ per kg, average of all varieties

Figure C-20: Monthly volume of chilli traded in Brisbane market (tonnes)

Figure C-21: Prices (A\$ per kg) paid for birdseye red chillies compared to other varieties

## Appendix C

### C.1 Exchange Rates and Price Trends: 2007–2011

Figure C-1 Exchange rate: SBD per A\$, monthly averages

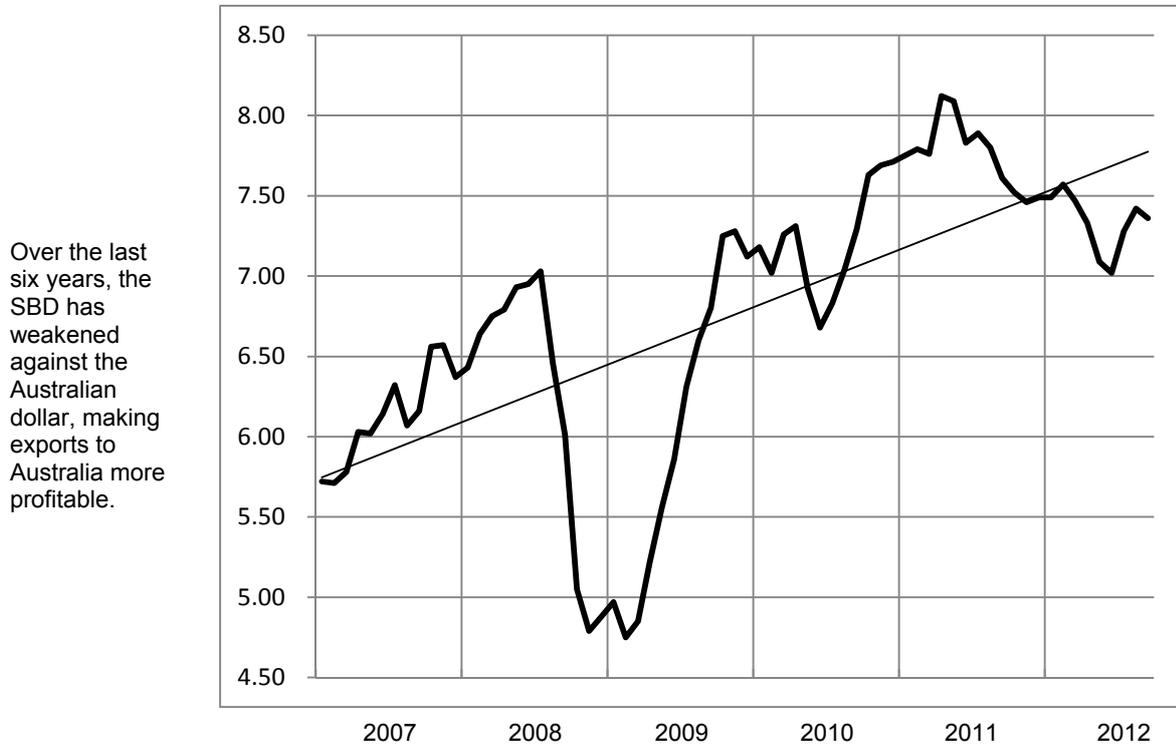
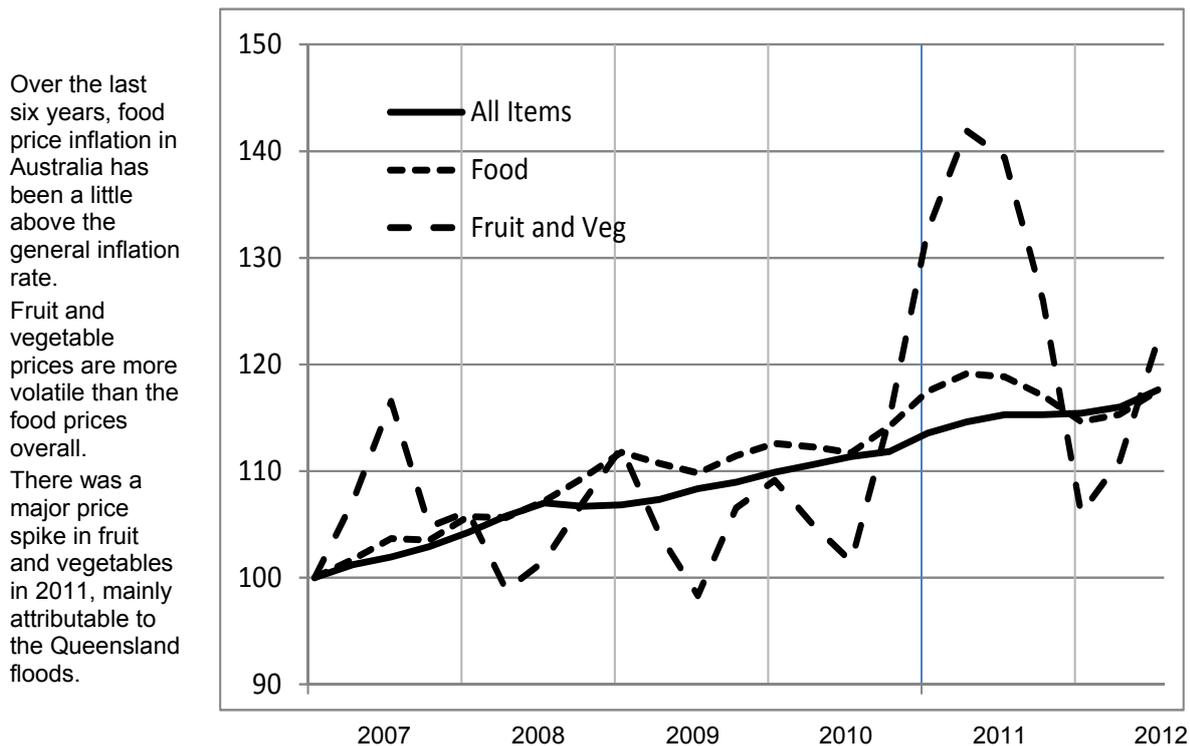
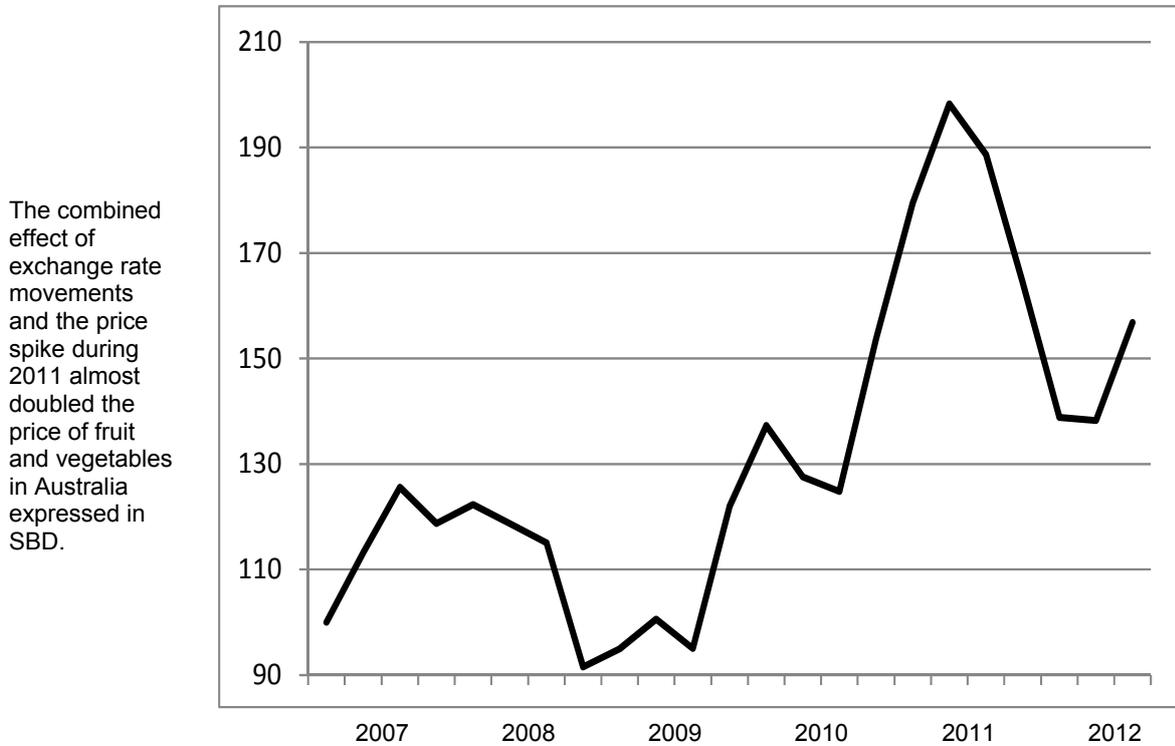


Figure C-2 Inflation in Australia: quarterly price indices



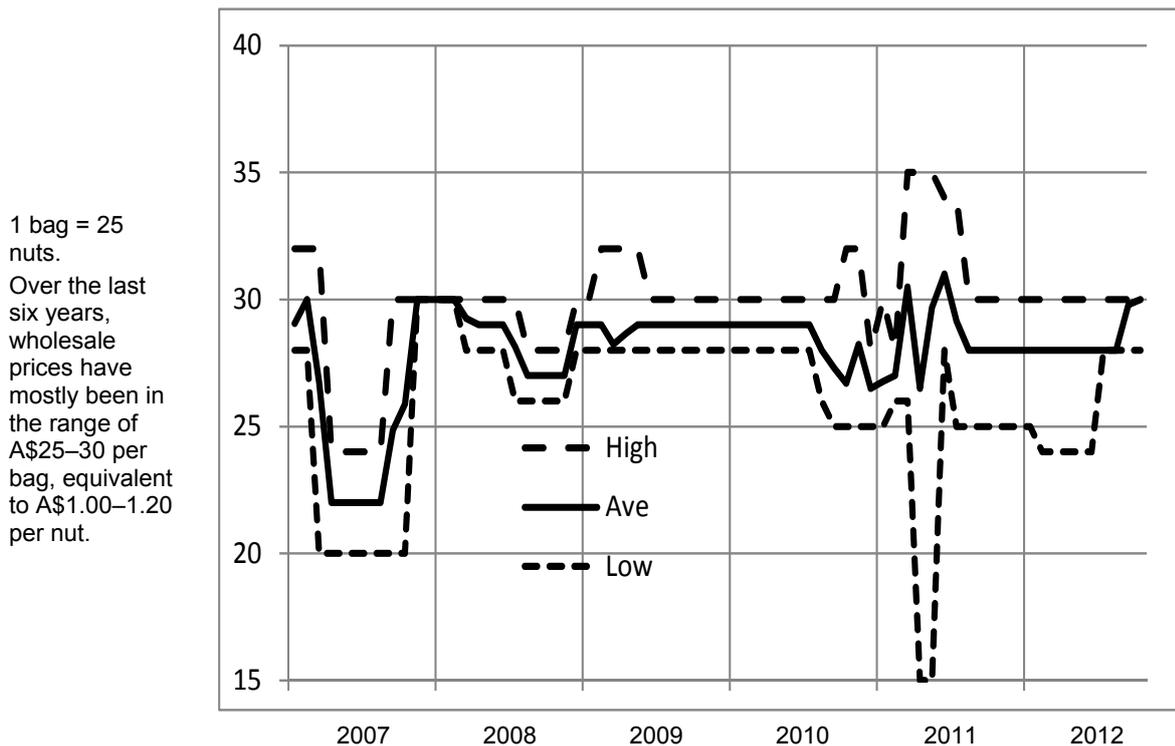
## Appendix C

**Figure C-3** Index of fruit and vegetable prices in Australia adjusted for the A\$/SBD exchange rate



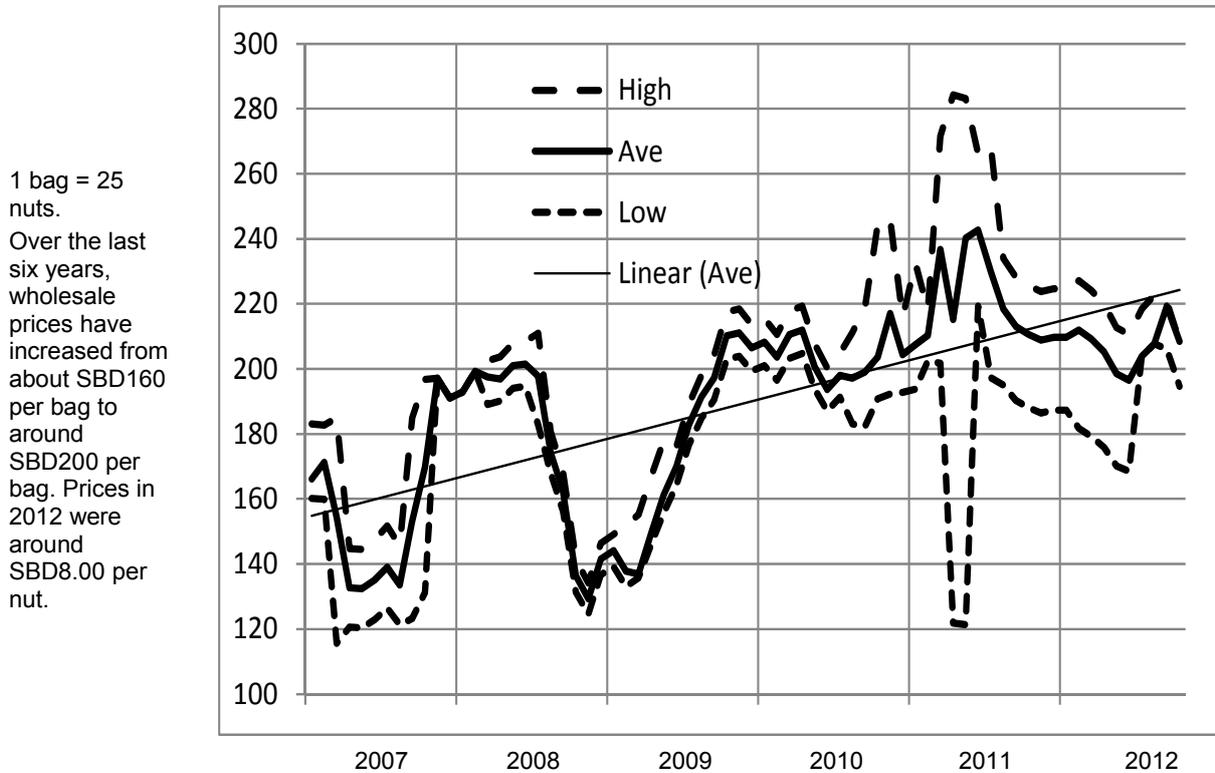
## C.2 Coconut Wholesale Prices in Brisbane: 2007–2012

**Figure C-4** Coconut prices in Brisbane: A\$ per bag

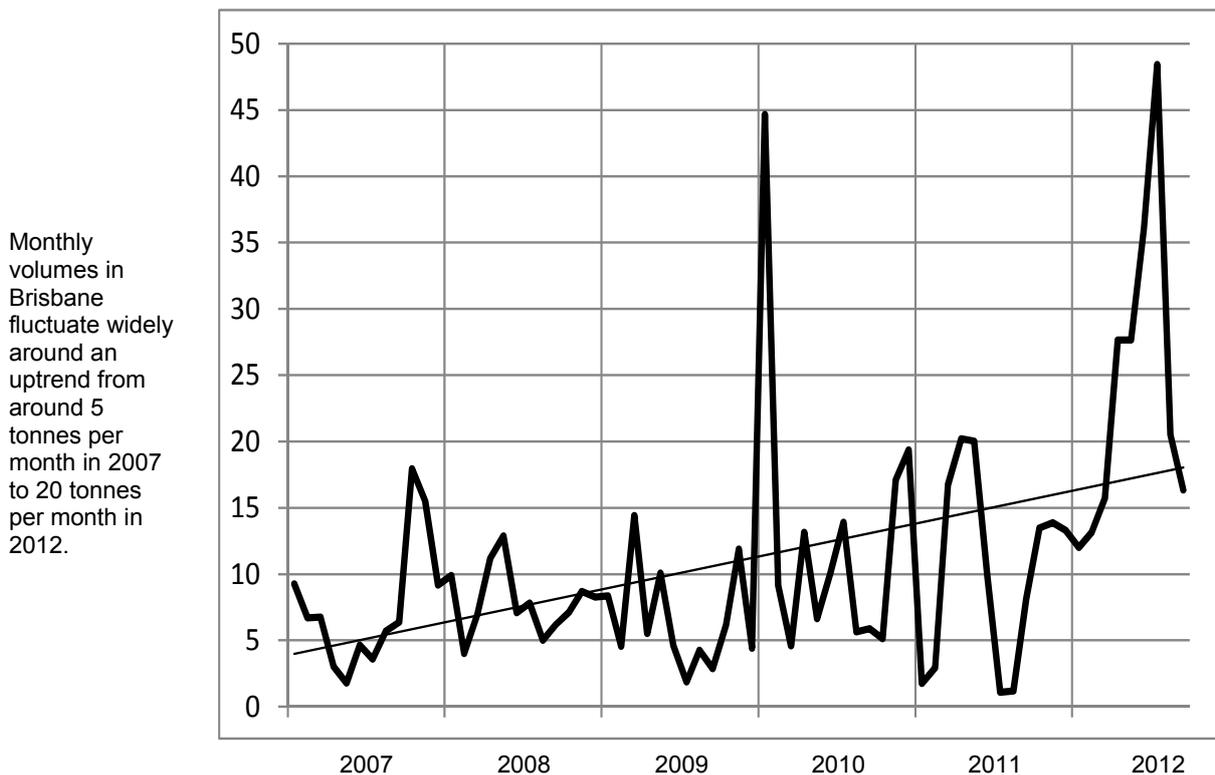


## Appendix C

**Figure C-5 Coconut prices in Brisbane: SBD per bag**



**Figure C-6 Monthly average volume of coconuts traded in the Brisbane wholesale market**



## Appendix C

### C.3 Coconut Wholesale Prices in Melbourne: 2007–2012

Figure C-7 Coconut prices in Melbourne: A\$ per bag

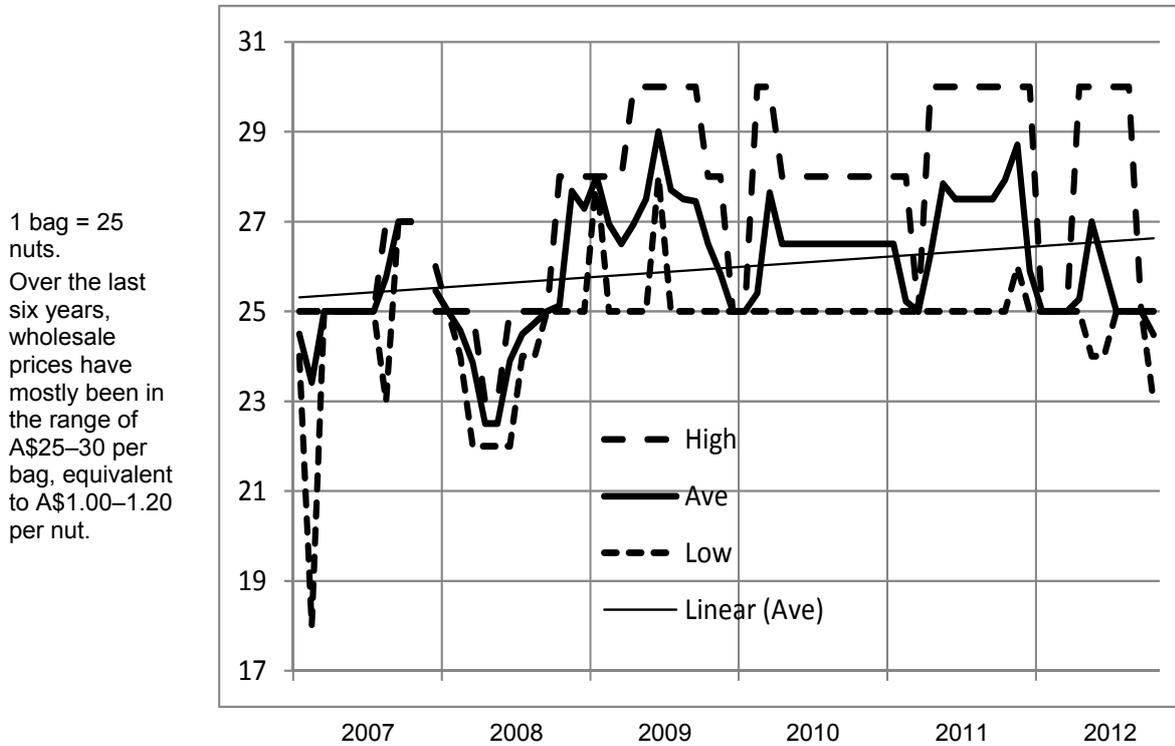
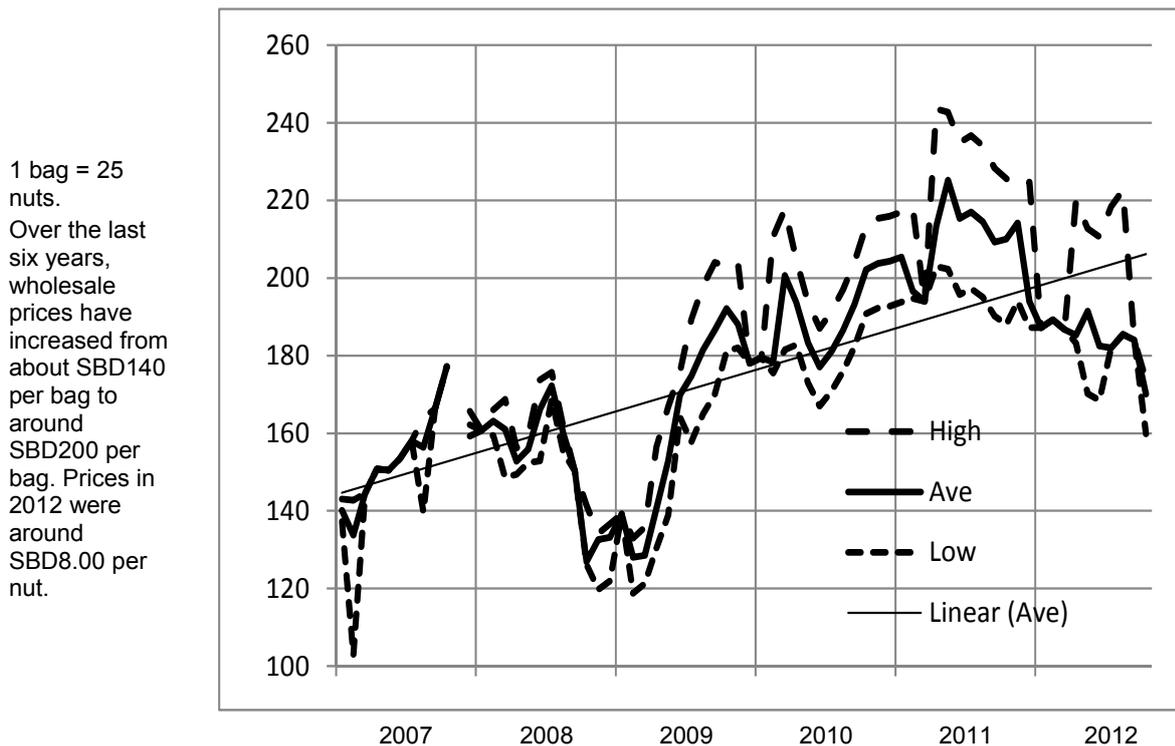


Figure C-8 Coconut prices in Melbourne: SBD per bag



## Appendix C

### C.4 Pineapple Wholesale Prices in Brisbane: 2007–2012

Figure C-9 Pineapple prices in Brisbane: A\$ per carton

Brisbane pineapple prices have shown no discernible trend over the last six years. Average quality pineapples generally trade in a narrow price band of A\$15–20 per carton (14–16 fruits per carton). This contrasts with many other fruits and vegetables where prices have shown a marked up-trend.

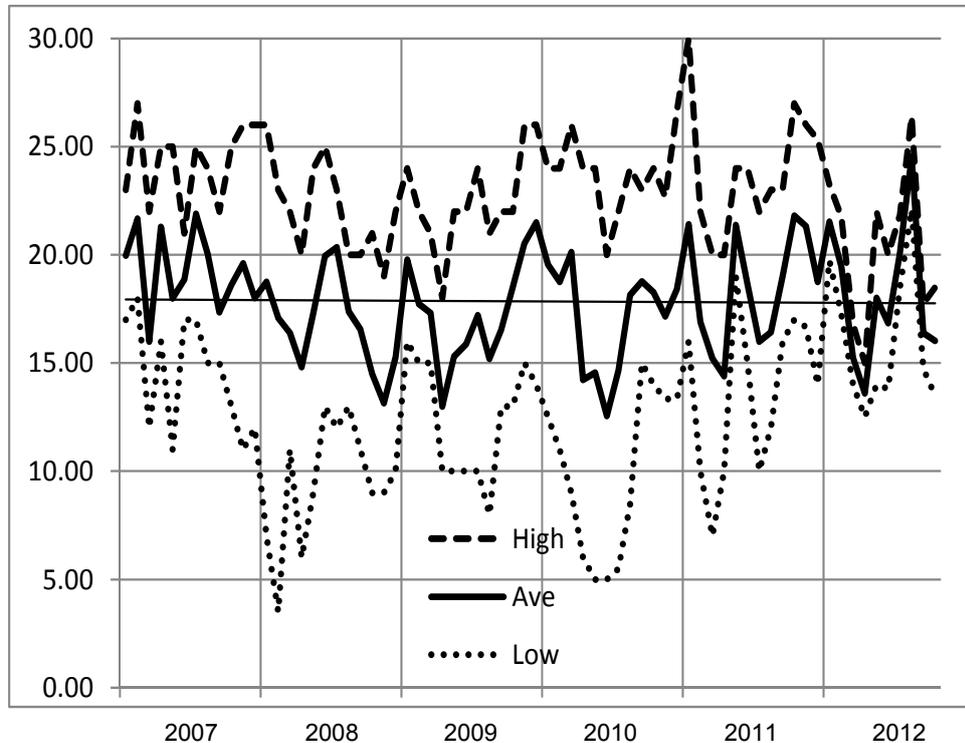
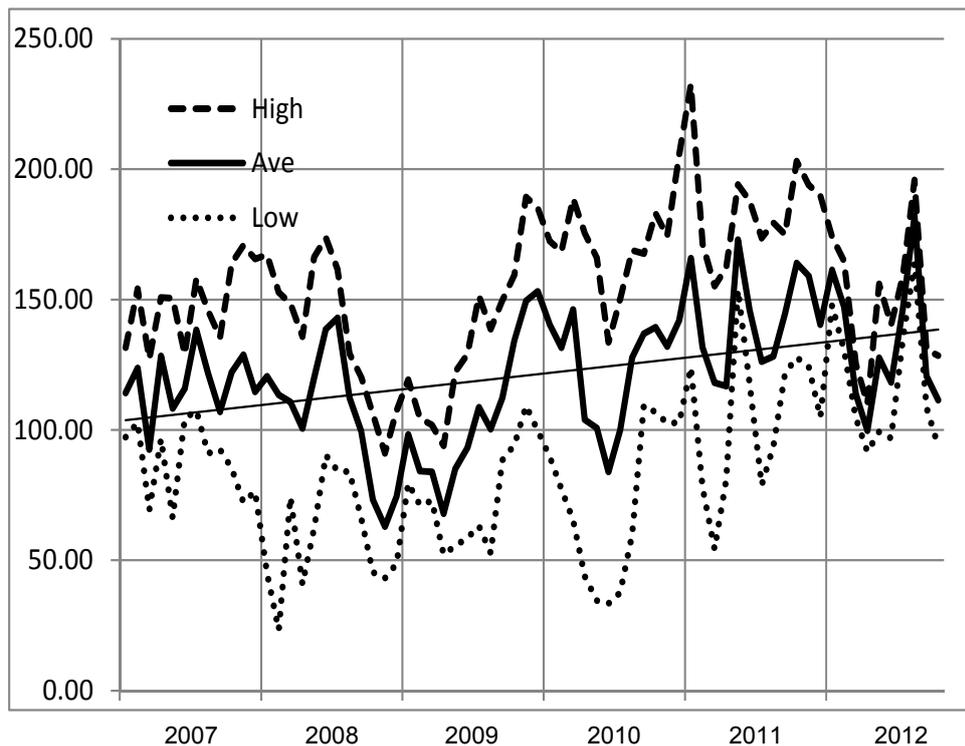


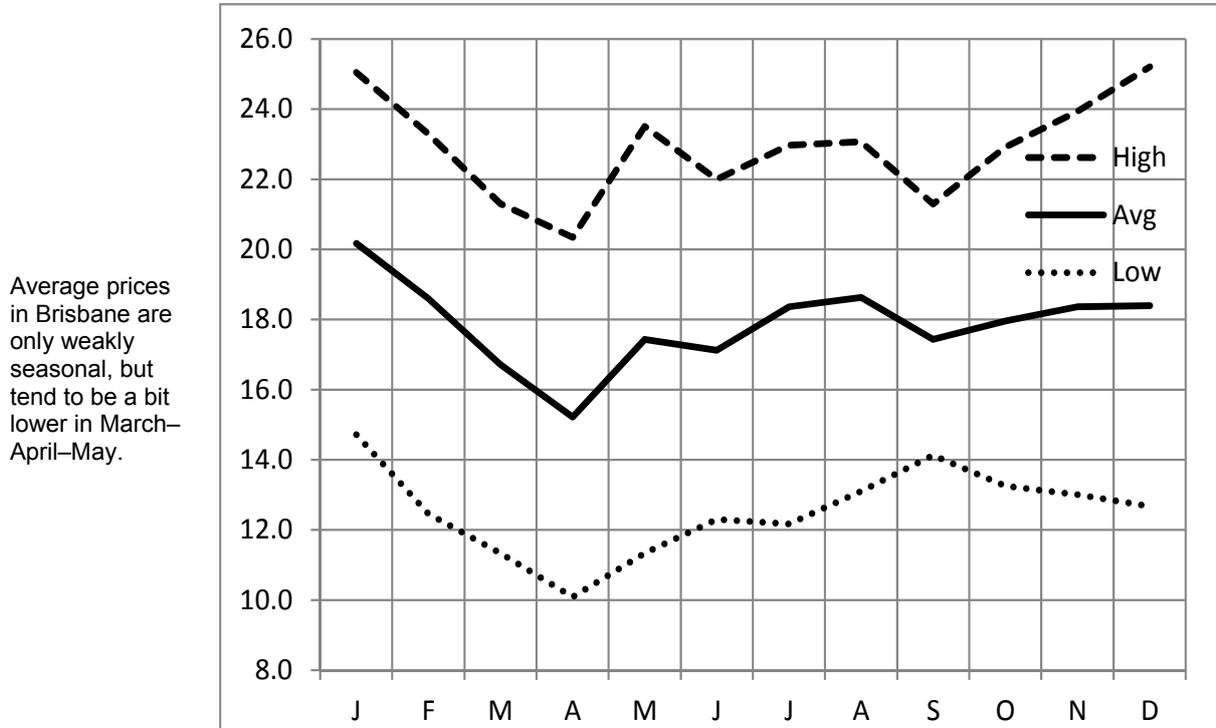
Figure C-10 Pineapple prices in Brisbane: SBD per carton

Expressed in SBD, Brisbane pineapple prices have shown a modest uptrend over the six-year period. The price of SBD140 per carton translates to around SBD9–10 per fruit.

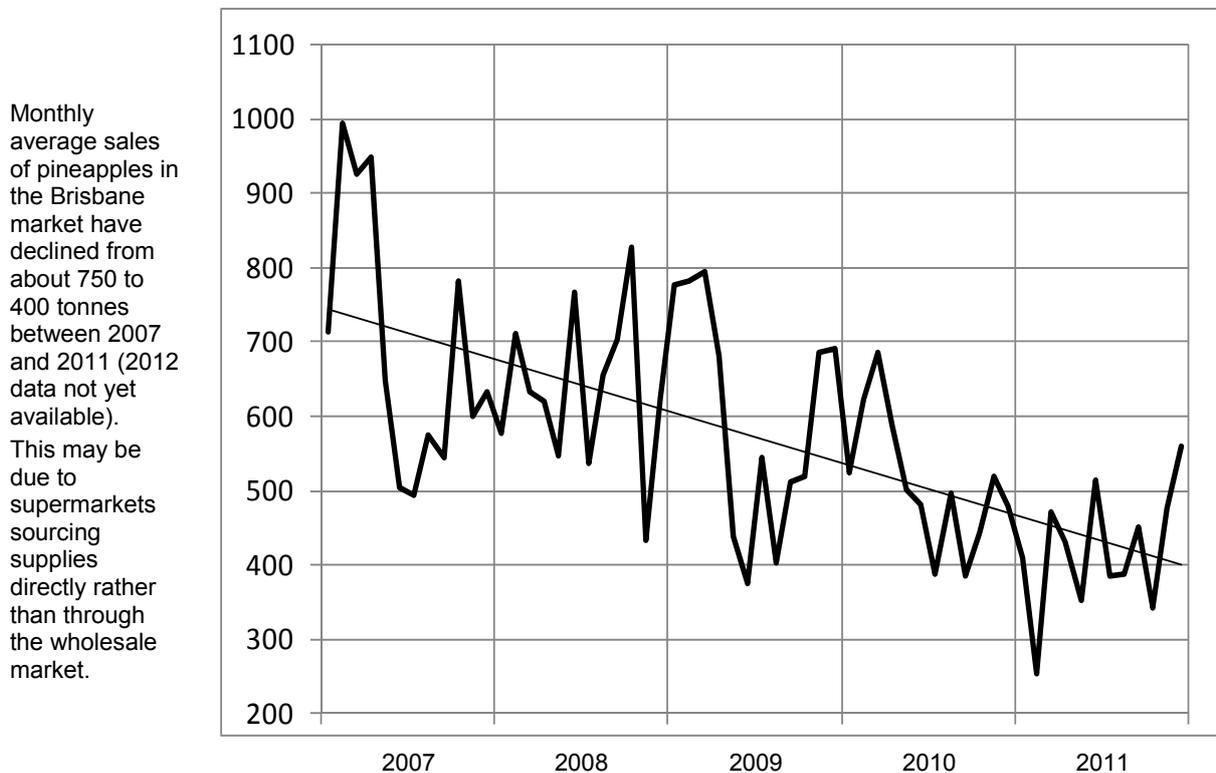


## Appendix C

**Figure C-11 Monthly average pineapple prices in Brisbane: A\$ per carton**

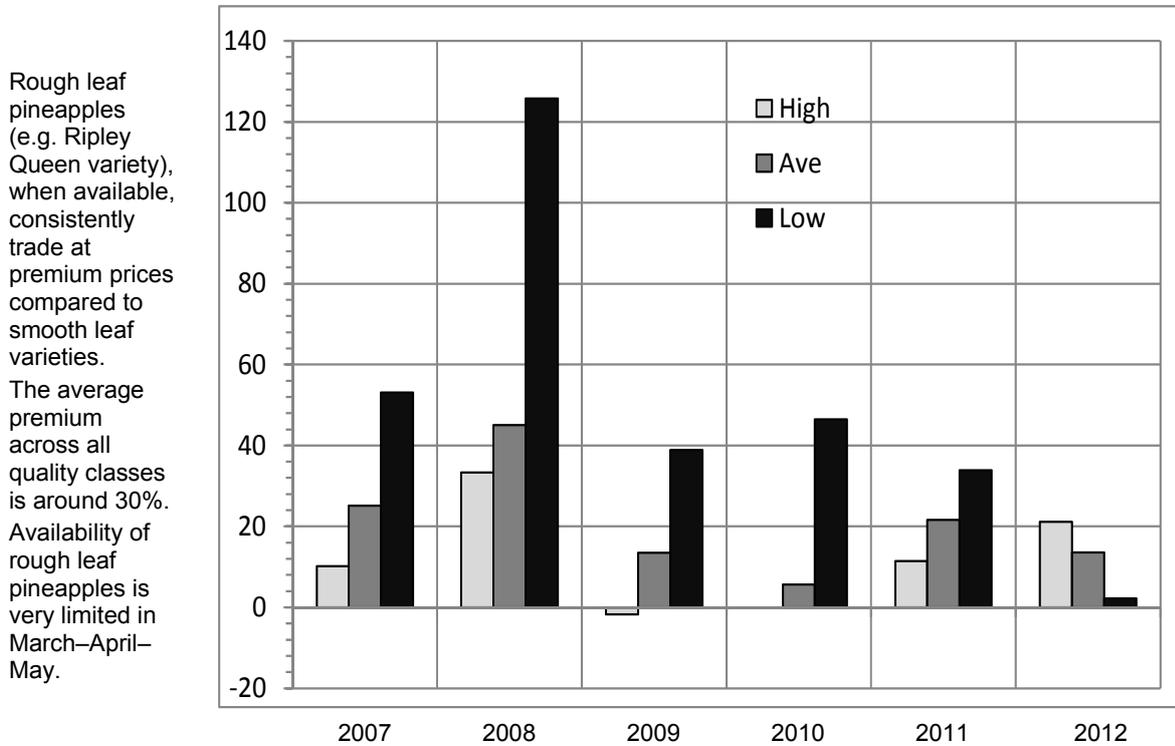


**Figure C-12 Monthly volume of pineapples traded in Brisbane market (tonnes)**



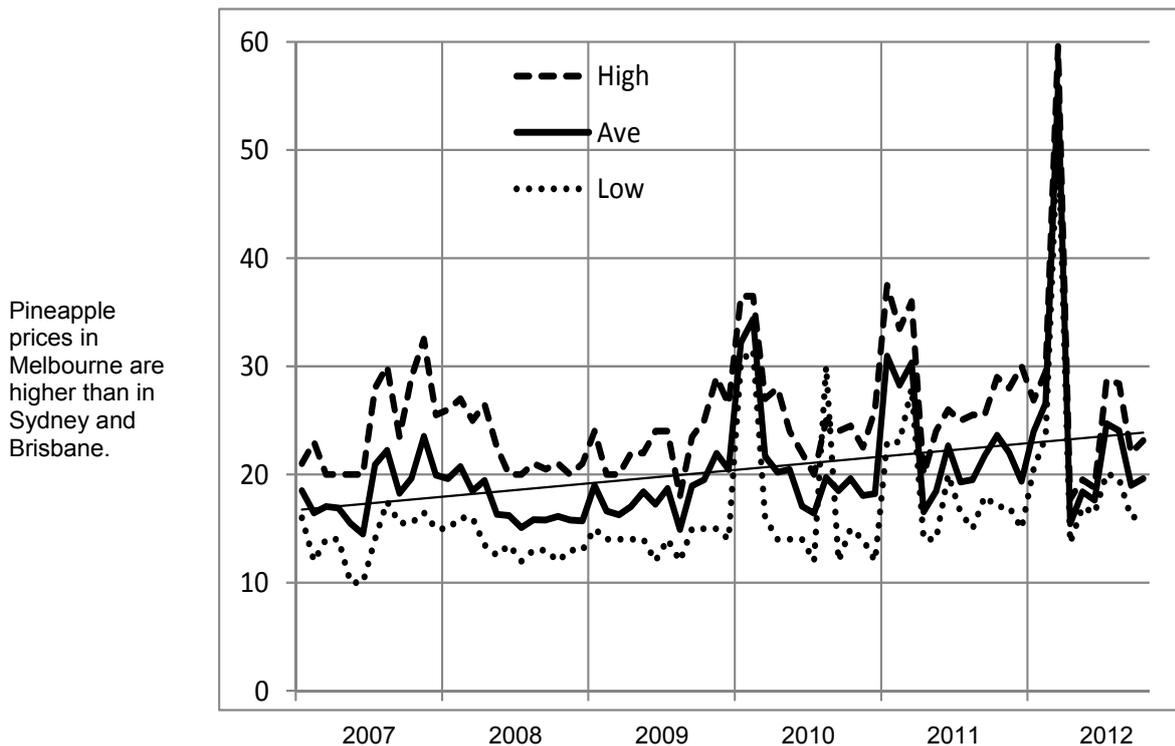
## Appendix C

**Figure C-13 Percentage price premiums for rough leaf pineapples: Brisbane market**



## C.5 Pineapple Wholesale Prices in Melbourne: 2007–2012

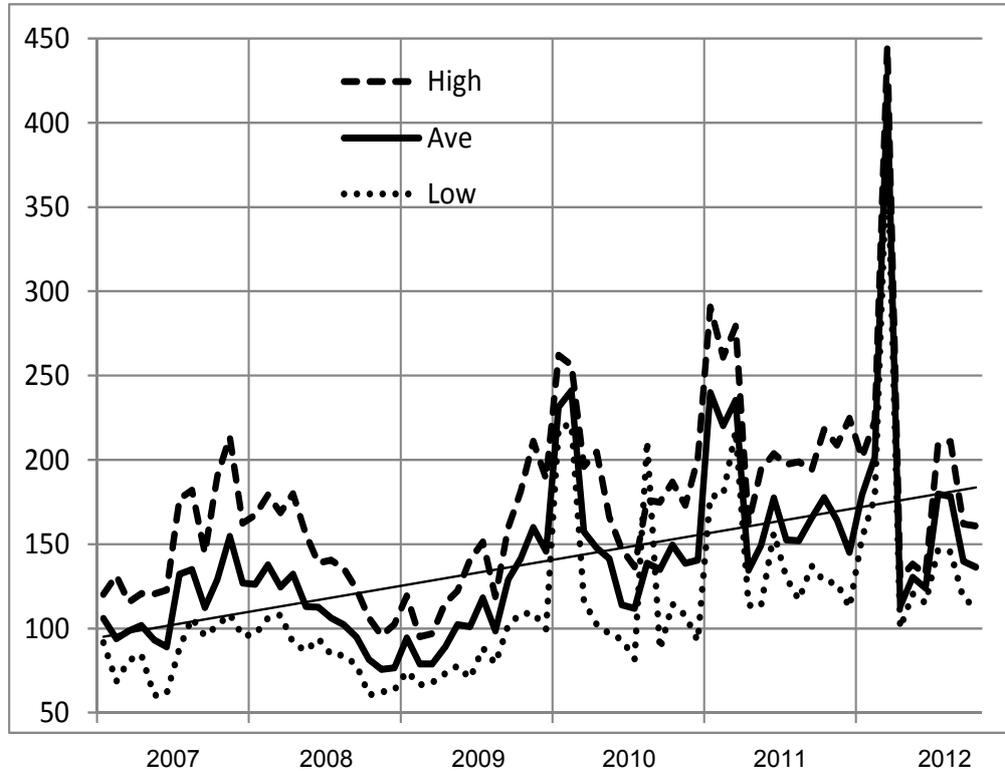
**Figure C-14 Pineapple prices in Melbourne: A\$ per carton**



## Appendix C

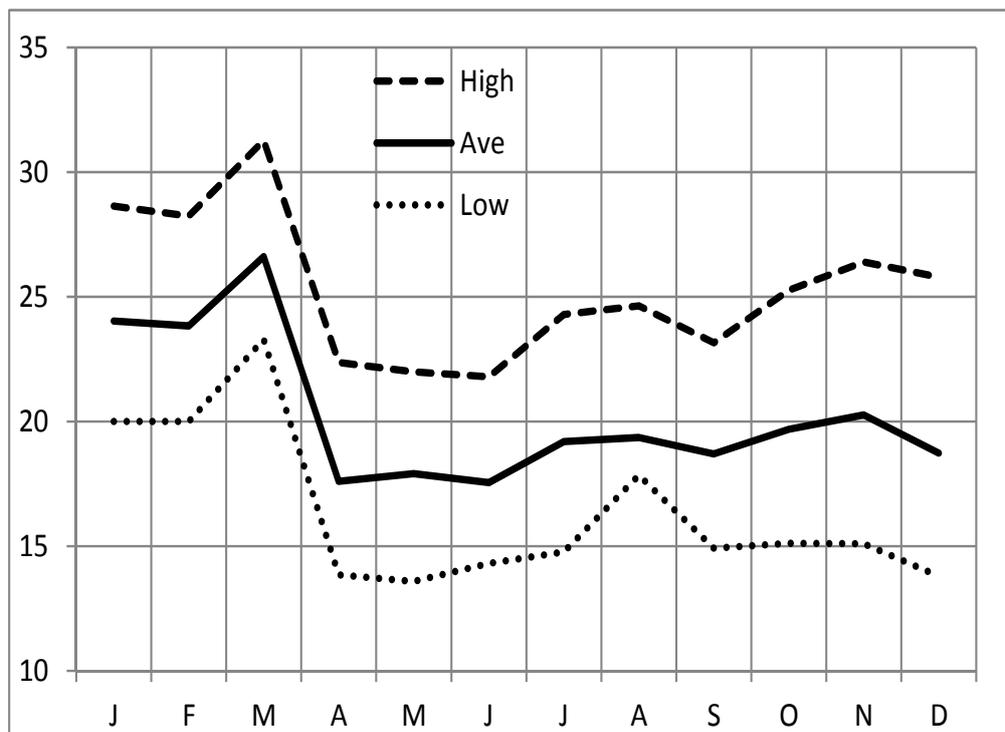
**Figure C-15 Pineapple prices in Melbourne: SBD per carton**

In SBD terms, Melbourne average pineapple prices have trended up from SBD100 per carton to around SBD180 per carton over six years. The price of SBD180 per carton translates to around SBD11–13 per fruit.



**Figure C-16 Monthly average pineapple prices in Melbourne: A\$ per carton**

Melbourne pineapple prices show some signs of seasonality, with generally lower prices in early winter.



## Appendix C

### C.6 Chilli Wholesale Prices in Brisbane: 2007–2012

Figure C-17 Chilli prices in Brisbane: A\$ per kg, average of all varieties

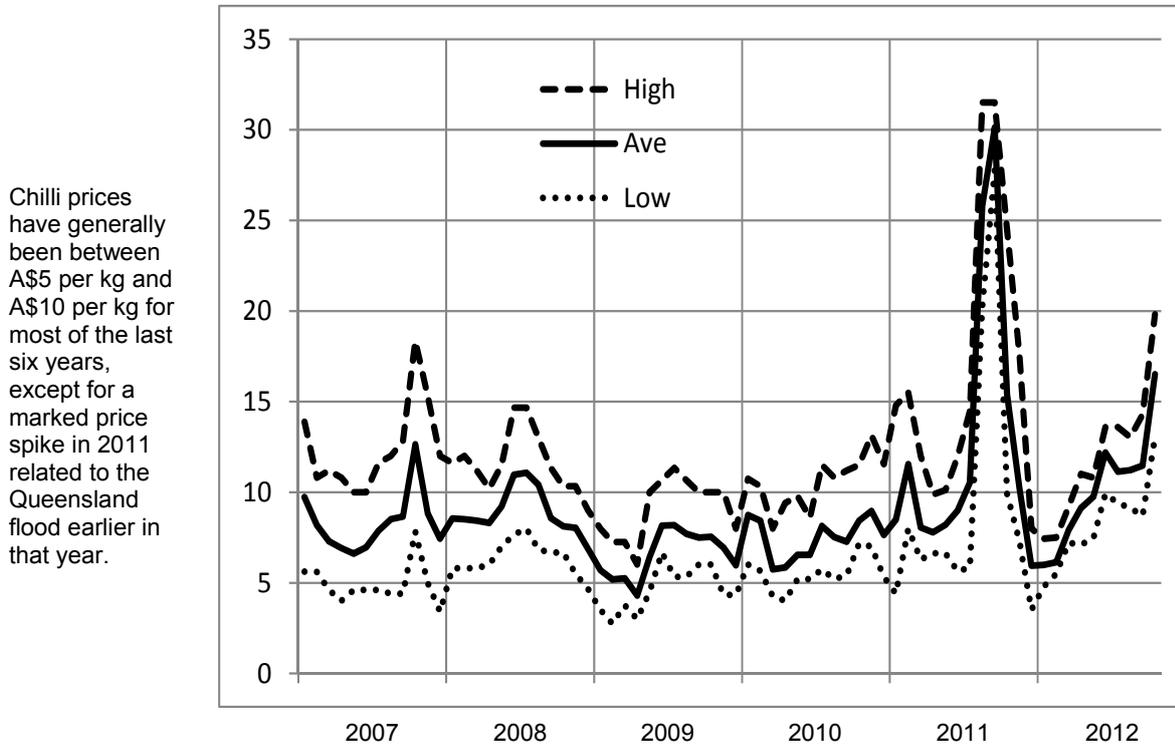
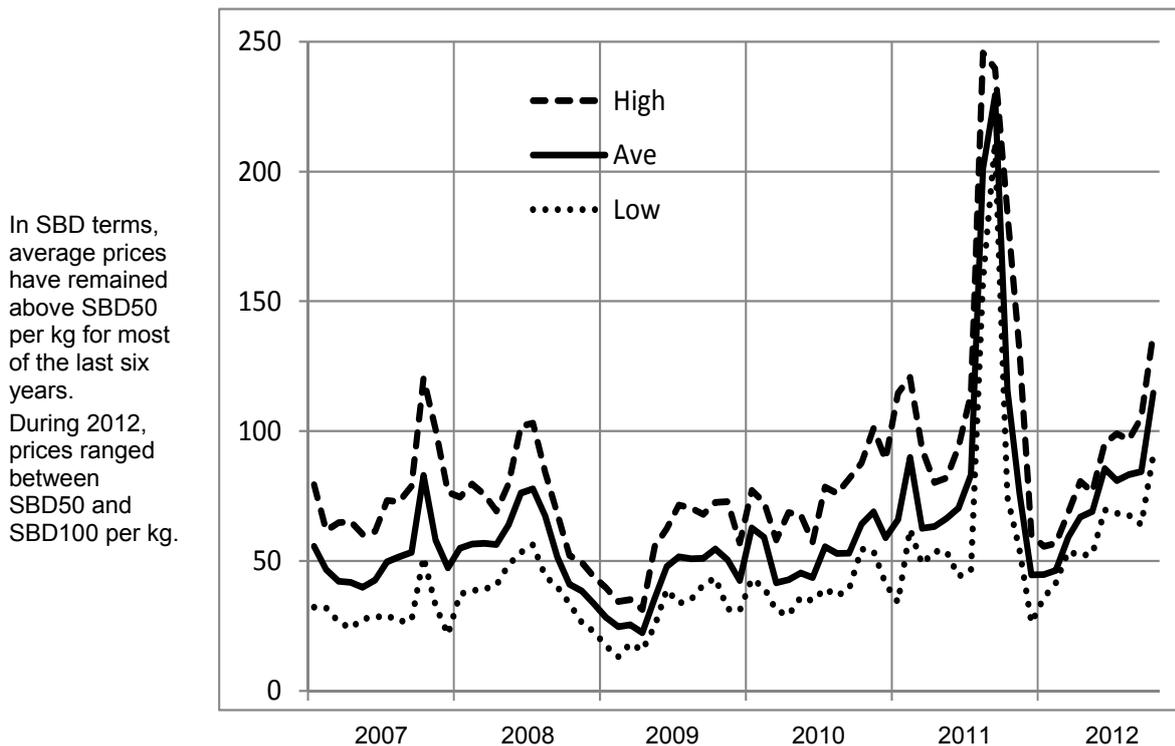
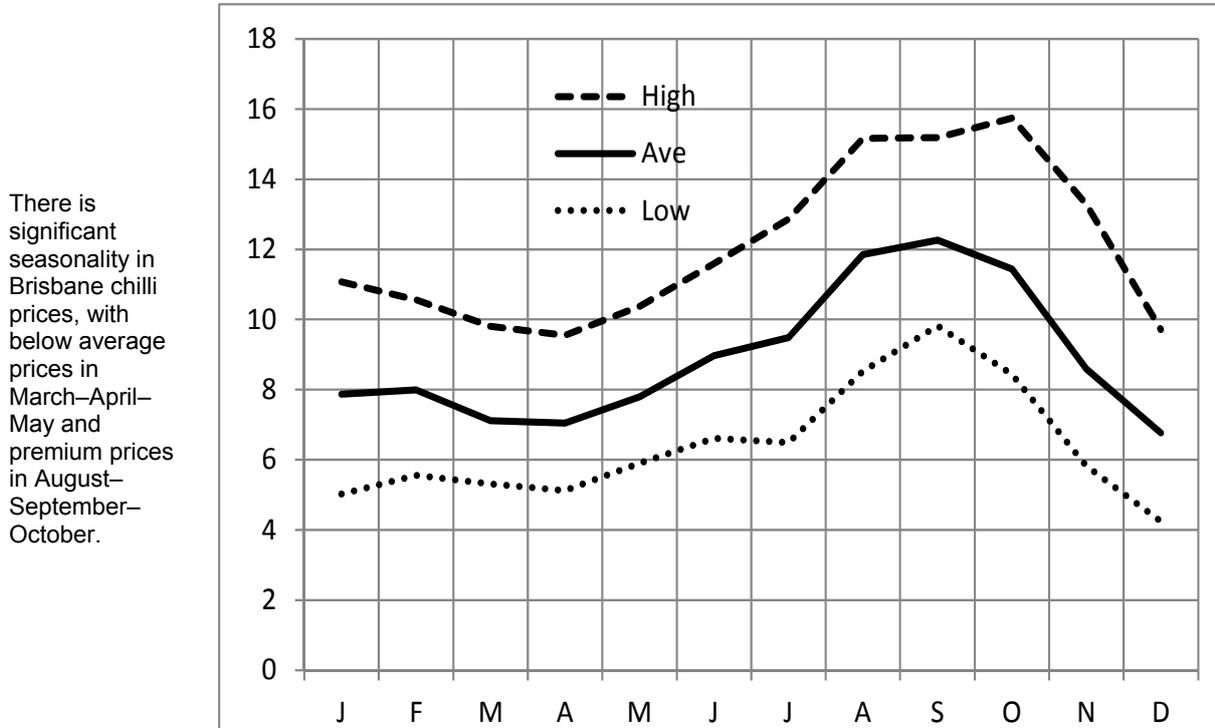


Figure C-18 Chilli prices in Brisbane: SBD per kg, average of all varieties

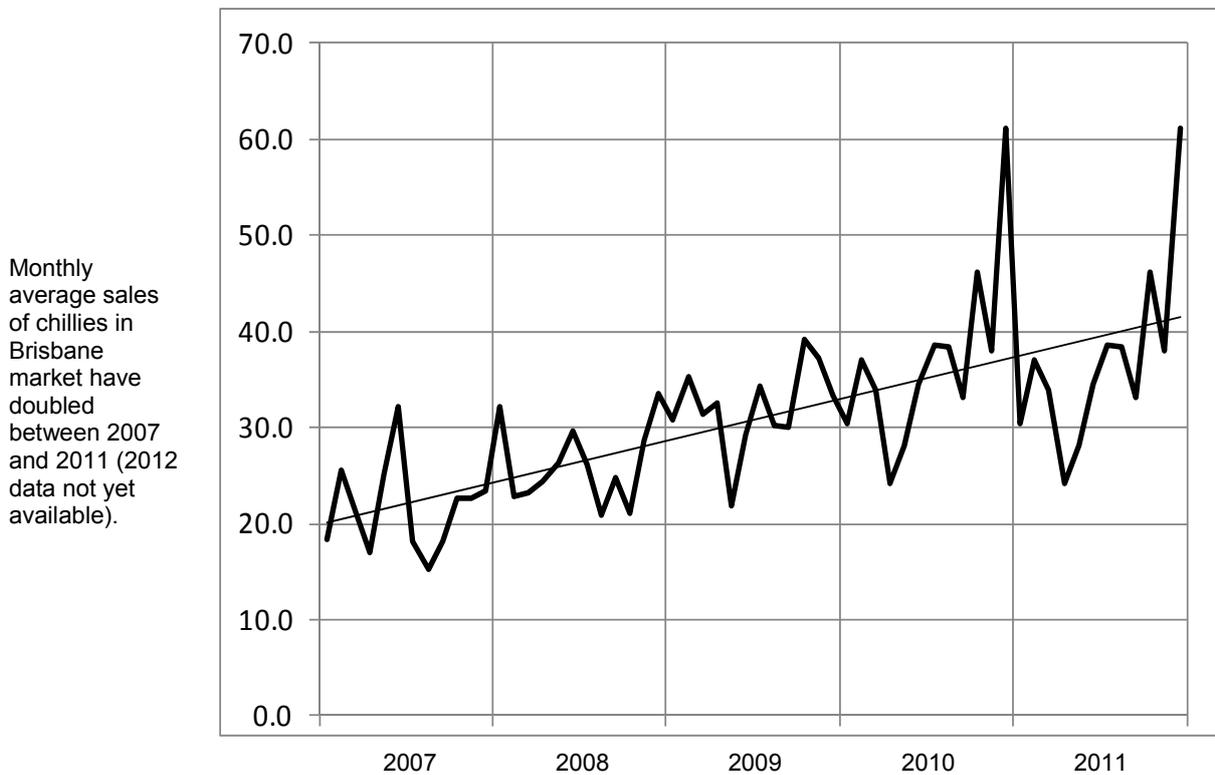


## Appendix C

**Figure C-19 Monthly average prices for chilli in Brisbane: A\$ per kg, average of all varieties**

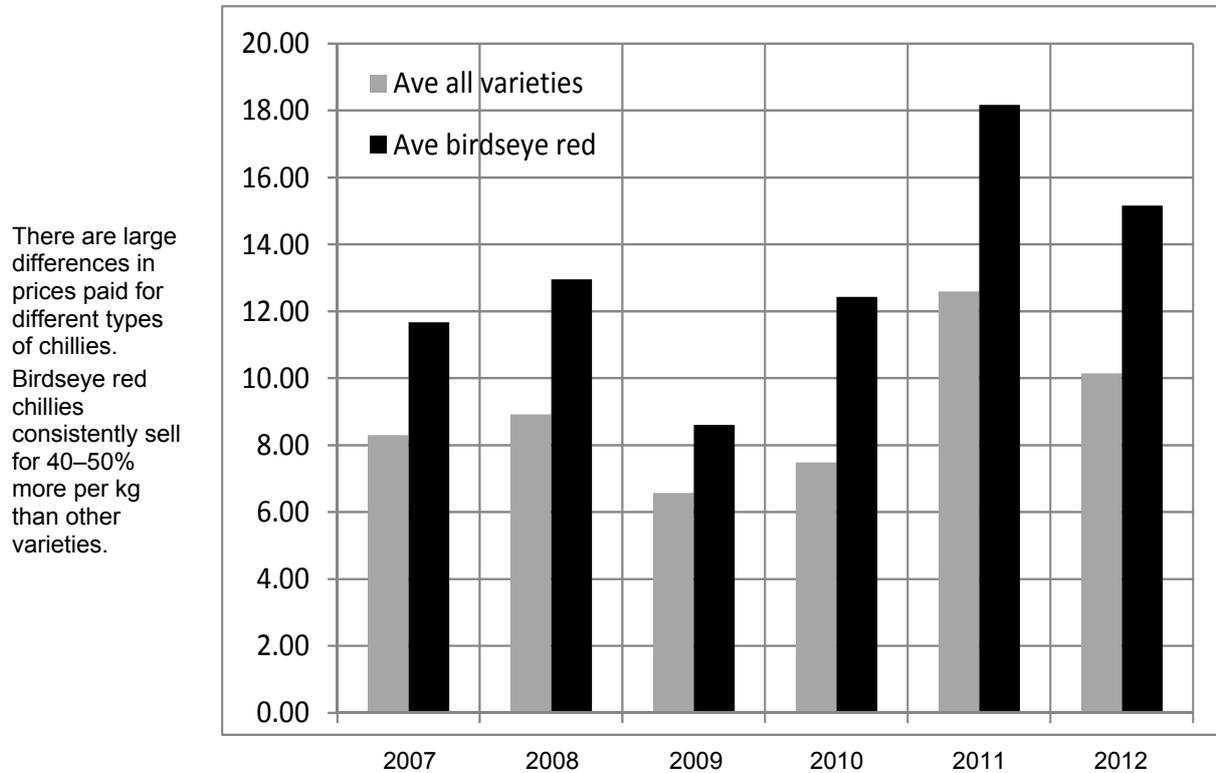


**Figure C-20 Monthly volume of chilli traded in Brisbane market (tonnes)**



## Appendix C

Figure C-21 Prices (A\$ per kg) paid for birdseye red chillies compared to other varieties



## Appendix D

### Appendix D Value Chain Analysis: Coconuts

#### Overview

The coconut value chain analysis shown in Tables D-1 to D-6 is based on the export of fresh mature (dry) coconuts by refrigerated sea container to Melbourne for sale through the Melbourne wholesale market. Melbourne is the preferred market because of the regular direct shipping service and the slightly higher prices for coconuts than the other major East coast cities. The coconuts would be collected and de-husked on outer islands, packed in poly-sacks (25 nuts per sack) and transported to Honiara by sea. They would then be graded and re-packed in a packhouse in/near Honiara and transferred to a refrigerated container (500 sacks/12,500 nuts per container) and shipped to Melbourne. The wholesale price in the Melbourne market is expected to be between A\$24 and A\$29 per bag, depending on quality. On this basis, coconut exporting is a moderately profitable and fairly low risk activity which is well suited to the capacity of Solomon Islands farmers and exporters.

#### Table D-1: Production and transport costs and revenues: coconuts

Table D-1 shows the estimated costs of collecting and de-husking coconuts and transporting them to Honiara by inter-island ship. Transport costs are by far the largest element, due to the high cost of land and inter-island transport. If the nuts are sourced from Guadalcanal, production and transport costs would be considerably lower. The total costs of collecting, de-husking and transporting coconuts are estimated to be around SBD27 per bag shipped.

#### Table D-2: Cost of grading and packing: coconuts

The nuts would be sorted and graded in a simple packhouse in or near Honiara. This would involve grading for size and removal of any defective (e.g. oversize, undersize, germinated) nuts and packing them in clean poly-sacks. The nuts unsuitable for export would be sold in the local market for around SBD1.00 per nut, generating a credit roughly equal to the cost of grading and packing the remainder for export. On the basis of 20% defective nuts, around 625 bags would have to be graded to pack one container load of nuts (500 bags).

#### Table D-3: Cost of transport and quarantine clearance: coconuts

By far the largest costs incurred in the value chain are sea transport to Melbourne and quarantine inspection and customs clearance. The cost of a reefer container from Honiara to Eastern Australian ports is US\$3,440 (SBD 23,000), or SBD46 per bag shipped. This cost includes all documentation and port handling charges. AQIS inspection and customs agent fees in Melbourne amount to A\$800 and A\$550 per consignment, respectively.<sup>7</sup> Together, the total cost of transport and quarantine clearance amounts to SBD32,600 per container, or SBD65 per bag shipped. This is calculated on the basis of one container load per shipment. Because the AQIS and customs agent fees are per shipment, cost per bag would be somewhat reduced by shipping more than one container at a time.

#### Table D-4: Sales revenue through Melbourne wholesale market: coconuts

Figures C-7 and C-8 in Appendix C show that wholesale coconut prices in Melbourne over the last two years have averaged about A\$26.50 per bag, with a range of between A\$24 per bag and A\$29 per

<sup>7</sup> AQIS fees vary considerably depending on the nature of the produce, time of inspection (hefty overtime fees are payable outside normal working hours) and whether any problems are detected. The actual amount can be above or below the estimate of A\$800 per consignment.

## Appendix D

bag, depending on quality and demand. After allowing for 5% losses and 15% agent's commission, this amounts to a net wholesale price per bag shipped of between about SBD136 and SBD164.

**Table D-5: Value chain analysis: coconuts**

**Table D-6: Summary of value chain analysis: coconuts**

Tables D-5 and D-6 show the costs, revenues and gross margins per bag shipped over the entire value chain. Total gross income (net wholesale price) would be in the range of SBD136–164 per bag, to be shared between the growers and the exporter. If the growers are paid SBD34 per bag shipped (equivalent to their cash costs plus the value of their labour at SBD25 per day), this would generate a gross margin for the exporter of between SBD31,400 (A\$4,500) and SBD45,500 (A\$6,500) per container.

Exporter's margins	Wholesale Price		
	High	Medium	Low
Net wholesale price (SBD/bag)	164	150	136
Less grower return (SBD/bag)	31	31	31
Less packing and transport costs (SBD/bag)	42	42	42
Gross margin (SBD/bag)	91	77	63
Gross margin (SBD/ container)	45,531	38,466	31,400
Gross margin (AUD/container)	6,504	5,495	4,486

**Table D-1 Production and transport costs and revenues: coconuts <sup>a/</sup>**

Unit: One hectare

Gross Income	Unit	SBD/unit	No Units	SBD
Coconuts for export	Nut	1.50	3,000	4,500
<b>Total Gross Income</b>				<b>4,500</b>
<b>Variable Costs</b>				
Bags for packing nuts (25 nuts per bag)	Bag	2.00	120	240
Transport to outer island port	Bag	5.00	120	600
Shipping to Honiara	Bag	10.00	120	1,200
Transport from Honiara to packhouse	Bag	2.00	120	240
<b>Total Variable Costs</b>				<b>2,280</b>
<b>Labour</b>				
Collection of nuts (2 days/month)	Pers. Day	25	24	600
Husking nuts (200/person/day)	Pers. Day	25	15	375
<b>Total Labour Cost</b>			39	<b>975</b>
<b>Gross Margin per hectare</b>				<b>1,245</b>
<b>Gross Margin per labour day</b>				<b>32</b>

a/ Mature (dry) coconuts

## Appendix D

**Table D-2 Cost of grading and packing: coconuts**

<b>Packhouse Labour Costs:</b>		
Cost per worker	35	SBD/shift
No of bags graded and packed	20	bags/worker/shift
Grading losses (% of produce sold locally)	20	%
Bags per container load (1 container load/shift)	500	bags
<b>Cost of labour per bag packed</b>	<b>2.19</b>	<b>SBD/bag packed</b>
<b>Sale of Second Grade nuts in Local Market</b>		
125 bags x SBD 25/bag	3,125	SBD/shift
<b>Credit for Local Sales</b>	<b>-6.25</b>	<b>SBD/bag packed</b>
<b>Other Packhouse Costs (per shift):</b>		
Supervisor/foreman	140	SBD/shift
Electricity and water	500	SBD/shift
Depreciation: SBD 0.5m over ten yrs, 50 shifts/yr	1,000	SBD/shift
<b>Other costs per bag packed</b>	<b>3.28</b>	<b>SBD/bag packed</b>

**Table D-3 Cost of transport and quarantine clearance: coconuts**

Exchange rate: SBD per AUD	7.00	
Sea freight, Honiara-Melbourne a/	23,000	SBD/20 foot reefer
Phytosanitary certificate	150	SBD/20 foot reefer
AQIS inspection in Melbourne	800	AUD/20 foot reefer
AQIS inspection in Melbourne	5,600	SBD/20 foot reefer
Customs agent fee	550	AUD/20 foot reefer
Customs agent fee	3,850	SBD/20 foot reefer
Bags per container	500	bags
<b>Total cost of transport and quarantine clearance</b>	<b>65.20</b>	<b>SBD/bag shipped</b>

a/ Includes all documentation and handling charges

**Table D-4 Sales revenue through Melbourne wholesale market: coconuts**

	Price Range		
	High	Medium	Low
Wholesale price (AUD/bag)	29.00	26.50	24.00
Less allowance for 5% losses	1.45	1.33	1.20
Price per bag shipped (AUD/bag)	27.55	25.18	22.80
Price per bag shipped (SBD/bag)	192.85	176.23	159.60
Less wholesale agent's commission (15%)	28.93	26.43	23.94
<b>Net wholesale price per bag shipped (SBD/bag)</b>	<b>163.92</b>	<b>149.79</b>	<b>135.66</b>

## Appendix D

**Table D-5 Value chain analysis: coconuts**

<b>Production and Transport Costs</b>			
Variable costs of production		0.76	SBD/nut collected
Labour costs		0.33	SBD/nut collected
Total production and transport costs		1.09	SBD/nut collected
<b>Total prod'n/transport costs (after packhouse loss)</b>		<b>33.91</b>	<b>SBD/bag shipped</b>
<b>Packhouse Costs</b>			
Labour		2.19	SBD/bag shipped
Credit for local sales		-6.25	
Other packhouse costs		3.28	SBD/bag shipped
<b>Total packhouse costs</b>		<b>-0.78</b>	<b>SBD/bag shipped</b>
<b>Transport and Quarantine Costs</b>			
See freight and phytosanitary costs		46.30	SBD/bag shipped
AQIS inspection and customs agent in Melbourne		18.90	SBD/bag shipped
<b>Total transport and quarantine costs</b>		<b>65.20</b>	<b>SBD/bag shipped</b>
<b>Net Wholesale Price (after losses and commissions)</b>			
High price		163.92	SBD/bag shipped
Medium price		149.79	SBD/bag shipped
Low price		135.66	SBD/bag shipped
<b>Total Gross Margin</b>			
High price		65.60	SBD/bag shipped
Medium price		51.47	SBD/bag shipped
Low price		37.34	SBD/bag shipped

**Table D-6 Summary of value chain analysis: coconuts**

		Wholesale Price		
		High	Medium	Low
Net wholesale price	SBD/bag shipped	163.92	149.79	135.66
Less:				
Production cost	SBD/bag shipped	33.91	33.91	33.91
Packing cost	SBD/bag shipped	-0.78	-0.78	-0.78
Transport cost	SBD/bag shipped	65.20	65.20	65.20
Gross margin	SBD/bag shipped	65.60	51.47	37.34
Gross margin a/	%	40.0	34.4	27.5

a/ Percent of net wholesale price

## Appendix E

### Appendix E Value Chain Analysis: Chillies

#### Overview

The chilli value chain analysis shown in Tables E-1 to E-7 is based on the export of birdseye chillies by air freight to Brisbane. Brisbane is the preferred market because of the regular air service operated by Solomon Airlines. Birdseye is the recommended variety because its production is more labour intensive than other chilli varieties, giving Solomon Islands a competitive advantage, and because it attracts considerably higher prices than other varieties in the Brisbane market. Production would be undertaken by a number of small growers operating in partnership with an exporter. There would be one crop per year, targeting the August–September–October period in Australia when prices are generally about 20% higher than in other months. The exporter would organise a collection round about three times a week, with the produce graded and packed for export in a packhouse in or near Honiara. The wholesale price in the Brisbane market is expected to be between A\$10.00 and A\$14.00 per kg, depending on quality and competition (higher prices are sometimes available). On this basis, chilli exporting is a profitable activity, but one that would require considerable capacity development and industry organisation at both production and marketing levels.

#### Table E-1: Production costs and revenues: birdseye chilli

Chillies are not currently produced commercially in Solomon Islands, so there is no information available on costs and revenues. The cost estimates shown in Table E-1 are therefore based on budgets for chilli production developed by PHAMA in Fiji in conjunction with the Fiji Department of Agriculture, with adjustments made to reflect the different labour costs between Fiji and Solomon Islands.

#### Table E-2: Collection and transport costs: birdseye chilli

The costs of collecting and transporting produce from the smallholder growers to an export packhouse are based on three collection rounds per week, with field crates dropped off in the morning and the produce collected in the afternoon. Collection would be undertaken in a 2 tonne truck.

#### Table E-3: Cost of grading, washing and packing: birdseye chilli

The chillies would be sorted and graded in a packhouse in or near Honiara. This would involve grading for size, maturity, colour etc; removal of any defective material; and packing in plastic lined cartons imported from Fiji. On the basis of 20% grading losses, one shift with around 20 workers could pack about 1.1 tonnes of chillies.

#### Table E-4: Cost of transport and quarantine clearance: birdseye chilli

The largest costs incurred in the value chain are air transport to Brisbane and quarantine inspection and customs clearance. The cost of air freight to Brisbane is SBD11.20 per kg, plus fees for the airwaybill and phytosanitary certificate. AQIS inspection and customs agent fees in Brisbane amount to A\$800 and A\$550 per consignment, respectively.<sup>8</sup> Together, the total cost of transport and quarantine clearance amounts to SBD28 per kg shipped. Because the AQIS and customs agent fees are per shipment, cost per kg would be somewhat reduced by shipping larger amounts per consignment.

<sup>8</sup> AQIS fees vary considerably depending on the nature of the produce, time of inspection (hefty overtime fees are payable outside normal working hours) and whether any problems are detected. The actual amount can be above or below the estimate of A\$800 per consignment.

## Appendix E

### Table E-5: Sales revenue through Brisbane wholesale market: birdseye chilli

Figures C-17 and C-18 in Appendix C show that wholesale chilli prices in Brisbane over the last two years have generally ranged between A\$8 and A\$15 per kg. However, this is an average of all chilli varieties. Birdseye chillies sell for substantial premiums due to the labour intensive nature of production. There is also a large seasonal premium during the winter-spring period when local supplies are at their lowest. On this basis, birdseye chillies exported from Solomon Islands are expected to sell for between A\$10 per kg and A\$14 per kg, occasionally higher. After allowing for 10% losses and 15% agent's commission, this amounts to a net wholesale price per kg shipped of between about SBD53 and SBD75.

### Table E-6: Value chain analysis: birdseye chilli

### Table E-7: Summary of value chain analysis: birdseye chilli

Tables E-6 and E-7 show the costs, revenues and gross margins per kg shipped over the entire value chain. Total gross income (net wholesale price) would be in the range of SBD54–75 per kg, to be shared between the growers and the exporter. If the growers are paid SBD15 per kg shipped (SBD11.25 per kg collected) (equivalent to their cash costs plus a margin, plus the value of their labour at SBD25 per day), this would generate a gross margin for the exporter of between SBD8,030 (A\$1,150) and SBD29,450 (A\$4,200) per one tonne consignment. On this basis, the growers would generate a total cash return of about SBD48,000 per hectare (A\$6,800) or SBD38,000 per hectare (A\$5,400) if the cost of labour at market prices (SBD25 per day) is included.

Exporter's margins	Wholesale Price		
	High	Medium	Low
Net wholesale price (SBD/kg)	75	64	54
Less grower return (SBD/kg)	15	15	15
Less packing and transport costs (SBD/kg)	31	31	31
Gross margin (SBD/kg)	29	19	8
Gross margin (SBD/tonne)	29,453	18,743	8,033
Gross margin (AUD/tonne)	4,208	2,678	1,148

## Appendix E

**Table E-1 Production costs and revenues: birdseye chill <sup>a/</sup>**

Unit: One hectare

<b>Gross Income</b>	<b>Unit</b>	<b>SBD/unit</b>	<b>No Units</b>	<b>SBD</b>
Fresh chillies (SBD 15/kg shipped)	kg	11.25	5,000	56,250
<b>Total Gross Income</b>				<b>56,250</b>
<b>Variable Costs</b>				
Seed	kg	150.00	2.0	300
NPK	kg	6.10	350	2,135
Urea	kg	6.10	200	1,220
Malathion	L	60.00	10	600
Rambo herbicide	L	32.00	15	480
Ploughing	ha	950	2	1,900
Harrowing	ha	950	1	950
Ridging	ha	950	1	950
Transport b/				0
<b>Total Variable Costs</b>				<b>8,535</b>
<b>Labour</b>				
Planting	Pers. Day	25	40	1,000
Weeding	Pers. Day	25	20	500
Fertiliser Application	Pers. Day	25	30	750
Harvesting	Pers. Day	25	220	5,500
Sorting/Packing	Pers. Day	25	90	2,250
<b>Total Labour Cost</b>			400	<b>10,000</b>
<b>Gross Margin per hectare</b>				<b>37,715</b>
<b>Gross Margin per labour day</b>				<b>94</b>

a/ Based on Fiji costs of production

b/ Exporter collects from the farm

## Appendix E

**Table E-2 Collection and transport costs: birdseye chilli**

<b>Cost of Collecting Produce</b>		
Deliver field crates in morning and collect in afternoon		
Collection rounds per week	3	days
Distance travelled per collection run	300	km
Field boxes 70cm x 40cm x 30cm = 85 litres	85	Litres
kg of chillies per field box	25	kg
Field boxes per load	80	boxes
Full load of chillies	2.0	tonnes
<b>Vehicle Operating Costs for 2 Tonne Truck</b>		
Fuel: 15,000 km/year @ 15L/100km x SBD 11/L	24,750	SBD/year
Insurance	19,000	SBD/year
Registration	4,500	SBD/year
Driver salary: 20 weeks x SBD 550	11,000	SBD/year
Servicing: 2 services per year x SBD 4,000	8,000	SBD/year
Tyres: 6 tyres x SBD 3,400 every second year	10,200	SBD/year
Repairs and maintenance SBD 10,000 per year	10,000	SBD/year
Depreciation: SBD 530,000 over seven years	76,000	SBD/year
Total Annual Operating Cost	163,450	SBD/year
Operating Cost per km	11.68	SBD/km
Average loading factor (percent of full load)	70	%
Cost of collecting chillies	2,502	SBD/t collected
<b>Cost of collecting chillies</b>	<b>2.50</b>	<b>SBD/kg collected</b>

## Appendix E

**Table E-3 Cost of grading, washing and packing: birdseye chilli**

<b>Packhouse Labour Costs:</b>		
Cost per worker	35	SBD/shift
No of field boxes graded, washed and packed	3	boxes/worker/shift
Grading losses (% of produce discarded)	25	%
kg packed per worker	56	kg/shift
Total kg packed per shift (20 workers)	1,125	kg/shift
<b>Cost of labour per kg packed</b>	<b>0.62</b>	<b>SBD/kg packed</b>
<b>Packaging Costs:</b>		
Cartons 33cm x 25cm x 25cm = 20 Litres	20	Litres
kg of chillies per carton	5	kg
Cost of carton and plastic liners	9.00	SBD/carton
<b>Cost of carton and plastic liners per kg packed</b>	<b>1.80</b>	<b>SBD/kg packed</b>
<b>Other Packhouse Costs (per shift):</b>		
Supervisor/foreman	140	SBD/shift
Electricity and water	800	SBD/shift
Depreciation: SBD 1.3m over ten yrs, 150 shifts/yr	870	SBD/shift
<b>Other costs per kg packed</b>	<b>1.61</b>	<b>SBD/kg packed</b>

**Table E-4 Cost of transport and quarantine clearance: birdseye chilli**

Exchange rate: SBD per AUD	7.00	
Air freight Honiara-Brisbane	11.20	SBD/kg shipped
Airwaybill fee	1.00	SBD/kg shipped
Phytosanitary certificate	1.50	SBD/kg shipped
AQIS inspection in Sydney	800	AUD/shipment
AQIS inspection in Sydney	5,600	SBD/shipment
Customs agent fee	550	AUD/shipment
Customs agent fee	3,850	SBD/shipment
kg per shipment	1,000	kg
AQIS inspection and customs agent in Sydney	9.45	SBD/kg shipped
<b>Total cost of transport and quarantine clearance</b>	<b>23.15</b>	<b>SBD/kg shipped</b>

## Appendix E

**Table E-5 Sales revenue through Brisbane wholesale market: birdseye chilli**

	Price Range		
	High	Medium	Low
Wholesale price (AUD/kg)	14.00	12.00	10.00
Less allowance for 10% losses	1.40	1.20	1.00
Price per kg shipped (AUD/kg)	12.60	10.80	9.00
Price per kg shipped (SBD/kg)	88.20	75.60	63.00
Less wholesale agent's commission (15%)	13.23	11.34	9.45
<b>Net wholesale price per kg shipped (SBD/kg)</b>	<b>74.97</b>	<b>64.26</b>	<b>53.55</b>

**Table E-6 Value chain analysis: birdseye chilli**

<b>Farm Production Costs</b>		
Variable costs of production	1.71	SBD/kg collected
Labour costs	2.00	SBD/kg collected
<b>Total farm production costs</b>	<b>3.71</b>	<b>SBD/kg collected</b>
<b>Total production costs (after packhouse losses)</b>	<b>4.94</b>	<b>SBD/kg shipped</b>
<b>Cost of Collection and Transport</b>	2.50	SBD/kg collected
<b>Total collection and transport costs</b>	<b>3.34</b>	<b>SBD/kg shipped</b>
<b>Packhouse Costs</b>		
Labour	0.62	SBD/kg shipped
Packaging	1.80	SBD/kg shipped
Other packhouse costs	1.61	SBD/kg shipped
<b>Total packhouse costs</b>	<b>4.03</b>	<b>SBD/kg shipped</b>
<b>Transport and Quarantine Costs</b>		
Air freight and phytosanitary certificate	13.70	SBD/kg shipped
AQIS inspection and customs agent in Brisbane	9.45	SBD/kg shipped
<b>Total transport and quarantine costs</b>	<b>23.15</b>	<b>SBD/kg shipped</b>
<b>Net Wholesale Price (after losses and commissions)</b>		
High price	74.97	SBD/kg shipped
Medium price	64.26	SBD/kg shipped
Low price	53.55	SBD/kg shipped
<b>Total Gross Margin</b>		
High price	39.51	SBD/kg shipped
Medium price	28.80	SBD/kg shipped
Low price	18.09	SBD/kg shipped

## Appendix E

**Table E-7 Summary of value chain analysis: birdseye chilli**

		Wholesale Price		
		High	Medium	Low
Net wholesale price	SBD/kg shipped	74.97	64.26	53.55
Less:				
Production cost	SBD/kg shipped	4.94	4.94	4.94
Collection cost	SBD/kg shipped	3.34	3.34	3.34
Packing cost	SBD/kg shipped	4.03	4.03	4.03
Transport cost	SBD/kg shipped	23.15	23.15	23.15
Gross margin	SBD/kg shipped	39.51	28.80	18.09
Gross margin a/	%	52.7	44.8	33.8

a/ Percent of net wholesale price

## Appendix F

### Appendix F List of Persons Contacted

Name	Organisation	Position	Email	Phone
Shiv Raj Bhatt	Ministry of Foreign Affairs and External Trade	Technical Adviser, Enhanced Integrated Framework	bhattshivraj@yahoo.com	21250 7596839
Richard Brennan	Customs and Excise Division, Ministry of Finance			20788
Hugo Bugoro	Solomon Islands Port Authority (SIPA)	Operation Manager	baulo.hugo@gmail.com	7494966
Max Erenimae	Customs and Excise Division, Ministry of Finance			23460
Clement Hadosaia	Kastom Garden Association	Manager	clement@kastomgarden.org	39551 749 5544
Dale Hamilton	PHAMA	Quarantine and Biosecurity Specialist	d.hamilton@phama.com.au	22384/ 22365 7495319
Rex Ijini	Pacific Air Express	General Manager, Solomon Islands	rex.ijini@pacifcairexpress.com.sb	39248 +617 38606001
Ronald Ivupitu	SIPA	Director of Engineering	r.ivupitu@sipa.com.sb	7499697
Mark Johnston	Solomon Islands RDP	Implementation Advisor	m.johnston@solomon.com.sb	7489510
Glyn Joshua	SIPA	Corporate Services Director	j.glyn@sipa.com.sb	7472512
Gideon Khale	Pure Solomon Products	Director	titilig@yahoo.co.uk	7594696
John Konam				
Salesh Kumar	Toll	Logistic Manager	<a href="mailto:salesh.kumar@tollgroup.com">salesh.kumar@tollgroup.com</a>	24500 7495056
Momi Kwaita	El Shaddai Catering	Manager	momikwaita@gmail.com	7494809
Nancy Kwalea	Solomon Islands Chamber of Commerce and Industry	Acting Chief Executive Officer	ceo@solomonschamber.com.sb	39542 7623188
Duddley Longamei	Varivao Holdings Ltd	General Manager	dlogamei@yahoo.com	30869 7469669
Levite Maesimae	Small and Medium Enterprise Council	Manager, SMEs Service	enterprises@solomon.com	26789

## Appendix F

Name		Organisation	Position	Email	Phone
Arvind	Naidu	Punjas	Branch Manager	punjas@solomon.com.sb	39166/55 7568616
Irene	Nanau	MAL	Head of Market Access, SIAQS		
Peter	Omani	Solomon Airlines		pomani@flysolomons.com	36592 7489945
Richard	Pauku (Dr)	NGASI	President	maraghato@solomon.com.sb	7655851 23190
Alfred	Ramo	CEMA	General Manager	alfredramoagulo@gmail.com	22347
Noel	Ropose	MAL	Head, Marketing Unit		7402370
Andrew	Sale	PHAMA	National Market Access Coordinator	a.sale@phama.com.au	22384/ 22365 7495736
Dove	Sale	Island Beekeeping Supplies	Manager	islandbee@solmar.com.sb	30067 7495264
Lynette	Sali	Pacific Air Express	Cargo Manager, Solomon Islands	lyn.Sali@pacificairexpress.com.sb	39248 +617 38606001
David	Sali	Express Freight Management	Branch Operations	david@expresssfreight.com.sb	21112
Gerald	Stenzel	Tradco Shipping Limited	Managing Director	tradco@solomon.com.sb	22588 7494820
Gabriel	Titili	Pure Solomon Products	Director	titilig@yahoo.co.uk	7594696
Francis	Tsatsia	MAL	Director, SIAQS	ftsatsia@yahoo.com	28926 7644554
George	Tuti	Ministry of Foreign Affairs	Chief Trade Officer/EIF Coordinator	georgetuti@yahoo.com	21250
Jackson	Warihirv	SIPA	Director of Finance	j.warihiru@sipa.com.sb	7472513
Frank	Wickham	MAL	Permanent Secretary	frankw.psmal@gmail.com	25161 749 5819

## Appendix G

### Appendix G Bibliography

1. Australian Import Conditions Database (ICON)
2. Bourke RM, McGregor A, Allen MG, Evans BR, Mullen BF, Pollard AA, Wairiu M and Zotalis S (January 2006), Solomon Islands Smallholder Agriculture Study, Volume 1, Main Findings and Recommendations
3. Fiji Ministry of Primary Industries: Farm Management Budget Manual 2010
4. McGregor A (January 2006), Solomon Islands Smallholder Agriculture Study, Volume 3, Markets and Marketing Issues
5. Ministry of Development Planning and Aid Coordination (July 2011), Solomon Islands National Development Strategy 2011–2020
6. Ministry of Development Planning and Aid Coordination (March 2007), Solomon Islands Agriculture and Rural Development Strategy: Building Local Foundations for Rural Development
7. Pacific Islands Trade and Investment Commission (2009), Exporting Coconuts from the Pacific Islands
8. Pacific Islands Trade and Investment Commission (Undated), Pacific Islands Exporting Coffee to Australia
9. Pacific Islands Trade and Investment Commission (Undated), Exporting Coffee from the Pacific Islands
10. Pacific Islands Trade and Investment Commission (Undated), Packaging and Labelling for the Australian Market
11. Pacific Islands Trade and Investment Commission (September 2012), Pacific Islands Exporting Coffee to Australia
12. Pacific Islands Trade and Investment Commission (September 2012), Pacific Islands Exporting Vanilla to Australia
13. Pacific Islands Trade and Investment Commission (September 2012), Pacific Islands Exporting Chillies to New Zealand
14. PHAMA (January 2012) Technical Report No 16, Potential for Cutflower and Foliage Exports to Australia
15. PHAMA (April 2012), Technical Report No 22, Feasibility Study on Selected Horticultural Exports From Fiji To Australia
16. PHAMA (June 2012), 2012–2013 Annual Strategic Plan
17. PHAMA (June 2012), Technical Report No 31, Evaluation of Trial Shipments of Cutflowers and Foliage to Australia
18. Ministry of Agriculture and Livestock, Solomon Islands (undated), Market Access Strategy for Agricultural Sector 2011–2015
19. Sale A and Vinning G (August 2009). Using a value chain approach to develop the small scale food processing sector in Solomon Islands. Occasional Note – Marketing: 14/09, Agricultural Livelihoods Unit
20. Sale A and Vinning G (March 2009). Rapid market appraisal Honiara Central Market: Guadalcanal Province, Solomon Islands. Occasional Note – Marketing: 02/09, Agricultural Livelihoods Unit
21. Strategic Action Plan for the Nut Growers Association of Solomon Islands
22. Vinning G and Sale A (April 2009). Marketing skills training lessons from Solomon Islands' retail and food service sector. Occasional Note – Marketing: 09/09, Agricultural Livelihoods Unit
23. Vinning G and Sale A (April 2009). Noro: a small market of major significance. Occasional Note – Marketing: 08/09, Agricultural Livelihoods Unit

## Appendix G

24. Vinning G and Sale A (February 2009). Rapid market appraisal: Gizo Western Province, Solomon Islands. Occasional Note – Marketing: 01/09, Agricultural Livelihoods Unit
25. Vinning G and Sale A (June 2009). What's it worth: Estimates of the value of fruit and vegetables in Solomon Islands. Occasional Note – Marketing: 11/09, Agricultural Livelihoods Unit
26. Vinning G and Sale A (June 2009). What's it worth: Estimates of the value of fruit and vegetables in Solomon Islands. Occasional Note – Marketing: 11/09, Agricultural Livelihoods Unit
27. Vinning G and Sale A (March 2009). Auki's food service sector: Malaita Province, Solomon Islands. Occasional Note – Marketing: 04/09, Agricultural Livelihoods Unit
28. Vinning G and Sale A (March 2009). Case studies of fresh produce marketing at Honiara Central Markets: Guadalcanal Province, Solomon Islands. Occasional Note – Marketing: 06/09, Agricultural Livelihoods Unit
29. Vinning G and Sale A (March 2009). Rapid market appraisal: Auki market, Malaita Province, Solomon Islands. Occasional Note – Marketing: 05/09, Agricultural Livelihoods Unit
30. Vinning G and Sale A (March 2009). The food service sector in Western Province. Occasional Note – Marketing: 07/09, Agricultural Livelihoods Unit
31. Vinning G and Sale A (May 2009). Notes on a visit to Makira: Ulawa Province. Occasional Note – Marketing: 10/09, Agricultural Livelihoods Unit
32. Vinning G and Tikai P (February 2009). Case studies in marketing: Tulagi Central Province, Solomon Islands. Occasional Note – Marketing: 03/09, Agricultural Livelihoods Unit
33. Vinning G, Sale A, Hughes O and Lowe M (October 2009). Strengthening food marketing in Solomon Islands. Occasional Note – Marketing: 16/09, Agricultural Livelihoods Unit
34. Landell Mills Development Consultants (August 2005). Study on the Development and Marketing of Vanuatu Cocoa and Coconut Products. European Development Fund, Development Cooperation Department



**URS**

URS Australia Pty Ltd  
Level 4, 70 Light Square  
Adelaide SA 5000  
Australia

T: 61 8 8366 1000

F: 61 8 8366 1001

[www.ap.urscorp.com](http://www.ap.urscorp.com)