Christmas Island Regional Analysis: Report prepared for the Indian Ocean Territories Review

Special Report
This Report presents the results of the BTE's regional analysis of Christmas Island. It covers key social and economic features, factors affecting economic development, the outlook for individual areas of economic activity, and economic sustainability. A related BTE report provides a regional analysis of the Cocos (Keeling) Islands.
Bureau of Transport Economics

CHRISTMAS ISLAND REGIONAL ANALYSIS

December 1998
Commonwealth of Australia 1999
ISSN 1440-9607

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FOREWORD

This report presents the results of the BTE's regional analysis of Christmas Island. It covers key social and economic features, factors affecting economic development, the outlook for individual areas of economic activity, and economic sustainability. A related BTE report provides a regional analysis of the Cocos (Keeling) Islands.

The regional analyses of Christmas Island and the Cocos (Keeling) Islands were prepared for the Indian Ocean Territories Review. The primary purpose of the Review was to undertake an assessment of the long-term economic sustainability of the Indian Ocean Territories and to identify options and recommend future funding arrangements for the Territories. The Review was conducted jointly by the Department of Transport and Regional Services and the Department of Finance and Administration.

The Christmas Island regional analysis was prepared by Kym Starr (project leader) and Joshua Gordon.

Greg Harper
Director

Bureau of Transport Economics
Canberra
December 1998
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SUMMARY

Christmas Island is one of Australia’s Indian Ocean Territories. It is located about 2,600 kilometres from Perth, 900 kilometres from the Territory of Cocos (Keeling) Islands and 360 kilometres from Java.

SOCIAL ASPECTS

Christmas Island’s population was 1,900 persons at the last census in 1996. It has subsequently declined to 1,600 persons or less as a result of a major fall in the level of economic activity on the island.

The community on Christmas Island is multi-cultural. The ethnic profile is Chinese 65 per cent, Malay 20 per cent and European 15 per cent. Around 80 per cent of residents have a first language other than English. There are significant social and cultural links to communities in Asia and Western Australia.

The health of Christmas Island residents is generally comparable to average levels on the mainland. Unemployment is unofficially estimated at 10-15 per cent but there is also significant underemployment, particularly in the small business sector. Almost 100 per cent of Year 10 students proceed to study Years 11 and 12 on the mainland, and many of these students subsequently attend a tertiary institution.

The Commonwealth has an objective of aligning conditions and standards on Christmas Island with those of comparable communities in the rest of Australia. It has therefore funded a major program of capital works to upgrade infrastructure and facilities, with expenditure of more than $100 million since 1991/92.

AREAS OF ECONOMIC ACTIVITY

In recent years the major areas of economic activity on Christmas Island have been phosphate mining, tourism, the public sector, and contracting and services. There has been a substantial reduction in the overall level of economic activity over the last 12 months, particularly reflecting a decline in tourism.
Phosphate mining provides 133 full-time and 65 part-time jobs on the island. Revenue from phosphate sales, mainly involving markets in Asia and Australia, increased to almost $44 million in 1997/98.

Tourism was a major source of income and employment on Christmas Island until 1997/98. The resort/casino employed over 300 people prior to its closure in April 1998. Tourism activities in other areas, such as diving and fishing, have also declined and are currently at low levels.

The other private sector activities on Christmas Island are contracting and various services, which often involve work for the public sector. They provide an estimated 180 full-time jobs and 160 part-time jobs. Many small businesses on the island have reported sales declines of 30-40 per cent over the 12 months to September 1998, reflecting the reduction in tourism and a lower population.

The Commonwealth funds a wide range of services and infrastructure on Christmas Island and also has a significant operational role. In addition, it provides some explicit subsidies (eg for air services). Many State-type functions are delivered for the Commonwealth by Western Australian agencies under service delivery arrangements.

Public sector agencies, which are mainly funded by the Commonwealth, have around 210 full-time employees and a small number of part-time employees on the island. In addition, a significant proportion of private sector employment, in areas such as contracting, involves Commonwealth-funded activities.

FACTORS AFFECTING ECONOMIC OUTLOOK

Future prospects for Christmas Island’s economy will be affected by the resources available, external demand (particularly conditions in Asia), the competitive position of the economy, economic management and community attitudes to change.

Christmas Island is located close to Asia, has an attractive natural environment, contains significant phosphate deposits, has a low crime rate and is free of major tropical diseases. However, the population is relatively small, there are constraints on access to land, and the cost structure is high. In addition, transport services are limited. Infrastructure is good in some areas (eg the hospital) but below general mainland standards in other areas (eg housing).

The major opportunities for further economic development on Christmas Island involve private sector activities. Projects will be viable and contribute to long-term economic development only if they are well-suited to the island’s resource base, can operate within the constraints such as high transport costs, and do not require long-term assistance. The Commonwealth has a role in areas such as the provision of an appropriate framework for private sector activities and policies in specific areas (eg land release).
Tourism will not develop on a significant scale unless there are improved air services from Asia and from Perth. Other issues that potentially need to be addressed in order to facilitate viable projects on Christmas Island include land release policies, infrastructure (particularly tourist accommodation), specific infrastructure requirements for major projects, and co-ordination of development activities.

The available information indicates that Christmas Island residents generally support economic development that balances economic, environmental and social considerations.

PROSPECTS FOR INDIVIDUAL ACTIVITIES

Phosphate and the public sector currently provide the major bases for economic activity on Christmas Island. Potential opportunities for new or expanded areas of economic activity include tourism and satellite launching.

There are significant amounts of phosphate available for mining in the areas covered by the mining lease (which runs to 2019). Developments in Asia (particularly Malaysia) will have a major effect on demand in the short run. The competitive position of Christmas Island is enhanced by its position as a niche producer but will also be affected by more general factors such as the exchange rate of the Australian dollar.

The provision of public services and infrastructure is a major area of economic activity on Christmas Island. Further infrastructure development will take place in 1998/99, and additional funding is being sought for future years.

The major opportunities for tourism are likely to involve specialised activities and overseas markets (especially Asia). The future of the resort/casino is a key consideration as it provided the basis for the development of substantial tourism on the island. In addition, Christmas Island Resort Pty Ltd (provisional liquidator appointed) owns most of the accommodation on Christmas Island. There appear to be significant opportunities in other areas of tourism, particularly diving and eco-tourism, but the prospects depend on factors such as the availability of adequate air services and accommodation.

Construction of a proposed satellite launching facility on Christmas Island would potentially have a significant impact on the local economy. Although the global market is substantial, there are a range of competing facilities in Australia and overseas. The project has been granted Major Project Facilitation status, and an environmental impact assessment is expected to be completed in early 1999.

Longer-term opportunities may be available in other areas such as the provision of education or health services to Asia. However, there do not appear to be any firm commercial proposals in these areas at present.
Current tuna fishing activities will provide an indication of the potential for commercial fishing. Prospects for horticulture appear to be limited due to problems with pests and other factors.

Christmas Island could have considerable defence significance in a conflict involving Australia’s maritime approaches. Current and proposed defence activities are unlikely to provide a significant stimulus to the local economy.

**ECONOMIC SUSTAINABILITY**

Economic sustainability can be broadly defined as the ability of a community to maintain a specified living standard over the long term. Estimates of first-round funds flows provide information for the analysis of economic sustainability.

Since early 1998 there have been only two significant sources of external funds for the Christmas Island economy. The available data indicate first-round funds flows of $25.5 million (net of user charges) from Commonwealth activities and at least $12.3 million from phosphate mining in 1997/98. Economic activity on Christmas Island is therefore heavily dependent on Commonwealth funding.

Development of tourism on a substantial scale would potentially increase the earnings from private sector activities. First-round funds flows for the resort/casino are estimated at more than $11.1 million per annum when it was trading strongly. There is also potential for flows of up to $4.2 million per annum from other tourism such as diving and eco-tourism.

The proposed satellite launching facility could provide another source of external earnings for Christmas Island. However, there is currently insufficient data on which to base estimates of the potential impact of this project.

The level of private sector activity on Christmas Island is likely to vary significantly over time as a result of the narrow range of activities and the small number of major markets. Phosphate resources on the island are finite, and production will be strongly affected by economic conditions in Malaysia which accounts for over 60 per cent of sales. Conditions in Indonesia, the major market for the resort/casino in the past, will have major effects on tourism.

The recent history of Christmas Island suggests that economic activity remains at a reasonable level when there are at least two major sources of external funds in addition to Commonwealth activities. However, closure or a significant reduction in one sector leads to a substantial downturn in the economy.

A reasonable level of economic activity on Christmas Island is not sustainable without significant Commonwealth activities. Like all Australian communities, Christmas Island receives financial support from the Commonwealth. However, economic sustainability on Christmas Island will require a relatively high level of per capita support compared with most mainland communities. The level of economic activity will also be sensitive to variability in earnings from phosphate, tourism and any other major private activities.
CHAPTER 1 INTRODUCTION

In July 1998 the Indian Ocean Territories Review approached the BTE to undertake a regional analysis of Christmas Island and the Cocos (Keeling) Islands. The purpose of the analysis was to assist the Review by providing information on:

- current levels and patterns of economic activity;
- sustainable trends or new directions in economic activity; and
- factors that can affect such activity.

The BTE commenced work on the study in mid-July 1998 following the Review’s acceptance of a detailed project proposal.

APPROACH

This report presents the results of the BTE’s regional analysis of Christmas Island. A separate report has been prepared for the Cocos (Keeling) Islands in view of significant differences in the social and economic structures of the two Territories.

The BTE’s analysis is structured around four key areas:

- economic and social overview;
- major factors affecting economic development;
- outlook for individual activities; and
- economic sustainability.

Discussions and observations during a visit to Christmas Island on 20-26 September 1998 provided valuable information for the study (see appendix 1). Data were also obtained from available statistical series, discussions with relevant agencies and several earlier studies. While an extensive search of potential data sources was undertaken, significant gaps in the data sets covering Christmas Island have limited the coverage of the report in some areas.

A first draft of the report was provided to the Review on 28 October 1998. The final report incorporates comments from the Territories Office, the Christmas Island Administration, and the Department of Finance and Administration. It
OUTLINE OF THE REPORT

Chapter 2 covers the geography, population, legal and institutional framework, infrastructure and social indicators for Christmas Island. An economic overview in chapter 3 describes the major economic activities, income and expenditure, taxes and charges, subsidies and allowances, and transport services. The information in these chapters provides background and support for the analysis in later sections of the report.

Chapter 4 discusses the key factors affecting the level of economic activity and development on Christmas Island. It covers the resources available, external demand conditions, competitive position, economic management and community attitudes to change.

Chapter 5 covers the outlook for existing and potential areas of economic activity. It draws on the material in chapter 4 as well as other information collected by the BTE. The major activities included in the analysis are phosphate, tourism, satellite launching, the public sector, commercial fishing, horticulture, services for Asia and military uses.

Chapter 6 considers the issue of economic sustainability in terms of access to goods and services. It includes estimates of the first-round flows of funds, both recent and potential, for specific areas of economic activity.

Some major issues in promoting economic development and strengthening sustainability are considered in chapter 7.

ACKNOWLEDGEMENTS

During the preparation of this report, the BTE received information and advice from a wide range of organisations and individuals. We would particularly like to acknowledge the assistance provided by community organisations, businesses, government agencies and individuals on Christmas Island.
CHAPTER 2 GEOGRAPHY AND SOCIAL OVERVIEW

The Territory of Christmas Island is located in the Indian Ocean at latitude 10°30'S and longitude 105°40'E (see figure 2.1). Its nearest neighbours are Java (360 kilometres to the north-east) and the Territory of Cocos (Keeling) Islands (900 kilometres to the south-west). Christmas Island is 2,600 kilometres from Perth and 1,300 kilometres from Singapore (ABS 1996a, 7, 8).

GEOGRAPHY AND CLIMATE

Christmas Island is 'the coral encrusted, emergent tip of a submarine mountain, rising more than 5,000 metres from the ocean floor' (Gray 1995, 25). The coastline mainly comprises steep cliffs, interspersed by about a dozen small beaches. A narrow fringing reef of coral quickly drops by terraces to a depth of 10-20 metres and then plunges away sharply to the limits of light penetration.

Christmas Island is 19 kilometres long and between 5.5 and 14 kilometres wide. The total land area is 135 square kilometres. The highest point on the island is Murray Hill (361 metres above sea level).

The climate of Christmas Island is tropical. Relative humidity is 80-90 per cent and the temperature ranges from 21°C to 32°C, with a year-round average of 27°C. Average annual rainfall is about 2,000 mm. Tropical cyclones occasionally pass close to the island during the wet season (December to April) and bring strong winds, heavy rain and rough seas.

Christmas Island has many unique plants and animals that have evolved in the isolated environment of the island. There are large numbers of birds, crabs and other animals. Around 63 per cent of the island is included in the Christmas Island National Park and there are substantial areas of tropical rainforest. Christmas Island has been compared with the Galapagos Islands in terms of ecological significance.

POPULATION

Christmas Island was uninhabited at the time of European discovery in 1643. Following the identification of phosphate deposits, it was annexed by Britain in 1888. Workers were recruited from Asia to mine the phosphate.
Total population

Christmas Island's population has varied significantly in response to changes in the level of economic activity. The major influences over the last ten years have included the closure (and subsequent re-opening) of the phosphate mine, the opening (and recent closure) of a major tourist resort/casino, and variations in Commonwealth expenditure.

The population of Christmas Island at the last official census in 1996 was 1,906 persons (ABS 1998a, 29). This represented almost a 50 per cent increase over the figure of 1,275 persons reported at the previous census in 1991. More recently, there has been a significant decline in the population following the closure of the Christmas Island Resort in April 1998. Unofficial estimates of the population in September 1998 generally ranged between 1,200 and 1,600 persons.

The population and most of the facilities on Christmas Island are concentrated on the northern end of the island. There are six urban areas - the Settlement, Flying Fish Cove (including the Kampong), Poon Saan, Silver City, Drumsite and Taman Sweetland. In addition, the resort/casino facilities (currently closed) are located at Waterfall. There is a long-term proposal for a new town centre at Irvine Hill near the airport.

Cultural aspects

The pattern of economic development and settlement on Christmas Island has resulted in the creation of a multi-cultural community. The ethnic profile of the residents is Chinese 65 per cent, Malay 20 per cent and European 15 per cent. Religious affiliations are Buddhist, Christian, Muslim and other (eg Taoist, Confucian).

English is the official language on Christmas Island and is the instructional language at the school. However, around 80 per cent of the population have a first language other than English. Many residents usually communicate in a Chinese dialect or in Bahasa Malaysia.

There are significant social and cultural links between Christmas Island and communities in Asia and Western Australia. Many residents have relatives in Malaysia, Singapore or, to a lesser extent, Perth. The links to Malaysia and Singapore reflect the origins of the workers who were recruited to mine the phosphate deposits. The links to Perth involve commercial and educational factors (eg the location of schools for Years 11 and 12).

Demographic characteristics

Information on the demographic characteristics of Christmas Island’s resident population is available from a survey conducted in late 1995 (ABS 1996a). Data for Perth provide a basis for comparison with mainland Australia.
Table 2.1 indicates that, compared with Perth, Christmas Island had significantly higher proportions of its population in the 0-14 years and 25-44 years groups. The figure for the 15-24 years age group was lower, although this may partly reflect the absence of post-Year 10 students who attend schools in Perth. The proportion of the population in the 55 years and over age group was very low on Christmas Island. Key factors affecting the age distribution include an earlier policy of recruiting short-term contract workers for the phosphate mine and the large number of young, off-island employees recruited to work at the resort/casino up to 1998.

Household composition on Christmas Island also differed significantly from the composition on mainland Australia in late 1995. Table 2.2 indicates that the proportion of Christmas Island households with children was much higher than the proportion for households in Perth, although the proportion of single parent families was lower.

The data for late 1995 indicate that around 55 per cent of Christmas Island residents were males and 45 per cent were females. The corresponding Perth figures were 50 per cent for both groups (ABS 1996a, 15).

**TABLE 2.1 AGE DISTRIBUTION OF POPULATION ON CHRISTMAS ISLAND AND IN SELECTED COMMUNITIES, 1995**

<table>
<thead>
<tr>
<th>Age group</th>
<th>Christmas Island</th>
<th>Cocos (Keeling) Islands</th>
<th>Perth</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-14</td>
<td>35</td>
<td>31</td>
<td>21</td>
</tr>
<tr>
<td>15-24</td>
<td>8</td>
<td>11</td>
<td>16</td>
</tr>
<tr>
<td>25-44</td>
<td>43</td>
<td>36</td>
<td>31</td>
</tr>
<tr>
<td>45-54</td>
<td>11</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>55 and over</td>
<td>3</td>
<td>8</td>
<td>19</td>
</tr>
</tbody>
</table>

Note: Components may not sum to 100 due to rounding.

Source: ABS (1996a, 15, 35).

**TABLE 2.2 HOUSEHOLD COMPOSITION ON CHRISTMAS ISLAND AND IN SELECTED COMMUNITIES, 1995**

<table>
<thead>
<tr>
<th>Group</th>
<th>Christmas Island</th>
<th>Cocos (Keeling) Islands</th>
<th>Perth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Couple living with their unmarried children only</td>
<td>51</td>
<td>52</td>
<td>32</td>
</tr>
<tr>
<td>Person living alone</td>
<td>25</td>
<td>4</td>
<td>23</td>
</tr>
<tr>
<td>Married/de facto couple only</td>
<td>13</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>One parent living with his/her unmarried child(ren) only</td>
<td>4</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>All other households</td>
<td>7</td>
<td>29</td>
<td>12</td>
</tr>
</tbody>
</table>

Source: ABS (1996a, 16, 36).
LEGAL AND INSTITUTIONAL FRAMEWORK

Christmas Island was administered from Singapore between 1900 and 1958. It was initially incorporated in the Straits Settlements and, from 1946, was part of the Colony of Singapore (Gray 1995, 120). Christmas Island became a separate British Crown Colony under a transitional arrangement in 1958. Sovereignty was transferred to Australia later in 1958, and the island became a Territory of Australia.

The Governor-General has the power to make laws for Christmas Island. An Administrator, who reports to the Commonwealth Minister responsible for Territories, is the Commonwealth’s representative on the island. A modern body of Australian law, based on the legal regime of Western Australia, was introduced in 1992. This replaced the previous system of Singapore colonial law and local ordinances under the Christmas Island Act.

As Christmas Island is not included in an Australian State, the Commonwealth funds a wide range of State-type (and other) services and infrastructure on the island. Table 2.3 summarises the current arrangements for the delivery of services by public sector agencies.

Most Commonwealth activities on Christmas Island are funded through programs administered by the Department of Transport and Regional Services. The programs involve the:

- Christmas Island Administration (operation of a range of infrastructure and services, plus general administration);
- Territories Office Canberra (particularly policy development and the infrastructure rebuilding program); and
- Territories Office Perth (particularly delivery of State-type services and management of air service contract).

Data provided by the Territories Office indicate that recurrent expenditure by the predecessor of the Department of Transport and Regional Services under programs for Christmas Island totalled $24.0 million in 1997/98. Expenditure for capital works was $4.8 million. Parks Australia, the other major source of Commonwealth funding, spent about $1.8 million on Christmas Island in 1997/98.

Various functions typically undertaken by State governments in other parts of Australia are provided on Christmas Island by Western Australian bodies under service delivery arrangements with the Commonwealth. These arrangements specify that the delivery of services on Christmas Island should

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1 Excludes some expenditure for the Christmas Island Administration ($0.3 million) and some expenditure for Territories Office running costs that involved both Christmas Island and the Cocos (Keeling) Islands ($2.4 million).
<table>
<thead>
<tr>
<th>Operator/provider</th>
<th>Agency</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commonwealth</td>
<td>Christmas Island Power, health, education support staff, public housing, airport, marine administration, workers' compensation, community development, environment, communications, quarantine</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aust Federal Police</td>
<td>Community policing, immigration, customs, bailiff, motor vehicle registration &amp; licensing</td>
</tr>
<tr>
<td></td>
<td>Parks Australia</td>
<td>Environmental advice, rainforest rehabilitation, national park management</td>
</tr>
<tr>
<td></td>
<td>Supervising Scientist Group</td>
<td>Environmental management, regulatory, audit &amp; assessment services</td>
</tr>
<tr>
<td></td>
<td>Australian Fisheries Management Authority</td>
<td>Fisheries management</td>
</tr>
<tr>
<td></td>
<td>Bureau of Meteorology</td>
<td>Meteorological services</td>
</tr>
<tr>
<td></td>
<td>Centrelink</td>
<td>Aspects of social security</td>
</tr>
<tr>
<td>WA State agency</td>
<td>Education WA</td>
<td>Education</td>
</tr>
<tr>
<td></td>
<td>Legal Aid WA</td>
<td>Legal information &amp; assistance</td>
</tr>
<tr>
<td></td>
<td>Dept of Land Administration</td>
<td>Land administration including issue of titles</td>
</tr>
<tr>
<td></td>
<td>Ministry of Justice</td>
<td>Court services, corrective services, registration of births/deaths/marriages</td>
</tr>
<tr>
<td></td>
<td>Dept of Local Government</td>
<td>Advice &amp; training to Shire and annual grants assessment</td>
</tr>
<tr>
<td></td>
<td>Fire &amp; Emergency Services Authority of WA</td>
<td>Advice &amp; training on fire &amp; emergency issues</td>
</tr>
<tr>
<td></td>
<td>Office of Racing, Gaming &amp; Liquor</td>
<td>Liquor licensing, gaming licences, casino regulation</td>
</tr>
<tr>
<td></td>
<td>Ministry of Fair Trading</td>
<td>Development &amp; promotion of fair trading &amp; competition policies</td>
</tr>
<tr>
<td></td>
<td>Small Business Development Corporation</td>
<td>Advice &amp; assistance to small business operators</td>
</tr>
<tr>
<td></td>
<td>Main Roads WA</td>
<td>Training &amp; advice on road maintenance, assessment of road maintenance requirements, advice on level of road funds</td>
</tr>
<tr>
<td></td>
<td>Health Dept of WA</td>
<td>Assisting the health sector to achieve a high level of performance</td>
</tr>
<tr>
<td></td>
<td>Library Board</td>
<td>Provision &amp; promotion of equitable access to information resources &amp; services</td>
</tr>
<tr>
<td></td>
<td>Ministry for Planning</td>
<td>Provision of the planning, legal &amp; administrative framework to ensure the consistent use &amp; development of land</td>
</tr>
<tr>
<td></td>
<td>State Revenue &amp; Land Valuation Tribunal</td>
<td>Assessment &amp; collection of some State-type taxes &amp; charges</td>
</tr>
<tr>
<td></td>
<td>Valuer-General's Office</td>
<td>Land valuations for rating &amp; other public purposes</td>
</tr>
<tr>
<td></td>
<td>WorkCover WA</td>
<td>Administration of Worker's Compensation &amp; Rehabilitation Act</td>
</tr>
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TABLE 2.3  PROVISION OF MAJOR SERVICES ON CHRISTMAS ISLAND BY PUBLIC SECTOR AGENCIES, NOVEMBER 1998 (CONTINUED)

<table>
<thead>
<tr>
<th>Operator/provider</th>
<th>Agency</th>
<th>Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>WorkSafe WA</td>
<td>Occupational health &amp; safety in workplace</td>
<td></td>
</tr>
<tr>
<td>Equal Opportunity Commission</td>
<td>Safeguard equal opportunity &amp; human rights and provide avenue of redress for unlawful discriminatory behaviour</td>
<td></td>
</tr>
<tr>
<td>State Ombudsman's Office</td>
<td>Handling of complaints arising from administrative actions of government agencies within Ombudsman's jurisdiction</td>
<td></td>
</tr>
<tr>
<td>Public Trustee</td>
<td>Provision of trustee services, involving preparation of wills and executor &amp; administrator functions</td>
<td></td>
</tr>
<tr>
<td>Local government</td>
<td>Shire of Christmas Island</td>
<td>Water^d, sewerage^d, parks &amp; recreation facilities, public health, waste collection &amp; disposal, town planning, building control, roads, footpaths, street cleaning/signs, public library, welfare services, cemetery</td>
</tr>
<tr>
<td>Other</td>
<td>Indian Ocean Group Training Association</td>
<td>Adult education, including apprenticeships and traineeships</td>
</tr>
</tbody>
</table>

a. No staff located permanently on Christmas Island. Service generally provided by mainland-based officers who may periodically visit Christmas Island.
b. Services provided through service delivery arrangements with the Commonwealth.
c. Six staff were located on-island for casino regulation but all of these staff had returned to the mainland by late 1998.
d. Service provided under contract or as an agency for the Commonwealth.

Sources: Data collected by the BTE from mainland and Christmas Island agencies.

be generally similar to the manner in which the services are delivered to communities of comparable size and remoteness in Western Australia. Education WA staff work on Christmas Island and some Office of Racing, Gaming and Liquor staff were located on the island until late 1998. The activities of other Western Australian agencies are generally undertaken through regular visits by mainland-based officers.

The Shire of Christmas Island is responsible for various local government functions. It was incorporated in 1992 and operates under the provisions of the WA Local Government Act 1995 (CI) (CKI). The Shire has an annual budget of around $6 million. The Commonwealth provides a significant proportion of the Shire’s funds due to the limited local rate base.

There is a substantial private sector on Christmas Island. The major companies include Phosphate Resources Ltd (phosphate mining) and Christmas Island Resort Pty Ltd (provisional liquidator appointed). Several major construction/maintenance contractors operate on Christmas Island and there is a significant small business sector.

The Union of Christmas Island Workers (UCIW), which was established in 1975, undertakes virtually all of the trade union activities on the island. It was originally formed to improve wages and conditions for workers in the phosphate industry but can now cover all categories of employees on Christmas
Island. The UCIW currently has about 500 members. It is actively involved in a range of industrial and community issues on Christmas Island.

INFRASTRUCTURE AND FACILITIES

The Commonwealth has an objective of aligning conditions and standards on Christmas Island with those of comparable communities in the rest of Australia. It has therefore funded a program of capital works to upgrade infrastructure and facilities on the island.

Work undertaken as part of the Christmas Island Rebuilding Program since 1991/92 has included a new hospital, upgraded power supply, improved sewerage and water supply facilities, extensions to the school, additional public housing, upgraded marine facilities and road works.

Community infrastructure and facilities

Christmas Island has an acute care hospital which provides a 24-hour service to the community. The facilities include an accident/emergency room, operating theatre, x-ray facility, birthing room, five wards (eight beds), a basic medical laboratory, dental facilities and other rooms. Staffing comprises two doctors, nine nurses, one medical technologist, one health worker, one dentist, one dental therapist and 12 other staff.

Non-resident specialists visit Christmas Island at varying intervals. They include a paediatrician (every three months), general physician (every six months), ophthalmologist (every nine months), physiotherapist (every three months), radiographer (every three months), and orthopaedic surgeon (infrequent). A medical evacuation service transports residents to the mainland for acute or specialised treatment.

The Christmas Island District High School provides education from Kindergarten up to Year 10. In September 1998 there were 520 students at the school. Staffing comprised 42 teachers and 1 registrar (provided by Education WA) and 19 locally-engaged support staff. Students travel to the mainland to study Years 11 and 12. The Malay community operates a school which provides additional instruction in areas such as the Koran.

Water for domestic and commercial use on Christmas Island is pumped from several springs and underground streams. Diesel generators supply electricity which is distributed around the island using underground and overhead cables. The sewerage system comprises a piped collection network and a modern treatment plant.

Other facilities on Christmas Island include a public library, museum, swimming pool, cricket/football field, open-air cinema, tennis courts, golf course, licensed post office, bank, banking agency and community halls.
Housing

Until recently, the Commonwealth owned virtually all of the housing on Christmas Island as it was previously the operator of the only commercial activity (phosphate mining). Under a housing policy announced in 1992, the Commonwealth agreed to sell about 100 houses and 20 blocks of strata title units to their long-term occupants. Additional houses and units were subsequently sold.

Information on accommodation arrangements in late 1995 is presented in table 2.4. It indicates that a relatively large proportion of people on Christmas Island were living in rented accommodation.

Recent information on the ownership of dwellings on Christmas Island is presented in table 2.5. It indicates that about 75 per cent of houses and 65 per cent of flats/units were privately owned in September 1998. There were around 195 houses and 442 flats/units on Christmas Island (excluding the demountables at Taman Sweetland) at that time.

**TABLE 2.4 ACCOMMODATION ARRANGEMENTS ON CHRISTMAS ISLAND AND IN SELECTED COMMUNITIES, 1995**

<table>
<thead>
<tr>
<th>Tenure type</th>
<th>Christmas Island</th>
<th>Cocos (Keeling) Islands</th>
<th>Perth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renting accommodation</td>
<td>54</td>
<td>88</td>
<td>30</td>
</tr>
<tr>
<td>Own home</td>
<td>25</td>
<td>0</td>
<td>34</td>
</tr>
<tr>
<td>Living rent-free or in strata-titled units</td>
<td>13</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>In process of purchasing own dwelling</td>
<td>9</td>
<td>0</td>
<td>34</td>
</tr>
</tbody>
</table>

Note: Components may not sum to 100 due to rounding.

Source: ABS (1996a, 17, 37).

**TABLE 2.5 OWNERSHIP OF DWELLINGS ON CHRISTMAS ISLAND, SEPTEMBER 1998**

<table>
<thead>
<tr>
<th>Area</th>
<th>Houses</th>
<th>Flats/units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Commonwealth</td>
<td>Private</td>
</tr>
<tr>
<td>Settlement</td>
<td>18</td>
<td>21</td>
</tr>
<tr>
<td>Flying Fish Cove</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Silver City</td>
<td>24</td>
<td>74</td>
</tr>
<tr>
<td>Poon Saan</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Drumsite</td>
<td>7</td>
<td>51</td>
</tr>
<tr>
<td>Total</td>
<td>49</td>
<td>146</td>
</tr>
</tbody>
</table>

Note: Excludes demountables at Taman Sweetland.

Source: Christmas Island Administration.
The Christmas Island Rebuilding Program and private investment have contributed to a significant increase in the standard of housing over the last 5-6 years. The overall standard is now fair to reasonable, although some housing is still well below mainland standards.

**Other accommodation**

The main sources of accommodation for visitors to Christmas Island are the Christmas Island Resort (52 suites and 104 standard rooms) and Christmas Island Lodge (70 rooms). Both of these facilities were closed in April 1998 due to the financial problems of the owner, Christmas Island Resort Pty Ltd. Around 15-20 rooms at the resort were re-opened on a very limited basis in late 1998, but all other resort services and facilities (e.g., restaurants, services to rooms) remained closed.

With the closure of the two major facilities, the accommodation available for visitors has been very limited. It comprises Mango Tree Lodge (5 double/twin rooms), Christmas Island Backpackers (34 beds in twin-share rooms and dormitories), several bed-and-breakfast facilities and VQ3 (12 single/double rooms with shared facilities). In addition, there are various flats and units that can be rented for short periods.

**Transport**

The port facilities for Christmas Island are located at Flying Fish Cove on the northern part of the island. General cargo is off-loaded from the ship using a crane located on a low cliff. Phosphate rock is loaded directly into bulk carriers at a separate facility (two cantilevers). Petroleum products are pumped from tankers to onshore storage facilities. Port operations are sometimes suspended due to occasional heavy swells generated by monsoonal winds in the November-March period.

Christmas Island's airport is located on the north-eastern part of the island. It includes a sealed runway of 2103 metres and a terminal building that was constructed in 1992. The largest passenger aircraft that can be handled under normal conditions are a Boeing 737 or equivalent (unrestricted) or a Boeing 767 or equivalent (restricted). There is a possibility that larger aircraft could be handled, subject to technical and operational evaluation. The airport has full international capability and includes security, customs, quarantine and immigration facilities.

There are 142 kilometres of roads, of which 45 kilometres are sealed and 97 kilometres are unsealed. Around 61 kilometres of haul roads are located within the phosphate mine's boundaries.

Approximately 85 per cent of households on Christmas Island have a motor vehicle. This is similar to the figure of 90 per cent in Perth (ABS 1996a, 63).
Communications

Christmas Island's telecommunications services are provided by Telstra. The network is currently based on fixed handsets using analogue radio technology, with a connection back to the mainland via satellite. Direct cable connections for some major users of telecommunications services provide higher data and facsimile transmission speeds, access to an Internet service provider and dedicated line services. Analogue mobile telephones can be used on the island.

Telstra is currently upgrading the network, at a cost of around $8 million, to enable carrier preselection. The work includes installation of conventional cable access to virtually all customer premises and new switching and exchange equipment. It is scheduled to be completed by June 1999.

The mail service for Christmas Island is provided by Australia Post. Mail is carried by air and on the shipping service. Off-loading of mail from the aircraft, due to capacity limitations, sometimes results in delays to the transport of mail.

Christmas Island residents have access to two Perth-based television services (ABC and Golden West Network) and SBS via satellite. Radio services include ABC Radio National, ABC Regional, a Perth-based FM station and a local community radio station (broadcasting in English, Mandarin and Malay). There is a fortnightly local newsletter produced by the Shire.

SOCIAL INDICATORS

Social indicators for Christmas Island can be considered in terms of health, education, migration and unemployment.

Health

Information provided by the Indian Ocean Territories Health Service indicates that the health of Christmas Island residents is generally comparable to average mainland levels. The main exception is a relatively high incidence of diabetes in some sections of the community. There is also a high level of dental caries.

Basic health indicators for Christmas Island are generally positive. Immunisation rates (eg triple antigen, polio, tuberculosis) exceed 95 per cent and are above mainland rates (90 per cent or less). The doctor:patient ratio is around 1:800, compared with 1:435 on the mainland (ABS 1996b, 50). Infant mortality is very low. Average life expectancy is probably similar to typical mainland levels, although reliable statistics are not available due to the small number of older residents on the island.

Education

Education is compulsory for all Christmas Island residents between 6 and 15 years of age. Almost 100 per cent of Year 10 students proceed to Years 11 and 12.
on the mainland, with 44 children from Christmas Island studying in Perth in 1998. Many students go on to study at a tertiary institution. The community generally places a high value on education.

The cost of supporting students in Perth is a significant financial issue for many families on Christmas Island. The prospects for studying Years 11 and 12 on the island were recently considered. However, it was concluded that the range of courses that could be provided on Christmas Island would be much narrower than the range available at mainland schools.

Migration

There has been significant emigration from Christmas Island over the last 30 years, mainly as a result of changing requirements for labour at the phosphate mine. Over 1,560 Asian residents left the island between 1969 and 1981, either privately or under two resettlement schemes (Sweetland 1982, 18). Around 700 mine workers and their dependents took advantage of the resettlement and retraining program associated with the closure of the phosphate mine in 1987, with most of them moving to Perth (House of Representatives Standing Committee on Environment, Recreation and the Arts 1990, 12).

There were two major developments after 1992. Around 200-250 employees were recruited off-island to operate the resort/casino, but most of these employees had left the island by late 1998 following the closure of the facility. The Christmas Island Rebuilding Program has resulted in a significant (but variable) number of mainland contractors working on the island.

Unemployment

The unemployment rate on Christmas Island was unofficially estimated at 10-15 per cent in September 1998. This reflects the recent downturn in the level of economic activity following the closure of the resort/casino and the departure of many of its former employees. The closure has also contributed to an increase in underemployment, particularly in the small business sector.
CHAPTER 3 ECONOMIC OVERVIEW

The level of economic activity on Christmas Island traditionally varied in response to phosphate production. For many years the mining company was the sole employer and provided all of the infrastructure and services.

The structure of the economy has changed significantly since the early 1990s with the opening of the resort/casino and commencement of the Christmas Island Rebuilding Program. However, there has also been considerable variability in the level of economic activity, and in population levels, over this period.

MAJOR ECONOMIC ACTIVITIES

In recent years the major areas of economic activity on Christmas Island have been phosphate mining, tourism (until the closure of the resort/casino) and the public sector. There are also significant contracting and service activities.

Figure 3.1 outlines the recent areas of economic activity on Christmas Island. Information on employment by sector and organisation/business type is presented in table 3.1, which indicates that there were an estimated 525 full-time employees in September 1998. This compares with around 700 full-time employees at the time of the 1996 census (ABS 1998b, 31).

Phosphate

Christmas Island’s phosphate deposits were mined by a private company from 1899, by the British Phosphate Commissioners (on behalf of the Australian and New Zealand governments) from 1948 and by a Commonwealth-owned organisation from 1981. The mine was closed in 1987. Phosphate Resources Ltd (trading as Christmas Island Phosphates) re-commenced mining in 1990 following an employee buy-out of the Commonwealth’s operation.

The mining of phosphate on Christmas Island initially involved the stripping back of surface layers of lower grade material to obtain access to A-grade phosphate. When production re-commenced on a reduced scale in 1990, it focused on the removal and processing of old stockpiles of B-grade material in previously mined areas. Production was later expanded to include some mining
Figure 3.1 Major areas of economic activity on Christmas Island
### TABLE 3.1 ESTIMATES OF EMPLOYMENT BY SECTOR AND ORGANISATION ON CHRISTMAS ISLAND, SEPTEMBER 1998

<table>
<thead>
<tr>
<th>Sector</th>
<th>Organisation/business type</th>
<th>Full-time</th>
<th>Casual/part-time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>Christmas Island Administration</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Corporate</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Power</td>
<td>22</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Health</td>
<td>26</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Housing</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Airport</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Marine administration</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Australian Federal Police*</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Parks Australia</td>
<td>14</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Supervising Scientist Group</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Bureau of Meteorology</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Education WA</td>
<td>43</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Shire of Christmas Island</td>
<td>43</td>
<td>0</td>
</tr>
<tr>
<td>Private</td>
<td>Phosphate</td>
<td>133</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>Maintenance &amp; construction contractors</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>Restaurants, clubs, taverns</td>
<td>25</td>
<td>27</td>
</tr>
<tr>
<td></td>
<td>Food and other retail sales</td>
<td>30</td>
<td>11</td>
</tr>
<tr>
<td></td>
<td>Transport services &amp; maintenance</td>
<td>36</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td>Accommodation, travel, tours</td>
<td>13</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>Banking and postal services</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Indian Ocean Group Training Assn</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Other services</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>525</td>
<td></td>
</tr>
</tbody>
</table>

* Individual figures are not additive as some individuals hold multiple casual/part-time jobs.
  a. Includes 10 members of the AFP (full-time), 7 Special Constables (part-time) and 3 others.
  b. Covers the phosphate operations of Phosphate Resources Ltd. Excludes the company’s fuel and stevedoring activities which are included in ‘transport services and maintenance’.
  c. Includes local contractors and employees of off-island contractors temporarily working on Christmas Island. Total employment is estimated at 120, of which 50 per cent is assumed to be full-time.

Sources: Agencies and individuals on Christmas Island.

Phosphate Resources Ltd earned operating revenue of $45.2 million (including $43.8 million from phosphate sales) in 1997/98 (Phosphate Resources Ltd 1998, 9, 39). It shipped 587,000 tonnes of phosphate, up 5.2 per cent from the previous year. The company’s markets (in terms of tonnes) in 1997/98 were Malaysia (62 per cent), Australia (23 per cent), Indonesia (12 per cent), Thailand (2 per cent) and the Philippines (1 per cent). Phosphate Resources Ltd received the Business Asia Minerals Award in the 1998 Australian Export Awards in recognition of its record sales in Asian markets. The company also provides stevedoring and fuel of in situ resources of A-grade and B-grade material in previously mined areas. The major operations on Christmas Island include extraction, transport, drying, crushing and blending to meet individual customers’ requirements.
services, for its own use and for other local businesses on Christmas Island, through wholly-owned subsidiaries.

A new, 21-year mining lease was signed in August 1997 and came into effect in February 1998. A condition of the lease is that additional primary rainforest is not cleared, degraded or damaged. There is also a requirement for the company to undertake infrastructure upgrading and to complete a staged dust removal program.

Data provided by Phosphate Resources Ltd indicate that the company and its subsidiaries had a total of 150 full-time, 80 casual and 5 contracted employees on Christmas Island in September 1998. There were an additional 14 full-time, 2 casual and 2 contracted employees in the company’s Perth and Singapore offices.

**Tourism**

Tourism was a key source of employment and income on Christmas Island until there were major reductions in air services and in the level of activity at the resort/casino. The casino, and associated facilities, accounted for a large proportion of tourism activity on the island. Other areas of tourism included diving, fishing and eco-tourism.

**Resort/casino**

The resort/casino, which opened in November 1993, was developed at a cost of $62 million. It was owned by Indonesian (90 per cent) and Australian (10 per cent) interests. The owners and managers focused on the casino market, particularly high-rollers from Indonesia.

The available information, which is presented in table 3.2, indicates that the level of activity and profitability at the casino fell heavily after 1994/95. The contributing factors included the Asian economic downturn, the cessation of direct air services from Asia and management issues. Casino gross profit does not provide a measure of overall profitability as it does not incorporate wages, depreciation, power, marketing expenses, taxes and some other costs incurred in operating the resort/casino.

The resort/casino was closed in April 1998. Control of the assets subsequently passed to a receiver-manager (provisional liquidator). Some smaller assets have been scheduled for disposal through tender/auction in late 1998 and early 1999. The Commonwealth cancelled the casino licence in July 1998.

The resort/casino was the largest single source of employment on Christmas Island until its closure. Employment reportedly reached a maximum level of around 395 persons in late 1994, with the majority of employees being full-time. There were 312 employees immediately prior to the closure in April 1998.
TABLE 3.2 PROFITABILITY AND SELECTED FEES FOR CHRISTMAS ISLAND CASINO, 1993/94 TO 1996/97

<table>
<thead>
<tr>
<th>Year</th>
<th>Casino gross profit ($)</th>
<th>Casino licence fee ($)</th>
<th>Community benefit fee ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993/94</td>
<td>80.7</td>
<td>6.5</td>
<td>0.8</td>
</tr>
<tr>
<td>1994/95</td>
<td>153.7</td>
<td>12.3</td>
<td>1.5</td>
</tr>
<tr>
<td>1995/96</td>
<td>79.5</td>
<td>7.2</td>
<td>0.8</td>
</tr>
<tr>
<td>1996/97</td>
<td>13.2</td>
<td>1.3</td>
<td>0.1</td>
</tr>
</tbody>
</table>

a. Covers period from casino opening on 5 November 1993 to 30 June 1994
b. Casino gross profit is money wagered less prizes paid.
Sources: Annual Reports of Christmas Island Casino Surveillance Authority.

Other tourism

Christmas Island provides opportunities for a range of other tourist activities such as diving, fishing, bushwalking and bird-watching. These activities have attracted significant numbers of tourists (e.g., divers from Europe and Japan). The resort/casino employees, many of whom were recruited from the mainland, were also actively involved in diving and other activities in their leisure time.

By late 1998, the level of activity in these areas of tourism was negligible as a result of factors such as limited air services and the closure of the resort/casino.

Public sector

The Commonwealth owns most of the public and community infrastructure on Christmas Island. Its holdings include the airport, port, school buildings, water and sewerage facilities, power equipment, public and staff housing, and various commercial/industrial buildings. The Commonwealth, through the Christmas Island Administration, also has a significant operational role in most of these areas. In addition, the Commonwealth owns and is responsible for various community facilities (e.g., the mosque, Shire offices, community halls, 18 temples), although there is a proposal to transfer control of individual facilities to the Shire or to management committees.

The data in table 3.1 indicate that public sector agencies directly employed around 40 per cent of the full-time employees on Christmas Island in September 1998. In addition, a significant number of private contractors were working on Commonwealth-funded activities such as infrastructure upgrading and building maintenance. The BTE estimates that public sector agencies directly employed 25-30 per cent of full-time employees on the island when the resort/casino was operational.

A total of $102 million has been spent on Stage 1 of the Christmas Island Rebuilding Program since 1991/92. Annual expenditure peaked at around $23 million in 1993/94 and in 1994/95 (Commonwealth Grants Commission...
Stage 2 of the program, which could potentially total up to $70 million, includes initial expenditure of $8 million in 1998/99.

Other activities

The data in table 3.1 indicate that other private sector activities (ie excluding phosphate) accounted for around 35 per cent of full-time employment and 65 per cent of casual/part time employment on Christmas Island in September 1998. Many of these activities involve small businesses.

There are some sales to external residents (eg visiting divers) but these businesses generally provide services to other areas of the Christmas Island economy. A significant proportion of contract maintenance and construction involves Commonwealth facilities or infrastructure upgrading.

Many of the small businesses on Christmas Island are currently operating well below capacity, with a range of operators reporting sales declines of 30-40 per cent over the 12 months to September 1998. The closure of the resort/casino has had a major impact as it resulted in the departure of a large group of residents with high disposable incomes. A significant number of small businesses may close over the next 12-18 months unless there is a major increase in the overall level of economic activity on Christmas Island.

INCOME AND EXPENDITURE

Information on income received by Christmas Island residents is available from taxation data (Australian Taxation Office 1998) and from information provided by the Department of Social Security. A survey undertaken by the ABS in late 1995 provides data on income and expenditure (ABS 1996a). Major changes in the level of economic activity and the size of the population, resulting from factors such as the closure of the resort/casino, have probably affected income levels since these data were collected.

Income

Australian Taxation Office statistics indicate that there were 925 taxable and 109 non-taxable income units on Christmas Island in 1995/96, the latest year for which data have been published. Total taxable income was $35.0 million and average (mean) taxable income was $37,858 per taxpayer (compared with a national average of $25,739). Recent income levels have probably been lower as a result of the decline in the level of economic activity on Christmas Island.

Social security payments to Christmas Island residents totalled $2.4 million in 1996/97. Table 3.3 provides information on the major payment types.

Data collected by the ABS in late 1995 indicate that average weekly household income on Christmas Island ($990) exceeded the average in Perth ($765) by 29
per cent (ABS 1996a, 25). The ABS commented that the difference mainly reflected a larger proportion of households on Christmas Island with high earnings (possibly due to high income casino workers and contractors on the island in 1995). The average number of employed persons per household was 17 per cent higher on Christmas Island (1.4 compared with 1.2).

More recent data indicate that median weekly household income on Christmas Island was $831 in 1996 (ABS 1998a, 24, 29). The corresponding figure for Perth was $665. Median weekly personal income for people aged 15 years and over was $521 on Christmas Island and $307 in Perth (ABS 1998b, 6, 47).

Information on sources of household income in late 1995 is presented in table 3.4. It indicates that Christmas Island households received a relatively high proportion of their income as employee income. This proportion may have fallen recently as a result of subsequent development of the small business sector and the closure of the resort/casino.

### TABLE 3.3 SOCIAL SECURITY PAYMENTS TO CHRISTMAS ISLAND RESIDENTS, 1996/97

<table>
<thead>
<tr>
<th>Payment type</th>
<th>Total amount ($)</th>
<th>Number of recipients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newstart Allowance</td>
<td>700 000</td>
<td>100</td>
</tr>
<tr>
<td>Family Payment Allowance</td>
<td>636 000</td>
<td>212</td>
</tr>
<tr>
<td>Parenting Payment - Partner</td>
<td>360 000</td>
<td>120</td>
</tr>
<tr>
<td>Age Pension</td>
<td>224 000</td>
<td>32</td>
</tr>
<tr>
<td>Family Tax Payment</td>
<td>152 000</td>
<td>38</td>
</tr>
<tr>
<td>Parent Payment - Single</td>
<td>128 000</td>
<td>16</td>
</tr>
<tr>
<td>Disability Support Pension</td>
<td>72 000</td>
<td>8</td>
</tr>
<tr>
<td>Youth Allowance</td>
<td>70 000</td>
<td>14</td>
</tr>
<tr>
<td>Othera</td>
<td>70 000</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>2 412 000</td>
<td>-</td>
</tr>
</tbody>
</table>

- Number of recipients is not additive due to payment of multiple benefits to some recipients.

a. Includes Mature Age Allowance, Mature Age Partner Allowance, Partner Allowance, Child Disability Allowance, Mobility Allowance, Special Benefit and Wife Pension.

Source: Department of Social Security.

### TABLE 3.4 SOURCES OF HOUSEHOLD INCOME ON CHRISTMAS ISLAND AND IN SELECTED COMMUNITIES, 1995

(per cent)

<table>
<thead>
<tr>
<th>Source of income</th>
<th>Christmas Island</th>
<th>Cocos (Keeling) Islands</th>
<th>Perth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee income</td>
<td>89</td>
<td>81</td>
<td>71</td>
</tr>
<tr>
<td>Government pensions &amp; benefits</td>
<td>5</td>
<td>17</td>
<td>.4</td>
</tr>
<tr>
<td>Own business income</td>
<td>4</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Other sourcesa</td>
<td>2</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

a. Includes income from investments, financial institution interest, rental properties, workers' compensation and any other regular source of income.

Note: Components may not sum to 100 due to rounding.

Source: ABS (1996a 18, 38).
Expenditure

The ABS survey indicates that total household expenditure on Christmas Island was $709 per week in late 1995 (Perth $749 per week). There were significant differences in expenditure patterns compared with the mainland (ABS 1996a, 19). Major contributing factors identified by the ABS included differences in:

- prices for individual goods and services, with prices for individual items on Christmas Island being up to four times the prices in Perth;
- lifestyle and expenditure patterns, particularly involving food and non-alcoholic beverages; and
- current housing costs, which accounted for 5 per cent of weekly expenditure on Christmas Island and 13 per cent in Perth.

TAXES AND CHARGES

Mainland rates for various Commonwealth taxes were introduced on Christmas Island in four equal stages over the period 1985/86 to 1988/89 (Commonwealth Grants Commission 1993, 11). The taxes that are currently payable by residents include personal income tax, fringe benefits tax, company tax, capital gains tax and the Medicare levy.

Australian Taxation Office data indicate that personal income tax payments by Christmas Island residents totalled $7.7 million in 1995/96. Average (mean) tax paid was $8 709 per taxpayer and the average effective tax rate was 23 per cent (compared with national averages of $6 896 per taxpayer and 24 per cent). Recent taxation payments have probably been lower as a result of the decline in the level of economic activity on Christmas Island. A zone rebate of up to $1 835 per annum is available to residents, subject to certain conditions.

Christmas Island is exempt from Commonwealth customs duty, excise duty and wholesale sales tax. On a national basis, these three taxes provided around 23 per cent of Commonwealth revenue in 1996/97 (Treasury 1998, 5-3).

Specific fees and other payments, which are additional to normal Commonwealth taxes, have been applied to the casino and to phosphate production on Christmas Island. These arrangements have involved:

- a casino licence fee equivalent to 10 per cent (8 per cent prior to 5 November 1995) of casino gross profit, paid to the Commonwealth;
- a community benefit fee equivalent to 1 per cent of casino gross profit, paid to the Shire of Christmas Island;
- a mining lease royalty, set at 5 per cent of realised fob value of a nominal 300 000 tonnes per annum for the first five years of the lease and at 5 per

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2 Casino gross profit is defined as money wagered less prizes paid.
cent of the realised fob value of the actual tonnage shipped after five years (minimum figure of 300,000 tonnes), paid to the Commonwealth; and

- a conservation levy calculated on the basis of $1.50 per dry tonne of rock phosphate shipped from the island, for the purpose of minesite rehabilitation, paid to Parks Australia.

Table 3.2 (page 19) indicates that there has been significant variability in annual payments for the casino licence fee ($1.3 million to $12.3 million) and the community benefit fee ($0.1 million to $1.5 million). Payments to the Commonwealth by Phosphate Resources Ltd in 1997/98 included $1.7 million in income tax, $971,211 for the mining lease royalty and $747,737 for the conservation levy (Phosphate Resources Ltd 1998, 34; Territories Office, personal communication; Parks Australia, personal communication).

There are also some other taxes/charges collected on Christmas Island and paid into the Commonwealth's Consolidated Revenue Fund. For example, data provided by the Territories Office indicate annual revenue of around $1.2 million from motor vehicle registration/licences, law, order and public safety, and housing.

Various rates and charges are collected by government agencies on Christmas Island. Data provided by the Territories Office indicate that payments to the Commonwealth totalled $7.7 million in 1997/98. The major items included power ($3.3 million), payroll tax and some other State-type taxes/licences ($1.4 million), housing ($1.1 million), other commercial payments ($0.9 million), marine services ($0.6 million) and the airport ($0.4 million).

SUBSIDIES AND ALLOWANCES

Various subsidies and allowances are provided to Christmas Island residents in order to offset some of the costs associated with living in an isolated location.

Employer payments include a district allowance of up to $5,610 per annum. Other payments, particularly for mainland-based employees, involve free or subsidised air fares, rent allowances, electricity subsidies, and furniture removal and storage allowances. Recipients of social security payments (eg Newstart, Age Pension) are entitled to a remote area allowance ($455 per annum for a single person, $793 per annum for a couple and $182 per annum for each child).

The Commonwealth is currently providing some explicit subsidies for Christmas Island. There is a subsidy for the Perth–Christmas Island–Cocos (Keeling) Islands air service, with $2.1 million allocated for Saturday and Wednesday flights in 1998/99. These payments cover air services for both

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3 Realised fob value is calculated by multiplying the appropriate tonnage figure by the weighted average price received for phosphate rock.
Territories. Residents studying Years 11 and 12, and undertaking tertiary courses, on the mainland receive free air transport to and from Perth.

The Commonwealth provides a medical evacuation subsidy for Christmas Island residents travelling to the mainland for acute or specialist medical treatment. As a result of relatively high electricity generation costs and the pegging of charges to Western Australian rates, there is a Commonwealth subsidy in excess of $1 million per annum for power supply.

It appears that operators incur financial losses in providing some services, such as telecommunications and postal services, to Christmas Island. This reflects the use of national charging regimes and the relatively high costs of providing services to the island. These services are partly supported by revenue from operations in other parts of Australia.

TRANSPORT SERVICES

Most of the goods consumed on Christmas Island are imported from the mainland or from Asia. Air transport is used to carry medical/pharmaceutical supplies, perishables (e.g., vegetables), mail and other items. The majority of freight, in terms of tonnage, is transported by sea.

Shipping services

Cocos Traders operate a general cargo ship on a Fremantle–Cocos (Keeling) Islands–Christmas Island–Singapore–Christmas Island–Fremantle service. The 1720 dwt ship, *Thor Kirsten*, provides a monthly service to Christmas Island from the mainland and from Singapore. It has a capacity of 70 containers (teus) and typically delivers 25-30 full containers from Fremantle on each voyage.

Small tankers call at Christmas Island every 1-2 months, bringing around 20,000 tonnes per annum of petroleum products from Singapore. Chartered bulk carriers are used for the shipment of phosphate to ports in Asia and Australia.

The BTE's freight data base indicates that sea cargo shipped from other Australian ports to Christmas Island totalled 5,600 tonnes (value $15.2 million) in 1996/97. The major commodities included electrical machinery, motor vehicles and general industrial machinery. Outward shipments to other Australian ports totalled 93,587 tonnes (value $6.2 million) in 1996/97. Phosphate accounted for virtually all of the outward shipments by tonnage and for three-quarters of these shipments by value. Detailed data on movements between Singapore and Christmas Island are not available.

Air services

After the resort/casino opened, Christmas Island had a range of air services (Woodmore 1996a, 53). In 1996 scheduled return services were available from:
- Perth (including regular calls at the Cocos (Keeling) Islands) on Saturday, Wednesday and sometimes on Sunday, using a BAe 146 jet (Ansett);
- Broome via Denpasar and Surabaya on Thursday, using a BAe 146 jet (National Jet Systems);
- Singapore on Friday and Monday, using a BAe 146 jet (National Jet Systems); and
- Jakarta on Monday, Thursday, Friday, Saturday and Sunday, using an F28 jet (Sempati Air), connecting to a Perth-Jakarta flight.

Other flights were operated as required to bring high-roller gamblers to the casino/resort. A reduction in traffic and other factors resulted in the cessation of most of the air services by late 1997.

Ansett gave notice in April 1997 that it would withdraw from the Perth–Christmas Island–Cocos (Keeling) Islands route in October 1997. Ansett's decision apparently reflected poor profitability on the route and a general restructuring of its Australian operations to focus on major routes. The Territories Office approached various operators with appropriate aircraft to provide a replacement service. The major domestic airlines, a number of regional carriers and various overseas airlines indicated that they would not operate on the route as the service was not commercially viable.

National Jet Systems provided an interim service after the withdrawal of Ansett. Following a tender process, the Commonwealth entered into a two-year contract with National Jet Systems to provide a subsidised, weekly air service from May 1998 using an RJ70 aircraft.

The RJ70 has a nominal capacity of 82 passengers but is typically limited to a maximum of 68 or 72 passengers (for both Territories) on this route as a result of the need to carry life rafts and to provide for crew rest. Cabin freight may also be carried in seat-packs (up to five rows of seats) when passenger loadings permit. A mid-week flight is operated at peak periods, with a general limit of around 40 passengers so that substantial freight can be carried.

Flying time from Perth to Christmas Island on the Saturday flight is 5 hours, or 8 hours on alternate flights when the aircraft calls at the Cocos (Keeling) Islands first. Under the current arrangements, there is an intermediate stop for refuelling at Learmonth on the outward flight from Perth. Flying times for the return flight to Perth are 4 hours (direct) or 6.5 hours (via Cocos).

Since August 1998, there have been two Jakarta–Christmas Island–Jakarta flights every Thursday afternoon. The services, which are operated on a commercial basis, involve an Indonesia Air Transport F27 (organised by Christmas Island interests) and a Bouraq BAe748 combi aircraft (organised by Perth and Cocos (Keeling) Islands interests). The flights are mainly intended for freight (particularly from mainland Australia) and connect with the Qantas Perth–Jakarta service. Freight carried to Christmas Island on these services totalled an estimated three to four tonnes per week in September 1998. The
flights also carry passengers, with typical combined loadings of 10-20 passengers per week in each direction.

The available information on passenger arrivals at Christmas Island airport is presented in table 3.5. It indicates that international traffic (i.e., from Asia) increased up to 1994/95 and fell heavily after 1995/96. Traffic from Perth generally increased up to 1996/97 but declined significantly in 1997/98.

Inbound freight generally followed a similar pattern. International traffic peaked in 1994/95 and declined heavily after 1995/96.

Other

The only public transport on Christmas Island is a free bus service for school children. A limited bus service was previously operated around the main settlement areas by the resort/casino. There is no taxi service on Christmas Island. Rental cars are available from several local operators.

<p>| TABLE 3.5 PASSENGER ARRIVALS AND INBOUND FREIGHT AT CHRISTMAS ISLAND AIRPORT, 1993/94 TO 1997/98 |</p>
<table>
<thead>
<tr>
<th>-------------------------------------------------</th>
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</thead>
<tbody>
<tr>
<td>Passengers (no.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic</td>
<td>4 236</td>
<td>5 883</td>
<td>5 720</td>
<td>6 443</td>
<td>4 272</td>
</tr>
<tr>
<td>International</td>
<td>5 557</td>
<td>13 494</td>
<td>11 816</td>
<td>3 326</td>
<td>2 463</td>
</tr>
<tr>
<td>Total</td>
<td>9 793</td>
<td>19 377</td>
<td>17 536</td>
<td>9 769</td>
<td>6 735</td>
</tr>
<tr>
<td>Freight (tonnes)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Domestic</td>
<td>16</td>
<td>24</td>
<td>46</td>
<td>64</td>
<td>31</td>
</tr>
<tr>
<td>International</td>
<td>103</td>
<td>239</td>
<td>121</td>
<td>23</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>119</td>
<td>263</td>
<td>167</td>
<td>87</td>
<td>69</td>
</tr>
</tbody>
</table>

Notes Data cover scheduled regular public transport services only. Domestic freight figure for 1997/98 covers freight carried during the period July 1997 to October 1997 only, as data are not available for the period November 1997 to June 1998.

Source Data provided by Aviation Statistics Unit, Department of Transport and Regional Services.
CHAPTER 4 FACTORS AFFECTING ECONOMIC ACTIVITY AND DEVELOPMENT

In broad terms, the process of economic development involves a long-run increase in an economy's productive capacity. The resulting rise in output means that more goods and services are available to the community. Some local output may be sold to external customers to earn income for the purchase of goods and services from external suppliers. Private and public capital inflows provide investment funds and additional income for purchases from external suppliers.

For most of Christmas Island's history, economic development has been based on phosphate mining. More recently the key drivers of economic activity and development have been phosphate, tourism and the public sector.

Future levels of economic activity and development on Christmas Island will be determined by a range of factors. These factors are outlined in figure 4.1. They can be broadly considered in terms of:

- the resources available to the economy;
- external demand conditions;
- the competitive position of the economy;
- economic management; and
- community attitudes to change.

This chapter discusses these factors and their likely impact on development opportunities on Christmas Island. It provides a basis for the discussion of individual activities in chapter 5 and for the analysis of economic sustainability in chapter 6.

RESOURCES AVAILABLE

The range of goods and services that can be produced on Christmas Island is determined by the resources available to the economy. The key components are natural resources, the eco-system, land, population, workforce skills, infrastructure, and inflows of capital and other funding.
Figure 4.1 Factors affecting economic activity and development

Resources available
- Natural resources
- The eco-system
- Land
- Population
- Workforce skills
- Infrastructure
- Capital and funding flows

Competitive position
- Alternative suppliers
- Location
- Links to specific markets
- Transport services
- Communications services
- Cost structures

Economic management
- Role of the private sector
- Role of government
- Economic development plan
- Evaluation of major projects

Community attitudes to change

External demand

Economic activity
Natural resources

The major mineral resource on Christmas Island is phosphate. The island also contains large quantities of limestone, in the form of dolomite and chalk, which is used in local building and road construction activities. The limestone may also be suitable for other uses (e.g., in smelting or in the production of high-grade papers). A quarry provides sand and aggregate for local building activities.

There may be commercially significant quantities of pelagic fish (particularly tuna) in the seas around Christmas Island. The stocks of these wide-ranging species have not been assessed and, while there has been only limited fishing near Christmas Island, they are affected by fishing activities in the wider Indian Ocean. Stocks of reef fish around Christmas Island are limited and are probably fully fished (Australian Fisheries Management Authority 1997, 110-111).

Eco-system

Christmas Island has a range of natural features that enhance the lifestyle of residents and are potentially of interest to tourists. These features include substantial areas of primary rainforest, 76 vagrant or migrant bird species (10 endemic), 200 species of native flowering plants (16 endemic), the world’s largest robber crab population, more than 120 million red crabs and at least 575 species of fish.

The Christmas Island National Park has been described in the following terms by the Australian Nature Conservation Agency (1994, 18-19):

The Park provides exceptional opportunities for the study and enjoyment of nature...Christmas Island is a place where the non-scientific visitor can actually see many of the phenomena that scientists try to analyse and explain. The Park is readily accessible and the classic patterns of island colonisation, and their evolutionary implications, are clearly visible to the enquiring observer...[T]he rainforest, the variety and number of seabirds, the spectacular red crab migration and the rugged land and seascapes have enormous aesthetic appeal...

These features of Christmas Island’s eco-system may provide a basis for tourism on a significant scale. However, the need to protect fragile areas also places constraints on the level and pattern of development.

Christmas Island has excellent dive sites and some good opportunities for recreational fishing. The quality of drinking water is good and supplies are sufficient for current requirements. There are no major tropical diseases, such as malaria, on Christmas Island.

Land

The land area of Christmas Island is 135 square kilometres. Most of the land is owned by the Commonwealth but there is significant private ownership in
urban areas due to sales of Commonwealth houses and flats since 1992. A town planning scheme has been developed for the Shire.

Land use limitations are likely to have a significant effect on the level and pattern of development on Christmas Island.

Around 85 square kilometres (63 per cent of the total area) is included in the Christmas Island National Park. A significant proportion of the remaining land on the island contains rainforest and is not available for development due to a government policy that prohibits further clearing of primary rainforest. The Plan of Management for the National Park proposes the extension of the National Park into existing rainforest areas in the central east and south of the island (O’Brien Planning Consultants 1998, 8).

A further 20 square kilometres (15 per cent of the total area) of Christmas Island is covered by the phosphate mining lease. Each area of leased land reverts to the Commonwealth when the mining operation is completed.

Other constraints on the availability of land for development include potential rock falls in a key area at Flying Fish Cove and potential storm surge flooding in an area along Gaze Road (O’Brien Planning Consultants 1998, 7). In addition, much of the land that could potentially be developed is on steep slopes that are costly to develop in terms of site works and service supply.

Population

Christmas Island has a relatively small population, with current estimates ranging between 1 200 and 1 600 persons in September 1998. This means that, with the exception of tourism, it is difficult to develop labour-intensive industries or to achieve the minimum levels of output that are often required for viable local production of goods or services. As a result of the recent decline in the population, any project with significant labour requirements is likely to require some recruitment of off-island labour.

There are some positive aspects associated with a small population. The undertaking of several projects of moderate size will have a major impact on the economy and on local employment. In addition, viable activities in areas such as tourism will require only small shares of regional or global markets.

The cultural profile of the Christmas Island is an important attribute. It potentially facilitates access to finance or markets, both in Asia and on the mainland (see below).

Workforce skills

The Christmas Island workforce has a broad mix of skills. Key areas include various aspects of phosphate production, tourism-related activities, construction and maintenance. Small business skills are very good in several areas.
The current areas of skill shortages include management, particularly involving senior management, and some technical skills required to repair new machinery. There is also a shortage of computer-related skills. Where certain specialist skills are required, staff are often recruited off-island.

Adult education and training on Christmas Island are provided by Indian Ocean Group Training Association. This community-based organisation is mainly funded by the Commonwealth. It runs individual courses, provides information and advice to small businesses, supports about 30 trainees/apprentices on Christmas Island, and is an employment service provider.

Infrastructure

Until the early 1990s the quality of Christmas Island’s infrastructure was well below mainland standards. The rebuilding program initiated in 1991/92 has resulted in a major upgrading of several areas of public infrastructure. The community now has good infrastructure in areas such as the hospital, school, sewerage treatment and power generation. The operation of the resort/casino also facilitated some expansion/upgrading of private sector facilities including accommodation, shopping and restaurants/taverns.

Infrastructure quality and/or capacity on Christmas are still limited in a range of areas. Key aspects include housing, commercial and industrial buildings, water distribution, stormwater drainage, sewers, fuel infrastructure and roads.

The Commonwealth is currently funding work to reconstruct the jetty and establish a light industrial area. Additional upgrading projects are proposed in Stage 2 of the Christmas Island Rebuilding Program. Phosphate Resources Ltd is upgrading its infrastructure to improve safety and environmental performance.

Capital and funding flows

The major financial facility on Christmas Island is a branch of Westpac Banking Corporation. There is also a Commonwealth Bank agency at the Christmas Island Post Office which has EFTPOS and Giropost facilities.

The Westpac branch provides a range of services including home loans, commercial property loans, overdrafts and business development loans. It lends up to 70 per cent of property valuation for housing and 50 per cent for commercial properties, in line with Westpac’s general guidelines for Australian towns with a population below 10,000 persons. The corresponding figures for major mainland centres are 80 per cent and 65 per cent respectively.

Several Christmas Island businesses have commented that it is difficult to obtain finance for business purposes. The availability of mainland collateral (eg a house in Perth) reportedly makes it easier to obtain finance. It appears that the bank has recently become more willing to lend to small businesses.
There is reportedly a large savings base on Christmas Island. Members of the local community used redundancy payments and other savings to fund the $3.5 million acquisition of the phosphate mine and associated facilities in 1990.

Larger private sector projects such as the resort/casino are financed from external sources. In addition, a large amount of funding for infrastructure has been provided by the Commonwealth.

Future levels of private capital inflow will be determined by factors such as the availability of commercial opportunities on Christmas Island, alternative investment opportunities and conditions in major capital markets. Key determinants of future flows of public sector funding will include general trends in public sector financing in Australia and assessments of infrastructure requirements on Christmas Island.

EXTERNAL DEMAND CONDITIONS

Production of particular goods or services on Christmas Island will be viable only if there are markets of sufficient size. In many cases, these markets will be external. However, population growth associated with major projects such as the resort/casino may potentially provide further opportunities for small businesses in the service sector.

Global markets exist or are developing in many industries such as tourism. Transport costs and other factors may result in regional sub-markets in some cases. As most markets are cyclical, the forecasting of demand conditions over the life of a project involves analysis of both long-term trends and short-run variations.

The major markets for phosphate, tourism and other activities on Christmas Island have been in Asia and, to a lesser extent, mainland Australia. The development of diving and eco-tourism could also involve markets in other regions such as Europe and North America.

The recent economic problems in Asia have had major effects on the Christmas Island economy. They contributed to the closure of the resort/casino and to the reduction in air services which adversely affected other sectors of tourism. In addition, the decline in the Indonesian economy significantly affected phosphate sales in that market.

COMPETITIVE POSITION

The viability of individual economic activities on Christmas Island will generally be affected by competition from alternative suppliers.

Such competition directly affects local producers wishing to sell in external markets. For example, intending travellers will compare Christmas Island with alternative destinations using criteria such as travel time, price and local
attractions. Competition from external suppliers also affects the potential for local producers to supply goods and services to the Christmas Island market. On a broader level, there is competition from mainland Australia in terms of residents' decisions about living on Christmas Island or moving elsewhere.

The general factors affecting the competitive position of Christmas Island are the characteristics of alternative suppliers, location, links to specific markets, transport services, communications services and cost structures.

**Alternative suppliers**

The key considerations in assessing the impact of alternative suppliers include the number of suppliers, their aggressiveness and the extent of interchangeability between products. If Christmas Island is the sole supplier of a product with no close substitutes, it would be expected to have a strong competitive position. On the other hand, the presence of a large number of alternative suppliers producing a similar product would generally be expected to result in a weaker competitive position.

In many cases, the alternative suppliers for goods or services produced by Christmas Island will be somewhere between these two extremes.

**Location**

The location of Christmas Island provides several opportunities and strategic advantages but also involves some disadvantages.

Christmas Island is close to (current or potentially) large markets in Indonesia and other Asian countries. Jakarta is only 50 minutes away by jet aircraft and flying time from Singapore is 2 hours 20 minutes. Christmas Island's position close to the equator and the absence of populated areas to the south and east also mean that it is potentially an attractive site for some activities such as satellite launching.

The Department of Defence submission to the Indian Ocean Territories Review indicated that Christmas Island could have considerable significance in a conflict involving Australia's maritime approaches. The strategic location of the island provides a forward base for securing Australia's western flank, extends the reach of Australian Defence Force platforms well into the Indian Ocean and South-East Asia, and provides a potential transit base for evacuation operations. However, the size of the airfield limits its ability to support Defence activities. Australia also has a strategic interest in denying access to the facilities at Christmas Island to any potential opponent.

The Australian Maritime Safety Authority, in its submission to the Indian Ocean Territories Review, indicated that Christmas Island's airstrip is of strategic importance for search and rescue activities. The island also provides a
destination for medical evacuations and other emergencies in the western area of Australia’s search and rescue region.

The long distance from the mainland imposes significant costs in areas such as inward transport charges and response times for Christmas Island residents. This is an important factor as mainland Australia is the major provider of services, infrastructure and goods for Christmas Island. In the longer run, the island’s proximity to Asia may provide further opportunities for access to cheaper goods and services.

Links to specific markets

There are significant family and social links between Christmas Island residents and communities in Asia (particularly Malaysia and Singapore) and Perth. These links reflect the cultural profile of the Christmas Island community and migration patterns associated with the changing fortunes of the phosphate mine. Access to post-Year 10 education facilities in Western Australia has also contributed to links with Perth.

These social and family links may provide specific opportunities for Christmas Island in areas such as the availability of private capital and access to goods and services. Several business operators on Christmas Island have stated that these links facilitate the sourcing of produce (eg fresh food and canned food) and some materials (eg timber) from Asia.

The available information indicates that social and family links have not directly increased access to Asian markets. For example, the resumption of phosphate sales to Asia in 1990 was reportedly based on commercial factors and the characteristics of Christmas Island phosphate. However, commercial negotiations with existing and potential buyers in Asia may be facilitated by multilingual and multicultural management teams, reflecting the cultural mix on Christmas Island.

Shipping service

Transport services are critical to the competitiveness and social fabric of an island economy. The key aspects are frequency, capacity, reliability and prices.

The shipping service to Christmas Island is provided by a privately-owned operator on a commercial basis. Commonwealth activities, particularly infrastructure upgrading projects, may have a significant effect on traffic volumes.

Freight rates for a particular shipment are determined by several factors including origin/destination, container configuration and the volume of cargo provided by the shipper. In September 1998 the published pre-paid rates for a container included:
from Fremantle – $3,632 (general container) or $5,458 (refrigerated container), plus $850 for stevedoring;
to Fremantle – $1,841 (general container) plus $350 for stevedoring; and
from Singapore – $2,755 (general cargo) or $5,280 (refrigerated container), plus $850 for stevedoring.

Several factors contribute to the level of freight rates. The limited traffic volumes (e.g., 300-350 containers per annum from the mainland in the absence of major infrastructure projects) mean that only a small ship can be used on the route. There is also a trade imbalance, with freight rates for inward traffic covering the costs of positioning mainly empty containers out of Christmas Island. Freight rates from mainland Australia are further increased by the long shipping distances. Stevedoring charges on Christmas Island are high by comparison with charges at mainland ports.

The absence of competition on the route may also contribute to high freight rates. Perkins Shipping operated a service from the mainland but withdrew from the trade in March 1997. Current levels of traffic are unlikely to support a second operator on the Christmas Island route.

The current shipping operation provides a monthly service from Fremantle and from Singapore. Shippers incur significant costs for inventory holdings due to the relatively low service frequency compared with transport operations on the mainland. The service interval may increase to two months (or longer) on some occasions when heavy swells prevent the ship from discharging its cargo at Christmas Island. A major mechanical failure on the ship in late 1998 resulted in delays to the delivery of goods. The capacity of the ship is adequate for current levels of traffic to Christmas Island.

**Air transport**

Christmas Island currently has air services from Perth (including stops at the Cocos (Keeling) Islands) and Jakarta.

**Perth service**

The air service to Christmas Island from the mainland is operated by a privately-owned carrier under a subsidy arrangement with the Commonwealth. The subsidy provides for an air service to meet the essential transport requirements of the residents of Christmas Island and the Cocos (Keeling) Islands.

The attributes of the current air service reflect the interaction of three main factors:

- characteristics of the route, such as low traffic levels (particularly reflecting the current population and level of tourism) and long travel distances;
• subsidy arrangements, particularly the level of the subsidy and the provision of a joint service with the Cocos (Keeling) Islands; and
• operating practices in areas such as ticket distribution, ground handling, and on-board service.

Only a small number of operators have aircraft in Perth that are adequate for the Perth–Christmas Island–Cocos (Keeling) Islands service. The route is unattractive to the major domestic airlines as it is not commercially viable and they can deploy their aircraft on more profitable trunk routes. Aircraft operating costs on the route are high as a result of the long travel distances over water, low traffic levels and high fuel costs in the Indian Ocean Territories ($0.60-$1.00 per litre compared with $0.30 per litre in Perth). In addition, the isolated location of the islands results in high costs if the aircraft has mechanical problems en route.

Many residents of Christmas Island have commented adversely about several aspects of the current air service.

Air fares are relatively high, even with the Commonwealth subsidy. In October 1998 the adult return air fare between Christmas Island and Perth was $1 462 (economy) and $998 (21 day advance purchase). There was also a Christmas Island Airport Tax of $5 for each arrival and departure. Intending passengers have reportedly encountered significant difficulties in obtaining confirmed reservations for advance purchase fares, even when bookings are made several months in advance. Around 50 per cent of seats on the aircraft are allocated to discount fares (including children’s, infants’ and advance purchase fares).

The standard freight rates in October 1998 incorporated a consignment fee of $45 per shipment plus a charge of $5.35 per kilogram to or from Perth. Other charges were $8.70 per kilogram in either direction for guaranteed carriage, and $3.80 per kilogram for perishables.

The aircraft used on the route is modern and reliable. However, under the current arrangements, flight frequency and the number of seats available are limited. In many cases, bookings need to be made well in advance in order to secure flights on acceptable dates. A combination of high seating density and high load factors means that on-board comfort is limited.

It appears that the demand for carriage of air freight from Perth to Christmas Island is relatively high on a per capita basis. This reflects the absence of local production (eg perishables), the isolated location of the islands, and limited transport alternatives. The amount of freight and baggage that can be carried from Perth reflects the capacity of the aircraft and the service frequency.

The interaction of relatively high demand and limited capacity means that, under the current arrangements, freight (including mail) is sometimes not accepted for carriage or is off-loaded. This results in significant delays to the delivery of some goods to the islands. The Christmas Island Administration has
therefore developed guidelines for air freight management in consultation with the community. The order of priority is medical/pharmaceutical supplies, perishable foodstuffs for major public outlets, letter mail, personal perishable items, priority general freight and other general freight. Excess baggage and general freight receive low priority.

There is a 20 kilogram limit for passenger baggage on the current service from Perth, with a charge of $10 per kilogram where excess baggage is carried. These requirements are stricter than the arrangements on major domestic air services (32 kilograms), more generous than the arrangements for domestic passengers on regional air services (14 kilograms) and similar to the arrangements on international services (20 kilograms). National Jet Systems does not guarantee carriage of personal equipment (eg surf boards) in view of the capacity limitations and the need to carry high priority cargo.

The limitations of the current air service to Perth impose costs on Christmas Island businesses and residents. They also affect the potential development of activities such as tourism. As noted earlier, the limitations of the air service reflect the route characteristics, subsidy arrangements and operating practices.

**Asia services**

The withdrawal of direct air services from Singapore in 1997 effectively removed access to certain tourist markets, particularly Japan and Europe. It also limited the extent to which items such as food could be obtained from alternative (and potentially cheaper) sources in Asia.

The commencement of weekly air services from Jakarta by two commercial operators in August 1998 increased air freight capacity into Christmas Island and provided an alternative link to the mainland. The available data indicate that in October 1998 the standard charges incorporated a $35/$45 consignment fee plus $5.15/$4.75 per kilogram for general freight or $3.30/$3.10 per kilogram for perishables. There are significant volume discounts for larger shipments. The majority of freight carried on these services is perishable items transhipped from a connecting Qantas flight out of Perth.

The Christmas Island–Jakarta air services also enable passengers to fly to or from Perth via Jakarta at a fare that is reportedly lower than the economy fare for the National Jet Systems service. The adult economy air fare to Jakarta is around $260 one way and $400 return.

The current air services from Jakarta provide a useful connection from Asia and have reportedly contributed to a significant reduction in freight rates on the National Jet Systems service. However, they have significant limitations for tourist traffic in areas such as travel time, frequency, on-board facilities and capacity. In addition, Singapore is the preferred Asian hub for tourists from Europe and Japan.
Communications services

The telecommunications network on Christmas Island has several limitations. Major issues include low data transmission speeds, poor transmission quality (eg echo and delays), high maintenance costs and a high incidence of faults compared with services on the mainland. The current upgrading project will provide general access to carrier preselection, easy-call facilities, higher data and facsimile transmission speeds (up to 9.6 kbits per second to the mainland) and faster Internet access (in excess of 9.6 kbits per second and up to 64 kbits per second). However, there will still be some limitations associated with use of the satellite link for external contacts.

Christmas Island’s postal service currently involves a weekly (sometimes twice-weekly) airmail service through Perth, a weekly airmail service via Jakarta to Perth, and a monthly seafreight service. However, delivery times are variable and may be significantly extended, particularly by the off-loading of mail from the National Jet Systems aircraft due to limited air freight capacity. As a result of these transport problems, Australia Post has been sending some airmail on a Christmas Island–Jakarta–Singapore–Perth route since September 1998.

The limitations of Christmas Island’s communications services have resulted in significant inconvenience and additional costs for residents. Examples cited by local residents include delays in transport of critical documents (eg property settlements) and reduced credit availability due to late payment of accounts.

Cost structures

Operating costs for businesses and public sector activities on Christmas Island are relatively high due to the small market, reliance on external suppliers and high transport costs. It is often difficult to achieve significant economies of scale. The cost per head of population for some basic infrastructure is also high as the minimum size for many facilities (eg the airport) involves capacity beyond the community’s requirements.

The absence of customs duty, excise duty and wholesale sales tax on Christmas Island reduces the prices for some goods. In addition, the shipping service from Singapore and the air services from Jakarta potentially enable the community to access cheaper sources for some items.

A survey undertaken by the ABS in late 1995 indicated that prices for individual goods and services on Christmas Island were between 50 per cent below and 300 per cent above the prices for these items in Perth (ABS 1996a, 53-58). In view of the variation in relative prices for individual items, any meaningful assessment of overall cost structures must include prices for a range of goods and services.

The ABS analysis of household expenditure in late 1995 indicated that the cost of purchasing a fixed basket of goods and services, using the Perth expenditure
pattern, was 10 per cent higher on Christmas Island than in Perth (ABS 1996a, 107). Using the Christmas Island expenditure pattern, the cost of purchasing a fixed basket of goods and services on Christmas Island was 1 per cent lower than the cost in Perth. However, rises in freight rates may have increased relative costs on Christmas Island since the ABS survey was undertaken.

The ABS data provide only a partial indicator of relative costs as they are based on household expenditure patterns. The analysis of the economy's overall competitiveness should ideally include major expenditure items for business and private sector activities. In addition, relative prices for consumer items do not capture all of the costs associated with:

- lower service quality (eg weekly rather than daily mail deliveries);
- additional inventory holdings associated with longer (and more variable) delivery times;
- the limited range of goods and services available for direct purchase on Christmas Island;
- higher construction costs, with costs for major projects being 80-100 per cent above the costs for comparable projects in mainland cities; and
- higher maintenance costs and more frequent replacement of infrastructure due to the harsh physical environment.

The competitive position of individual activities on Christmas Island is also affected by the costs of specific inputs. For example, phosphate production costs reflect the accessibility, grade and moisture content of the phosphate. Labour costs on Christmas Island incorporate mainland wage rates plus employer subsidies and allowances (eg district allowance of up to $5,610 per annum). In addition, the Australian dollar exchange rate will affect the competitiveness of activities in international markets (eg tourism).

ECONOMIC MANAGEMENT

Effective economic management supports economic development by encouraging capital inflow and promoting the efficient allocation of resources. The objective is to produce a mix of goods and services which maximises the benefits to the community.

The process of economic management involves decisions by the private and public sectors. An economic development plan and systematic project evaluation are key components of the management process.

Role of the private sector

The private sector has a significant role on Christmas Island. Two of the major activities, phosphate mining and the resort/casino, have been developed and operated by private investors. There is also a significant small business sector.
Further diversification and development of Christmas Island's economy will require private sector involvement. The private sector has skills in a range of areas that are critical for the development process – identifying market opportunities, accessing and organising resources (including finance), providing marketing and promotion, and managing commercial risk.

Role of government

The Commonwealth has a major impact on capital flows and resource allocation on Christmas Island. It currently funds most of the infrastructure and public services and also controls major policy instruments such as land release.

The role of the Commonwealth on Christmas Island has been changing over time. For example, it has withdrawn from direct provision of many services and now uses State agencies to supply these services. Similarly, a significant proportion of Commonwealth housing has been sold to long-term tenants.

Economic development plan

An economic development plan provides the basis for a co-ordinated and targeted approach to economic development. Such a plan typically identifies growth opportunities, potential obstacles and broad policy requirements. Clear lines of responsibility and co-ordination between relevant agencies are key requirements for the effective implementation of an economic development plan. General community support for the plan is also a key consideration.

A Christmas Island Economic Development Plan was prepared for the Economic Development and Training Committee of Christmas Island in 1994 (Hassall & Associates 1994). The consultants identified a range of key strengths such as flora and fauna, the rainforest, a unique cultural mix, nearness to Asia and the entrepreneurial abilities of small business. The Plan included five goals:

• Advance island development.
• Develop targeted and sustainable tourism.
• Expand island commercial activity.
• Develop commercial links with neighbours.
• Develop high value service industries.

The Christmas Island Economic Development Plan envisaged a substantial increase in population, with 5 000 persons by 2000 and 16 500 persons by 2015. Some elements of the Plan now appear to be rather ambitious, at least in the short term, in view of the subsequent decline in economic conditions in Asia.

Evaluation of major projects

The allocation of funds to significant investment projects should include economic or financial evaluations in order to ensure that the benefits to the
community are maximised. Poor investment decisions will result in a pattern and rate of economic development that provides only some of the potential benefits. In extreme cases, poor investments may hinder the overall development process.

Some of the benefits from investment projects on Christmas Island will accrue to external providers of capital and other inputs. The Commonwealth will receive benefits through payments of Commonwealth taxes and charges. The level of benefits to the local community will be affected by factors such as:

- the extent to which local labour is used;
- the level of skill enhancement for local staff;
- changes in population size, including off-island recruitment of staff;
- payments for other local inputs (e.g., land, electricity and water);
- local taxation payments;
- the profitability of the project; and
- the extent of local capital investment and shareholdings.

A project which relies wholly on external inputs and solely services external users may provide few long-term benefits to Christmas Island. The establishment and maintenance of strong links to the local economy will increase the benefits to the community.

**COMMUNITY ATTITUDES TO CHANGE**

Economic development inevitably results in social change and effects on the local community. Such changes are often most significant when the benefits from development are widely distributed throughout the economy.

The available information indicates that Christmas Island residents generally support further economic development that promotes the overall interests of the community. There is a strong desire to provide more employment opportunities on the island, particularly for young residents who have studied Years 11 and 12 and/or undertaken tertiary courses on the mainland.

The major opportunities for economic growth are viewed in terms of links with Asia and the construction of a satellite launching facility. There is concern in some parts of the community that satellite launching will have adverse effects on local health (particularly from the burning of rocket fuel) and safety (particularly from a rocket hitting residential areas). It appears that the majority of residents are not opposed in principle to the project and are awaiting an evaluation of these issues in the environmental impact assessment.

A small number of residents appear to be opposed to further development in general, arguing that a small population and limited economic development are desirable. They consider that a larger population will damage the harmony of
the island and lead to more social problems (eg violence due to alcohol consumption).

ASSESSMENT

The key components of Christmas Island's resource base include its location close to Asia, an attractive natural environment (eg flora, fauna, physical features), phosphate deposits and good infrastructure in several areas. In addition, the crime rate is low and Christmas Island is free of major tropical diseases.

The economy's competitive position is adversely affected by limited transport services, the relatively small population, limited availability of land, poor infrastructure in some areas and a high cost structure.

The available information indicates that Christmas Island residents generally support economic development that balances economic, environmental and social considerations.
CHAPTER 5  OUTLOOK FOR EXISTING AND POTENTIAL ACTIVITIES

The discussion in chapter 3 indicated that the Christmas Island economy has become more diversified since the early 1990s. The key areas of the economy in recent years have included phosphate, tourism and the public sector, together with associated service activities. Factors such as the narrow resource base and a high cost structure place significant limitations on the new activities that can be established on a sustainable basis.

The decline in economic conditions in Asia since 1997 has caused a substantial reduction in the level of activity in the major markets for goods and services produced on Christmas Island. The available information suggests that there will be a resumption of economic growth in Asia in the medium to long term, although the prospects for individual countries in the region are less clear. In view of this uncertainty, the assessments for individual economic activities in this chapter are longer-term projections based on reasonable economic growth in Asia (and in other major areas of the global economy). In the short to medium term, the level of economic activity in individual Asian countries may remain well below these long-term levels.

The analysis of individual activities in this chapter reflects the factors discussed in chapter 4 - resource availability, external markets, competitive position, economic management issues and community attitudes.

PHOSPHATE

Revenue from the sale of Christmas Island phosphate totalled $43.8 million in 1997/98 (Phosphate Resources Ltd 1998, 39). Around two-thirds of output involves rock for direct application fertiliser and one-third is used as an input for factory-produced fertilisers. The industry's future prospects will be affected by the amount of phosphate available for mining, the level of demand and the competitiveness of the local operation.

The amount of A-grade and B-grade phosphate currently available for mining on Christmas Island is reportedly sufficient for at least 12 years of production. There are also prospects for the identification of additional resources in the areas covered by the mining lease (which runs to 2019). In addition, successful
development of a market for the large amounts of C-grade phosphate on Christmas Island would result in a substantial increase in mine life.

The available forecasts indicate that, on a global basis, prices for phosphate rock in real terms will remain around (or slightly above) 1997 levels to the year 2000 (World Bank 1998, 33). Prices are then expected to decline by almost 10 per cent in each of the two following five-year periods to 2010.

Developments in Asia will have a major effect on the demand for Christmas Island phosphate as the region currently accounts for around 77 per cent of Phosphate Resources Ltd’s sales. The major use involves direct application fertiliser, particularly for palm oil plantations. The Indonesian market collapsed in late 1997 but Phosphate Resources Ltd was able to increase its overall revenue in 1997/98 through higher sales to Malaysia and Australia.

Developments in Malaysia, which accounted for over 60 per cent of the company’s sales in 1997/98, will have a significant effect on future output. Phosphate Resources Ltd is attempting to sell phosphate in several other regional markets and is also undertaking trial marketing of C-grade phosphate in India.

Prospects in the Australian market, where Christmas Island phosphate is used for the production of superphosphate and as a binder, are unclear. A major new phosphate and fertiliser project being developed by WMC Ltd in Queensland is scheduled to commence production in late 1999. This project will produce one million tonnes per annum of di-ammonium phosphate fertiliser. The available information indicates that it is unlikely to have a significant impact on Christmas Island production as WMC will focus on a different (ie higher-priced) market segment.

The competitive position of Phosphate Resources Ltd is enhanced by its role as a niche producer. The company sells a range of specialist mixes of phosphate, particularly to Asian producers requiring delivery in small ships. It has a freight rate advantage as a result of Christmas Island’s geographic proximity and the availability of low-cost regional shipping. The acidic soils and high rainfall of South East Asia mean that Christmas Island phosphate is particularly suitable for use as a direct application fertiliser in this region.

The competitive position of Christmas Island phosphate will be affected by relative production costs. Key factors include the mix of in situ mining and production from stockpiled material, and the exchange rate of the Australian dollar. Expenditure on infrastructure upgrading and dust suppression will also affect Phosphate Resources Ltd’s future cost structure.

TOURISM

There was a major expansion of tourism on Christmas Island following the opening of the resort/casino in 1993 and the associated increase in air services.
The major sectors were gambling and to a lesser extent diving, eco-tourism and fishing. Tourism was the largest source of employment on the island for several years until the closure of the resort/casino in April 1998.

Christmas Island has several features that are potentially attractive to tourists. They include:

- interesting flora and fauna;
- a well-preserved tropical rainforest;
- unique events such as the annual red crab migration;
- excellent conditions for snorkelling and scuba diving;
- good opportunities for recreational fishing;
- a location close to Asia (particularly Jakarta);
- a casino (until its recent closure and cancellation of the licence);
- a safe environment with Australian-standard facilities (eg medical) and a low crime rate;
- a tropical climate with no major tropical diseases; and
- a mix of cultures.

The attractiveness of Christmas Island to residents of mainland Australia is affected by travel requirements. For east coast residents, there is significant travel time and cost involved in flying to Perth and possibly staying overnight before catching a flight to the island. Access for residents of Western Australia is easier. However, in both cases travel to tropical resorts in Asia (eg Bali) and other locations is cheaper and more convenient.

The features of Christmas Island suggest that the major opportunities for tourism involve specialised (niche) activities and overseas markets (particularly Asia). This was the pattern when tourism expanded after 1993. The future opportunities for tourism can be considered in terms of a casino, diving, eco-tourism and other sectors.

Casino

The opening of the casino enabled Christmas Island to access a substantial tourist market. The island’s advantages included close proximity to Asia (particularly Jakarta) and the availability of frequent, direct air services. In addition, the Christmas Island resort/casino was purpose-built (and marketed) to attract ‘high roller’ gamblers and was directly competing against only two other Asian operations (Macau and the Genting Highlands).

Any casino operation on Christmas Island in the near future will be dependent on the re-opening and refurbishment of the resort/casino facilities which are currently under the control of the provisional liquidator. It will also be subject to the granting of a casino licence by the Commonwealth and the re-establishment of jet air services from Asia.
It is difficult to estimate the likely level of activity at a re-opened resort/casino. In the short term, the downturn in economic conditions in Asia (particularly Indonesia) has substantially reduced the size of the gambling market. However, table 3.2 (page 19) indicates that casino gross profit at the Christmas Island operation peaked in 1994/95, well before the Asian economic downturn. These factors suggest that the initial performance of the casino may not be a good indicator of its potential long-term, sustainable performance.

The opening of large casinos in Sydney (November 1997, after a temporary facility from 1995) and Melbourne (March 1997, after a temporary facility from 1994) has provided Asian gamblers with several major alternative facilities which are very large and well-appointed. In addition, these new casinos are located in large cities with major supporting infrastructure (eg up-market retail facilities and entertainment) which is not available on a comparable scale on Christmas Island.

Diving

Christmas Island is rated as a world-class dive location. The key features include clear and warm water, a wide variety of tropical fish, unspoilt gorgonian and plate corals, and underwater caves. There are also opportunities for wall diving with drop-offs that plunge into deep water close to shore. Whale sharks, which are up to 15 metres long, can be seen in the waters around Christmas Island from January to April.

Significant numbers of divers were visiting Christmas Island until the withdrawal of the direct air service from Singapore made access too expensive and time-consuming. Divers came from Germany, Switzerland, Italy, France and Japan. There was also a significant local market involving workers from the resort/casino. The peak year for the dive market was 1996 when an estimated 350 divers visited the island. Average stay on Christmas Island was about 10 days.

By late 1998 several dive businesses were still operating on Christmas Island. However, few divers were visiting the island due to the lack of suitable air services. A connecting air service from Singapore to Christmas Island would be required to attract these divers as they are generally reluctant to travel through other gateways such as Jakarta.

Eco-tourism

Christmas Island's flora, fauna and physical features are potentially of enormous interest to eco-tourists such as conservationists, bird-watchers and bushwalkers.

There has been no detailed analysis of the carrying capacity of the Christmas Island National Park in terms of tourism. The capacity would vary for different
areas. For example, a maximum of 5,000 visitors per annum has been mentioned for the Blowholes which have a hard surface. In contrast, a figure of 500 visitors per annum has been suggested for the Dales (in the rainforest) with the current infrastructure.

There are no figures on recent levels of eco-tourism on Christmas Island. However, the numbers appear to be relatively small as traffic through sensitive areas such as the Dales has not exceeded the estimated carrying capacity. The number of eco-tourists visiting the island might be significant if air transport and accommodation were improved.

Other tourism

Opportunities for recreational fishing around Christmas Island are good. Stocks of reef fish are limited but there are considerable numbers of other fish such as tuna, sailfish, wahoo and marlin. There was a significant boat charter business to service fishing tourists, mainly from Singapore, until the withdrawal of the direct air service. The peak year was 1995 when an estimated 700 fishing tourists visited Christmas Island. Average length of stay was 2-3 days. By late 1998 the number of fishing tourists visiting Christmas Island was negligible.

Patrol boats and larger vessels operated by the Royal Australian Navy occasionally visit Christmas Island. Their presence boosts community morale and, when there is an overnight stay, provides some benefits to local businesses.

A small number of yachts visit Christmas Island each year, mainly as part of around-the-world voyages. Traffic is reportedly limited due to the application of port charges at Christmas Island and the availability of alternative facilities at the Cocos (Keeling) Islands.

A facility for backpackers has been established on Christmas Island. However, virtually no backpackers are travelling to the island due to the difficulty and expense of getting there.

Operation of a satellite launch facility on Christmas Island (see next section) could contribute to an increase in tourism. For example, there would be visits by customers to view launches of their satellites.

SATELLITE LAUNCHING

International Resource Corporation has proposed the construction of a satellite launch facility, at an initial cost of US$360 million, on Christmas Island. The interests involved in the proposal include an Australian company and a Russian-French organisation that markets Soyuz rockets.

The Asia-Pacific Space Centre would be a commercial facility for launching low earth orbit and geostationary satellites for the telecommunications and remote
sensing markets. There would reportedly be one or more launches per month, with the possibility of a larger operation in the long term. The proposed timetable includes commencement of construction on a site at South Point in mid-1999, with the first satellite to be launched late in the year 2000.

The prospects for the Asia-Pacific Space Centre will be affected by factors such as the size of the global satellite market, competition from alternative proposals and the availability of finance. Publicly available estimates suggest that, on a world-wide basis, up to 2,000 commercial satellites might be launched over the next 10 years.

Christmas Island is one of several locations close to the equator that are potentially suitable for the launch of these satellites. The proposed space centre faces competition from other operations in Australia and elsewhere. Work started on a facility at Woomera in mid-1998, and two other consortia are marketing proposals involving the construction of satellite launch facilities in northern Queensland and off the Queensland coast. There are also several competing overseas projects including a Boeing joint venture which intends to launch Russian rockets from a large mobile platform positioned near the Pacific Island nation of Kiribati.

The Federal Minister for Industry, Science and Tourism granted Major Project Facilitation (MPF) status to the Asia-Pacific Space Centre in September 1998. This means that one Commonwealth Department will co-ordinate the resolution of all of the environmental, land, defence, foreign affairs and immigration issues required before final approval is granted. The environmental impact assessment is expected to be completed in early 1999.

PUBLIC SECTOR

The provision of public services and infrastructure is a major area of economic activity on Christmas Island. As noted in chapter 3, the activities of public sector agencies currently account for a significant proportion of local employment.

The Commonwealth has an objective of aligning conditions and standards on Christmas Island with those of comparable communities in the rest of Australia. The achievement of this objective has involved substantial expenditure on infrastructure upgrading since 1991/92. Projects being undertaken in 1998/99 involve upgrading of the jetty and other marine facilities, establishment of a light industrial area, water supply improvements and public housing works.

Work on Stage 1 of the Christmas Island Rebuilding Program will be completed in 1998/99. Initial projects (totalling $8 million) for Stage 2 will also be commenced during the year. Substantial additional expenditure under Stage 2 may occur in future years.
This information suggests that public sector expenditure will continue to account for a significant proportion of employment and economic activity on Christmas Island.

COMMERCIAL FISHING

It was noted in chapter 4 that the stocks of reef fish around Christmas Island are limited and probably fully fished. A preliminary estimate in 1996 indicated that the maximum sustainable yield of deep reef species was 4-6 tonnes per year. The major opportunities for commercial fishing therefore involve pelagic species such as tuna.

Initial catches under trial longlining of pelagic species from 1996 were disappointing despite apparently cost-effective opportunities for airfreighting the fish to market (Australian Fisheries Management Authority 1997, 110). Three major impediments to development of the pelagic fishery at that time were identified—lack of business contacts, limited experience in marketing, and lack of experience in targeting larger, high-value tuna by pelagic longline.

AFMA has issued five permits to fish territorial waters (out to 12 nautical miles) off Christmas Island for pelagic species (eg small tuna and wahoo) and a limited amount of deep water reef fish. At least one local commercial operator supplied fish from the inshore fishery to the resort and the Christmas Island community for several years. However, the operation ceased in mid-1998 following the closure of the resort/casino.

Three mainland operators have been issued with 12-month permits (from 1 October 1998) to catch tuna using longlining methods in offshore waters around Christmas Island. The outcome of these activities will provide an indication of the potential for the development of offshore fishing.

HORTICULTURE

A local market garden near Drumsite has produced various vegetables and tropical fruits over the last few years. The output has included a range of produce such as melons, avocados, grapefruit and pomelos. There were some sales to local residents in 1996 and 1997.

The market garden has not been commercially viable. It closed in 1998 as a result of problems with pests such as fruit flies, nematodes in the soil and fungi. Other problems with horticulture on Christmas Island include crabs and grasshoppers.

Several local residents with relevant expertise have commented that there is much greater potential for horticulture (particularly hydroponics) on the Cocos (Keeling) Islands.
SERVICES FOR ASIA

Services such as higher education and specialist medical treatment are often difficult to obtain in Asia and are expensive. Some local residents and several major studies have indicated that Christmas Island is potentially well-placed to provide education, health and residential services for Asia. However, there do not appear to be any firm commercial proposals in these areas at present.

Education

The education proposals for Christmas Island include teaching English as a second language, conducting short business courses (eg segments of an MBA), operating a Swiss-endorsed hotel management school and providing bridging courses for entry into Australian universities. Provision of an educational facility for Asian students would probably involve significant commercial risk and would require private sector involvement.

The potential market is significant, with almost 5,000 Indonesian students reportedly undertaking English language courses in Australia in 1997 (prior to the economic downturn). The climate, location, low crime rate, leisure activities, and cultural profile of Christmas Island potentially make it an attractive location for educational activities. For example, the short flying time from Jakarta would enable Indonesian students studying on the island to return home on weekends.

Christmas Island also has some disadvantages. There is limited infrastructure in areas such as rental accommodation, retail outlets and entertainment facilities. The cost of living is relatively high. In addition, there is substantial competition from mainland-based institutions in the provision of specialist education services.

Health care

Some Indonesians with the ability to access specialised or high quality medical care currently travel to Singapore to obtain treatment. The prices for these services are reportedly high due to factors such as infrastructure costs (eg land) in Singapore. Indonesians also travel to major Australian cities (eg Perth) to obtain medical treatment.

At least one group of Perth doctors has reportedly been interested in providing some services for Indonesian patients on Christmas Island due to its proximity to Jakarta. One idea involved the treatment of minor ailments requiring day surgery (eg minor plastic surgery, laser eye surgery), possibly involving a rotating group of specialists. The other proposal was based on follow-up appointments with patients who had returned to Indonesia following major treatment in Perth.
The location of Christmas Island and the reputation of the Australian medical system potentially provide longer-term opportunities in this area. However, any proposals would proceed only if there were significant advantages to offset the costs and difficulties involved in operating specialist facilities in an isolated location.

When the new public hospital was constructed on Christmas Island, provision was made in the site planning for an adjoining private hospital/clinic. It was intended that this facility would cater for international visitors seeking specialised surgical and related health care. However, an invitation for expressions of interest from developers/investors in a private medical centre development did not attract any satisfactory responses.

**Residential services**

Local business interests have suggested several proposals to attract expatriates working in Asia to settle on Christmas Island. The construction of accommodation, ongoing expenditure by new residents and visits by off-island relatives would increase the level of economic activity on Christmas Island.

The first idea involves expatriate workers currently living in Jakarta. It is claimed that, if these workers resettled on Christmas Island and commuted to and from Jakarta each day, they would have lower travel times compared with living on the outskirts of Jakarta. In addition, they would have access to Australian-standard water, health, education and other facilities. It is also claimed that travel times from Christmas Island to other parts of Indonesia (eg Kalimantan and Sulawesi) would be faster than travel times from Jakarta. This strategy would rely heavily on the support of the Indonesian (and Australian) authorities in areas such as free movement between the two locations.

The second idea involves the promotion of Christmas Island as a retirement location for expatriates who have spent extended periods working in Asia. It is claimed that retirement to the mainland is often not attractive for these people due to the different climate and social attitudes. However, the limited infrastructure and high cost structure on Christmas Island might limit its attractiveness to expatriates.

**MILITARY USES**

There are no Australian Defence Force personnel permanently stationed on Christmas Island. Maritime patrol aircraft transit through the airfield about six times per year, and there are several visits each year by transport aircraft. Other activities include three visits per year by patrol boats, very small-scale Army exercises (6-12 personnel) every few years, and deployments of about three personnel from the Pilbara Regiment once a year. In the next two to three years, the Army intends to raise a unit of about six local reservists, with Regular Army visits of about 6-8 weeks per year to provide training for the unit.
Several residents have suggested that one or more naval ships should be based at Christmas Island. Another proposal involves the establishment of training facilities for the air forces of various South East Asian countries which have crowded air space.

These proposals would proceed only if they were attractive to the defence forces in the countries involved. Any assessment would involve a comparison of the benefits to the defence force (eg shorter travel distances) with any additional costs (eg higher fuel prices and food costs compared with alternative bases such as Fremantle).

**OTHER ACTIVITIES**

Significant manufacturing is unlikely to occur on Christmas Island due to the small population and relatively high wages. Further processing of phosphate rock on the island is not economic due to the high cost of importing inputs such as phosphoric acid.

It has been suggested that Christmas Island provides an attractive option for research requiring an isolated location. The potential areas include rainforests, weather, climate or ocean levels.

**ASSESSMENT**

Phosphate and the public sector currently provide the major bases for economic activity on Christmas Island. The major opportunities for new or expanded areas of economic activity are tourism (eg a casino, diving and eco-tourism) and satellite launching. The viability of individual projects in these areas will be determined by their ability to compete in national and international markets.

Longer-term opportunities may be available in other areas such as the provision of education or health services to Asia. However, there do not appear to be any firm commercial proposals in these areas as present.

Activities currently planned by the Department of Defence are unlikely to provide a significant additional stimulus to the Christmas Island economy.
CHAPTER 6  ECONOMIC SUSTAINABILITY

Economic sustainability can be broadly defined as the ability of a community to maintain a specified living standard over the long term. The community's material living standard reflects the amount of goods and services that can be obtained from local and external sources. With a fixed amount of local production for local consumption, the sustainability of a specified living standard is determined by the inflow of external funds that enable the community to acquire goods and services from external sources.

APPROACH

The analysis in this chapter is based on first-round flows of funds into the Christmas Island economy. While this approach has some limitations, it provides a reasonable basis for assessing economic sustainability and the impact of potential changes in external earnings.

First-round funds flows result in some flow-on benefits to other sectors of the local economy (e.g., retail outlets). The extent of these benefits is limited by expenditure on external goods and services which results in an immediate leakage of funds from the Christmas Island economy. However, the local multiplier is probably significant, as illustrated by the impact of resort/casino employee expenditure on other sectors of the economy (e.g., leisure activities).

Information on first-round funds flows may understate the total (and relative) impact of projects involving external sales of goods and services. All of the estimated first-round funds flows for these projects result in multiplier effects for the local economy. In contrast, Commonwealth expenditure includes external inputs (e.g., imported equipment) which do not have any local multiplier effects. However, this factor is unlikely to affect the analysis in this chapter.

It is also important to note that existing residents may not receive all of the benefits from increased funds flows. Major projects such as the resort/casino or infrastructure upgrading generally result in an increase in Christmas Island's population. Any detailed assessment of sustainability should ideally be based on funds flows per head of population.

Figure 6.1 illustrates the major funds flows between Christmas Island and external sources/recipients. The potential sources of external funds are
Figure 6.1 Christmas Island: major funds flows

**Outflows**

- **External Payments**
  - Taxes and royalties
  - External inputs

- **Remittances** (outflow)

- **Payments for Externally Produced Goods and Services**

**Revenue**

- **Phosphate**
  - Local inputs
  - Profits
  - Conservation levy

- **Resort/Casino**
  - Local inputs
  - Community benefit levy

- **Other Tourism**
  - Local inputs
  - Profits

**Other Inflows**

- **Capital Inflow**
  - Remittances
  - Investments abroad

**Christmas Island Economy**

- Consumption of externally produced goods and services
- Consumption of locally produced goods and services
- Local production for external sale
- Shire of Christmas Island

**Other Agencies**

- Family and Community Services
- Parks Australia
- Other

**Christmas Island Administration**

**Territories Office Perth**

- Agencies' on-island staff
- Periodic visits by staff of other agencies
- Payments to Shire

**Territories Office Canberra**

- Infrastructure upgrading
- Other

**Commonwealth Funding**
Commonwealth expenditure, external remittances, income from off-island investments, and earnings from the sale of locally produced goods and services in external markets. External borrowings and equity will contribute to long-term sustainability if they are used for productive purposes.

COMMONWEALTH FUNDING

Commonwealth expenditure has accounted for a significant proportion of the external funds flow to Christmas Island in recent years. For the purposes of the analysis in this report, recurrent expenditure by the Commonwealth is estimated at around $28.4 million per annum. It involves programs administered by the Department of Transport and Regional Services, the Department of Family and Community Services, and other agencies (mainly Parks Australia).

Department of Transport and Regional Services

Recurrent expenditure of $24.0 million for Christmas Island was included in programs administered by the predecessor of the Department of Transport and Regional Services in 1997/98. This expenditure incorporated payments for:

- local wages and salaries;
- services provided by local and external contractors;
- payments to the Shire of Christmas Island;
- services provided by Western Australian agencies and other Commonwealth organisations (including some local wages/salaries and local expenditure during visits by mainland-based staff); and
- other external inputs such as fuel and equipment.

These components represent the costs incurred in providing goods and services to Christmas Island residents. Estimates of first-round funds flows to the island should therefore include all expenditure under the programs administered by the Department of Transport and Regional Services. This expenditure effectively represents ‘income in kind’ and provides a measure of the goods and services that are provided to Christmas Island under the Department’s programs.

Recurrent revenue (ie excluding asset sales) from charges paid by residents totalled around $7.7 million in 1997/98. This revenue should be deducted from the expenditure figure in order to obtain an estimate of the recurrent expenditure directly financed by the Commonwealth. Net funds flow under Christmas Island programs administered by the predecessor of the Department of Transport and Regional Services is therefore estimated at around

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\[ \text{Excludes taxes and other payments to the Commonwealth's Consolidated Revenue Fund.} \]
$16.3 million in 1997/98. This figure is probably an under-estimate as it does not include general running costs incurred by the Territories Offices in Canberra and Perth.

The programs administered by the Department of Transport and Regional Services also include expenditure on capital works. This expenditure, which varies on an annual basis, totalled $4.8 million in 1997/98.

Department of Family and Community Services

A range of pensions and other social security benefits generally available to the Australian community are paid to Christmas Island residents. Payments totalled around $2.4 million in 1996/97 (see table 3.3 on page 21).

These payments are affected by factors such as age profiles, unemployment rates and benefit levels. Social security payments to Christmas Island residents may vary significantly over time in response to changes in the level of economic activity and the population on the island.

Other Commonwealth agencies

The only other Commonwealth agency with significant, separately-funded activities on Christmas Island is the Department of Environment and Heritage. These activities involve two areas of the Department. Total expenditure by Parks Australia was around $1.8 million in 1997/98. The Supervising Scientist Group is providing environmental management and regulatory services for the two Indian Ocean Territories at a cost of $180,000 in 1998/99.

Total expenditure in relation to Christmas Island by other Commonwealth Departments probably totals around $2.0 million per annum for the activities of the Department of Environment and Heritage and other agencies (eg the Bureau of Meteorology and the Australian Fisheries Management Authority).

EXTERNAL REMITTANCES

There are significant cultural and social links between residents of Christmas Island and communities in Asia (particularly Malaysia and Singapore) and Western Australia. Any funds remitted from these communities would provide another external source of funds for Christmas Island.

The available information indicates that the flow of funds from these communities to Christmas Island is not significant. However, there are reportedly substantial flows of remittances from Christmas Island to Asia (particularly Malaysia). These remittances involve payments to family members and investments in Asia. There are smaller flows to Perth, mainly for the acquisition of real estate.
It seems reasonable to assume that remittances to and from Christmas Island will not change significantly in the short to medium term. In the long run, remittances will be affected by factors such as population trends, migration, developments in financial markets and any changes in cultural and social links.

INVESTMENT INCOME

Some Christmas Island residents receive external payments such as dividends, rent and interest from off-island investments.

These flows do not appear to be large. The survey undertaken by the ABS in late 1995 indicated that 1.8 per cent of household income on Christmas Island was attributable to income from investments, financial institution interest, rental properties and workers' compensation (ABS 1996a, 18). Similarly, Australian Taxation Office statistics show total gross interest of about $323,000 and total imputation credits of around $344,000 compared with taxable income of $35.0 million for Christmas Island residents in 1995/96.

EXTERNAL SALES OF GOODS AND SERVICES

The sale of locally-produced goods and services in external markets provides a significant source of funds for Christmas Island residents.

Estimation of the first-round flow of funds (access to goods and services) from these activities is based on the earnings that accrue to the local community. These earnings comprise:

- profits (dividend payments) attributable to local shareholders;
- wages and salaries paid to local employees;
- payments to local contractors;
- interest payments to local providers of loan funds;
- payments for local land, water and electricity; and
- any other local taxes and charges.

Total revenue does not provide an appropriate measure of the first-round flow of funds to the local community as it reflects the amount of goods and services consumed by external buyers. Some of the revenue from sales in external markets accrues to off-island providers of inputs such as investment capital, foodstuffs, fuel and machinery. The remaining funds flows, which accrue to local residents, provide them with the capacity to purchase goods and services for personal consumption.

Phosphate and tourism (particularly the casino/resort) have provided most of Christmas Island's earnings from sales of goods and services in external markets. Construction and operation of the proposed satellite launching facility would provide another source of external earnings.
Phosphate

Phosphate Resources Ltd earned revenue of $43.8 million from phosphate sales in 1997/98. Information provided by the company indicates that first-round funds flows for phosphate mining in 1997/98 totalled at least $12.3 million, comprising:

- $1.2 million for dividends paid to local residents (from an operating profit before income tax of $5.2 million);
- $7.0 million for wages and salaries of local employees;
- $2.5 million for payments to local companies;
- $0.6 million for payments to local contractors; and
- $1.0 million for local utilities/rates (mainly power).

The conservation levy ($748 000 in 1997/98) paid by Phosphate Resources Ltd might also be included in the first-round flows of funds to Christmas Island. The levy is collected by the Commonwealth but is effectively allocated to rehabilitation works on Christmas Island.

Phosphate Resources Ltd also pays other taxes and charges such as company tax ($1.6 million in 1997/98) and the mining lease royalty ($971 000 in 1997/98). These funds do not flow directly to the local community as they are paid into the Commonwealth’s Consolidated Revenue Fund and are not specifically allocated to projects on Christmas Island.

Tourism

Some estimates of recent and potential first-round funds flows from tourism can be obtained using information for the resort/casino and for other sectors of tourism.

Resort

Construction of the resort/casino provided a major boost to the Christmas Island economy. It required an average of around 80 construction workers on the island, with a peak figure of 120 workers.

The on-going contribution of the resort/casino to the local economy during the operating stage varied in response to changes in the level of activity. Some information for the period to 1995/96 is available from a paper prepared in early 1996 (Woodmore 1996b) and from other data collected by the BTE. These sources suggest that the first-round flow of funds to Christmas Island from the casino/resort was at least $11.1 million per annum during the initial operating period. This figure comprised:

- $9.7 million for local wages and salaries (including staff recruited off-island);
- $1.1 million for the community benefit fee; and
- $0.3 million in rates and land tax paid to the Shire of Christmas Island.
The data are not comprehensive as they exclude payments for some local inputs (particularly electricity and contractors). In addition, any profits distributed to the then minority Australian shareholder should be included in the estimates if he was a resident of Christmas Island at the time.

The resort/casino operator also paid other taxes and charges (Woodmore 1996b). The annual payments included $8.9 million for the casino licence fee, $3.4 million for company tax (projection for 1995/96), $0.6 million for payroll tax and $0.1 million for fringe benefits tax. Income tax on employee salaries was $2.4 million. These funds did not flow directly to the local community as they were paid into the Commonwealth’s Consolidated Revenue Fund and were not specifically allocated to projects on Christmas Island.

The available information indicates that there were few flow-on effects to other areas of the economy from guests staying at the resort/casino. Families of guests who came to gamble were reportedly disappointed with the limited range of shopping and other activities available on Christmas Island. They therefore spent little money outside the resort/casino.

In contrast, the resort/casino staff had a major impact on other areas of the local economy such as restaurants, taverns and dive businesses. They were relatively young, generally single and had high incomes.

**Other tourism**

Several local businesses with long involvement in Christmas Island tourism provided some broad estimates of the potential future market and funds flows for other sectors of tourism such as diving and eco-tourism.

The potential market was estimated at up to 80 tourists per week on average (ie 4000 tourists per annum). The number of visitors on the island would vary, with peaks at certain times of the year (eg during the red crab migration and the whale shark season). Average stay on the island was estimated at about 5 days per tourist. A figure of $350 per day per tourist was suggested for average expenditure on accommodation, food, car hire, tours and fishing/dive charters.

These figures suggest that annual revenue of up to $7.0 million per annum could potentially be earned from other sectors of tourism. It is estimated that 60 per cent of this revenue would remain on-island after payments for external inputs such as food, fuel and equipment. The potential first-round funds flow is therefore estimated at around $4.2 million per annum.

**Satellite launching**

There is little official information on which to base estimates of the economic impact of the proposed Asia-Pacific Space Centre.

It appears likely that the first-round flows of funds to the local community would mainly involve wages and salaries, payments to local contractors and
companies, and payments for utilities/rates. In addition, visits to Christmas Island by launch customers could result in flow-on benefits to local tourism.

Unofficial estimates of employment for the Asia-Pacific Space Centre range from 400 to 1,000 people in the construction stage and between 150 and 1,200 people in the operating stage. The most commonly cited figures average around 400 people for construction and about 350 people for the operating phase.

It is expected that official figures for employment and other aspects of the Asia-Pacific Space Centre will be included in the draft environmental impact study. These figures should provide a basis for developing projections of the likely first-round funds flows for Christmas Island.

Other sectors

The discussion in chapter 5 identified several other potential development opportunities for Christmas Island.

Viable projects to supply education, health care and residential services for Asia would potentially provide significant benefits to the local economy. However, there are no firm proposals on which to base estimates of first-round funds flows for these activities. The impact of projects in these areas would depend on their size, their characteristics and their profitability.

The overall economic impact of current and projected Australian military activities on Christmas Island is likely to be small. There is insufficient information to assess the potential effect of a military base or training facility for overseas defence forces. The first-round flows of funds to the local economy would include wages and salaries as well as payments for local utilities. Payments for the use of airspace around Christmas Island would probably accrue to the Commonwealth in the first instance. The airspace payments would provide a direct benefit to local residents only if they were distributed to the community through some allocation process.

It seems likely that any funds flows from commercial fishing or horticulture would be small, particularly in comparison with phosphate and tourism.

ASSESSMENT

Since early 1998 there have been only two significant sources of external funds for the Christmas Island economy. The available data indicate first-round funds flows of $25.5 million (net of user charges) from Commonwealth activities and at least $12.3 million from phosphate mining in 1997/98.

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5 The figure of $25.5 million comprises $16.3 million (net of user charges) in recurrent expenditure and $4.8 million in capital works expenditure by the Department of Transport and Regional Services, $2.4 million for the Department of Family and Community Services, and $2.0 million for other Commonwealth agencies (see pages 55-56).
Development of tourism on a substantial scale would potentially increase the earnings from private sector activities. First-round funds flows for the resort/casino, which is currently closed, are estimated at more than $11.1 million per annum when it was trading strongly. There is also potential for flows of up to $4.2 million per annum from other tourism such as diving.

These data indicate that, with only two significant sources of external funds at present, the Christmas Island economy is heavily dependent on Commonwealth activities. A major recovery in tourism (including a re-opening of the resort/casino on a substantial scale) would reduce the relative size of Commonwealth activities. However, Commonwealth funding (at recent levels) would continue to account for close to one-half of first-round funds flows into the economy.6

The proposed satellite launching facility could provide another source of external earnings for Christmas Island. However, there are currently insufficient data on which to base estimates of the potential impact of this project.

The available information therefore indicates that a reasonable level of economic activity on Christmas Island is not sustainable without significant Commonwealth activities. The level of economic activity will also be sensitive to variability in private sector earnings as a result of the narrow range of activities and reliance on several key markets. Phosphate resources on the island are finite, and production will be strongly affected by economic

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6 It might be argued that the analysis of economic sustainability should be based on a concept of net Commonwealth transfers. Average net Commonwealth transfers for Christmas Island in recent years can be roughly estimated at $15.0 million per annum, which is equivalent to around 40 per cent of combined funds flows for the Commonwealth, the resort/casino and phosphate mining. This is a lower bound estimate as it incorporates historically high payments for private sector activities.

The workings for these calculations are as follows. Payments to the Commonwealth's Consolidated Revenue Fund from Christmas Island activities are estimated at $21.9 million per annum. This comprises $7.7 million in personal income tax (page 22), $2.7 million for phosphate company tax and royalty payments (page 23), $10.3 million for the resort/casino in the form of company tax ($3.4 million - page 59) and the casino licence fee ($6.9 million annual average for first three full years - table 3.2 on page 19), and $1.2 million for other payments (page 23). Netting out personal income tax payments for Commonwealth-funded employees (conservatively estimated at $2.3 million on the basis of 30 per cent of the workforce) and adding an adjustment of $9.1 million to raise capital expenditure to the average since 1991/92 ($97 million/7 = $13.9 million annual average, minus $4.8 million spent in 1997/98) results in net Commonwealth expenditure of $15.0 million ($25.5 million - $21.9 million - $2.3 million) + $9.1 million). This figure is added to the estimates of $12.3 million for phosphate mining and $11.1 million for the resort/casino to obtain an adjusted first-round funds flow total of $38.4 million. The total falls to $34.4 million if income tax for employees at the resort/casino ($2.4 million - page 59) and the mine ($1.6 million based on earnings of $7.0 million - page 58 - and average tax rate of 23 per cent - page 22) is netted out.
conditions in Malaysia which accounts for over 60 per cent of sales. Conditions in Indonesia, which has been the major market for the resort/casino in the past, will have major effects on the level of tourism.

The Commonwealth Grants Commission, in its submission to the Indian Ocean Territories Review, stated that the economies of Christmas Island and the Cocos (Keeling) Islands are very fragile and heavily dependent on a maintenance of government activities. The Commission noted that neither of the Territories is ever likely to be economically and financially self-sufficient. It also commented that the involvement of the Commonwealth Government in the economies of the mainland States and Territories varies substantially. In terms of the per capita level of support received from the Commonwealth, the Indian Ocean Territories would be an extreme extension of the continuum between New South Wales and the Northern Territory.

The estimates of first-round funds flows in this chapter are indicative only. They do not include any assessment of the viability of individual activities or of the likelihood that particular projects will be undertaken. In addition, the estimates do not incorporate the significant short-run effects (eg on local employment) that occur during the construction stage of major projects.
CHAPTER 7 PROMOTING DEVELOPMENT AND SUSTAINABILITY

With the resort/casino effectively closed, the level of economic activity on Christmas Island is dependent on phosphate mining and public sector expenditure. Economic development and employment growth will only continue if there is further strengthening and diversification of the economy. Potential elements of this process are actions to increase external income, reduce external payments and lower cost structures.

Higher earnings from sales of goods or services in external markets will increase the first-round flow of funds to Christmas Island. The discussion in earlier chapters indicates that the major opportunities in this area involve tourism and possibly a satellite launch facility. The private sector will have a major role in the development and implementation of these projects due to the requirements for significant amounts of capital, specialised skills, promotion activities, distribution networks and management of commercial risk.

Any reduction in external payments for goods and services will lower the first-round funds flows required to maintain a particular living standard on Christmas Island. This strategy will only be effective if increased local production is viable without artificial support. The discussion in chapter 5 indicates that opportunities in this area are limited.

A lower cost structure will improve the competitiveness of Christmas Island producers in external markets and in the local market. It will also reduce the level of first-round funds flows required to maintain a particular living standard. One possibility in this area is a significant reduction in transport costs, involving either direct subsidies or economies of scale associated with tourism or population growth.

The remaining sections of this paper provide comments on some major issues in promoting economic development and sustainability on Christmas Island.

AIR TRANSPORT

The current air services provide basic connections to the mainland and to Jakarta. However, they have several limitations which adversely affect
prospects for the revival and expansion of tourism on Christmas Island. They also contribute to the difficulties in developing other activities.

Successful re-opening of the resort/casino will require a significant improvement in air services from Asia in terms of both capacity and frequency. The longer-term requirements probably include a jet service from Jakarta, which was the major source of visitors to the casino/resort. It appears that approval of flights by the Indonesian authorities would be dependent on a broadly-based tourist operation which was not heavily focused on gambling.

The absence of a direct air service from Singapore is also limiting the development of tourism. Singapore is a major hub for travellers from other parts of Asia and from outside the region. European and Japanese divers will reportedly travel to Christmas Island in significant numbers if there is a Singapore–Christmas Island air service provided by a reputable operator. They will not travel in significant numbers through other Asian hubs such as Jakarta. Singapore is also a potential source of tourists for activities such as recreational fishing.

The features of the current air service from Perth were outlined in chapter 4. High air fares and limited capacity make it difficult to attract significant numbers of mainland tourists to Christmas Island. The use of higher subsidies and/or larger aircraft may reduce some of these disadvantages and encourage increased tourism from the mainland. An improved air service may also make Christmas Island a more attractive location for new industries or businesses.

Major projects such as a re-opening of the resort/casino or construction of a satellite launching facility would involve a substantial increase in the demand for air transport. Additional or upgraded services may be provided by, or at least facilitated by, interests involved in these projects. Such a development would potentially lead to greater capacity, more frequent services, larger aircraft and lower air fares with flow-on benefits for other sectors of the tourist industry.

Various tour operators on Christmas Island have indicated that control of major air services by one organisation on the island should be avoided. They consider that such control leads to a focus on the requirements of one sector of the tourist market and limits the prospects for other sectors. In addition, it makes the island’s air services more vulnerable to disruption.

It is also important to ensure that the pattern of air services is stable on a long-term basis so that Christmas Island is viewed as a reliable destination. For example, European divers book their holidays up to 12 months in advance and the tour operators require guaranteed air services over a similar period. If air services to Christmas Island are not viewed as reliable, these tourists will travel to alternative destinations.
LAND

The availability and cost of land, including procedures for land release, has a major impact on the attractiveness of Christmas Island to potential investors and on the development process.

As noted in chapter 4, there are significant constraints on the availability of land for development. Key factors include the Christmas Island National Park, the prohibition on clearing of any primary rainforest, the mining lease and the physical attributes of some of the remaining land (e.g. steep slopes).

Access to land is also affected by the land release policies of the Commonwealth which owns most of the land on Christmas Island. Several commercial organisations have commented that there has been a shortage of land for development and that obtaining a lease or freehold title involves a lengthy process.

The Commonwealth has recently sold several sites for residential development. There are also proposals to sub-divide and/or develop other areas of land for residential use over the next two years. A light industrial area is being developed in two stages, with freehold land to permit strata titling of the industrial units.

The Commonwealth generally provides land for non-residential projects under leasehold rather than freehold arrangements. This may create difficulties for investors if financial institutions require freehold land as security for loan funds. Where leasing of land is acceptable to investors, they require long lease periods and stable lease arrangements to ensure security of tenure. The land for the casino/resort is reportedly leased to Christmas Island Resort Pty Ltd for 99 years at a peppercorn rental.

More generally, some local business interests have commented that it is very expensive to invest on Christmas Island due to the shortage of commercial property. They have suggested that a move to freehold land and a normal property market would make land more accessible and attract investors.

Other factors may affect access to land that is required for major projects on Christmas Island. For example, construction of the proposed satellite launching facility at South Point will require a commercial arrangement with Phosphate Resources Ltd as this site is included in the lease for phosphate mining.

INFRASTRUCTURE

Several areas of Christmas Island’s infrastructure currently have significant limitations in terms of capacity and/or standards. Some of these limitations affect the process of economic development.

The amount of mid-range and high-quality accommodation for visitors to Christmas Island is currently inadequate, even with very low levels of tourism.
The development of a significant tourism industry in the short to medium term is therefore dependent on the re-opening of the resort (156 rooms) and/or Christmas Island Lodge (70 rooms) on a substantial scale. It seems likely that the resort will require significant refurbishment in view of the harsh environment and the lack of maintenance since the closure of the facility.

Substantial expenditure is required to bring the standard of Commonwealth-owned (and some other) housing on Christmas Island up to mainland standards. In addition, the current stock of housing and flats would be inadequate if the resort/casino re-opened and/or a satellite launching facility was constructed. These projects would result in a significant increase in Christmas Island’s population and a requirement for additional accommodation.

Construction of a satellite launching facility may also necessitate upgrading of other infrastructure, such as the wharf at Flying Fish Cove, to handle rocket components. Initial information suggests that there may also be a requirement to extend the runway if this project proceeds.

Christmas Island’s telecommunications services are currently subject to several limitations. The upgrading being undertaken by Telstra will result in a wider range of services, faster transmission speeds and improved Internet access. However, use of a satellite for external links will continue to result in some limitations. The Joint Standing Committee on the National Capital and External Territories has recently been examining communications to and within Australia’s External Territories (including Christmas Island).

Other infrastructure issues on Christmas Island include the poor condition of some commercial/industrial buildings, water mains and roads. Work under the Christmas Island Rebuilding Program will improve infrastructure in various areas. The final projects under Stage 1 include reconstruction of the jetty, establishment of a light industrial area, and work on the power supply. Initial Stage 2 projects involve public housing, water supply and mooring facilities.

The attractiveness of Christmas Island to certain tourists may be limited by some broader limitations of the existing infrastructure. For example, family members who accompanied gamblers to the casino/resort were reportedly disappointed at the limited retail facilities and entertainment available on the island. These limitations partly reflect the inherent characteristics of a regional centre with a small population. A sustained, and major, increase in population and/or tourism would be necessary to encourage the development of such infrastructure by the private sector.

PROMOTION AND CO-ORDINATION

The development of Christmas Island’s economy will be facilitated by well-focused promotion and a co-ordinated approach to development opportunities.
External awareness of the island's location and features is currently limited. Some promotional material is issued by the Christmas Island Tourism Association, the Christmas Island Administration and some private operators. In addition, the Christmas Island Chamber of Commerce is preparing material for potential investors. However, local tour operators have commented that Christmas Island is not included in major travel guides (e.g., Lonely Planet). In addition, a feature article on Christmas Island in *Australian Geographic* (March 1997) was not accompanied by any information on contacts for travel or other arrangements.

Christmas Island has reportedly started to develop a reputation for being an unreliable tourist destination. This particularly reflects the closure of the resort/casino (for a short period in 1997 and in 1998) and the major reductions in air services in 1997. Singapore tour operators have reportedly made three unsuccessful attempts to develop the Christmas Island market. A Japanese tour company stationed a person on the island but withdrew from the market when the air service through Singapore was closed.

Complexities resulting from the structure of the Christmas Island community and from the number of major agencies may also affect the development process. This is a particularly important factor for major projects, such as the proposed satellite launching facility, which involve a range of community issues.

Commonwealth activities on Christmas Island are currently conducted through a structure which includes the Christmas Island Administration, Territories Office (Perth) and Territories Office (Canberra). In addition, Parks Australia, various State agencies and the Shire of Christmas Island are involved in activities which affect the development process. Economic development will be facilitated if co-ordination between areas of government is maximised and delays are minimised. It may be appropriate for a single agency to have responsibility for promoting opportunities on Christmas Island and dealing with project proponents.

**SYNERGIES**

The process of economic development on Christmas Island is potentially affected by synergies, both with neighbouring communities and within the economy.

Christmas Island and the Cocos (Keeling) Islands are both Territories of Australia and share the same shipping and air services. In addition, public sector services in the two Territories are often provided by the same State or Commonwealth agencies.

Some synergies between Christmas Island and the Cocos (Keeling) Islands are potentially available in the tourism sector. For example, development of the
dive market in both Territories depends on a direct air connection from Singapore. A significant proportion of European divers like to combine dive holidays on Christmas Island and the Cocos (Keeling) Islands. This reflects the long journey from Europe, limited holiday time and the contrasting dive experiences in the two Territories.

There appears to be scope to achieve cost savings and/or improved services by sharing staff in areas where each Territory does not have sufficient work for a full-time employee. For example, it might be appropriate for the two Shires to share the cost of employing specialists such as an engineer. A combined approach to training (councillors and staff) is already providing some cost savings.

Synergies may also exist between Christmas Island and areas of Asia, reflecting aspects such as geographic proximity and social and cultural links. For example, an eco-tourist operator may link with another operator in the region to offer tourists a range of ecological experiences.

There are some synergies between sectors of the Christmas Island economy. For example, expansion of air services to meet the needs of the resort/casino or the satellite launching facility may increase the capacity available for other areas of Christmas Island tourism. Similarly, increased shipping volumes during the construction phase of a major project will increase ship utilisation and potentially result in lower freight rates for other shippers (if the benefits are not all captured by the new shipper).

**ROLE OF THE PUBLIC SECTOR**

The major opportunities for further economic development on Christmas Island involve private sector activities. However, the public sector will continue to have a major impact on the development process.

The Commonwealth’s role should include the provision of an appropriate framework for private sector activities. A key element of such a framework is certainty about future levels of Commonwealth funding and activity. Any uncertainty about future funding levels significantly affects the climate for private investment and the likelihood of new projects proceeding.

Within the Commonwealth sector, there may be some benefits from a broadening of funding sources. For example, it may be appropriate for individual Commonwealth departments and agencies (e.g., Department of Defence) to contribute more heavily to the maintenance and upgrading of Christmas Island facilities that they use (e.g., the airport).

The pattern of Commonwealth expenditure is also an important factor. As the Commonwealth funds most infrastructure upgrading, the balance between social infrastructure (e.g., community halls) and economic infrastructure (e.g., port facilities) will affect the process of economic development. Similarly, as air
services are a key determinant of local costs and tourism, the level of Commonwealth expenditure on the air subsidy has a major impact on economic development and sustainability.

Commonwealth policies in specific areas also affect the development process. In particular, the Commonwealth's major role in land release and development means that its policies in this area may have a major impact on the attractiveness of Christmas Island to investors.

The provision of development incentives such as tax concessions may attract some activities to Christmas Island. However, projects will be viable and contribute to long-term economic development only if they are well-suited to the island's resource base, can operate within the constraints such as high transport costs, and do not require long-term assistance.

It should also be noted that the Commonwealth already provides significant assistance in several areas. They include direct subsidies (eg power, air transport) and the exemption from customs duty, excise duty and wholesale sales tax. In addition, the Commonwealth Minister for Regional Development, Territories and Local Government indicated in August 1998 that the goods and services tax (GST) would not apply to Christmas Island. Any goods and services provided to the island would be GST-free exports.
APPENDIX 1 MEETINGS ON CHRISTMAS ISLAND

Discussions were held with representatives of the following organisations during a visit to Christmas Island on 20-26 September 1998.

Chinese Literary Association
Christmas Island Administration
Christmas Island Chamber of Commerce
Christmas Island Contracting
Christmas Island District High School
Christmas Island Metro Supermarket
Christmas Island Post Office
Christmas Island Surveying Company
Christmas Island Tourism Association
Christmas Island Travel
Christmas Island Women’s Association
Community Consultative Committee
Golden Bosun Tavern
Gutteridge Haskins & Davey
Indian Ocean Communications
Indian Ocean Group Training Association
Indian Ocean Territories Health Service
Islamic Council
Mango Tree Lodge
Mining and Marine Constructions
Parks Australia
Phosphate Resources Ltd
Rumah Tinngi Tavern
Telephone interviews were subsequently conducted with other individuals who were off-island or otherwise unavailable at the time of the BTE visit.
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