

7. Socio-Economic Environment

7.1 Local and Regional Economic Structure

Northern Territory, Australia

Darwin is the capital city of the Northern Territory and its proximity to major economic growth areas in the Asia Pacific region provides a stable foundation for the Territory to play a major role in the future of the Asia Pacific Region. Darwin is the economic focus for Northern Australia and as a result Darwin's economy closely reflect the economic prosperity of the Northern Territory (Darwin City Council, 2001). With continued growth in mining and tourism Darwin's role as the socio-economic focus for the Territory will be further expanded and enhanced (Darwin City Council, 2001).

Darwin is serviced with a seaport comprising land connections to a major international airport and national highway system. Darwin is also equipped with world standard communications systems and has emerging information technology capabilities.

Traditionally secondary industry was seen as the focus of the economy but in latter years the tertiary service and information technology sectors have provided the impetus for economic redevelopment.

The Northern Territory economy differs from most Australian economies including:

- ❑ The public sector – there are a high number of public servants in Darwin compared to other capital cities;
- ❑ The mining and tourism industries - both industries are significant contributors to the Darwin economy;
- ❑ The ownership of dwellings – Darwin has a high amount of public housing compared to the rest of Australia; and
- ❑ The manufacturing sector – Darwin has very few manufacturing industries compared to the rest of Australia (Darwin City Council, 2001).

The Northern Territory's demographic characteristics are unique with regard to size, composition and distribution.

Natural resources include mineral deposits, coastal fishing resources, extensive pastoral operations and relatively new infrastructure.

Table 7-1 NT Population Employed in Manufacturing and Construction Industries¹

Employment Area	Darwin & Environs	Katherine Region	Central Region	Northern Territory Total
Petrol/coal/chemical production & manufacturing (undefined)	11	0	3	17
Petroleum refining	12	4	27	43
Petroleum & coal product manufacturing	7	0	0	7
Basic chemical manufacturing	6	0	3	16
Other chemical manufacturing	21	3	7	34
General construction	104	66	23	226
Building construction	844	70	216	1223
Non-building construction	344	66	145	633
Construction trade service	56	0	13	76
Site preparation services	288	34	44	442
Building structure services	420	21	66	516
Installation trade services	946	127	239	1416
Building completion services	668	33	153	914
Other construction services	306	20	40	400
Construction undefined	227	23	36	305

Source: Australian Bureau of Statistics (1996)

¹ Note: 2001 Census Data is not yet available.

Over the 10 years 1989–99, the Territory economy averaged a real annual growth rate of 5.7%, higher than the national average of 4.5%. The Territory's success is largely based on international trade with merchandise exports increasing by 74% during 2000-01, due almost entirely to an increase in oil exports.

The mining industry in the Territory remains the single largest contributor to GSP, with 17.7% in 1999/00. The value of mineral and energy production is estimated to have doubled in 2000–01 to \$3.2 billion.

It is estimated that the Territory economy is growing at a rate of approximately 5%. Much of this has resulted from the movement of defence force personnel and their families to the Top End. With this program of relocation ending in 2000, it is thought there may be some negative impact on short to medium term economic growth. However, the short and longer term prospects remain strong due to the commencement of the Darwin to Alice Springs railway and the recent commencement of production from the Laminaria/Corallina fields in the Timor Sea.

Over 2000–01, the Territory's economy experienced relatively subdued growth after the strong growth phase of the mid to late-1990s. Real Gross State Product (GSP) grew by an estimated 4.6% to \$6.7 billion in 2000–01. This primarily reflected the significant boost to output associated with peak levels production from the Laminaria/Corallina oil field in the Timor Sea.

The tourism industry accounts for around 6.8% of Territory GSP, a higher proportion than in any other Australian State or Territory. The NT Tourist Commission estimated expenditure at around \$727.2 million in 2000.

Rural industries and fisheries account for 3.1% of GSP in the Northern Territory and have significant flow-on benefits to other sectors of the economy. The value of rural industries and fisheries production in 2000 is estimated at \$445 million, a 6.1% increase on 1999 (Northern Territory Government, 2000).

East Timor

East Timor has been in a state of transition since August 1999 when the great majority of the population voted for independence from Indonesia, in a UN sponsored referendum. Immediately after the results were announced, pro-integrationist militia went on a violent rampage, destroying most of the infrastructure in the country. Consequently, at present, facilities and infrastructure in East Timor are very limited.

The capital is Dili, on the north coast of East Timor, which is serviced by a harbour capable of taking medium sized cargo ships. The airport at Dili is capable of taking medium to large passenger and cargo aircraft (eg Boeing 737). The only other airstrip capable of taking similar sized aircraft is that near the town of Baucau, some 100km to the east of Dili. Baucau airport is capable large passenger and cargo aircraft and has been used for military purposes since its construction by the Japanese during WW2.

East Timor is very much an agriculturally based economy, primarily subsistence agriculture. However prior to the referendum, agricultural production for export exist in the form of coffee, livestock, cocoa and banana. At that time, seventy five percent of the labour force were involved in agricultural production (World Bank 1999c UNDP 1999). Pre-referendum studies indicated under-production and very poor productivity – likely due to the Indonesian presence and to land use conflict. Post referendum violence and destruction almost completely halted production and export in these sectors.

Today, some of these sectors (particularly coffee) are recovering as the country is being rebuilt (ICR Program - Columbia University, 1999).

Pre-referendum figures indicated marine resources potential of some 600 000 tonnes annually, however, less than 1% of that resource was being harvested (ICR Program - Columbia University, 1999).

The current annual budget of East Timor is in the region of US\$70 million, with an annual GDP of less than US\$20 million (UNTAET, 2001).

The only sector of potential (and major) significance to East Timor is that of the oil and gas industry, which has the potential to contribute in the region of US\$50 million over the life of the project.

7.2 Demographic Characteristics

Northern Territory, Australia

The Northern Territory occupies approximately one sixth of Australia's landmass but only accounts for one percent of the national population. It has a population density of 0.1 persons per square kilometre, which is well below the national average.

Relative to its landmass the Northern Territory has a small population of about 195,400 of whom approximately 103,000 reside in and around Darwin and its satellite city of Palmerston (Northern Territory Government, 2000). The Territory has the youngest population in Australia with an average age of 28.6 years compared with the national average of 34.9 (Northern Territory Government, 2000).

The population of the Northern Territory was estimated to have increased by 1.4% during 2000. Much of the population increase is believed to have occurred due to natural increase (births) and interstate migration. From December 1998 to December 1999 the natural increase in the Territory was 2,762 persons, providing a population growth rate of 1.5% which was well in advance of the national growth rate. Evidence suggests the rate of growth from natural increase is concentrated in the aboriginal population (Darwin City Council, 2001).

The average projected growth rate for the Northern Territory between 2000 and 2100 is 1.9% per year, and 2.2% per year for the Darwin region, the latter incorporates Palmerston and adjacent rural areas in Litchfield Shire (Darwin City Council, 2001).

East Timor

The population of East Timor is approximately 800,000, with the majority located in the eastern and western sections of the country, both in the coastal and mountain plateau regions. The least populated area is the mountainous central area of the country.

The last census, taken in 1990, indicates an age and sex structure typical of that of societies that have experienced prolonged periods of war. Much fewer adults, particularly males and the great majority of the population under the age of 30, (ICR Program - Columbia University, 1999).

7.3 Current Employment Levels and Characteristics

Northern Territory, Australia

Darwin Region has a workforce of approximately 40,808. Less than one percent of the population is involved in the agriculture, forestry and fishing industry and a relatively small percentage of the population involved in the manufacturing industry, at 4.9%. However, nearly eight percent of the population is involved in the construction industry, two percent higher than the Australia-wide figure, indicating a high level of development in and around Darwin. A relatively high percentage of the population is also involved in government administration and defence.

Northern Territory Employment growth during 1998–99 was estimated to be approximately 3.8% (Northern Territory Government, 2000). The local construction workforce, estimated at over 6,000, provides a substantial basis for large-scale construction projects (Northern Territory Government, October 2000).

East Timor

The large majority of the East Timorese population is employed in the agricultural sector and the society is largely agrarian. Prior to the referendum, most of the senior government postings were operated by Indonesian transmigrants, and commerce by Chinese or Mestico East Timorese. Today, there are major efforts being undertaken to re-build East Timor and to involve the East Timorese population in all levels of society and the labour force.

7.4 Community Services and Facilities

7.4.1 Education

Northern Territory, Australia

A full range of primary and secondary education is available in Darwin with many schools catering for boarders from remote areas of the Territory and also fee paying students from countries in South East Asia, including Brunei, Malaysia, Singapore, China and particularly Indonesia.

There are 24 primary schools and eight secondary schools in Darwin, two of which have boarding facilities, and also three special schools and two multi-level schools (pre-school to Year 12). Some schools specialise in specific areas of study and most teach Asian languages such as Mandarin, Indonesian and Japanese. There is an emphasis on Vocational Education Training courses in several secondary schools. In addition, there are 7 schools in the Palmerston – East Arm area with others in the surrounding rural areas.

The Northern Territory University is situated in Casuarina in Darwin's Northern suburbs with a student population of 9,000.

East Timor

Almost all educational facilities in East Timor were destroyed during the post-referendum violence and destruction. The provision of education (in a western sense) in East Timor really only began after the second world war and the greatest focus was on primary school education. The notable exception were secondary schools run by the Catholic church, particularly Jesuit run institutions.

Again, significant re-building is underway and today most primary and secondary schools have re-opened. The Universitas Nationale de Timor Loro Sae in Dili is opened again in 2000 and is undergoing development.

7.4.2 Health Services

Northern Territory, Australia

Two hospitals, one private (Darwin Private hospital) with 150 beds and one public (Royal Darwin Hospital) with 257 beds, provide a full range of medical and surgical services. In the rare event that services are not available, patients are flown to a suitable hospital elsewhere in Australia or doctors are flown to Darwin. Territory Health Services also provide a wide range of services at Community Care Centres, at Darwin and Casuarina, and Remote Area Centres.

There are also two privately run nursing homes, a palliative care service and the Menzies Research Centre in Darwin (Darwin City Council, 2001).

Specialist services are provided by Territory Health Services through the Specialist Outreach Services. This includes the funding of the Royal Flying Doctor Service for Central Australia and the operation of the Aerial Medical Services in the Top End of the Northern Territory.

East Timor

Health care in East Timor is limited and has been under significant strain since the post-referendum violence. A new hospital in Dili is planned as well as regional community health care clinics across the country.

7.5 Housing and Accommodation

Northern Territory, Australia

Although home ownership has increased in the Northern Territory in recent years, the figure still remains behind the Australian average with only nineteen percent of households in Darwin owned outright compared to the Australian average of 41 %.

Another significant difference between Darwin and the rest of Australia is the high level of property rented at 46 %, compared to 28.7 % for Australia. This is reflective of Darwin's young and transient population and the high percentage of public housing available.

There is a high proportion of rental housing available in Darwin in contrast to other Australian cities. However, rental costs in Darwin are high with the highest median weekly rent for a 3 bedroom house compared to all other states and the ACT (Darwin City Council, 2001).

A high proportion of accommodation in Darwin and Palmerston – East Arm are rental properties including more than 30 hotels and a large number of serviced apartments. Vacancy rates in Darwin are traditionally volatile affected by seasonal conditions due to the high influx of tourists during the dry season and the onset of the wet season when many migrate south (Darwin City Council, 2001).

East Timor

Housing and accommodation in East Timor also suffered badly during the post-referendum violence and again, a major re-building program is underway. This is significantly complicated by land ownership conflict owing to land changing hands numerous times (by both sale and forced dispossession) during the phases of Traditional Ownership / the Portuguese period / the Indonesian period and since.

7.6 Transport Network and Usage

It should be noted that during 2002, the Sunrise Gas Project will be undertaking a study of East Timor's capacity (current and planned) to provide marine and air transport supply facilities to the proposed development.

7.6.1 Port and Shipping Facilities

Northern Territory, Australia

Shipping in Darwin is served by a modern container and general cargo terminal, a 70 tonne rail mounted container crane and roll-on/roll-off facility, and the new East Arm Port facility. The harbour is capable of accommodating ships to approximately 50,000 DWT with a 11.5 metre draught. Ships with larger drafts may also be handled but their movement is dependent on the state of the tide within the harbour (Darwin City Council, 2001).

Stage One of the new East Arm Port has been constructed close to the Trade Development Zone. It provides an additional 490 metres of land-backed wharf and a hard-stand of 11 ha. Ships will be able to use these facilities in any tidal conditions. The bulk liquids terminal has a least depth of 14 metres and the general purpose wharves have a least depth of 13 m. Incorporated into the design of the new port is a direct connection to the Darwin to Alice Springs railway, linking the port directly to Australia's national rail network. This rail link will increase the volume of goods passing through the new port (Darwin City Council, 2001).

Stage Two of the port will accommodate a high-capacity container facility in line with the completion of the Adelaide to Darwin railway. It will also incorporate a bulk liquids terminal.

Once Darwin's new port is operational the existing port will only provide for visiting passenger cruise ships, naval vessels and fuel ships. When fuel storage facilities are relocated from Frances Bay to East Arm in the next few years, fuel ships will no longer need to visit this port either.

East Timor

There are four ports in East Timor. The two major ports are at the capital in Dili and at Com in the country's north-east. Both of these have the capacity to handle medium sized cargo shipping but are limited due to depth; Dili at 16–17m and Com at 10–11m. Both have potential for expansion and current plans for this are being made.

7.6.2 Air Transport Facilities

Northern Territory, Australia

Darwin International Airport, located midway between Singapore and Sydney, is the gateway to Australia's north. The Airport is located 15 km north of Darwin's CBD and is a joint use facility for domestic, international, general aviation and military flights. The civilian airport is located within and on the northern side of the RAAF Base Darwin.

A large number of regional and small private charter operators service all parts of the Territory. International air is facilitated by six carriers who fly to all parts of the world. In the 1998/99 financial year, 1,219,000 passengers, including 342,000 from overseas, passed through the terminal. NT Airports Pty Ltd signed a long-term lease for Darwin airport in 2000.

East Timor

The airport at Dili is capable of taking medium to large passenger and cargo aircraft (eg Boeing 737). The only other airstrip capable of taking similar sized aircraft is that near the town of Baucau, some 100km to the east of Dili. Baucau airport is capable large passenger and cargo aircraft and has been used for military purposes since its construction by the Japanese during WW2.

7.6.3 Road Network

Northern Territory, Australia

As the Northern Territory has been dependent on road transport for most of the delivery of domestic freight in the absence of suitable railway and shipping services, an extensive and high quality network of roads has developed. The network of roads is designed and maintained by the Department of Transport and Works.

There are 3 elements of the National Highway System that service the Territory, providing links to Queensland, South Australia and Western Australia. The all weather sealed roads allow freight and passengers to reach any part of Australia in three days (Darwin City Council, 2001). The Stuart Highway is a National Highway and the primary link to the port facilities in Darwin for the mining, pastoral and agricultural industries. The highway is in an excellent condition and is used to transport all types of goods to and from Darwin. The route also provides a strategic link to the port facilities in Darwin (Darwin City Council, 2001).

Urban arterial roads have been developed to provide direct, fast, and convenient connections between CBD, suburban centres, employment and recreational centres.

Access to the Middle Arm Peninsula is provided by a bitumen-sealed road, Channel Island Road, constructed to service the Channel Island power station. This road is mainly used by power station employees and recreational fishermen.

East Timor

The road system in East Timor is in very poor condition. Often, roads to the southern part of the island are impassable due to damage resulting from the Wet Season. Consequently, most supply of the southern population centres is undertaken by landing barge. Significant expenditure would be required to ensure an efficient road network in East Timor.

7.7 Mineral and Energy Exploration

Large oil and gas fields lie north of Darwin in the Timor Sea, holding enough resources to supply export markets with power and fuel far into the 21st century. The Timor Sea is one of Australia's most active areas, with commitments to drill more than 115 exploration wells in the period 1999–2003 at a cost of A\$1.3 billion. Sixteen discoveries over four years and an exploration success rate of 28% have ensured that ongoing development and exploration programs are underway (Darwin City Council, 2001).

Exploration in the Timor Sea commenced in the 1960s with the first discovery of oil at the Jabiru field in 1983. There still remains a large potential for further field discoveries in the Timor Sea as the current distribution of exploration wells is estimated to be one for every 13,900 square kilometres.

Natural gas resources have been discovered at Bayu-Undan, Loxton, Sunrise, Troubadour and Evans Shoals in the Timor Sea and at Tern and Petrel in the Bonaparte Basin (Leprovost Dames & Moore, 1997).

Exploration in the central area of the Timor Sea has been previously restricted as a result of boundary issues between Australia and Indonesia. Resolution of these issues resulted in the development of the disputed area as the Zone of Cooperation (ZOC), which has since been superseded by the Joint Petroleum Development Area in 2001.

Exploration in ZOC (JPDA) commenced in 1991 and has resulted in a number of discoveries including: Elang Oil Field, Bayu-Undan Gas Field, Sunrise and Troubadour Gas Fields (Woodside) and the Laminaria/Corallina Oil Field (Woodside) as well as Newfield, Modec and more recently Blacktip Gas Fields.

Darwin's current energy needs are met by gas-fired power station located on Channel Island in Darwin Harbour. It has a capacity of 186 megawatts and utilises gas from Amadeus Basin in Central Australia. The installation of an additional turbine will increase capacity by 35-40 megawatts to approximately 225 megawatts. This is expected to be completed by April 2000 (Darwin City Council, 2001).

7.8 Recreational Resources and Activities

Northern Territory, Australia

Due to a young population and a climate conducive to outdoor activities, the Territory's sports participation rate is very high with many people playing a number of sports. The region is well supplied with recreational facilities, sporting teams and natural recreational attractions.

Proximity to the coast and conservation areas provide for nature-based recreational activities such as fishing, sailing, bird watching, camping and bush walking.

Darwin and Palmerston have four public pools, two artificial lakes and at least 17 recreational ovals. The Marrara Sporting Complex which is 11 km from Darwin and 18 km from Palmerston caters for international class hockey, basketball, a variety of football codes and athletics.

There are also numerous facilities that cater for the performing and visual arts, several museums and libraries.

The waters of Darwin Harbour are used for recreational fishing, diving, sailing, windsurfing and swimming. Darwin is known to support one of the highest percentage of recreational fisherman in Australia (Dames & Moore, 1997). Recreational fishing occurs mainly in the creek lines supporting extensive mangrove habitats where mudcrabs and barramundi are commonly found. The deep channel areas of the Harbour and coral reefs are also popular for pelagic fish.

Diving is also popular around coral reefs in particular those areas off Weed Reef, Mandorah and West Point. The numerous shipwrecks within the Harbour also attract considerable attention from divers.

The main swimming beaches of Darwin Harbour are Nighcliff, Casuarina Beach and beaches at Fannie Bay through to Mindil Beach (Dames & Moore, 1997).

East Timor

Little exists in the way of recreational facilities in East Timor, although work is being undertaken on the Dili stadium as soccer is very popular.

7.9 Tourism

Northern Territory, Australia

Tourism in the Timor Sea is limited to mainly coastal diving, fishing and sightseeing charter trips and cruises. A large majority of this tourism is land based. Darwin was estimated to have 1,026,000 visitors during 2000; a three percent increase on 1999 figures. The length of stay of visitors was 4.4 days in 2000, 0.3 days lower than in the previous year. Visitor expenditure in the Territory grew by 5% compared to the previous year to reach \$727.2 million. This was the largest level of spending on record and was nearly \$32 million above the 1999 figure. Growth was driven by the international market, which experienced a 13% increase in visitor numbers and a 19% increase in expenditure. However, the number of interstate visitors decreased sharply in 2000 (Northern Territory Tourist Commission, 2001).

Tourism comprises an estimated 6.8% of the Northern Territory's Gross State Product (GSP). As an industry, tourism is the Territory's biggest employer, accounting for more than 11% of wage and salary earners. The industry is growing rapidly, as is evident in the growing number of domestic and international arrivals. From 1991 to 1999 the NT has experienced an average growth in tourist numbers of 7% per annum. It is estimated that visitors spent a total of \$337.7 million while in Darwin over the 1999/2000 financial year. Increasingly, tourists are visiting Darwin, not only as the gateway to Kakadu National Park and Central Australia, but also as a sophisticated and vibrant destination in its own right (Darwin City Council, 2001).

In recent years Darwin has gained importance as a port of call for an increasing number of cruise ships. In addition, hundreds of passengers use local tourist amenities and venture inland as far as Kakadu and Litchfield National Parks. On-going development of the Darwin Wharf Precinct, including the recent \$1.3 million cruise ship terminal, enables this component of the tourism industry to expand with more cruise ships opting to stopover in Darwin. The increase in tourism has fuelled a mini building boom in accommodation development catering to different sectors of this market. From five star accommodation to backpacker lodges; all levels of visitors are catered for with a range of options. Much of this development has occurred within the Darwin CBD, primarily along The Esplanade and Mitchell Street (Darwin City Council, 2001).

Healthy growth is displayed in ABS figures for the June Quarter 1999 that show an increase of 15% in visitor nights at hotels, motels and serviced apartments compared to the same period of the previous year. This growth is also evident in increases in takings and occupancy rates during the 1999 June Quarter for hotels, motels, guesthouses and serviced apartments (Darwin City Council, 2001).

East Timor

East Timor is a place of significant natural beauty, both in the mountains and tropical coastline. There is major potential for East Timor to become a destination for tourism although infrastructure is currently lacking.

7.10 Commercial Fisheries Activities

A number of fisheries lie within the Fisheries Zone and NT waters as shown on **Figure 2.2**. The nearest commercial fishery, Timor Reef Fishery, is located 75 km south-east of the Sunrise Gas Field. However, traditional fishing is expected to occur in the vicinity of the Sunrise Gas Project area. The main commercial fisheries relevant to the Sunrise Gas Project are:

- *Western Tuna and Billfish Fishery*: The Western Tuna & Billfish Fishery (WTBF) extends westward from Cape York Peninsula (142°30'E) off Queensland to 34°S off the west coast of Western Australia, seaward of the 200 m isobath. Yellowfin tuna, bigeye tuna, broadbill swordfish and to a lesser extent albacore tuna, skipjack tuna and longtail tuna are the main species

taken in the WTBF. Fishing permits included: pelagic longline (52), purse seine (5), and minor line including hand line, rod and reel, troll (67 in total) and pole (21). (<http://www.afma.gov.au/>). The subsea pipeline route runs from the outer limits and into the heart of this fishery for approximately 100 km on its approach to the Bayu-Undan pipeline.

- *Spanish Mackerel Fishery:* The spanish mackerel fishery is based on the Spanish Mackerel (*Scomberomorus commerson*) and is mainly located within the Darwin and Gove areas. Spanish Mackerel is also a by-catch of the shark fishery. The species is important in commercial, recreational and artisanal fisheries. The fishery is strongly seasonal, with most effort taking place between June and December. The subsea pipeline route runs from the outer limits and into the heart of this fishery for approximately 100 km on its approach to the Bayu-Undan pipeline.
- *Northern Prawn Fishery (WA and NT):* This extends from Cape York Peninsula Queensland to Cape Londonderry, WA in the west and for approximately 50km offshore and covers more than one million square kilometres. The white banana prawn, the brown tiger prawn and the grooved tiger prawn constitute about 80% of the total catch. The fishery is managed by the Commonwealth, through Statutory Fishing Rights granted under the Northern Prawn Fishery (NPF's) Management Plan. The Northern Prawn Fishery continues to be the most valuable fishery managed by the Commonwealth; the value of the annual catch over recent years has varied around A\$120 million. Total catch for the fishery in 1998 was approximately 8265 tonne. The prawn season is based around the six months from April to June and from August to December. The NPF fleet comprises 132 vessels (1998) with most of the catch frozen and exported to Japan (www.landcare.gov.au/). The subsea pipeline route runs from the outer limits and into the heart of this fishery for approximately 100 km on its approach to the Bayu-Undan pipeline.
- *Timor Reef Goldband Snapper Fishery:* The Timor Reef Fishery is an important commercial fishery for the Northern Territory, and has been in operation since 1982. This fishery is located to the north/north-west of Darwin and comprises fin fish of which Goldband snapper is the main resource making up 75%. The total area of the Timor Reef Fishery is about 28,000 km². The fishery supports approximately 15 licencees, with approximately 20 vessels targeting primarily Goldband Snapper *Pristipomoides multidens* and closely related species, known collectively as Goldband Snapper for marketing purposes. All vessels currently use droplines. Goldband Snapper is thought to occur in greatest abundance along the sides of shoals and on light rubble substrate and are targeted as the commercial fishery. According to some of the fishermen who hold licences for the fishery, the area is exploitable west of the 130° Meridian, in the Evans Shoal area. Snapper are widespread throughout the tropical Indo-Pacific region and in Australia they are fished in waters north of latitude 20°S. Commercial concentrations have only been found in the 90–150 m depth range within specific areas of Timor Reef Fishery. This fishery is managed by the Territory/Commonwealth Joint Authority under NT law. The pipeline route from the Sunrise to the Bayu-Undan Wye piece runs through the western edge of the Timor Reef Fishery for approximately 40 km.

Table 7-2 Timor Reef Fishery Statistics

Year	Catch (kg/a)
1995	154,750
1996	317,126
1997	311,354
1998	482,270

Source: DPIF.

- *Coastal Line Fishery:* This is a multi-species fishery based on several coastal species such as jewfish, cod, shark, golden snapper and other snapper species. The fishery extends from the high water mark to 2 nm offshore. This fishery is pertinent in that it lies along the route of the pre-approved Phillips Bayu-Undan subsea pipeline route.

Table 7-3 Coastal Line Fishery Statistics

Year	Catch (kg/a)
1995	115,853
1996	114,607
1997	81,638
1998	63,220

Source: DPIF.

The area of continental shelf and slope waters covered by the Sunrise Gas Field is only lightly exploited by Indonesian longline fishermen. Minor effects on this fishery could result from restriction of access to fishing grounds and loss or damage to fishing gear.

There is the possibility that support vessels could disrupt the activities of dropline vessels operating in the Timor Reef Fishery. Support vessels are likely to transit the Timor Box area en route to and from the onshore service base.

