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CHAPTER 28

THE TERRITORIES OF AUSTRALIA

The internal Territories of Australia are the Northern Territory and the Australian Capital Territory. External Territories under the control of Australia are: Norfolk Island; the Territory of Papua (formerly British New Guinea); the Territory of New Guinea (under Trusteeship Agreement with the United Nations); the Territory of Heard and McDonald Islands; the Australian Antarctic Territory; the Territory of Cocos (Keeling) Islands; and the Territory of Christmas Island. There is also the Territory of Ashmore and Cartier Islands, deemed to form part of the Northern Territory.

Information on all except Ashmore and Cartier Islands is contained in the following pages, and details of the acquisition of all the Territories will be found on pages 5, 22, and 23 of Chapter 1. More detailed statistics and additional descriptive matter are to be found in the Annual Reports of the Administrations of the various Territories and in the *Northern Territory Statistical Summary* (1.6) and the *Australian Capital Territory Statistical Summary* (1.7) issued by this Bureau. Statistics for the Northern Territory and the Australian Capital Territory are also included in chapters dealing with particular subjects. The Statistician, Papua New Guinea, issues a number of publications containing statistics relative to these two Territories, separate and combined.

Responsibility for the general administration of the Territories of Norfolk Island, Papua New Guinea, Cocos (Keeling) Islands and Christmas Island is vested with the Commonwealth Department of External Territories; for the Northern Territory (including Ashmore and Cartier Islands) with the Department of the Northern Territory; the Australian Capital Territory with the Department of the Capital Territory; and for Antarctica and Heard and McDonald Islands with the Department of Supply. Matters excepted are defence and civil aviation, and, in the Northern Territory and the Australian Capital Territory, public health, justice, education (excluding Aborigines), postal and communications and the construction and operation of the basic physical services, which are the responsibility of the Department of Health, the Attorney-General's Department, the Department of Education, the Postmaster-General's Department and the Department of Works, respectively.

THE NORTHERN TERRITORY

General description

Area

Upon the extension of New South Wales westwards to the 129th east meridian in 1825, the Northern Territory was incorporated in that colony, but in 1863 it was annexed by Royal Letters Patent to the province of South Australia. With the adjacent islands, it was transferred to the Commonwealth on 1 January 1911. The total area is 520,280 square miles.

Legislation and administration

On 1 January 1911 the Territory was transferred from South Australia to the Commonwealth. The terms were outlined in Year Book No. 15, page 940.

The *Northern Territory (Administration) Act* 1910-1973 provides for an Administrator, appointed by the Governor-General, to administer the Territory on behalf of the Commonwealth.

It provides for a Legislative Council for the Northern Territory to make ordinances for the peace, order and good government of the Territory. This Council consists of six official members and eleven elected members. A President of the Council is elected from among the elected members. Money votes may be proposed in the Council only upon recommendation by message of the Administrator.

Ordinances are presented to the Administrator for assent. He is obliged to reserve ordinances relating to certain matters, including Crown lands and Aborigines, for the Governor-General's pleasure. Others he may assent to, withhold assent from, or return to the Legislative Council with recommended amendments. The Governor-General may within six months, disallow any ordinance assented to by the Administrator and, in respect of an ordinance reserved for his pleasure, he may assent, withhold assent, withhold assent to part of the ordinance and assent to the remainder, or recommend to the Administrator any amendments to the laws of the Territory that he considers desirable arising out of his consideration of the ordinance.

The Act also provides for an Administrator's Council to advise the Administrator on any matter referred to it, either by the Administrator, or in accordance with the provisions of any ordinance of the Northern Territory. The Council consists of the Administrator, and two official and three elected members of the Legislative Council.

The Territory elects one member to the House of Representatives.

The Corporation of the City of Darwin was established in 1957. The Corporation comprises a Mayor and ten aldermen (two for each ward) elected by adult franchise. Alice Springs was constituted a municipality on 25 June 1971 and the first election held on 26 June 1971. The Alice Springs Corporation consists of a Mayor and eight aldermen elected by adult franchise. Elsewhere in the Territory, municipal services are provided by the Administration. Town Management Boards are established in Katherine and Tennant Creek. Each of these boards consists of five members elected by adult franchise and four members appointed by the Administrator. The function of the Boards is to advise the Administrator on local matters.

Physical geography

The Territory is within the torrid zone, with the exception of a strip about 180 miles wide which lies south of the Tropic of Capricorn.

The low flat coastline seldom reaches a height of 100 feet. Sandy beaches and mud flats, thickly fringed with mangroves, prevail. Sandstone, marl and laterite form the occasional cliffy headlands. The coastline of more than 1,000 miles is indented by bays and inlets and intersected by numerous rivers, many of which are navigable for considerable distances from their estuaries. The only practicable deep-water port for general use, however, is Darwin.

Inland the country generally is devoid of conspicuous landmarks. From the coast there is a general rise southwards to the vicinity of the seventeenth or eighteenth parallel of south latitude, where the higher lands form the watershed between the rivers that flow northwards to the sea and those that form the scanty supply for the interior system. Towards the centre of the continent the land over a wide area is of considerable elevation, and there are several mountain ranges, generally with an east and west trend.

Climate, fauna and flora

There are two main climatic divisions, the wet season, November to April, and the dry season, May to October, with uniform and regular changes of weather. Nearly all the rainfall occurs in the summer months.

The ordinary types of native Australian fauna inhabit the Territory. As elsewhere on the continent, the higher *Theria* are rare, but marsupials, birds, crocodiles, fresh-water tortoises, snakes (mostly non-venomous), and frogs abound. There are many varieties of fresh-water fish and littoral *Mollusca*. Butterflies and beetles are strongly represented. The termite is a pest which is capable of serious damage to wooden buildings unless special preventive measures are taken. Mosquitoes and sandflies are very troublesome in the "top end" particularly in the wet season. Most types of native fauna are protected and buffaloes exist in large herds on the northern coastal plains.

The vegetation is north Australian in type but a number of forms belong to the Malayan and Oceanic regions. The climate and generally poor soils associated with it give rise to tropical savannah vegetation, with the size and volume of woody material present being closely related to rainfall and the quality of the forests decreasing strikingly as one proceeds inland from the northern coastline. In the north, cypress pine which is termite resistant, ironwood, bloodwood and paperbark timbers are cut and milled for local building purposes. Further inland, particularly on the Barkly Tableland and parts of the Victoria River district, there are better grazing grasses and some shrubs, while the wide belt of sandy plain between the Barkly Tableland and the ranges in the Alice Springs area, carries mainly spinifex grass and low scrub. The plains of the Alice Springs district carry chiefly an acacia scrub known as mulga, spinifex and other sparse grasses. The principal families represented in the interior are *Gramineae*, *Chenopodiaceae*, *Compositae* and *Mimosaceae*.

Population

See also the chapters Population and Vital Statistics.

The population of the Northern Territory at the census of 30 June 1971, was 48,627 males, 37,763 females, 86,390 persons. These figures include an Aboriginal population of 11,686 males, 11,567 females, 23,253 persons. A total of 4,004 Aborigines were enumerated in urban areas of the Territory, the remainder were enumerated in areas classified as rural. While some Aborigines choose to live on reserves, a large area of reserved land (94,196 square miles) has been maintained to provide economic resources from which the Aborigines may benefit either directly or from royalty payments.

Aboriginal Affairs

Policy

Policy statements in Aboriginal affairs in recent years at a Commonwealth level and generally at State level have indicated a clear change from what can be called an 'assimilation' approach to an 'integration' approach, with increasing consciousness of the right of Aborigines to determine their own future. The former Prime Minister, Mr McMahon, in his statement of 26 January, 1972 said 'The Government recognises the rights of individual Aborigines to effective choice about the degree to which and the pace at which they come to identify themselves with that (Australian) society.' and 'The role of governments should increasingly be to enable them (Aborigines) to achieve their goals by their own efforts.'

The underlying principle of the Government's present approach in Aboriginal affairs may be briefly described as 'self-determination'. Emphasis today is on Aboriginal participation in the making of policies, and in decisions about the programs that affect them, and about their future.

Legal status

As Australian citizens Aborigines are entitled to equality before the law. The Commonwealth Department of Aboriginal Affairs and other Commonwealth departments and agencies, for the purpose of administering various programs designed to benefit Aborigines, define an 'Aboriginal' or 'Torres Strait Islander' as a person of Aboriginal or Islander descent who identifies as an Aboriginal or Islander and is accepted as such by the community with which he is associated.

Special schools for Aborigines

The special schools for Aborigines were combined with the community schools in February 1973.

Land

An area of over 94,000 square miles has been reserved in the Northern Territory for Aborigines. The Government has undertaken to vest these reserve lands in the Aboriginal people, and has indicated that Aboriginal land ownership will carry with it full rights to the minerals and timber on the reserves. An Aboriginal Land Rights Commission was appointed in January 1973 to recommend ways and means of implementing this policy. Pending the Commission's report, the granting of leases of land and mining and prospecting rights on reserves has been suspended.

At present, royalties from the mineral and timber activities carried on within reserves are paid into the Aborigines Benefits Trust Fund, established in 1952. Loans or grants are made from the fund to any Aboriginal or group of Aborigines in the Northern Territory on the advice of a special advisory committee which includes a majority of Aboriginal representatives. Moneys in the fund may be used for a wide variety of purposes which would benefit the Aboriginal people. Ten per cent of the royalties paid by the mining companies at Gove and at Groote Eylandt are paid into special funds for the use of Aborigines at Yirrkala and at Groote Eylandt respectively.

It is the policy of the Australian Government to assist Aboriginal communities outside reserves to purchase land. An Aboriginal Land Fund will be established and the Government has undertaken to provide up to \$5 million per year to the Fund for the next ten years. Two pastoral properties have been bought by Aboriginal communities in the Northern Territory, and others are under investigation. On some other pastoral properties where there are Aboriginal communities, relatively small residential areas are being resumed to allow the communities to manage their affairs with a greater degree of independence.

Community services and affairs

Government policy in the administration of Aboriginal affairs is to work as far as possible through existing State and Commonwealth departments and instrumentalities, and the Department of Aboriginal Affairs has primarily a policy planning and co-ordinating role. Responsibility for a variety of community services on Aboriginal reserves and in Aboriginal communities in the Northern Territory is being transferred from the Northern Territory Division of the Department to other appropriate authorities. The Departments of Education and Health recently assumed full responsibility for education and health respectively in Aboriginal communities in the Northern Territory, and the responsibility for a number of other functions such as town services on reserves and social welfare services is under review.

Special programs for Aborigines

To meet the needs of Aboriginal people throughout Australia the Australian Government has developed, on a national basis, a variety of programs in fields such as health, education, housing, employment and vocational training, special works, regional projects and economic enterprises. These are available to Aborigines in the Northern Territory, but the Australian Government, having direct responsibility for the administration of Aboriginal affairs in the Northern Territory, is able to take special initiatives there.

Attention is being given to changing the institutional character of Aboriginal reserve communities. Supervisory, managerial and technical staff will be replaced by community development advisers, consultants, and workers employed by the communities themselves. Programs are designed to encourage and strengthen the capacity of Aborigines to manage their own affairs, to increase their economic independence, and to reduce existing social and other handicaps facing them. The Government is also able to support and encourage Aboriginal initiative by responding directly to individual communities which wish to develop their own social or economic projects: grants may be made to communities to enable them to improve community facilities and amenities, and to help them to establish economic enterprises.

The Government policy is to provide Aboriginal primary school children in Aboriginal communities with education in their own languages as far as is practicable. Bilingual education programs were initiated in five schools in Northern Territory Aboriginal communities in 1973 as a first step in implementing the new policy.

Production

See also the chapters dealing with particular subjects.

Land tenure

Nearly 60 per cent of the total area of land in the Northern Territory is held under various forms of lease or licence which are described in Year Book No. 48, pages 111-12. The remainder comprises unoccupied and unreserved areas (21.1 per cent), reserved (18.7 per cent) and freehold (0.1 per cent). The following changes should be noted.

The Commonwealth Government is conducting a comprehensive review of pre-existing Commonwealth policies affecting land tenures and the interests of Aborigines in land holding on Aboriginal Reserves, and has appointed Mr Justice Woodward to conduct an enquiry into Aboriginal Land Rights. Mr Justice Else-Mitchell has been appointed to conduct an enquiry into Urban Land Tenure.

The chapter Rural Industry of this issue contains statistical information concerning areas occupied under various forms of tenure.

Pastoral and agricultural industries

Beef cattle production is the major rural industry in the Northern Territory. The beef industry has been characterised throughout its history by a slow rate of expansion, due largely to the poor quality of native pastures and unsatisfactory market outlets. Recent developments in pasture improvement, the opening in 1963 of export abattoirs at Katherine and Darwin and better disease control have encouraged producers to improve the quality of their cattle. This, coupled with better management techniques, improved pasture establishment and various incentives and research programs introduced by the Government to encourage the development of the pastoral industry, has resulted in a continuing increase in turnover figures and value of production.

In the past few years considerable capital has been attracted into land development. Two factors have been principally responsible. The first has been the demonstration by the Department of the Northern Territory and C.S.I.R.O. that Townsville stylo (T.S.) can be grown successfully as a pasture legume in the higher rainfall areas of the Territory. The economic feasibility of this practice has been firmly established by station experience and sustained by favourable beef prices. Improved pasture areas have grown considerably and there has been a greater use of phosphatic fertilisers in the last few years. The second development, the commercial production of grain sorghum, has so far occurred on only a few properties. It requires arable land and considerable capital input. Grain sorghum is still at an early stage of testing; nevertheless it promises to provide a more capital intensive primary industry.

Animal production has been augmented in recent years by the buffalo meat industry. Interest in domestication has been developed on the sub-coastal plains properties which will be necessary for further advancement of this industry. Through the development of more intensive cattle production utilising improved pastures, tropical legume seed production received considerable impetus. A seed certification scheme has been introduced by the Department of the Northern Territory to support this industry.

Increasing private investment in rural development is leading to greater pressures upon the Government for extension services and research. The work of C.S.I.R.O. and the Department of the Northern Territory research stations and experimental farms is providing the basis for continuing rural development. As new knowledge is being gathered it will be followed by testing on farm scale. The research institutions in existence in the Northern Territory are as follows.

Arid Zone Research Institute—Alice Springs. With the completion of the new research laboratory in 1967 more emphasis is being placed on arid zone research in the 'Centre' and the need to conserve valuable pastoral lands while achieving maximum productivity.

Beatrice Hill Animal Husbandry Research Station. It has two main roles, one as a regional station examining suitable pasture and animal production systems in the Coastal Plains/Darwin area and the second involving basic studies into breeding and breeds with wider implications. Its efforts have been largely devoted to the animal breeding investigations with some attention being paid to the development of improved pasture systems, including establishment, maintenance and the reaction to various grazing rates. Breeding trials are being conducted with Santa Gertrudis, Brahman and Africanda, cross-breeds and Shorthorns. Banteng cattle are being studied as a source of tropical blood for breeding cattle adaptable to Territory conditions and a small herd of cross-bred cattle has now been developed. Buffalo/Brahman comparison studies are also being undertaken.

Victoria River Experiment Station. This is the only Government Experiment Station in the rangelands of the Northern Territory. Work is being undertaken on genetic improvement of the local breed of Shorthorn cattle, evaluation of improved pastures, supplements, breed comparisons and range management studies.

Upper-Adelaide River Experiment Station. The station is mainly concerned with regional investigations of pasture and animal production for the Marrakai area including stocking rates on improved and native pastures, comparison studies of improved pastures and testing of new potential pastures, management of pastures on flood plains and feeding supplementation trials.

Berrimah Experiment Farm. The work of this farm has been mainly restricted to pasture and fodder crop investigations, plant introduction, sorghum breeding, fruit, vegetable and weed control trials and intensive animal studies.

Katherine Experiment Farm. This farm services the southern part of the Daly River Basin and has a larger component of cropping work than other stations. Work being conducted includes utilisation of Townsville stylo, pasture improvement and management, sorghum, peanut, guar, cowpea and bulrush millet trials and various aspects of cattle management.

Coastal Plains Research Station. The work on this station includes rice and pasture improvement, particularly in relation to suitable legumes for the sub-coastal plain.

Douglas-Daly Experiment Station. This station is concerned with developing animal production systems for the higher rainfall part of the Daly River Basin including evaluation of pastures under grazing, stocking rates, supplementary feeding, use of fertilizers, pasture establishment, and pasture/animal production trials.

Other research sites. Research and trials are also being conducted at selected sites on maize, soybeans, sorghum, peanuts, *Stylosanthes* spp. and weed control.

NORTHERN TERRITORY: AREA AND PRODUCTION OF CROPS
1967-68 TO 1971-72

<i>Crop</i>	<i>1967-68</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>	<i>1971-72</i>
AREA(a)					
(acres)					
Fruit—Bananas	(b)	(b)	(b)	(b)	76
Pineapples	(b)	(b)	(b)	(b)	23
Other	98	90	71	120	122
<i>Total fruit</i>	98	90	71	120	221
Peanuts	12	(b)	(b)	58	100
Sorghum for grain	(c)	(c)	(c)	3,234	13,932
Vegetables for human consumption	189	255	277	253	394
Other crops(d)	297	1,057	1,425	2,237	3,602
<i>Grand total(a)</i>	596	1,402	1,773	5,902	18,249

PRODUCTION

Fruit—Bananas	bushels	(d)	(d)	(d)	(d)	8,991
Pineapples	"	(d)	(d)	(d)	(d)	633
Peanuts	cwt	32	(d)	(d)	295	865
Sorghum (grain)	bushels	(d)	(d)	(d)	56,022	507,290

(a) Excludes rice; details are not available for publication. (b) Not available for publication, included in Other crops. (c) Not available for publication, excluded from totals. (d) Not available for publication.

NORTHERN TERRITORY: LIVESTOCK, 1968 TO 1972
(*000)

<i>30 June—</i>	<i>Horses</i>	<i>Cattle</i>	<i>Sheep</i>	<i>Pigs</i>
1968	38	1,130	9	2
1969	39	(a)1,190	10	(a)2
1970(a)	41	1,179	8	4
1971(a)	41	1,145	9	3
1972(a)	(b)	1,166	7	5

(a) At 31 March. (b) Not collected.

Mining

The mining industry is the major contributor to the income of the Northern Territory. Mineral output was valued at \$50.5 million in 1971-72 and at \$28 million in the first half of 1972-73. The main minerals being produced are bauxite, manganese, iron ore, copper, gold, and bismuth and the main centres of production are Gove, Groote Eylandt, Frances Creek and Tennant Creek. Exploration for new ore bodies continues at a high level.

A bauxite mining and treatment project based on extensive bauxite deposits has been developed at Gove at a cost of about \$310 million. Under an agreement with the Commonwealth, ratified by a special Ordinance in 1968, Nabalco Pty Ltd undertook to develop the deposits. A supplementary agreement signed in 1969 set the minimum Australian equity in the project at 30 per cent. A joint venture now operates the project in which the respective rights are held, 70 per cent by Swiss Aluminium Australia Pty Ltd and 30 per cent by Gove Alumina Limited (a consortium of seven Australian companies). The first stage of an alumina plant to process the bauxite was opened on 1 July 1972. The capacity of the plant will be expanded from 500,000 tons to 1 million tons per annum by July 1973. The agreement also provides that Gove Alumina Limited can export a total of 40 million tons of untreated bauxite over 20 years and exports commenced in June 1971.

Manganese ore is being produced from extensive deposits at Groote Eylandt in the Gulf of Carpentaria. Production capacity has been increased since the commencement of operations in 1966 and should reach about 1.6 million tons per annum of lump ore and by-products by late 1972 or early 1973. Groote Eylandt supplies all Australia's requirements of metallurgical grade manganese ore and large tonnages are exported to Japan, Europe and the U.S.A. Total shipments of ore in 1971-72 amounted to 813,570 tons valued at about \$15.8 million.

Frances Creek is the only iron ore mine in the Territory following the closure of the Mt Bunday mine in December 1971. All iron ore produced is exported through Darwin to Japan. Total iron ore production in 1971-72 was 585,568 tons valued at about \$5.5 million.

Most of the copper, gold and bismuth produced in the Territory is obtained from the underground mines of Peko Wallsend Ltd, at Tennant Creek. Production from these mines in 1971-72 was 6,652 tons of copper, 233,363 fine ounces of gold, 130,421 ounces of silver and 334.5 tons of bismuth, valued at about \$18.4 million. Three mines are currently in production and a major expansion program costing \$39 million is underway. A new mine, Warrego, commenced operation in July 1972 and the Gecko mine is expected to open early in 1974. A flash smelter is due to be commissioned in 1973.

Large deposits of uranium ore have been discovered in the Alligator Rivers region, about 150 miles east of Darwin. The most important discoveries so far are Ranger 1, Nabarlek and Koongarra and the companies are negotiating individually with the Commonwealth for the development of the deposits, with special emphasis on protection of the environment. The Commonwealth is examining the feasibility of a regional centre to serve the mining industry as well as the forestry, pastoral and tourist industries in the region. The Alligator Rivers region is considered to be a uranium province of world importance and there are good prospects for the discovery of further deposits of commercial significance.

Investigations are continuing into possible methods of treating the extensive lead/zinc deposits located in the McArthur River district. Conventional metallurgical processes are not considered suitable for the treatment of these ores. Other mineral deposits of possible economic significance exist in the Rum Jungle, Jinka Plains and Jervois Range areas of the Northern Territory.

The following table shows preliminary results of the Mining Censuses taken in respect of the years ended 30 June 1969, 1970 and 1971.

NORTHERN TERRITORY: MINING ESTABLISHMENTS 1968-69 TO 1970-71

NOTE. Direct comparisons with figures for previous years are not possible because of changes in the census units, the scope of the census and the items of data. For details see Chapter 26, Mineral Industry.

	1968-69	1969-70	1970-71
Establishments operating during year No.	21	27	30
Persons employed(a) No.	1,281	1,446	1,495
Wages and salaries \$m	6.6	8.0	8.7
Turnover \$m	36.3	38.5	41.3
Opening stocks at 30 June \$m	4.4	4.7	5.3
Closing stocks at 30 June \$m	5.1	5.2	6.1
Purchases, transfers in and selected expenses \$m	14.8	13.2	20.0
Value added(b) \$m	22.2	25.9	22.2
Fixed capital expenditure(c) \$m	12.9	20.6	26.0

(a) At end of June. Includes working proprietors.

(b) Turnover plus increase (or less decrease) in the value of stocks, less purchases, transfers in and selected expenses.

(c) Outlay on fixed tangible assets less disposals.

Petroleum and natural gas. Offshore operations again represented the main activity in petroleum exploration during 1971-72. At 30 June 1972, 7 oil permits, covering 57,500 square miles; 2 oil licences, covering 229 square miles; as well as 20 exploration permits, covering 3,535 blocks (approximately 114,364 square miles); were being held.

Drilling of the Petrel structure in the Bonaparte Gulf resulted in a promising discovery of natural gas. Other off-shore exploration to date has not, however, revealed the presence of gas in commercial quantity.

On-shore evaluations of the Mereenie oil and gas field have indicated reserves of 300 million barrels of oil and up to 1 U.S. trillion cubic feet of gas. The recovery of the oil presents some difficulties but the feasibility of establishing a small refinery at Alice Springs is being examined by the exploration companies and the Government.

A substantial natural gas reservoir at Palm Valley about 70 miles west of Alice Springs has been known to exist since the mid-sixties. Exploration work is continuing to determine the full extent of the gas reserves in this area. The Government is now considering to what use the gas will be put.

Forestry

A program of forest improvement and development to conserve existing forest areas and increase timber resources undertaken by the Forestry Section of the Department of the Northern Territory aims to eventually reduce the Territory's dependence on imported timber. Basic forestry research is carried out by the Forestry and Timber Bureau at a Regional Research Station established at Berrimah. The Territory forestry program includes the regeneration and utilisation of native forests, the establishment of softwood plantations (1,300 acres in 1971-72) and makes provision for the employment and training of Aborigines in all aspects of forestry work. Local production of log timber, mainly cypress pine, amounted to 1,265,000 super feet in 1971-72 but this was insufficient to meet local needs and some 5,008,000 super feet of sawn timber was imported from interstate and overseas through the port of Darwin. Consumption is higher than this, but is unrecorded as there is no statistical control of road freight imports.

Fisheries

Following preliminary surveys indicating the existence of valuable prawn resources off the Northern Territory coast, prawning operations by a number of companies were approved for waters adjacent to the Northern Territory. All companies were required to establish shore processing plants following an initial survey period. Three of these companies are now operating. Two are joint Australian-Japanese ventures which have been permitted to use foreign vessels and crews for limited periods and which have been required to establish processing plants in Darwin. The third company is operating a shore processing plant at Groote Eylandt. For a limited establishment period this company has been given protection against the establishment of other processing plants in that area although this protective arrangement would not preclude Aborigines from undertaking their own prawn fishing and processing on Aboriginal reserves should they wish to do so. During 1972, Territory-based prawn ventures exported prawns valued at \$5.4 million, the bulk of which went to Japan.

The other main fishery in the Territory is an inland fishery based on barramundi which produced more than 203 metric tons live weight of fish during 1971-72. A small cultured pearl industry has also been established.

NORTHERN TERRITORY: FISHING^(a) 1967-68 TO 1971-72

		1967-68	1968-69	1969-70	1970-71	1971-72
Prawning—						
Estimated gross weight of prawn catch	tonnes	10	1,077	3,938	4,108	2,629
Gross value of prawns	\$'000	14	831	3,646	3,083	2,562
Other fisheries^(b)—						
Estimated landed weight of fish catch	tonnes	252	242	115	237	365
Gross value of fish	\$'000	92	96	51	139	191
All fisheries—						
Number of boats engaged		53	110	82	127	130
Number of men employed		123	573	437	542	532

^(a) Excluding pearl shell fisheries and pearling.

^(b) Excluding crabs and oysters.

Secondary industries

The secondary industries that have so far been established in the Territory have been largely the service industries normally associated with a developing area, such as electrical repairs, printing, motor and marine engineering, plumbing, welding, joinery, sheet metal work, and blue metal crushing. Industrial investments by private interests in recent years include plants to manufacture bitumen, clay bricks, concrete bricks, reinforcing steel, concrete products and fencing materials.

The following table shows preliminary results of the Manufacturing Censuses taken in respect of the years 1968-69 and 1969-70.

**NORTHERN TERRITORY: MANUFACTURING ESTABLISHMENTS,
1968-69 AND 1969-70**

NOTE. Direct comparisons with figures for previous years are not possible because of changes in the census units, the scope of the census and the items of data. For details see Chapter 21, Manufacturing Industry.

	1968-69	1969-70
Establishments operating during year	No. 69	65
Persons employed(a)	No. 922	944
Wages and salaries	\$m 3.6	4.2
Turnover	\$m 20.4	20.2
Opening stocks at 30 June	\$m 1.8	2.1
Closing stocks 30 June	\$m 2.2	3.1
Purchases, transfers in and selected expenses	\$m 11.4	12.5
Value added(b)	\$m 9.5	8.6

(a) Average over whole year. Includes working proprietors. (b) Sales, transfers out and other operating revenue plus increase (or less decrease) in the value of stocks, less purchases, transfers in and selected expenses.

Tourism

Tourism has become one of the Territory's major industries in recent years. There were about 112,000 visitors to the Northern Territory in 1971-72. The estimated value of the industry in 1971-72 was \$24 million and in 1972-73 it is expected to reach \$26 million.

A firm of consultants has reported on the tourism potential of Central Australia, and in particular the Ayers Rock-Mount Olga National Park. Their findings have been published in the reports *Tourism Plan for Central Australia* and *Ayers Rock-Mount Olga National Park Development Plan*. The reports are being evaluated and further investigations are being undertaken to assist the Government's consideration of tourism development proposals for the Centre.

National Parks and Reserves

Large areas in the Territory have been set aside as wildlife sanctuaries under the provisions of the Wildlife Conservation and Control Ordinance. They cover about 19,250 square miles and are controlled by the Chief Inspector of Wildlife in the Department of the Northern Territory. A further 92,704 square miles of Aboriginal reserves are also wildlife protected areas.

There are some thirty-nine national parks and reserves totalling about 946 square miles which are administered by the Northern Territory Reserves Board. The Board is responsible for the care, control and management of these reserves, and its functions include preservation and protection of natural and historical features, and the encouragement of public use and enjoyment of land set aside in such reserves.

Trade, transport and communication

Trade

No comprehensive record is kept of the trade between the States and the Territory. The following table shows the values of the principal commodities imported into and exported from the Northern Territory from or to overseas countries during the years 1967-68 to 1971-72.

**NORTHERN TERRITORY: PRINCIPAL OVERSEAS
IMPORTS AND EXPORTS, 1967-68 TO 1971-72
(\$'000)**

<i>Commodity</i>	<i>1967-68</i>	<i>1968-69</i>	<i>1969-70</i>	<i>1970-71</i>	<i>1971-72</i>
IMPORTS					
Petroleum and shale spirit—					
Aviation kerosene	1,099	1,513	1,093	1,119	212
Automotive spirit	587	577	706	1,051	1,108
Automotive distillate	324	589	1,103	930	1,437
Furnace fuel	473	659	567	837	1,847
Other(a)	527	743	1,077	1,226	1,912
Timber	257	383	548	404	546
Iron and steel manufactures	1,195	893	1,172	833	839
Machinery and transport equipment(b)	2,376	12,757	23,534	11,464	9,049
Other articles	2,569	3,686	10,029	5,806	8,916
Total imports	9,407	21,800	39,829	23,670	25,866
EXPORTS(c)					
Meats	4,999	4,999	4,896	5,331	5,744
Fresh prawns and shrimps . . . . .	..	605	4,917	5,627	4,853
Hides and skins, raw	134	209	280	183	118
Iron ore	3,053	6,467	9,124	7,094	6,847
Other ores and concentrates	6,208	8,539	9,207	10,939	16,054
Other articles	3,461	8,115	21,301	7,285	15,627
Total exports	17,855	28,934	49,725	36,459	49,243

(a) Includes industrial and marine diesel fuel, oil for use as refinery stock, etc. (b) Includes value of oil search equipment (floating structures, etc.) which were brought to the Northern Territory for temporary operation and moved overseas after the planned exploration activities were completed. (c) Includes domestic exports and re-exports.

Shipping

Shipping services to Darwin are provided from the eastern States by the Australian National Line and from the west by the Western Australian State Shipping Service. Increasing numbers of oil tankers and overseas general cargo vessels visit Darwin while iron ore carriers continue to load lump and fine ore for Japan. The prawning and fishing industry accounts for a significant portion of the shipping entries into the port. A high level of activity continues as a result of visits by oil rig service vessels.

John Burke Pty Ltd operates a subsidised shipping service from Brisbane to the Gulf of Carpentaria ports and serves Aboriginal missions and settlements as well as the mining centres of Gove and Groote Eylandt. Gove is also served by Australian Territory Liner Services. Other shipping services to Groote Eylandt and Gove are in connection with the export of the mining production.

Mission and privately owned boats and barges also provide services from Darwin to Aboriginal communities and ports along the coast.

In 1970 the Australian National Line replaced vessels calling at Darwin with a new container/bulk ore vessel, the *Darwin Trader*, which carries general cargo to Darwin and backloads manganese ore from Groote Eylandt to Tasmania.

In 1971 the Western Australian State Shipping Service introduced two unit-load vessels and in the first half of 1973 a further two unit-load vessels; these vessels replace all the conventional cargo and passenger/cargo vessels previously in use. In early 1972, the Commonwealth Government offered the Western Australian Government a capital grant of \$2.5 million to assist in the purchase of the fourth unit-load vessel. The significant improvement in port operations as a result of the introduction of these vessels has been one of several factors which has led to a review of the previously approved proposals for the development of the port of Darwin.

Air services

At 30 June 1973 there were 127 aerodromes in the Territory, nine of which are maintained by the Commonwealth Department of Civil Aviation. The overseas passenger services using the Darwin international airport are Qantas/British Airways (Sydney to London and to Hong Kong); T.A.A. on behalf of Transportes Aereos de Timor (Darwin to Baucau) and Merpati Nusantara (Darwin to Kupang). Regular internal services to Darwin, with, in some cases, intermediate stops at Territory centres, are operated by Trans-Australia Airlines and Ansett Airlines (from Adelaide, Melbourne, Sydney and Brisbane), and MacRobertson-Miller Airways Ltd (from Perth and Derby), MacRobertson-Miller Airways Ltd and Connair Pty Ltd operate a network of air services throughout the Territory, the latter company's base being at Alice Springs. The Northern Territory Medical Service has aircraft based at Darwin, Gove and Alice Springs, whilst the Royal Flying Doctor Service operates from Alice Springs. Charter services are available at a number of centres including Darwin, Alice Springs, Katherine, Tennant Creek, Gove and Groote Eylandt.

Railways

The Commonwealth Railways Commissioner operates the Central Australia Railway from Port Augusta in South Australia to Alice Springs over a distance of 757 miles, of which about 200 are in the Northern Territory. The line is standard gauge from Port Augusta to Marree, a distance of 217 miles, and 3 ft 6 in gauge from Marree to Alice Springs. The Commonwealth Government has approved in principle the construction of standard gauge line between Tarcoola and Alice Springs to replace the Marree-Alice Springs section of the Central Australia Railway and survey work has commenced. The Commissioner also operates the North Australia Railway between Darwin and Birdum on a 3 ft 6 in gauge over a distance of 317 miles. The two inland terminals, Alice Springs and Birdum are about 630 miles apart and are connected by road transport along the Stuart Highway. Larrimah, on the highway and 6 miles north of Birdum, is the point of trans-shipment for passengers and goods and is, at present, the effective terminal. A road-rail freight service operates between Adelaide and Darwin via Alice Springs.

Roads

The Stuart Highway, 954 miles long, connects Alice Springs with Darwin and runs via Katherine and Tennant Creek. The Barkly Highway, 403 miles long, connects Mount Isa (Queensland) with Tennant Creek and joins the Stuart Highway some 16 miles north of Tennant Creek. The Victoria Highway from Katherine to the Western Australia border (290 miles) is sealed. These highways are used for carrying various freights, including cattle, particularly to and from the railheads at Alice Springs, Larrimah and Mount Isa and provide access to the meat works at Wyndham. The routes are used also for overland tourists and travellers from the southern States to Darwin. The Government three-year program of improvement and maintenance of these highways is nearing completion. There are now approximately 12,527 miles of roads in the Territory of which 2,820 miles are sealed.

Work on the reconstruction and development of beef cattle roads is proceeding; expenditure to 30 June 1972 was \$27.9 million.

The Government has approved the sealing of a 90 mile section of the road between Alice Springs and Erldunda at a cost of \$3.4 million. The sealing of 86 miles of new road to serve the Alligator Rivers region east of Darwin, at a cost of \$4.6 million, is expected to be completed by the end of 1974.

Posts, telegraph, telephones and wireless

Postal communications is maintained by road, rail and air transport services between major Northern Territory towns and the capital cities of Australia. In addition, vessels belonging to the Western Australian State Shipping Service provide a regular service between Fremantle and Darwin. Inland, the northern part of the Territory receives its mail via Darwin or by means of the aerial services, and the southern districts are served via Adelaide.

The overland telegraph line, covering 2,230 miles runs from Adelaide to Darwin and links Darwin in telegraphic communication with other parts of the world. Trunk telephone lines extend from Adelaide and Townsville to Darwin, providing telephone communication with the capital cities of Australia. These lines also carry interstate telegram and telex traffic and serve the towns along the routes.

Darwin is connected by high frequency radio to Gove Peninsula and to Groote Eylandt. In addition high frequency radio telephone exchanges have been established at Alice Springs and Katherine which provide connections to the telephone network for pastoral, mining, tourist and other organisations throughout the Northern Territory and across the borders into Queensland, South Australia and Western Australia. The majority of homesteads on pastoral leases are equipped with radio transceivers operated under licence from the Postmaster-General's Department.

Regional national broadcasting stations are situated at Darwin, Alice Springs, Tennant Creek and Katherine, and there are two commercial stations situated at Darwin and Alice Springs respectively. Two television stations, ABD Channel 6 of the national broadcasting system and NTD Channel 8, a commercial station, operate in Darwin and a national Television station ABAD Channel 7 commenced transmission at Alice Springs in December 1972.

Education

See also the chapter Education, Cultural Activities and Research.

In February 1973 the Australian Government combined the two existing school systems in the Northern Territory (the welfare schools for Aborigines and the community schools) into a single education authority which has become Australia's seventh public school system.

In 1974 this system will cater for about 23,000 students, a third of whom are Aborigines, and will employ approximately 1,400 teachers. Northern Territory enrolments are expected to continue to increase at a rate between 12 per cent and 14 per cent each year. An extensive building program and intensive teacher recruitment will be a continuing part of the new system's plans.

Prior to February 1973 the welfare schools had been the responsibility first of the Department of the Interior and then of the Department of Aboriginal Affairs. Until 1971 the South Australian Education Department had provided teachers, courses and professional and management services for the community schools which the Australian Government had built and equipped. In July 1970 South Australia announced its intention to withdraw this service. The Commonwealth Teaching Service now provides teachers for Northern Territory schools. It is expected that in 1974 the Service will employ all Northern Territory teachers.

At July 1973 a total of 1,028 teachers were employed in the Northern Territory in 127 schools, including 4 high schools, 2 special schools for mentally and physically handicapped children, 2 Schools of the Air serving students in outback areas and 3 residential colleges in Alice Springs, Darwin and Gove catering for Aboriginal students who wish to extend and complete their education in an urban centre. In addition there were 32 pre-schools with an enrolment of 1,735 pupils.

Of the 4 high schools, 3 are in the Darwin area and one at Alice Springs. A wide choice of subjects is offered to matriculation standard. Secondary education is also provided at Katherine, Alyangula, Tennant Creek, Batchelor and Nhulunbuy at Area Schools.

The Schools of the Air at Alice Springs and Katherine have previously supplemented the work of the South Australian Correspondence School. In 1974 these schools will themselves become Correspondence Schools to which their students will send written work for marking. In addition residential 'drop-in-centres' are planned for Katherine and Alice Springs to enable School of the Air students to join their peers at Katherine North and Alice Springs for a week or two at a time.

The first step in the program to implement the Government policy of providing Aboriginal primary school children in Aboriginal communities with education in their own languages was made in early 1973. Bilingual education programs were initiated at five schools in Northern Territory Aboriginal communities. When the Aboriginal children develop literacy skills in their own language, transition will be made to tuition in English, and then for their studies in both languages and cultures to continue side by side.

Special boarding-away-from-home allowances, correspondence supervision and conveyance allowances are paid to school children in the Northern Territory. In addition limited numbers of special Northern Territory secondary and tertiary scholarships supplement normal Commonwealth Scholarship provisions.

Theoretical training for apprentices

From March 1974, technical training of apprentices in the Northern Territory will be conducted in the form of block training in all but a few trades. Apprentices from all centres in the Territory will attend the Darwin Community College for a continuous period of approximately eight weeks each year in first and second years and four weeks in third year. In trades where the number of apprentices does not justify block training, courses will continue to be conducted by correspondence with the possibility of weekly supervised study as at present.

Darwin Community College

The Darwin Community College, due to open in March 1974, will provide a wide range of post-secondary courses including pre-vocational, apprentice and post-trade training in all major trades, business education, secretarial and commercial courses, certificate courses for technicians, lectures and tutorials for external students of the University of Queensland and other institutions, teacher education and a wide range of continuing education courses. The College is the first institution of its type in Australia. It will be an independent institution governed by a Council responsible to the Minister for Education and funded by the Australian Government.

Finance

Details of receipts and expenditure of the Territory for the years 1967-68 to 1971-72 are shown in the table following. In this table the receipts and expenditure of the Northern Territory have been classified into a National Accounts form. The table covers transactions relating to the Northern Territory in the Commonwealth Consolidated Revenue Fund and the following trust funds: Aborigines Benefits, Northern Territory Government Settlements Canteens, Northern Territory Housing Commission, Northern Territory Housing Loans, Northern Territory Transport and Northern Territory expenditure from the Aboriginal Advancement Trust Account. Details of the financial transactions of the following Northern Territory semi-government authorities are also included: the Northern Territory Port Authority and the Northern Territory Housing Commission (from 1969-70). Details of the financial transactions of the Darwin City Council are also incorporated in the table. Revenue derived by the Commonwealth from income taxes, customs duties, etc., levied in the Northern Territory and expenditure by the Commonwealth in the Northern Territory on such items as defence, civil aviation, railways, etc., and payments to residents from the National Welfare Fund are not included.

NORTHERN TERRITORY: RECEIPTS AND EXPENDITURE, 1967-68 TO 1971-72
(S'000)

	1967-68	1968-69	1969-70	1970-71	1971-72
RECEIPTS					
Taxation—					
Stamp duties	73	86	94	176	158
Motor registration	321	517	586	647	784
Other taxes, fees, fines, etc.	590	696	840	1,434	1,882
Interest, rent, etc.	1,329	1,339	1,780	1,809	2,282
Public enterprises income	2,245	2,659	3,577	5,882	5,341
Net sale of local authority and public corporation securities	-393	90	92	133	184
Other receipts(a)	335	881	-1,867	1,993	-617
Net charge to Commonwealth budget	53,028	56,944	75,525	87,364	111,400
Total receipts	57,528	63,212	80,627	99,438	121,414
EXPENDITURE					
Final consumption expenditure					
Law, order and public safety	1,370	1,536	1,797	2,976	3,290
Education	3,418	4,639	5,628	7,858	9,576
Health and welfare	10,663	12,051	16,022	17,760	18,619
Other	10,824	12,800	14,118	16,450	21,124
Gross fixed capital expenditure on new assets and stocks—					
Roads	8,980	7,994	8,371	11,796	11,315
Housing	3,300	3,417	6,859	7,514	8,348
Other	15,662	17,036	22,672	27,010	40,138
Net purchase of existing assets(b)	-878	-358	-591	45	-22
Interest paid	174	113	141	127	234
Cash benefits	369	450	498	592	604
Subsidies	311	337	648	460	625
Net advances—					
Housing	2,334	2,114	3,086	4,610	4,910
Other	300	219	160	139	138
Grants for private capital purposes	701	864	1,219	2,101	2,515
Total expenditure	57,528	63,212	80,627	99,438	121,414

(a) Includes movements in cash, investments, etc. (b) Minus sign (-) denotes excess of receipts (from sales) over expenditure on, or purchases of, existing assets, including housing.

THE AUSTRALIAN CAPITAL TERRITORY

General description

The Commonwealth Constitution provides that the Seat of Government of the Commonwealth shall be in the State of New South Wales but distant not less than 100 miles from Sydney. After a number of alternative sites were considered, an area of 911 square miles lying approximately 200 miles southwest of Sydney was transferred to the Commonwealth as from 1 January 1911. A further 28 square miles at Jervis Bay were transferred as from 4 September 1915 to serve as a port for the Territory.

The primary responsibility for administering the Australian Capital Territory lies with the Department of the Capital Territory, whose functions include housing, public transport, and municipal services. Education, public health, justice, police, and the provision of basic physical services, including water supply, sewerage and roads, are the responsibility of the Departments of Education, Health, Attorney-General's, and Works. The National Capital Development Commission has the responsibility for the planning and development of the Canberra city area.

The Australian Capital Territory Advisory Council was established in 1930. It has eight elected members and a representative from each of the Departments of the Capital Territory, Works, and Health, and the National Capital Development Commission, as well as an observer from the Department of Education. The Council advises the Minister for the Capital Territory on matters affecting the Australian Capital Territory. Ordinances are submitted in draft form to the Council for advice and comment before being implemented.

At the census of 30 June 1971 the population of the Australian Capital Territory was 144,063, made up of 140,864 in the urban Canberra (excluding Queanbeyan) area and 3,199 in rural areas (including Jervis Bay). The estimated population of the Territory at 31 December 1971 was 77,100 males and 73,500 females, 150,600 persons. *See also* the chapters Population and Vital Statistics.

National Capital Development Commission

The *National Capital Development Commission Act 1957-1960* provides for a Commission to undertake and carry out the planning, development and construction of the City of Canberra as the National Capital of the Commonwealth. The year 1971-72 was the fourteenth year of the Commission's operations. Construction work was carried out by means of agency arrangements with the Commonwealth Department of Works and private consultants. Details of the expenditure by the Commission in each year from 1964-65 to 1971-72 are included in the table on page 987.

Total expenditure in 1971-72 was \$59.5 million comprising: land development and services \$14.9 million; water, sewerage and stormwater services and headworks \$4.7 million; housing, flats and other accommodation \$9.7 million; educational facilities \$5.6 million; roads, bridges and traffic control \$4.3 million; city works and associated facilities \$3.3 million; Commonwealth offices \$12.7 million; national works \$1.0 million; others \$3.3 million.

The following major works were completed during the 1971-72 financial year by the Commission: Latham, Holder, Fisher and Rivett Primary Schools; Weston Creek High School; Barry Drive Extension; Belconnen Way Duplication; reconstruction of Cotter Road; Kingsford-Smith Drive extensions; Mundaring Drive extension; Namatjira Drive-Waramanga; Capitol Hill Ring Road; Weston Creek Reservoir No. 7; Weston Creek Reservoir No. 9; Majura Valley Sewerage; Gungahlin Cemetery-Administration Building and Stage 1 development; Belconnen Town Centre services; Phillip Enclosed Oval Pavilion; Phillip Swimming Centre; Kingston Lake Ecology Laboratory; Civic Offices Stage 2; Juliana House-Phillip; Russell Offices-Building No. 10; Woden Building No. 5-Phillip; Parliament House extensions (Senate Wing).

Works under construction at the beginning of the 1972-73 financial year included the following projects: Belconnen High School, Stage 2; Melrose High School, Stage 2; Watson High School Library and extensions; Campbell High School Library and extensions; Narrabundah High School Library and extensions; Canberra High School Library and extensions; Holt, Duffy, Melba and Weetangera Primary Schools; Hindmarsh Drive Duplication-Phillip/O'Malley; Southern Cross Drive to Coulter Drive; Weston Creek-Molongo River Bridge; Ginnindera Arterial, Stage 1; Tuggeranong Arterial, Stage 1; re-alignment of Yarralumla Creek; Tuggeranong Sewer Tunnel; Belconnen Reservoir No. 6A; 54 inch Trunk Sewer-Ginnindera Creek; Mount Stromlo to Rivett 36 inch Water Main; Narrabundah Cycling Track; Woden Transport Depot; Horticultural Centre-Weston; Woden Town Centre-continued development; Belconnen Town Centre-continued development; Woden Bus Interchange; Cotter Reserve Development; Weston Park Development; Kingston Transport Depot, Stage 3; Parliament House Extensions (House of Representatives Wing); Cameron Offices; Campbell Park Offices; Trade Group Offices.

Works and services

Housing

Until the period following the 1939–45 War most houses and flats in the Australian Capital Territory were built and rented by the then Department of the Interior. More recently, an increasing number of houses and flats have been built by private enterprise, and as a result the proportion of houses and flats in the Australian Capital Territory occupied by tenants of the Department of the Capital Territory (formerly the Department of the Interior) has fallen from 79.7 per cent of total occupied houses and flats in 1954 to 58.3 per cent in 1961, 38.8 per cent in 1966 and 28.1 per cent in 1971. Although the bulk of rented accommodation is provided by public authorities, and this situation will continue thus in the foreseeable future, there has been a considerable increase in the proportion of home ownership in the Australian Capital Territory since 1954. The proportion of houses and flats owned or being purchased by instalments has risen from 19.5 per cent in 1954 to 29.0 per cent in 1961, 45.6 per cent in 1966 and 51.8 per cent in 1971. Home building activity in the Woden Valley and Weston Creek, south-west of the former city area and Belconnen, north-west of the former city area, has continued to expand, and at June 1971 there were 11,280 occupied dwellings in the Woden Valley and Weston Creek area, and 5,145 occupied dwellings in the Belconnen area. *See also* the chapter Housing and Building.

Municipal services

Canberra has been developed as a garden city. More than eleven million trees and many acres of lawns have been planted since 1927. The development of new areas of parkland and the maintenance of existing tree and lawn areas is the responsibility of the City Parks Administration of the Department of the Capital Territory. Municipal services are also provided by the Department of the Capital Territory.

At 30 June 1972, 41,241 meters were connected to the city water supply, drawn through twenty-two service reservoirs from three storages on the Cotter River with a total capacity of nearly 20,000 million gallons. In 1971–72 some 7,173 million gallons of water were consumed in Canberra, and in addition the system supplied 454 million gallons to Queanbeyan, New South Wales. Treatment works at Weston Creek, Belconnen and Fyshwick dispose of Canberra's sewage. At 30 June 1972, 816 miles of sewers, 9 miles of rising sewerage mains and 813 miles of storm water drains were laid.

Department of Works

Apart from the work it carries out on behalf of the National Capital Development Commission, the Department of Works acts as design and supervision agent for other Commonwealth departments and instrumentalities. Total expenditure during 1971–72 on all operations amounted to \$19.05 million (\$16.8 million in 1970–71), comprising: building works—housing \$49 885; other building \$10,665,878; engineering works \$2,161,691; repairs and maintenance—buildings \$2,404,779; engineering \$3,597,536 and purchase of plant \$168,707.

Production

See also the chapters dealing with particular subjects.

Lands

Reference has been made in earlier issues of the Year Book to the general conditions of land tenure in the Territory and to the area of alienated and leased land, and the chapter Rural Industry of this issue contains statistical information on the subject. (*See also* § 1. Canberra: Fifty Years of Development, page 123 of Year Book No. 49.)

Under the *Seat of Government (Administration) Act* 1910–1972, no Crown lands in the Territory may be sold or disposed of for any estate in freehold except in pursuance of some contract entered into before the commencement of the Act. In general, leases of land in the city area are granted under the *City Area Leases Ordinance* 1936–1973. In special circumstances land may be leased for purposes other than business or residential under the *Leases (Special Purposes) Ordinance* 1925–1970 and for church purposes under the *Church Lands Leases Ordinance* 1924–1966. As considerable areas of Commonwealth owned land in the Territory are not immediately required in connection with the establishment of the City, they have been leased for agricultural or grazing purposes for terms consistent with the anticipated growth of Canberra under the *Leases Ordinance* 1918–1966. Some lands in the Territory, in areas generally remote from the City, remain in private ownership under freehold title. A program of progressive acquisition of this land is being implemented.

The Commonwealth Territory at Jervis Bay, comprising about 28 square miles, was acquired from New South Wales for the possible provision of port facilities in connection with the Australian Capital Territory. A portion of the area is occupied by the Royal Australian Naval College (H.M.A.S. *Creswell*) and a Royal Australian Navy airfield. Several blocks fronting Sussex Inlet have been leased for guest houses and holiday camps, etc., under the *Leases Ordinance* 1918-1966, and an area of land in the Murray's Beach area has been set aside for possible use as an atomic power station under the control of the Australian Atomic Energy Commission. Apart from picnic and camping areas, experimental planting, afforestation and soil conservation activities, the remainder of the area is being maintained in its natural state.

Forestry

Forestry operations in the Australian Capital Territory began in 1915 with the planting of pines on the denuded slopes of Mount Stromlo to arrest soil erosion and improve the visual quality of the landscape. In 1926 a program for development of commercial forests was approved following a comprehensive review of the Territory's potential for forest development. Major reviews of this program were made in 1932, 1954 and 1967, always however retaining the basic policy of systematic conservation and development. Much of the better native forest has been placed under management and forestry operations including fire protection treatment have been extended to some 110,000 acres of natural forest in the Cotter Catchment and adjacent areas. The more productive stands in these areas were harvested extensively to provide timber for Canberra's post-war expansion and were subsequently treated to promote regeneration and protect the quality of water harvested.

The policy of forest management in the Australian Capital Territory has been formulated to cater not only for commercial timber production but also to provide recreation facilities and an attractive visual environment for the national capital and to protect the water supply. These policies can be broadly summarised as follows.

- (a) Manage and develop hardwood forest areas in the Australian Capital Territory and Jervis Bay for production of timber and arrange sales of all forest produce.
- (b) Initiate and maintain a variety of growth and environmental experiments to produce information for management decisions.
- (c) Develop and implement viable multiple use policies for forest areas with particular emphasis on recreation potential and facilities, quality of water harvest in catchments and conservation of the environment.

The forest authority is charged with the management of some 150,000 acres of land in the Australian Capital Territory. Of this some 110,000 acres carry native forest or woodland. As at the 31 December 1972 the total area of coniferous plantations in the Australian Capital Territory and Jervis Bay was 31,000 acres. Of 796 acres at Jervis Bay the majority consists of *Pinus radiata* (Monterey Pine) and *Pinus elliotii* (Slash Pine). The plantations in the Australian Capital Territory consist mainly of *Pinus radiata* and *Pinus ponderosa* (Yellow Pine). Total area of *Pinus radiata* was 28,800 acres.

In 1971-72 there was no significant commercial production of hardwood timber from the Australian Capital Territory and Jervis Bay. Currently hardwood logging is restricted to incidental production from silvicultural operations. However, the volume of softwood cut increased to 2.21 million cubic feet (1.93 million in 1970-71). The total value of this unprocessed timber unloaded at the mill (milldoor value) was \$664,000. This returned \$310,000 in royalties (value of unprocessed timber at stump).

In 1972, Australia's first plantation-based integrated timber-converting complex commenced production, processing timber cut in Australian Capital Territory plantations. It produces structural plywood, sawn, dressed and kiln dried lumber and wood chips. Consumption of logs by this complex is scheduled to reach 4.2 million cubic feet per annum by 1975.

Agricultural, pastoral and secondary industries

During 1971-72 the production of the more important items of the agricultural and pastoral industry was: wheat 26,560 bushels; wool 821,000 kg; whole milk 704,000 gallons; meat (carcass weight), fresh 7,370 tons. The numbers of livestock depastured at 31 March 1972 were: cattle 20,252; sheep 191,560; pigs 127.

As in the Northern Territory, the secondary industries established in the Australian Capital Territory are largely the service industries associated with the growth of the Territory.

The following table shows preliminary results of the Manufacturing Censuses taken in respect of the years ended 30 June 1969 and 1970.

**AUSTRALIAN CAPITAL TERRITORY:
MANUFACTURING ESTABLISHMENTS, 1968-69 AND 1969-70**

NOTE. Direct comparisons with figures for previous years are not possible because of changes in the census units, the scope of the census and the items of data. For details see Chapter 21, Manufacturing Industry.

	1968-69	1969-70
Establishments operating during year	No. 112	111
Persons employed(a)	No. 2,653	2,960
Wages and salaries	\$m 9.5	11.1
Turnover	\$m 31.2	37.0
Opening stocks at 30 June	\$m 3.3	3.7
Closing stocks at 30 June	\$m 3.7	3.4
Purchases, transfers in and selected expenses	\$m 16.9	19.4
Value added(b)	\$m 14.8	17.2

(a) Average over whole year. Includes working proprietors. (b) Sales, transfers out and other operating revenue plus increase (or less decrease) in the value of stocks, less purchases, transfers in and selected expenses.

Transport and communication

Canberra is connected with the railway system of New South Wales at Queanbeyan by a line 5 miles long. This line was opened for goods traffic on 25 May 1914 and for passenger traffic on 15 October 1923. Direct or linking services operate between Canberra and Sydney and Canberra and Melbourne. Two airlines provide many services daily each way on the Sydney-Canberra-Melbourne route. Regular motor-coach services link Canberra with towns in New South Wales, Victoria and South Australia. The total length of roads in the Territory at 30 June 1972 was: bitumen and concrete, 714 miles; gravel, 241 miles; other formed roads, 26 miles; total, 981 miles. There are three radio broadcasting stations in the Territory, 2CY and 2CN of the national broadcasting system and 2CA, a commercial station, and two television stations, ABC Channel 3 of the national broadcasting system and CTC Channel 7, a commercial station.

Social

See also the chapter Education, Cultural Activities and Research.

Education

The *Education Ordinance* 1937-1966 provides for the compulsory attendance at school of children between the ages of six and fifteen years. The Commonwealth Department of Education is primarily responsible for the education of children in the Australian Capital Territory. By agreement, however, the New South Wales Department of Education arranges the teaching program in accordance with its own curriculum and provides teaching staff. It is reimbursed for expenses incurred.

From the beginning of 1973 some changes in this arrangement have occurred. The Commonwealth Teaching Service is providing approximately 500 assistant teachers for Australian Capital Territory schools in 1973 and from the beginning of 1974 the Commonwealth will assume complete responsibility for education in the Australian Capital Territory and the involvement of the New South Wales Education Department will be phased out. An education authority will be set up to administer Australian Capital Territory education.

At 1 August 1973, there were 12 government secondary schools in the Australian Capital Territory providing courses proceeding to the Higher School Certificate. Forty-three schools provided courses at infants and primary levels, three of these being in rural districts and one in the Jervis Bay area.

A school for physically handicapped children is located at Turner Infants School. Special units for deaf children are situated at Ainslie and Mawson Primary Schools and at Telopea Park High School. Classes for mildly intellectually handicapped children are provided at Ainslie, Mawson, Turner, Narrabundah, Scullin and Waramanga Primary Schools, and at Narrabundah and Lyneham High Schools. Two special schools and two pre-schools serve the needs of moderately and some severely intellectually handicapped children. Aphasic children are catered for in two special classes at Forest Primary School, and two reading centres operate at Downer and Hughes Primary Schools. Special English classes are available at four primary schools and five high schools. Educational guidance services are provided by the Education Clinic and through counselling staff. A new school for the mildly intellectually handicapped will open at Deakin, and a new school and pre-school for the moderately intellectually handicapped at Holt in 1974.

The 59 pre-schools including 2 in the Jervis Bay area and a mobile unit which visits outlying areas of the Australian Capital Territory provide pre-school facilities for approximately 4,000 children between the ages of 3 and 5 years. New pre-schools will be opened in 1974 at Macgregor, Flynn and Evatt. Second units will be provided at Waramanga, Rivett, Duffy, Weetangera, Page and Weston. Three new primary schools are planned for occupation early in 1974. One new secondary school will open in 1974.

At May 1973, there were 19,767 pupils enrolled in primary grades of government schools and 10,682 pupils in secondary forms of government schools.

At February 1973, there were 25 non-government schools in Canberra including 7 secondary schools which provide courses leading to the Higher School Certificate. At the same date 6,630 pupils were enrolled in the primary grades of non-government schools and 4,726 pupils were enrolled in the secondary forms of non-government schools.

The Canberra Technical College, which follows generally the curriculum set by the New South Wales Department of Technical Education, provides trade, post-trade, certificate, and some hobby courses. In 1972 the Technical College provided instruction in 120 courses in 21 different schools of study. Student enrolments in April 1973 were almost 7,600.

The Canberra School of Music provides a diploma course and individual study in a range of instrument and voice. At July 1973, enrolments totalled 450. A new school to accommodate between 1,000 and 1,200 students will be available during 1975.

For information about the Australian National University, refer to the section on universities, page 647, Chapter 19, Education, Cultural Activities and Research.

The Canberra College of Advanced Education was established following a decision by the Commonwealth Government in October 1966 to accept the recommendations of a committee of inquiry into the need for a college of advanced education in the Australian Capital Territory. The College is organised into schools and in 1973 courses were offered in the School of Administrative Studies, the School of Applied Science, the School of Liberal Studies, the School of Teacher Education and the School of Computing Studies. It is envisaged that additional schools will be established as other specialised fields of study are introduced.

Health

The Canberra and Woden Valley Hospitals serve the population of Canberra and the surrounding region. At 30 June 1972 the Canberra Hospital had 683 beds, a visiting medical staff of 230, 44 salaried medical staff, and a nursing staff of 837. Canberra's second public hospital, the Woden Valley Hospital, opened on 1 May 1973 with ward accommodation for up to 36 patients and a total of 174 staff employed. The hospital will become fully operational progressively, eventually having 600 beds. For further information about health services in the Australian Capital Territory see the Public Health chapter in Year Book No. 53 (pages 549-50) and Year Book No. 56 (page 431) for administrative changes which took place in 1969.

Justice

The Australian Capital Territory has a Supreme Court and a Court of Petty Sessions. There is an Australian Capital Territory Police Force which at 30 June 1973 numbered 435 including the Commissioner and Superintendent. Of the total, 130 were engaged in Number 1 Division located at headquarters including 2 at the Canberra Police Citizen's Youth Club. Number 2 Division which is located at Woden Centre Police Station comprised 91 members including 2 at Jervis Bay and is also responsible for both Embassy and Parliament House Security. The Traffic Division comprised 97 members including the specialised Water Police, those involved in accident investigation, the Breath Analysis and the Safety Education Sections. There were 47 in the Criminal Investigation Division including a Women Police Section of 7. There were also 56 in the Planning and Research Division including one member of the Women Police. The Recruitment and Training Division located at Woden Centre Police Station had a staff of 9 and there were three in the Special Branch.

Finance

In the following table identifiable receipts and outlay relating to the Australian Capital Territory have been classified in a National Accounts form. The table covers transactions of the Commonwealth Government in respect of the Australian Capital Territory in the Commonwealth Consolidated Revenue Fund and the following trust funds: Australian Capital Territory Forestry, Australian Capital Territory Housing, Australian Capital Territory Transport and Australian Capital Territory Suspense. In addition, details of the financial transactions of the following semi-government authorities are also covered: Australian Capital Territory Electricity Authority, Commonwealth

Brickworks, National Capital Development Commission, the Canberra Theatre Trust, and the Canberra College of Advanced Education. Revenue derived by the Commonwealth from income taxes, sales tax, etc., levied in the Australian Capital Territory and expenditure by the Commonwealth in the Australian Capital Territory on such items as defence, civil aviation, railways, etc., and payments to residents from the National Welfare Fund are not included.

AUSTRALIAN CAPITAL TERRITORY: RECEIPTS AND OUTLAY
1967-68 TO 1971-72
(\$'000)

	1967-68	1968-69	1969-70	1970-71	1971-72
RECEIPTS					
Taxation—					
Liquor	226	259	287	340	390
Motor registration	760	890	912	1,038	1,219
Stamp duties(a)	298	383	1,969	2,475	2,561
Other taxes, fees, fines, etc.	762	759	911	1,555	4,555
Interest, rent, etc.	2,180	2,440	2,918	1,811	483
Public enterprises income	7,768	7,853	9,603	10,558	11,835
Net sale of public corporation securities	2,207	245	603	584	509
Other receipts(b)	96	1,145	1,306	2,364	3,091
Net charge to Commonwealth budget	63,151	64,882	70,508	84,238	92,551
Total receipts	77,446	78,855	89,016	104,963	117,194
OUTLAY					
Final consumption expenditure—					
Law, order and public safety	1,575	1,800	2,134	3,225	4,642
Education	6,089	7,663	7,376	13,069	15,704
Health and welfare	4,153	4,502	5,266	7,355	8,425
Other	8,247	9,487	13,464	13,519	14,902
Gross fixed capital expenditure on new assets and stocks—					
Education	5,209	5,539	8,237	8,797	9,669
Cultural and recreational facilities	4,487	2,869	3,941	1,906	2,083
Health and welfare	244	301	1,159	5,236	8,283
Water supply and sewerage	10,416	7,041	7,359	6,486	10,882
Roads and bridges	10,631	14,774	14,431	17,634	17,536
Power, fuel and light	3,252	2,538	2,099	2,733	2,200
Housing	4,156	6,189	2,420	531	-3,980
Other	10,652	11,474	12,537	19,700	16,636
Net purchase of existing assets(c)	-2,967	-7,219	-7,691	-15,466	-15,493
Interest paid	297	406	425	478	563
Cash benefits	441	481	345	388	584
Net advances for housing	10,398	10,254	14,459	18,435	23,582
Grants towards private capital expenditure	164	757	1,055	936	976
Total outlay	77,446	78,855	89,016	104,963	117,194

(a) Estimated for years prior to 1969-70. (b) Includes movements in cash, investments, etc. (c) Minus sign (-) denotes excess of receipts (from sales) over expenditures on, or purchases of, existing assets, including housing.

NORFOLK ISLAND

General description

Norfolk Island, discovered by Captain Cook in 1774, is situated in latitude 29°S., longitude 168°E. approximately. Its total area is approximately 13 square miles, the island being about 5 miles long and 3 miles wide. It is 1,042 miles from Sydney and 664 miles from Auckland. The length of the coast line is 20 miles, and its form that of an irregular ellipse. Except for a portion on the south side and the landing place at Cascade on the northern side, almost inaccessible cliffs rise from the water's edge. The climate is equable, the average daily maximum temperature vaying between 18° C and 26° C. The average annual rainfall is 54 inches. The resident population is about 1,500.

The island served as a penal station from 1788 to 1813 and from 1825 to 1855. In 1856, 194 descendants of the *Bounty* mutineers were transferred there from Pitcairn Island.

Administration

In 1856 the island was created a distinct and separate settlement under the jurisdiction of the Governor of New South Wales. In 1897 it was made a dependency under the Governor of that Colony, and finally, by the passage of the *Norfolk Island Act* 1913, became a Territory of the Commonwealth of Australia. It is controlled by the Minister for the Capital Territory through an Administrator. The Norfolk Island Council was established pursuant to the *Norfolk Island Act* 1957-1969 and is constituted in accordance with the provisions of the *Norfolk Island Council Ordinance* 1960-1970. The Council may consider and tender advice to the Administrator on any matter affecting the peace, order and good government of Norfolk Island, and must be consulted on certain legislative and financial matters. The Council comprises the Administrator as *ex officio* chairman and voting member and eight members elected biennially.

Economic activity

The major economic activity of the island is tourism. Primary production is barely adequate for local needs and foodstuffs are imported from New Zealand and Australia, mainly for the tourist trade.

Primary industries. The soil on the island is particularly fertile, the climate equable and the rainfall fairly evenly distributed except for a pronounced dry period in November. This enables a wide range of temperate and semi-tropical products to be cultivated. However, the island's comparative isolation presents trading difficulties, and production of bean seed, formerly the major export, has declined rapidly since 1962-63.

Fish abound off the island. In the past a number of ventures have been formed to exploit this resource, but they have been short-lived, mainly because of the lack of a sheltered harbour. A modern whaling station was started on the island in 1955, and production commenced during the second half of 1956. Owing to a marked scarcity of whales after 1961, however, the station was closed down.

An active forestry program is being carried out to increase the resources of Norfolk Island pine and to introduce suitable types of eucalypts.

Tourists. Regular sea and air services to the island are available for those who seek a quiet holiday in surroundings of beauty and historic interest. There are at present, apart from flats and unlicensed guest houses, hotels and licensed guest houses, and further accommodation is being built to meet the steadily increasing number of visitors.

Employment. A large proportion of the population derives its income from various aspects of the tourist industry including the operation of hotels and duty-free stores. The Australian Government provides services through staff from the Departments of Civil Aviation and Science (Bureau of Meteorology) and teachers are seconded by the N.S.W. State Education Department. A number of clerical and other positions are available to islanders in the Norfolk Island Administration. Very few people rely for their income entirely on agricultural pursuits.

Trade, transport and communication

Imports to Norfolk Island since the 1939-45 War have risen from \$65,000 in 1945-46 to \$3.9 million in 1971-72. The major proportion (\$1.8 million) in 1971-72 came from Australia and the Pacific Islands while New Zealand supplied \$0.6 million. Exports in 1971-72 amounted to \$0.4 million. Exports to Australia and the Pacific Islands, the principal market, amounted to \$0.3 million, while exports to New Zealand amounted to \$62,000. No duties are chargeable on goods imported into Australia from Norfolk Island if the goods are produced or manufactured in Norfolk Island and shipped direct to Australia, and not goods which if manufactured or produced in Australia would be subject to excise duty.

A shipping service to the island operates at approximately four week intervals from Sydney via Lord Howe Island and Norfolk Island to Noumea and Vila, thence to Sydney. A link with New Zealand is maintained by a service operating from Auckland at approximately 26-day intervals and calling at Norfolk, Noumea, Brisbane, Lyttleton and Auckland.

A passenger and air freight service between Sydney and Norfolk Island is operated by Qantas Airways Ltd twice a week, and more frequently in peak periods. The service extends to New Zealand weekly under charter to Air New Zealand Ltd.

There are approximately fifty miles of motor road on the island. A substantial section of the population possesses private motor cars. Hire cars, taxis and scooters are available.

The island has an automatic telephone service and a radio telephone link with Sydney. A local broadcasting service is operated by the Administration.

Education

Education is free and compulsory between the ages of 6 and 15 years. The school, which is conducted by the New South Wales Department of Education, conforms to the Australian standard of public education, ranging from kindergarten to the School Certificate (Fourth Form) examination. The teachers are provided by the New South Wales Education Department, although they receive salaries from the Norfolk Island Administration. The number of scholars enrolled at 30 June 1972 was 301.

Bursaries are available for pupils who wish to attend a mainland school either to continue their studies beyond the School Certificate level or undertake high school courses not available on the Island. Trainee scholarships are available for pupils who have left school and wish to undertake apprenticeship or similar training away from the Island.

Judiciary

The judicial system of Norfolk Island consists of a Supreme Court and a Court of Petty Sessions. The Supreme Court is the highest judicial authority in the Territory and is a superior court of record with original criminal and civil jurisdiction. The jurisdiction of this Court is exercised by one judge sitting in Court or, to the extent and in the cases provided by or under ordinance, sitting in Chambers. The jurisdiction of the Court of Petty Sessions is exercised by the Chief Magistrate or any three magistrates other than the Chief Magistrate.

Finance

The revenue of the Territory, together with an annual grant from the Commonwealth Government for administrative expenses, is paid to the credit of the Norfolk Island Trust Fund, and advances for administrative and developmental expenses are drawn from the account. The principal items of revenue and expenditure for the five years 1967-68 to 1971-72 were as follows.

NORFOLK ISLAND: REVENUE AND EXPENDITURE, 1967-68 TO 1971-72 (\$'000)

	1967-68	1968-69	1969-70	1970-71	1971-72
REVENUE					
Commonwealth subsidy	66	66	66	66	66
Customs duties	110	105	116	146	158
Sale of liquor	56	61	68	69	82
Post office	122	260	219	236	228
Company registration fees . . . . .	..	22	43	51	89
All other	71	65	87	103	126
Total revenue	425	579	599	671	749
EXPENDITURE					
Administrative	89	104	124	149	164
Social expenditure	126	142	154	176	143
Repairs and maintenance	67	87	87	136	176
Capital works and serv...	232	87	120	98	93
Postal services	59	56	57	122	75
Miscellaneous services	27	25	26	79	90
Total expenditure	600	501	568	760	741

PAPUA NEW GUINEA

Greater detail on the subjects dealt with in this section is available in the Papua New Guinea Administration Annual Reports. The sections on pages 990–6 have been prepared by the Director of the Commonwealth Bureau of Meteorology.

General description

Papua New Guinea comprises the Australian Territory of Papua and the United Nations Trust Territory of New Guinea. The total area of 178,260 square miles lies in the equatorial zone between the equator and 12°S latitude and longitudes 141°E and 160°E.

Papua lies wholly within the tropics. The northernmost point touches 5°S latitude; its southernmost portion, comprising Tagula and Rossel Islands, lies between 11°S and 12°S latitude. It is separated from Australia by Torres Strait. The total area is 86,100 square miles of which 83,325 are on the mainland and 2,775 on the islands of the Trobriand, Woodlark, D'Entrecasteaux, and Louisiade groups.

The Trust Territory of New Guinea extends almost from the equator to latitude 8°S, a distance of almost 500 nautical miles, and from longitude 141°E to 160°E, a distance of 1,000 nautical miles. The total area is 92,160 square miles, of which 69,095 are on the mainland and 23,065 on the islands, including the two northernmost islands of the Solomon Islands, Buka and Bougainville, and the Bismark Archipelago.

Weather and climate

The climate, particularly the rainfall, over so wide an area as Papua New Guinea, with its numerous islands and varying elevations, presents many variations. Generally speaking, the climate is hot and humid, except in the highlands where days are mild to warm and nights are cool. Mean temperatures vary little throughout the year, and there are no winter and summer seasons comparable to those of higher latitude.

The predominant seasonal feature is the regular alternation between two major air-streams, the south-east trade winds and north-west monsoon. The 'south-east' season prevails approximately from May to October, and the 'north-west' season persists for a shorter period from about December to early April. Two short spells of calm weather occur between these two seasons.

Rainfall

There are great spatial variations in the amount of rainfall received over Papua New Guinea. The variations depend mainly upon the direction and speed of the air streams. These streams are moist, requiring only a small amount of lifting for condensation of water vapour to occur. Topography therefore has a dominating influence on the rainfall distribution.

Average annual rainfall

The table on page 992 shows the average annual and monthly rainfall for selected stations. It may be seen that the spatial distribution of average annual rainfall varies greatly, being dependent mainly on topography in relation to prevailing winds. The annual averages vary from 1,200 mm at Port Moresby (township) to 5,870 mm at Kikori at the head of the Gulf of Papua. There are few rainfall observing stations above 6,000 feet, so that rainfall above that height must generally be estimated. The map on page 996 shows the rainfall distribution over the region for the year 1972.

Seasonal distribution of rainfall

Places in Papua such as Port Moresby, where the south-east trade wind does not blow directly onshore, have a dry season during May–October. Places such as Kikori have heavier rainfall during May–October because of the onshore south-east winds. In New Guinea, where conditions are more equatorial, rainfall occurs throughout the year, but is heaviest in the November–April period at most places.

Variability of rainfall

There are marked variations from year to year in annual rainfall totals. At Port Moresby (township), for example, in forty-two years of record the annual rainfall has varied from 1,830 mm to 580 mm; at Daru in fifty-four years of record the annual rainfall has varied from 3,960 mm to 1,170 mm; and at Madang in forty years of record the variation has been from 4,570 mm to 2,340 mm. The table on page 993 shows the annual rainfall at Port Moresby and Lae for the years 1946 to 1972 inclusive.

Heavy rainfalls

Highest twenty-four hour rainfall registrations have included 549 mm at Pondo Plantation in New Britain and 447 mm at Cape Nelson on the east coast of the main island. Twenty-four hour falls greater than 400 mm have been recorded at a number of other stations in the Papua New Guinea region. The highest twenty-four hour fall recorded in Australia was 907 mm at Crohamhurst, Queensland. All these registrations were for the restricted twenty-four hours period from 9 a.m. to 9 a.m. Higher falls, possibly approaching 700 mm, have probably occurred in Papua New Guinea in unrestricted periods of twenty-four consecutive hours.

Temperature

Although the region generally has no summer and winter seasons, it has a wide range in temperature because of elevation differences. For each month the mean daily maximum temperature decreases by about 1°C and the mean daily minimum temperature by about 2°C for each 1,000 feet increase in elevation up to 5,000 feet.

A table on page 993 shows temperature and humidity data for five lowland and two highland stations. Mount Hagen, elevation 5,350 feet, is the highest station for which temperature data are available. However, both day and night temperatures continue to decrease with elevation above this level.

Average seasonal temperature distribution

In the lowland areas there is a difference in temperature pattern between the areas south of the highlands and those to the north. In the south there is a tendency for temperatures to be lower in the May–October period than in the November–April period (e.g. Samarai). In the north there is little difference throughout the year (e.g. Madang). In the highlands, temperatures are appreciably lower than in the lowlands and are slightly lower in the middle of the year than they are at the beginning of the year (e.g. Goroka). The nights are cold in the highlands throughout the year; the mean daily minimum at Mount Hagen for July is 12.6°C.

Extreme temperatures

The highest air temperature recorded at Lae (in twenty-two years of record) was 38.7°C and the lowest was 19.1°C; at Port Moresby (in thirty-two years of record) the highest was 36.3°C and the lowest was 14.1°C. The mean daily range of temperature is about 8°C at lowland stations and 11°C at highland stations up to 5,000 feet elevation,

Humidity

Humidity is high generally throughout the year. In the lowlands persistently high humidity in association with high temperatures is responsible for the human discomfort experienced. The average relative humidity for January and July is shown for selected stations in a table on page 993.

In the lowland areas the average monthly 9 a.m. relative humidity (*see* table on page 993) is in the range 75–95 per cent throughout the year. There is little variation from month to month at any station. This is in contrast with northern Australian localities where the south-east winds of the dry season result in low relative humidities. For example, Darwin's average relative humidity at 9 a.m. ranges from 81 per cent in February to 62 per cent in July.

In the highland areas up to 6,000 feet elevation the average monthly 9 a.m. relative humidity is within the range 80–90 per cent throughout the year. The lower temperatures experienced on the highlands result in conditions being generally more comfortable in those areas.

Evaporation

The only evaporation data available are records for Port Moresby. These show that the mean monthly tank evaporation varies from 140–170 mm per month in the early part of the year to 170–200 mm per month in the latter part of the year. The average annual tank evaporation at Port Moresby over an eleven-year period was 1,869 mm. It is probable that evaporation is less than this value in the higher humidity areas.

Sunshine and cloud

Mean daily sunshine hours are recorded for each month at Port Moresby, and the figures show a variation from 6.1 hours per day in February and March to 8.4 hours per day in November. The mean daily amount of sunshine at Port Moresby for the year is 6.9 hours, which is significantly less than Darwin (8.5 hours) but comparable with Brisbane (7.5 hours).

At Port Moresby the mean cloud amount varies from 5.1 eighths per day in June to 6.7 eighths in February; at Lae the variation is from 6.0 eighths in May, October and November to 6.7 eighths in January, February and March. The mean daily cloud amounts for the year at Port Moresby and Lae are 5.7 and 6.3 eighths respectively, which are high in comparison with Darwin (3.2).

Winds

As mentioned previously the south-east trade winds prevail from May to October and the north-west monsoonal winds prevail from December to March over most of the region. However, the broad-scale wind pattern may be completely masked by the effects of local topography and land and sea breezes. The mean 9 a.m. and 3 p.m. wind speeds and prevailing directions are shown in the tables on pages 994-5 for Port Moresby and Lae.

At Port Moresby the mean winds are stronger during the period May-November than during December-April; for example, the 3 p.m. mean wind for August is 21.1 km/h and for March is 12.9 km/h. The winds at 3p.m. are much stronger than at 9 a.m.; for example, for the year the 3 p.m. mean wind is 16.5 km/h and the 9 a.m. mean wind is 5.9 km/h. The prevailing direction of the wind is south-east during May-November and north-north-west to south-west during December-April.

At Lae the winds are mainly lighter than at Port Moresby. In the period May-October the winds at Lae are lighter than in the period November-April. The winds at 3 p.m. are greater than at 9 a.m. except in February and March. The prevailing direction is north-west at 9 a.m. and south-east at 3 p.m. throughout the year.

Storms and cyclones

The Papua New Guinea region is subject to thunderstorm activity, squall lines and local storms throughout the year. Severe thunderstorms are frequent in the mountainous areas, but also occur in coastal lowlands. The main tropical cyclone belt lies to the south of the region, but occasionally a tropical cyclone affects the region, causing loss of life and property.

Climatological tables

The averages and extremes for a number of elements recorded at Port Moresby and Lae are given in the tables on pages 994-5. These tables generally follow the format given for Australian capital cities included in Chapter 2 of this Year Book, the observational data being for available years of record to 1972 inclusive unless otherwise stated. Some elements included in the Australian capital city tables have been omitted from the tables for Port Moresby and Lae because of the inadequacy of observational records.

PAPUA NEW GUINEA: AVERAGE MONTHLY AND ANNUAL RAINFALL FOR
SELECTED STATIONS(a)
(Millimetres)

Station (lat. long.)	Years of record	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Annual
Bwagaioia(b) (10° 42' 152° 50')	42	259	316	276	295	306	257	178	222	237	251	250	227	3074
Daru(b) (9° 04' 143° 12')	70	278	260	325	324	226	108	94	52	43	56	110	205	2081
Dogura(b) (10° 00' 149° 55')	45	233	219	222	155	92	93	78	65	78	82	87	120	1524
Gobaragere(b) (9° 50' 147° 45')	39	195	174	196	211	108	78	46	51	61	78	129	166	1493
Kairuku(b) (8° 51' 146° 32')	47	242	275	278	133	49	46	28	13	40	40	54	133	1281
Kerema(b) (7° 57' 145° 46')	50	231	231	266	285	433	385	347	329	337	299	207	208	3558
Kikori(b) (7° 24' 144° 15')	52	316	336	367	434	748	734	656	560	617	477	326	299	5870
Kokoda(b) (8° 58' 147° 43')	49	339	332	359	327	258	187	181	220	272	322	407	359	3563
Kokopo(c) (4° 20' 152° 15')	39	214	188	220	168	120	120	166	146	110	116	161	226	1955
Kwikila(b) (9° 44' 147° 44')	47	158	133	176	152	82	53	46	43	58	52	66	109	1128
Lae(c) (6° 43' 147° 00')	34	270	235	328	404	420	414	495	511	467	390	338	329	4601
Lindenhafen(c) (6° 16' 150° 28')	36	164	143	174	290	637	845	976	1081	745	432	281	191	5959
Losuia(b) (8° 32' 151° 04')	50	432	420	385	342	334	308	312	270	277	259	239	276	3854
Madang(c) (5° 13' 145° 47')	22	366	290	334	444	369	210	174	132	150	314	388	380	3551
Port Moresby(b)(d) (9° 26' 147° 13')	26	170	221	198	161	52	42	20	32	41	40	69	157	1203

(a) With twenty or more years of record to 1971. (b) Papua. (c) New Guinea. (d) See page 994.

RAINFALL: PORT MORESBY AND LAE, 1946 TO 1972

Year	Port Moresby (Papua)		Lae (New Guinea)	
	Amount	No. of days	Amount	No. of days
	mm		mm	
1946	1,569	137	(a)4,283	(a)248
1947	1,031	154	4,581	261
1948	1,164	138	4,553	267
1949	1,097	164	4,439	275
1950	1,211	137	4,026	251
1951	1,156	108	4,866	250
1952	1,394	150	4,206	274
1953	919	126	5,023	264
1954	1,181	118	4,412	277
1955	999	128	3,944	261
1956	1,438	141	3,109	233
1957	1,318	129	6,062	282
1958	1,169	107	4,827	250
1959	1,058	126	4,719	245
1960	868	116	4,255	260
1961	1,086	136	4,904	267
1962	1,117	133	4,644	261
1963	1,492	138	4,196	254
1964	1,397	151	4,143	244
1965	1,035	103	4,469	265
1966	1,048	116	5,237	291
1967	1,449	147	5,051	263
1968	1,129	116	4,716	265
1969	1,130	125	5,600	262
1970	1,460	154	5,348	277
1971	1,158	162	4,076	230
1972	1,015	117	4,008	254

(a) Incomplete for July and August.

PAPUA NEW GUINEA: TEMPERATURE AND RELATIVE HUMIDITY FOR SELECTED STATIONS

Station	Lat.	Long.	Altitude metres	Years of record	Temperature °C.				Relative humidity			
					Mean max. Jan.	Mean max. July	Mean min. Jan.	Mean min. July	Mean 9 a.m. Jan.	Mean 9 a.m. July	Mean 3 p.m. Jan.	Mean 3 p.m. July
Daru(a)	9° 04'	143° 12'	5	14	31.8	28.4	23.4	22.5	87	78	72	75
Goroka(b)	6° 04'	145° 23'	1,575	15	25.9	24.8	15.2	13.8	84	83	56	51
Kikori(a)	7° 24'	144° 15'	74	5	32.1	26.9	21.9	21.0	91	95	72	86
Madang(b)	5° 13'	145° 47'	4	21	30.2	29.6	23.2	22.8	87	82	75	75
Mount Hagen(b)	5° 52'	144° 14'	1,639	8	24.3	22.7	13.3	12.6	83	88	66	66
Samarai(a)	10° 37'	150° 40'	41	13	31.4	27.0	24.6	22.8	79	82	76	82
Wewak(b)	3° 34'	143° 38'	5	12	30.2	30.2	23.0	22.8	83	82	76	75

(a) Papua. (b) New Guinea.

CLIMATOLOGICAL DATA: PORT MORESBY

(Jackson's Strip, Lat. 9° 26' S., Long. 147° 13' E., Height above M.S.L. 28 metres)

BAROMETER, WIND, EVAPORATION AND CLOUD

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 10 metres)				Mean amount of evaporation (mm)	Mean amount of clouds, 9 a.m., 3 p.m., 9 p.m.(a)	
		Average Km/h		Highest gust speed (km/h)	Prevailing direction			
		9 a.m.	3 p.m.					
No. of years of observations	23	25	25	25	25	25	15	25
January	1,007.0	5.8	13.4	90	N	W	167	6.6
February	1,007.1	5.9	13.1	100	NNW	W	143	6.8
March	1,007.4	5.4	12.9	79	NNW	W	152	6.5
April	1,008.1	3.2	12.2	64	N	S	139	6.1
May	1,008.5	4.6	15.7	69	SE	SSE	147	5.1
June	1,009.7	7.2	18.4	74	SE	SSE	140	5.0
July	1,009.9	8.8	20.6	74	SE	SE	161	5.2
August	1,009.9	8.6	21.1	76	SE	SSE	172	5.3
September	1,010.0	8.3	22.5	74	SE	SSE	180	5.3
October	1,009.1	5.8	18.9	74	SE	SSE	201	5.4
November	1,008.1	4.2	15.8	64	SE	SE	201	5.3
December	1,007.0	4.3	13.8	87	N	SW	185	5.9
Year { Total	1,008.5	5.9	16.5	..	SE	SSE	1,988	..
{ Averages . . . . .	..	..	..	100	..	..	..	5.7
{ Extremes . . . . .	..	..	..	..	..	..	..	..

(a) Scale 0-8.

TEMPERATURE AND SUNSHINE

Month	Mean temperature (°C)			Extreme shade temperature (°C)		Extreme temperature (°C)	Mean daily hours of sunshine
	Mean max.	Mean min.	Mean	Highest	Lowest		
						Lowest on grass	
No. of years of observations	32	32	32	32	32	13	13
January	31.8	23.1	27.5	36.2	20.4	21/66	6.2
February	31.5	23.0	27.3	36.1	18.8	17/57	6.1
March	31.4	22.9	27.2	35.4	18.3	23/61	6.2
April	30.9	22.7	26.8	34.2	16.8	11/46	7.0
May	30.7	22.8	26.7	33.8	14.5	28/53	7.4
June	30.0	22.2	26.1	33.9	14.4	23/54	7.0
July	29.7	21.7	25.7	33.3	14.1	8/46	6.6
August	29.9	21.9	25.9	33.8	14.8	14/61	6.8
September	30.4	22.4	26.4	34.8	14.4	10/61	6.8
October	31.4	22.8	27.1	35.5	16.3	11/55	7.4
November	32.1	22.8	27.4	36.3	16.7	10/67	8.4
December	32.2	23.1	27.6	36.3	19.6	1/63	7.3
Year { Averages	31.0	22.6	26.8	36.3	14.1	..	6.9
{ Extremes . . . . .	..	..	..	16/12/67	8/7/46	8.9	1/9/67

HUMIDITY, RAINFALL AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	Mean relative humidity % at 9 a.m.	Rainfall (millimetres)				Fog mean No. days
			Mean No. of days			Greatest in one day	
			Mean mthly	Greatest monthly	Least monthly		
No. of years of observations	23	23	26	24	26	26	24
January	28.1	77	170	17	465	1950	3.3
February	28.5	81	221	19	434	1947	3.8
March	28.4	80	198	18	442	1951	7.2
April	28.6	81	161	15	728	1946	7.7
May	28.2	79	52	8	187	1952	6.9
June	26.4	78	42	6	313	1963	3.7
July	25.2	77	20	6	70	1949	2.5
August	25.0	75	32	7	138	1953	2.4
September	25.4	73	41	7	333	1958	1.9
October	26.2	69	40	7	181	1948	2.4
November	26.4	68	69	8	234	1952	3.3
December	27.6	73	157	13	268	1954	2.9
Year { Totals . . . . .	..	..	1,203	131	..	..	48.0
{ Averages	27.0	76	..	11	..	..	..
{ Extremes . . . . .	..	..	..	..	728	0	..
					4/1946	(b)	12/4/46

(a) 1948 and 1950.

(b) June 1957, September 1948 and 1950, and November 1965.

CLIMATOLOGICAL DATA: LAE

(Meteorological Office: Lat. 6° 43' S., Long. 147° 00' E., Height above M.S.L. 8 metres)

BAROMETER, WIND AND CLOUD

Month	Mean of 9 a.m. and 3 p.m. atmospheric pressure reduced to mean sea level (mb)	Wind (height of anemometer 10 metres)					Mean amount of clouds 9 a.m., 3 p.m., 9 p.m.(a)
		Average Km/h		Highest gust speed (km/h)	Prevailing direction		
		9 a.m.	3 p.m.		9 a.m.	3 p.m.	
No. of years of observations	23	25	25	25	27	27	21
January	1,006.8	10.7	11.0	82	NW	SE	6.6
February	1,006.8	11.5	11.0	69	NW	SE	6.8
March	1,007.2	10.7	10.1	70	NW	SE	6.8
April	1,008.4	5.9	9.6	72	NW	SE	6.4
May	1,009.5	3.5	8.8	58	NW	SE	5.9
June	1,010.5	3.7	8.6	67	NW	SE	6.1
July	1,011.0	3.0	8.5	64	NW	SE	6.5
August	1,011.0	3.2	8.8	64	NW	SE	6.3
September	1,010.9	3.2	10.2	61	NW	SE	6.1
October	1,010.1	4.3	10.7	64	NW	SE	6.0
November	1,008.5	6.2	11.8	72	NW	SE	6.1
December	1,007.4	8.6	11.0	74	NW	SE	6.5
Year { Averages	1,009.0	6.2	9.4	..	NW	SE	6.3
Extremes	..	..	..	82	..	..	..

(a) Scale 0-8.

TEMPERATURE

Month	Mean temperature (° C.)			Extreme shade temperature (° C.)	
	Mean max.	Mean min.	Mean	Highest	Lowest
	No. of years of observations	22	22	22	22	22
January	31.1	23.7	27.4	38.2 20/59	20.7 7/60
February	31.2	23.3	27.5	37.3 14/57	21.1 24/62
March	30.8	23.7	27.2	38.7 6/56	21.7 16/56
April	30.1	23.3	26.7	33.9 4/56	21.3 22/66
May	29.4	22.9	26.2	33.2 24/52	19.4 30/53
June	28.6	22.4	25.5	33.4 8/58	19.4 20/53
July	27.8	22.0	24.9	32.2 16/64	19.3 31/65
August	27.9	22.0	24.9	32.4 28/64	19.4 27/55
September	28.7	22.2	25.4	32.2 12,13/50	19.1 13/61
October	29.6	22.6	26.1	35.2 31/49	19.1 4/65
November	30.4	23.1	26.7	34.4 30/61	20.9 (a)
December	30.7	23.5	27.1	35.6 24/59	20.3 19/64
Year { Averages	29.7	22.9	26.3	..	..
Extremes	..	..	..	38.7 6/3/56	19.1 (b)

(a) 13/1965 and 11/1968. (b) 13/9/61 and 4/10/65.

HUMIDITY, RAINFALL AND FOG

Month	Vapour pressure mean 9 a.m. (mb)	Rainfall (millimetres)					Fog mean No. days
		Mean monthly	Mean No. of days of rain	Greatest monthly	Least monthly	Greatest in one day	
January	28.0	270	21	522 1964	107 1958	199 9/59	0.1
February	28.5	235	19	403 1967	53 1957	134 8/53	0.1
March	28.3	328	21	524 1952	140 1968	162 10/52	0.1
April	28.7	404	22	602 1955	237 1968	199 15/53	0.0
May	28.3	420	22	840 1957	67 1956	166 17/61	0.1
June	26.5	414	22	770 1965	115 1964	226 4/51	0.0
July	25.4	495	25	1,018 1953	143 1956	299 16/53	0.1
August	25.0	511	24	823 1957	161 1951	259 14/47	0.0
September	25.6	467	23	882 1926	193 1960	156 10/51	0.0
October	26.5	390	21	695 1970	122 1956	147 20/63	0.1
November	26.7	338	21	577 1948	128 1956	184 2/45	0.0
December	27.7	329	21	605 1957	154 1951	228 16/68	0.0
Year { Totals	..	4,601	262	..	..	..	0.6
Averages	27.1	..	..	..	..	..	..
Extremes	..	..	..	1,018 7/1953	53 2/1957	299 16/7/53	..

Population

The indigenous people of Papua New Guinea may in general be grouped with the Melanesians who occupy the greater part of the Western Pacific. They may be divided into two main types—Melanesian and Papuan—the former representative of the eastern mainland of Papua and the island archipelagos to the east and south-east of Papua, the Bismark Archipelago, the Solomon Islands and the coastal districts of the New Guinea mainland, the latter representative of the western third and interior of Papua and the interior of the mainland of New Guinea. Some negrito traits have been noted in a few of the inland mountain groups. There is a strain of Papuan, and, possibly, of Polynesian blood in the Admiralty Islanders, while the Western Islanders and the inhabitants of the small islands east and south-east of New Ireland are Micronesians.

Censuses of the non-indigenous population of Papua New Guinea have been taken in conjunction with censuses of the Commonwealth of Australia. For the indigenous population of Papua New Guinea, estimates of size, geographic location, and the broad age distribution of the population were available from the results of the Division of District Administration census (formerly known as the Tax Census). This was conducted over most of the country, but was continuous rather than conducted at a common date for all areas covered. No regular pattern of operations was adopted, although once the census had been taken in an area it was in general repeated fairly frequently. Although these estimates were of great value, the limitations of the information on population characteristics and the lack of simultaneous collection for all areas made them insufficient for many purposes. The 1966 census covered both indigenous and non-indigenous population, and provided, for the first time, an almost complete picture of the population of Papua New Guinea.

Figures for the non-indigenous population as enumerated at censuses held in conjunction with Commonwealth censuses and estimates of the indigenous population based on the Division of District Administration censuses are set out below.

PAPUA NEW GUINEA: POPULATION AT CENSUSES, 1921 TO 1966

Year	Indigenous			Persons estimated	Total persons	Non-indigenous			
	Enumerated		Persons			Males	Females	Persons	
	Males	Females	Persons						
PAPUA									
1921.	59,825	52,687	112,512	..	..	1,408	670	2,078
1933.	..	..	170,836	..	..	1,232	941	2,173
1941.	..	..	..	..	..	..	..	..
1947.	..	..	..	..	..	2,057	1,182	3,239
1950.	117,455	104,474	221,929	146,630	368,559	..	..	..
1954.	151,464	134,732	286,196	202,200	488,396	3,867	2,446	6,313	
1961.	236,676	209,632	446,308	67,340	513,648	5,490	4,304	9,794	
1966.	310,153	281,806	591,959	..	591,959	8,307	6,070	14,377	
NEW GUINEA									
1921.	(a)100,445	(a)66,276	(a)166,721	..	..	2,502	671	3,173
1933.	218,218	182,911	401,129	..	..	3,709	1,507	5,216
1941.	324,830	318,988	(b)684,284	300,000	984,284	..	..	..
1947.	..	..	..	..	..	4,369	1,831	6,200
1950.	415,939	354,116	770,055	301,050	1,071,105	..	..	..
1954.	538,113	472,480	1,010,593	184,714	1,195,307	7,201	4,241	11,442	
1961.	721,806	647,277	1,369,083	64,300	1,433,383	9,158	6,378	15,536	
1966.	810,153	748,205	1,558,358	..	1,558,358	11,746	8,546	20,292	

(a) 1920: figures for 1921 not available. (b) Includes 34,087 indentured labourers, 1,127 native constabulary, 4,823 attending approved mission schools, and 429 patients at Anelaura Leprosarium and Taskul Observation Colony (New Ireland), for which particulars of sex are not available.

The total indigenous population of Papua New Guinea at the 1966 census was 2,150,317 persons, and the total non-indigenous, 34,669 persons. For details of selected characteristics of Population Census 1966 see Year Book No. 55, pages 1165–69. Estimated totals for 30 June 1972 are 2,531,882 and 49,245 persons respectively.

Population Census, 1971

Full details from the Population Census 1971 are not yet available. The census was conducted in July 1971 and covered both indigenous and non-indigenous populations. For census purposes respondents were asked to state whether they considered themselves to be indigenous, European, Chinese or of some other race or mixture of these, without the guidelines provided in 1966, however, it is doubtful that this will affect comparability between the two censuses.

Preliminary figures of the population (indigenous and non-indigenous) of the major towns at the census, July 1971, was as follows: Port Moresby, 66,244; Lae, 34,699; Rabaul, 24,778; Madang, 15,751; Wewak, 12,154; Goroka, 10,756; Mount Hagen, 9,609; Daru, 5,074; Popondetta, 4,591; Lorengau, 4,009 (including Lombrum); Bulolo, 3,548; Kavieng, 3,010; Alotau, 2,516; Mendi, 2,277.

The Census completely enumerated virtually all the non-indigenous population, together with all the indigenous population located in areas outside rural villages. The rural village population was estimated by means of a representative sample of approximately 10 per cent of rural villages. Consequently the figures published for the population of rural villages are estimates of total figures based on a representative sample, while those published for other areas are totals based on complete enumeration. Totals for a district or the country as a whole are the sums of these estimated and actual figures.

Constitutional development

The *Papua-New Guinea Provisional Administration Act 1945-1946*, which provided for the transfer of control from the military authorities to civil authorities after the 1939-45 War, was repealed by the *Papua and New Guinea Act 1949*. The latter Act approved the placing of the Territory of New Guinea under the International Trusteeship system and provided for an Administrative Union of the Territory of Papua and the Territory of New Guinea with one Administrator, a Legislative Council and an Executive Council, one Supreme Court, and one Public Service.

For an outline of the development of the Legislative and Executive (later Administrator's) Councils between 1949 and 1963, see Year Book No. 51, page 117.

In May 1963 the Commonwealth Government passed an amendment to the Papua and New Guinea Act, making provision for a House of Assembly of sixty-four members to replace the Legislative Council. The house then consisted of ten official members appointed by the Governor-General on the advice of the Administrator, forty-four members elected by the people of the Territory on a common roll in forty-four open electorates, and ten non-indigenous persons elected on a common roll in ten special electorates comprising one or more open electorates. The first elections for the House of Assembly were held in February-March 1964, and the inaugural meeting of the new House was convened on 8 June 1964.

The 1963 Act also increased the membership of the Administrator's Council from seven to eleven, seven of whom must be elected members of the House of Assembly.

In October 1966 the Commonwealth Parliament passed a further amendment to the Papua and New Guinea Act, providing for an increase in the membership of the House of Assembly to ninety-four, sixty-nine members representing open electorates, fifteen from regional electorates and ten official members.

The second general election for the House of Assembly was held from 17 February-16 March 1968, and the Second House was convened on 4 June 1968. A House of Assembly Ministerial Nomination Committee in conjunction with the Administrator chose fifteen elected members who were appointed to seven Ministerial Member and eight Assistant Ministerial Member positions.

The *Papua and New Guinea Act 1968* provided for the Administrator's Council to become the Administrator's Executive Council, deciding major matters of Territory policy. In June 1968 it had its first meetings. It consisted of the Administrator, the seven Ministerial Members, three official Members, and a twelfth member who was an elected M.H.A. but a non-office holder.

The result of constitutional instruments signed in August, 1970 by the Governor-General and the Minister for External Territories was to transfer full authority in relation to specified matters to designated ministerial office holders. This effectively enhanced the role of the Administrator's Executive Council as the Administrator became bound to accept its advice in respect of these specified matters. Ministerial office holders are fully responsible for the functions of the specified departments, or parts thereof.

The third general election for the House of Assembly was held from 19 February to 11 March 1972, and the Third House was convened on 20 April 1972. Following recommendations made by the Select Committee on Constitutional Development appointed by the Second House, the number of

ected members was increased to 100; 82 members representing open electorates, and 18 representing regional electorates. The number of official members was reduced to four. The Ministry was increased to 17, all with the designation 'Minister', and later in 1972 the limit on the number of Ministers was removed. The Administrator's Executive Council consists of the Administrator and 10 Ministers, one of whom is elected by his fellow Ministers to be Deputy Chairman of the Council. Mr M. Somare M.H.A. was elected to the Deputy Chairman's position and as the leader of the governing majority in the House of Assembly, soon became known as the Chief Minister.

A National Coalition Government was formed following the 1972 General Election, with Mr M. Somare (Pangu Pati) as leader and Dr J. Guise (Independent) as deputy leader. Mr J. Chan (Peoples Progress Party) and Mr T. Kavali (New Guinea National Party) lead the other two major party groups which form the Coalition. The National Coalition also had the support of several independent members and the three Mataungun Association members of the House.

In July/August 1972, discussions between the Minister for External Territories, Papua New Guinea Ministers and the Papua New Guinea Leader of the Opposition on further progress to self-government decided on powers which could be transferred at an early date, and initiated study into the transfer of others. It was agreed that Ministerial meetings would be held to discuss future progress as considered necessary.

Two major decisions by the Papua New Guinea House of Assembly in 1972, set the date for self-government and established a Constitutional Planning Committee to make recommendations for a self-governing constitution which would also serve an independent Papua New Guinea. The Australian Government accepted December 1st 1973 as the timing for self-government, and the Labor Government has stated it will work towards an independent Papua New Guinea by 1975. In April 1973 the Minister for External Territories signed instruments which transferred further powers to Papua New Guinea Ministers and gave formal approval to the title of Chief Minister.

Local government was introduced in 1949 by the Native Village Councils Ordinance which was replaced by the *Local Government Ordinance* 1963. The Administrator may establish by proclamation local government councils with authority in defined areas.

To enable the people to participate more fully at district level in the affairs of government in areas of planning and decision making, Area Authorities, consisting of representatives of Local Government Councils in the area, have been set up in the New Ireland District, the Northern District, the Western District, the Southern Highland District, Marus and the Chimbu Districts. There are plans for two authorities in the Western Highlands District. The primary functions of the Area Authorities are to advise the Administrator on district development, and the Minister for Local Government on the allocation of rural development funds. The relationship between various levels of government is one of the questions being considered by the Constitutional Planning Committee.

Development planning. In 1968 the Australian Government and the Papua New Guinea House of Assembly endorsed as a working basis for planning the objectives and targets of a development program covering the five years from 1968-69 to 1972-73. In August 1971 the Development Program was reviewed to take account of major changes, mainly resulting from the development of large scale copper deposits on Bougainville.

The program has the following main objectives.

Maximum increase in production consistent with financial and manpower resources and market capacity.

Maximum participation by Papua New Guineans at all levels.

Maximum progress towards financial self-reliance.

Maximum practicable contribution to meeting social needs and raising the level of living of the people.

A new improvement plan is being prepared to cover the period 1974-75 to 1977-78. Consultants have been engaged under the United Nations Development Program to assist the Government to formulate the strategy for the new program. The aim is to produce a program that reflects technical expertise and experience from both inside and outside Papua New Guinea and at the same time is fully endorsed by the House of Assembly.

Following representation by a delegation of Papuan parliamentarians to the Minister for External Territories, seeking special economic consideration for Papua, consultants were engaged to study the problems of the less-developed areas in both Papua and New Guinea. The report of this study will also be used in the preparation of the improvement plan.

Judiciary

The courts which exercise jurisdiction within Papua New Guinea are: the Supreme Court of Papua New Guinea, District Courts, Local Courts, Village Courts, Children's Courts and Wardens' Courts.

The Supreme Court is the highest judicial authority and has unlimited criminal and civil jurisdiction. Appeals lie from decisions of a single judge to the Full Court of the Supreme Court and, subject to prescribed conditions, from decisions of the Full Court to the High Court of Australia. District Courts have criminal jurisdiction over all summary offences, i.e. generally, all offences punishable by less than 12 months' imprisonment, and conduct preliminary hearings in respect of indictable offences. They also exercise civil jurisdiction over claims for amounts up to \$2,000. Local Courts have criminal jurisdiction over summary offences and may impose penalties not greater than a fine of \$100 or six months' imprisonment, plus civil jurisdiction over matters involving up to \$200. Village Courts are proposed to be set up with village leaders as magistrates. They will have authority for matters involving up to \$100 and jurisdiction over most areas of law with the probable exception of land. Children's Courts have jurisdiction over all offences by persons under the age of 16 years, except the most serious offences, and in affiliation and other child welfare cases. Wardens' Courts exercise jurisdiction over offences against mining laws and civil cases concerning mining or mining lands.

In addition, there is the Land Titles Commission set up under the *Land Titles Commission Ordinance* 1962-1972 to inquire into and determine rights in land, particularly native land. The Commission has a specific function under the *New Guinea Land Titles Restoration Ordinance* 1951-1968 to inquire into and determine claims to interest in land where the official records were lost or destroyed as a result of the Japanese invasion of New Guinea. The future and function of the Land Titles Commission is being examined as part of a Commission of Enquiry into Land matters.

Agriculture and animal industry

Soils

Although many parts of Papua New Guinea are covered by skeletal soils unsuitable for agriculture, there are extensive areas in all districts where fertile soils occur suitable for growing a variety of crops. Soils on the coastal plains consist mainly of alluvium and podsolised alluvium. The coastal swamp soils, of which there are extensive areas in the delta plains of the Sepik and Fly rivers and intermittently around the coasts and along the lower reaches of other rivers, are in general quite unsuited to any form of agricultural development.

Volcanic soils probably offer the greatest prospects for development. They are found mostly on the central plateau and southern foothills of the main island, but there are also areas in New Britain (particularly in the Gazelle and Willaumez Peninsulas), Bougainville and New Ireland, as well as in numbers of smaller islands. Other rich soils are the alluvials of the river valleys. The largest single area of this type is in the valley occupied by the Ramu and Markham Rivers.

Land tenure

The *Land Ordinance* 1962-1969 of Papua New Guinea, which came into operation in 1963, replaced much land legislation previously in force separately in the two Territories. This simplification in legislation was a major step towards applying uniform principles to land tenure throughout the whole of Papua New Guinea. All land in Papua New Guinea other than native land or land subject to any estates, rights, titles or interests in force from time to time is Administration land.

There is considerable variation throughout Papua New Guinea in the nature of customary ownership of land. In most areas some rights remain in the landholding group, and individuals within the group have limited rights or use, either for life or for a shorter period. Thus the normal system by which the rights of ownership in land use are acquired is by birth to a landholding group. Transfer of rights between individuals by sale and purchase appears to have been unusual in the past, but this practice is now an established custom in some localities and appears to be increasing. Inheritance may be based on either patrilineal or matrilineal descent, or both. In parts of Papua New Guinea, however, there is a tendency for the whole inheritance system to change, particularly in communities where it is based on matrilineal descent. Following a close study of the problems in relation to land holdings by indigenes, the Government has laid down the following broad principles of policy.

The ultimate and long-term objective in Papua New Guinea is to introduce a single system of land holding regulated by the central Administration by statute, administered by the Department of Lands, Surveys and Mines of the central Administration and providing for secure individual registered titles after the pattern of the Australian system.

Only the Administration working through the Department of Lands, Surveys and Mines and through the Registrar of Titles may issue and register land titles.

Land subject to native custom remains subject only to native custom until it is taken out of custom either by acquisition by the Administration or by a process, provided for by the *Land (Tenure Conversion) Ordinance 1963-1967*, of conversion of title to an individual registered title. Upon either acquisition or conversion of title, compensation is provided in respect of extinction of rights under native custom.

Land held under native custom may not be acquired outside of native custom by other than the Administration. Land may not be acquired by the Administration except for prescribed public purposes unless the native owners are willing to sell and the Administration is convinced, through its Division of District Administration, Department of the Administrator, that the land is not required by them, and conversion of title from native custom to individual registered title may take place only if all those interested in the land under native custom consent to conversion and the method of conversion.

The services of Commissioners under the *Land Titles Commission Ordinance 1962-1972* are used, as a first priority, on investigations into claims by the Administration that land is ownerless and may therefore be declared administration land, on investigation into the ownership under native custom of land proposed to be acquired by the Administration, on settlement of disputes about the ownership of land held under native custom, and on investigations into the rights held under native custom in land proposed to be converted to individual registered title. The Commissioners, as opportunity offers, continue investigations into the holding of land under native custom; the results of such investigations are recorded for use in connection with future acquisitions or conversions of title.

The legislation and administrative steps necessary to put the remainder of this policy into effect are well advanced.

At 30 June 1972, the distribution of alienated land in Papua New Guinea according to tenure was as follows.

Held by private non-indigenous inhabitants—freehold land, 535,071 acres; leasehold land, 1,005,702 acres; land tenure conversion (freehold), 9,255 acres;

Native reserves, 94,033 acres;

Other Administration land including land reserved for public purposes, 3,797,240 acres.

Primary industries

General

The products of Papua New Guinea are obtained principally from its agricultural, forestry, mining, and fishing industries. Indigenous subsistence agriculture, fishing and hunting produce most of the food requirements of the indigenous population. The main indigenous agricultural products are taro, yams, sweet potatoes, bananas, and pawpaws. Peanuts are becoming of increasing importance in the indigenous diet. Non-indigenous enterprise produces most of the commodities exported. Indigenous in recent years have taken up the production of introduced crops such as peanuts, rice, cucurbits, and maize for their own consumption and produce copra, coffee, cocoa, tea, passion-fruit, pyrethrum and palm oil for export.

The principal agricultural products for the export trade are copra and coconut oil, cocoa, coffee and rubber, but exports of timber and timber products are substantial and the export of tea and palm oil is increasing.

Non-indigenous crop production

In 1970-71 there were 1,255 holdings in use by non-indigenous persons, The total area of these holdings was 1,018,345 acres. The following tables summarise the information available for principal activities.

**PAPUA NEW GUINEA: NUMBER OF HOLDINGS—NON-INDIGENOUS
AREA, PRODUCTION AND NEW PLANTINGS, 1967 TO 1971**

(Source: Rural Industries Bulletin, 1970-71, Papua New Guinea Bureau of Statistics)

Year ended 30 June—	Holdings	Area under crop(a)			New plantings	
		acres	'000	Production tons	Area acres	Trees(b) '000
Coconuts—						
1967(c)	683	269,127	12,704	81,159	5,208	460
1968	681	270,176	12,809	86,736	4,902	586
1969	685	271,623	12,972	89,115	4,062	382
1970	678	271,836	12,854	84,482	3,755	304
1971	677	269,612	13,007	80,791	2,841	219
Cacao—						
1967(c)	447	126,147	21,830	15,059	4,981	1,366
1968	447	129,706	21,400	18,092	5,446	1,749
1969	443	133,235	22,180	18,134	5,095	1,690
1970	441	132,003	21,714	16,748	3,830	1,330
1971	437	135,099	22,418	17,614	4,942	2,113
Coffee—						
1967(c)	248	14,365	9,912	4,492	1,090	1,212
1968	249	14,817	10,004	4,705	810	937
1969	237	14,685	9,798	6,196	664	828
1970	229	15,037	10,466	6,258	801	983
1971	227	15,514	11,053	7,511	1,061	1,296
Rubber—						
1967(c)	86	37,043	4,177	5,437	1,260	305
1968	89	35,878	4,126	5,711	484	167
1969	83	33,964	3,901	5,850	471	134
1970	79	33,958	3,810	5,191	561	122
1971	75	32,722	3,856	5,746	122	65

(a) Includes mature and immature areas. (b) Includes replacements. (c) 31 March.

**PAPUA NEW GUINEA: AREA UNDER PRINCIPAL CROPS AND CROP PRODUCTION
YEARS ENDED 30 JUNE 1969 TO 1971—NON-INDIGENOUS**

(Source: Rural Industries Bulletin, 1968-69, 1969-70, 1970-71, Papua New Guinea Bureau of Statistics)

Crop	Recorded area in acres			Recorded production			Average yield per mature acre			
	1969	1970	1971	Unit	1969	1970	1971	1969	1970	1971
Permanent crops—										
Copra—										
Plantation.	271,623	271,836	269,612	ton	89,115	84,482	80,791	0.38	0.36	0.35
Trade(a)	..	..	..	..	5,119	4,365	2,814	..	..	..
Coconuts, for use as such	..	..	..	..	454	1,441	5,176	..	..	..
Cacao—										
Plantation.	133,235	132,003	135,099	..	18,134	16,748	17,614	0.17	0.16	0.17
Trade(a)	..	..	..	..	1,153	1,193	900	..	..	..
Coffee—										
Plantation.	14,685	15,037	15,514	..	6,196	6,258	7,511	0.53	0.52	0.62
Trade(a)	..	..	..	..	2,087	1,620	942	..	..	..
Oil palms	..	2,710	4,912	..	..	(b)	(b)	..	(b)	(b)
Rubber	33,964	33,958	32,722	ton	5,850	5,191	5,746	0.23	0.19	0.21
Tea	5,270	6,660	7,373	lb (dry)	761,066	1,994,503	2,245,580	449.50	606.00	704.16
Grain crops—										
Maize	176	383	302	bushel	2,737	5,536	4,803	15.55	14.45	15.90
Rice	459	405	216	ton (paddy)	277	237	77	0.60	0.59	0.36
Sorghum	1,625	1,829	2,221	bushel	15,308	50,624	74,039	9.42	27.68	33.34
Crops for green fodder—										
Maize	318	109	38	..	..	..	..	..	..	..
Sorghum	380	676	552	..	..	..	..	..	..	..
Other	1,133	1,134	1,041	..	..	..	..	..	..	..
Industrial crops—										
Peanuts	1,609	2,029	783	cwt (kernel)	6,222	7,487	3,720	3.87	3.69	4.75
Vegetable crops—										
Grown for sale—										
Beans (green)	25	20	28	cwt	279	449	320	11.16	22.45	11.43
Tomatoes	33	57	42	..	889	1,718	740	26.94	30.14	17.62
Potatoes, English	4	16	19	..	48	809	1,120	12.00	50.56	58.95
Potatoes, sweet	388	532	552	..	19,112	41,638	57,460	49.26	78.27	104.09
Pumpkins	29	59	44	..	1,104	2,532	1,920	38.07	42.92	43.64
Other	149	205	389	..	..	..	..	..	..	..
For consumption on holding—										
Potatoes, sweet	4,212	4,690	4,187	cwt	218,582	242,503	227,760	51.90	51.71	54.40
All other	2,317	1,616	3,574	..	..	..	..	..	..	..
All other crops.	3,238	1,251	4,912	..	..	..	..	..	..	..
Total	474,872	477,215	484,132	..	..	..	..	..	..	..

(a) Production from crops purchased from Indigenous growers. (b) Not available for publication.

Indigenous agriculture

Most of the indigenous inhabitants of Papua New Guinea are agriculturalists producing fruit and vegetables for their own consumption. The crops grown vary according to environment and altitude and include yams, taro and sweet potatoes, coconuts, bananas, papaws, maize, sugar cane, cassava, beans, peanuts, rice, cucurbits, and tobacco. Sago is the staple food in the extensive semi-inundated areas which occur along the lower valleys of the major rivers. In these areas it is cut largely from naturally occurring stands. In other parts of the country small areas of sago are grown along stream banks and in swampy patches and are regarded as a reserve in times of poor harvest. In recent years the indigenes have taken up the production of introduced crops such as peanuts, rice, cucurbits, tobacco and maize for their own consumption, and cocoa, coffee, tea, palm oil, passion fruit and pyrethrum for export. Some small-scale rubber growing is now being undertaken. In coastal areas large quantities of copra are produced. In 1970-71 estimated indigenous production was: copra, 46,650 tons; coffee, 19,032 tons; cocoa, 8,053 tons. In many localities the indigenes follow a farming system known as bush fallowing rotation, which is described in Year Book No. 48, and earlier issues.

The growing of food is done by both the men and the women. The division of work is usually clearly defined within the village itself, but this division is not necessarily the same in all areas. Generally the felling of forests is done by the men, and carrying the harvested food home to the village is done by the women. Other work, however, such as cultivating, planting and weeding may be done by either men or women according to the customs of the particular village or area.

The advancement of indigenous agriculture for local food supply and improved land use in village gardens as well as for economic production of crops for sale have a high priority in Government policy for Papua New Guinea. In recent years the Administration has intensified the program of agriculture extension work among the indigenes. Indigenous cattle projects are increasing rapidly, and the greater part of the country's coffee crop is produced by the indigenous sector.

**PAPUA NEW GUINEA: AREA OF PRINCIPAL CROPS AND
CROP PRODUCTION, YEAR ENDED 30 JUNE^(a) 1967 TO 1971**

(Source: Rural Industries Bulletin 1970-71; Papua New Guinea Bureau of Statistics.)

	Area under crop (acres)			Quantity of production (tons)		
	Indigenous	Non-indigenous	Total	Indigenous (b)	Non-indigenous	Total
Coconuts—						
1967	305,630	269,127	574,757	34,504	81,159	115,663
1968	344,540	270,176	614,716	38,644	86,736	125,380
1969	348,742	271,623	620,365	43,801	89,115	132,916
1970	335,414	271,836	607,251	42,911	84,482	127,393
1971	339,681	269,612	609,293	46,650	80,791	127,441
Cocoa—						
1967	38,075	126,147	164,222	5,032	15,059	20,091
1968	39,569	129,706	169,275	5,546	18,092	23,638
1969	44,285	133,235	177,520	5,883	18,134	24,017
1970	46,724	132,003	178,727	5,792	16,748	22,540
1971	48,121	135,099	183,220	8,053	17,614	25,667
Coffee—						
1967	46,613	14,365	60,978	10,566	4,492	15,058
1968	47,691	14,817	62,508	9,634	4,705	14,339
1969	49,666	14,685	64,351	14,942	6,196	21,138
1970	53,195	15,037	68,232	20,895	6,258	27,153
1971	47,974	15,514	63,488	19,032	7,511	26,543
Pyrethrum—						
1967	3,815	..	3,815	551	..	551
1968	2,867	..	2,867	457	..	457
1969	4,104	..	4,104	398	..	398
1970	3,275	..	3,275	499	..	499
1971	2,925	..	2,925	400	..	400
Rubber—						
1967	2,617	37,043	39,660	23	5,438	5,461
1968	3,404	35,878	39,282	13	5,711	5,724
1969	4,222	33,964	38,186	26	5,850	5,876
1970	5,994	33,958	39,952	28	5,191	5,219
1971	4,843	32,722	37,565	69	5,746	5,815
Tea—						
1967	256	n.a.	n.a.	..	n.a.	n.a.
1968	359	3,746	4,105	5	68	73
1969	522	5,270	5,792	41	340	381
1970	646	6,660	7,306	81	890	971
1971	913	7,373	8,286	262	1,140	1,402

(a) Non-indigenous figures refer to year ended 31 March, for 1967. (b) Includes all produce acquired by purchase during the year from sources outside the non-indigenous holdings. Excludes amount consumed by growers.

Livestock

Total cattle on non-indigenous holdings at June 1971 was 72,925. Indigenous involvement in the cattle industry is being encouraged. An estimated 8,862 head of cattle were owned by indigenes in 1970. Dairy farming is carried out on a small scale near major towns.

A number of British breeds of cattle are represented, but for best results the use of Zebu cross-bred types of cattle is desirable. For dairying the Jersey seems to be the best breed and adapts quite well to tropical conditions.

A central abattoir controlled by the Administration has been set up at Lae and Administration slaughterhouses at Port Moresby, Goroka and Mount Hagen. There are smaller private slaughterhouses at other centres.

The following table shows the numbers of the various kinds of livestock on non-indigenously occupied holdings in Papua New Guinea at 30 June for the years 1969 to 1971.

**PAPUA NEW GUINEA: LIVESTOCK NUMBERS ON NON-INDIGENOUS
HOLDINGS YEAR ENDED 30 JUNE 1969 TO 1971**

(Source: *Rural Industries Bulletin*, 1970-71, Papua New Guinea Bureau of Statistics)

<i>Kind of stock</i>	<i>1969</i>	<i>1970</i>	<i>1971</i>
Horses	1,205	975	957
Cattle—			
For dairying—			
Cows—in milk	1,290	1,505	1,345
dry	1,281	1,307	1,065
Heifers, one year and over	911	840	779
Heifer calves, under one year	1,086	884	748
Bulls, one year and over	299	189	195
Bulls, under one year	168	209	119
Total dairying cattle	5,035	4,934	4,251
For beef—			
Cows and heifers, one year and over	30,415	34,399	36,114
Calves, under one year	6,362	7,305	9,094
Bulls, one year and over	1,612	2,039	1,876
Bulls, under one year	500	900	1,470
Other, one year and over	16,804	18,075	20,120
Total beef cattle	55,693	62,718	68,674
Total all cattle	60,728	67,652	72,925
Sheep	381	272	382
Pigs—			
Boars	308	352	295
Breeding sows	1,088	1,445	1,458
Suckers, weaners, and slips	2,726	4,158	4,218
Other	476	731	1,325
Total pigs	4,598	6,686	7,296
Goats	1,407	1,262	641
Poultry ^(a) —			
Fowls	168,757	193,811	172,514
Ducks	3,757	3,823	6,304
Turkeys	314	285	337
Geese	45	105	40
Total poultry	172,873	198,024	179,195

(a) Only recorded where poultry products are marketed or flocks exceed 100 birds.

Survey of indigenous agriculture and ancillary surveys, 1961-62

A survey of the agriculture of indigenes of Papua New Guinea was carried out in 1961-62 by the Papua New Guinea Bureau of Statistics in conjunction with the Commonwealth Bureau of Census and Statistics and the Papua New Guinea Department of Agriculture, Stock and Fisheries. A comprehensive report on the surveys was published by the Papua New Guinea Statistician in 1963, and reference should be made to this for further information. A summary of the principal results of the survey appears on pages 1104-10 of Year Book No. 52. Statistics of indigenous cash crop and cattle projects are compiled annually by the Administration's Department of Agriculture, Stock and Fisheries.

Forestry

Many species of tropical timbers are found in Papua New Guinea, and there is a large pure stand of Klinkii pine in the Bulolo Valley. This timber is used mainly for the production of plywood and veneer. The Papua New Guinean forests produce all local timber requirements as well as exports of logs, sawn timber, plywood and veneer. The administration operates a forestry school at Bulolo to train forestry officers, and has established a research centre for forest products at Hohola near Port Moresby as well as regional silvicultural stations and a large herbarium at Lae.

The Administration is making available for public application a number of extensive timber areas estimated to contain a total of about 14,000 million super feet of logs and possibly twice this quantity of pulpwood. It is intended that those areas should form the basis for the development of integrated forest industries, which would be large and economically viable. Feasibility studies have been undertaken by consultants and some interested firms. Subject to negotiation the areas will be allocated on long-term permits. The Administration has acquired from the indigenous peoples timber rights over 4.9 million acres of forest for industrial development. Reforestation of permanently dedicated land is being undertaken by the administration, the area planted to date being 25,423 acres.

At 30 June 1973, 72 permits and 36 licences were current, the total area of forest involved being 2.4 million acres. The total number of sawmills was 68 and the total sawn timber produced during 1972-73 was 60.0 million super feet. Total log production was 352 million super feet (true volume) of which 191.1 million was exported.

Fisheries

Over 1,400 different species of fish are to be found in the coastal and inland waters of Papua New Guinea and many are important food fish. Those of greatest commercial significance are tunas (mainly skipjack), prawns, barramundi, and tropical lobster. Efforts are being made to encourage indigenous fishermen to regard fishing as a source of cash income and not merely as a means of subsistence. This involves the Administration in research and extension work and requires the improvement of refrigeration, transportation and marketing facilities throughout the country. In the Highlands there is increasing interest in fish culture in freshwater ponds.

Commercial fishing for prawns by joint venture companies is increasing and considerable expansion is likely in the tuna fishery, in which three Japanese and one United States of America joint venture companies are at present engaged.

In 1970-71 the main exports of marine produce from Papua New Guinea were 19,802,000 lb of tuna and 811,630 lb of frozen crayfish tails and prawns valued respectively at \$1,317,000 and \$876,000. Exports of cultured pearls amounted to \$867,000. Other important exports are crocodile skins, marine shell and barramundi.

Mining

A large number of minerals have been found in Papua New Guinea, including platinum, gold, silver, copper, tin, lead, zinc, cinnabar, iron, osmiridium, manganese, sulphur, chromite, gypsum, lignite and brown coal.

A large low grade copper deposit with ore reserves of 900 million tons of ore containing 0.48 per cent copper and 0.36 dwt per ton gold has been developed by Bougainville Copper Pty Ltd, a partly owned subsidiary of Conzinc Rio Tinto Australia Ltd, with a 20 per cent shareholding by the Administration. Production began in 1972 and ore is expected to be mined at the rate of 30 million tons per annum. Production for 1972-73 was 164,234 long dry tons of copper, 577,706 troy ozs. of gold and 1,275,053 troy ozs. of silver for export.

Before the 1939-45 War, gold was an important item in Papuan production, but it has since dwindled to insignificance. Large quantities of copper ore were mined and exported up to 1940. A large low grade copper ore body is being considered for development in the Star Mountains, near the West Irian border. Extensive deposits of magnetite sands exist along the Gulf of Papua coastline, but these contain the undesirable impurity titanium, and ways of separating this from magnetite are under investigation. The production of gold in New Guinea decreased from \$1,414,238 in 1959-60 to \$792,290 in 1971-72, but will increase greatly in 1972-73.

The laws in operation governing mining are the *Mining Ordinance* 1928-1966, the *Mines and Works Regulation Ordinance* 1935-1962 and the *Mining Development Ordinance* 1955-1960 and the regulations made thereunder.

Indications of oil have been found at scattered locations over a large area, but commercial quantities have not been discovered. Natural gas has been found in several wells in the Gulf District (including offshore), but its commercial use is not yet economically feasible.

At 30 June 1973, 31 permits and licences were effective under the provision of the *Petroleum (Prospecting and Mining) Ordinance* 1951-1968 and the *(Commonwealth) Petroleum (Submerged Lands) Act* 1967-1968.

Secondary industries

The major manufacturing industries are generally those processing primary products, mainly for exports. Examples of these are plywood, coconut oil, copra by-products, desiccated coconut and pyrethrum.

Industries catering for the rapidly expanding local market remain numerically predominant. These include the brewing of beer, furniture making and assembly of electrical appliances; the production of cigarettes and twist tobacco, aerated waters, clothing, plastic articles, concrete products, glass bottles, drums, industrial gases, chemicals, fibreglass products, nails and other wire products, packaging and paper products, paints, metal louvre frames, wood preservative, metal roofing, water heaters, cast-iron stoves and other building materials, tyre repairs, fire protection equipment, agricultural machinery, matches, printing and ship-building.

A wide variety of services has also been established such as engineering workshops, plumbing establishments, motor repairs and electrical services.

PAPUA NEW GUINEA: SUMMARY OF FACTORY OPERATIONS 1968-69 TO 1970-71

(Source: *Secondary Industries Bulletin* 1970-71, Papua New Guinea Bureau of Statistics)

	1968-69	1969-70	1970-71
Number of factories(a)	609	669	697
Average number employed(b)	13,287	13,839	14,766
Salaries and wages paid(c)	\$'000 14,016	15,990	18,269
Value of power, fuel, light, etc., used(d)	1,806	2,053	2,722
Value of materials used(e)	38,382	44,251	52,930
Value of production(f)	35,043	34,939	46,950
Value of output(g)	75,231	86,244	102,603
Value of land and buildings(h)	19,852	22,855	29,412
Value of plant and machinery(h)	24,206	25,538	28,022

(a) Any factory, workshop or mill in which four or more persons are employed or power other than hand is used.
 (b) Average weekly employment including working proprietors. (c) Excludes drawings by working proprietors.
 (d) Includes water and lubricating oil. (e) Includes value of containers, packing, etc., tools replaced, and repairs to plant.
 (f) Value added in process of manufacture (i.e. value of output less value of materials and power, fuel, etc. used).
 (g) Value of goods produced including amounts received for repair work and other work done. (h) Depreciated or book value at end of year, including estimated value of rented premises and machinery.

PAPUA NEW GUINEA: FACTORY OPERATIONS BY CLASS OF INDUSTRY, 1970-71

(Source: *Secondary Industries Bulletin* 1970-71, Papua New Guinea Bureau of Statistics)

	Class of industry				Total
	Industrial metals machines and conveyances	Food, drink and tobacco	Sawmills, plywood and joinery	Other industries	
Number of factories	338	110	152	97	697
Number of employees—					
Non-indigenous	n.a.	n.a.	n.a.	n.a.	2,531
Indigenous	n.a.	n.a.	n.a.	n.a.	12,235
Total employees	5,126	3,655	3,923	2,062	14,766
Salaries and wages paid	\$'000 9,253	2,581	3,567	2,869	18,269
Value of power, fuel and light, etc.	479	713	367	1,163	2,722
Value of materials used	13,682	20,054	7,529	11,665	52,930
Value of production	16,506	11,353	9,100	9,991	46,950
Value of output	30,667	32,120	16,996	22,820	102,603

See footnotes to previous table.

NOTE. Electricity generation is included in 'Other industries'.

Electric power generation and distribution

Electric power generation and distribution

Papua New Guinea Electricity Commission. Responsibility for the operation and establishment of the electrical undertakings in Papua New Guinea is vested in the Papua New Guinea Electricity Commission whose headquarters are located at Port Moresby. The Papua and New Guinea Electricity Commission as it was then known was established by the *Papua and New Guinea Electricity Commission Ordinance* 1961 and on 1 July 1963 acquired the assets of the Electrical Undertakings Branch of the Department of Public Works. In Papua New Guinea the Commission owns and operates the electrical undertakings at Port Moresby, Lae, Rabaul, Madang, Wewak, Goroka, Kavieng, Samarai, Yonki, Kerevat and Kieta. It also maintains, operates and carries out administrative functions relating to the electrical undertakings at Mount Hagen, Kundiawa and Kainantu. In addition, it has regulatory functions associated with the licensing of electricians and contractors, the control of franchise holders, the approval of appliances and electrical materials for use in Papua New Guinea, and it operates showrooms at major centres for the purpose of selling electrical appliances.

Generating facilities. The Commission owns and operates hydro-electric power stations at Port Moresby, diesel and hydro-electric stations at Goroka and diesel stations at other centres. At Lae, local diesel generation is supplemented by purchases of power in bulk from the Baiune Hydro-electric Power Stations of Commonwealth New Guinea Timbers Ltd. At Kieta the Commission purchases bulk power generated in the Bougainville Copper Pty Ltd steam power station at Anewa Bay. The installed capacity of generating plant at centres owned or managed by the Commission at 30 June 1973 was as follows.

<i>Centre</i>	<i>kW</i>
Port Moresby	(a)37,020
Lae	(b)13,040
Rabaul	5,360
Madang	5,900
Goroka	(c)2,871
Wewak	2,090
Kavieng	660
Samarai	440
Yonki	1,600
Kerevat	1,035
Mount Hagen	(d)2,225
Kandiawa	300
Kainantu	300
Total	72,841

(a) Includes 1,520 kW hydro set being commissioned.
 (b) Includes 3,200 kW diesel set being commissioned.
 (c) Includes 600 kW hydro. (d) Includes 124 kW hydro.

The total substation capacity of all the Commission systems combined amounts to approximately 101,785 kVA divided up among 694 stations. The number of consumers served by the Commission at 30 June 1973 was estimated as 23,574.

The Commission also maintains the generating plant and distribution systems in minor centres acting as an agent of, and from funds provided by, the Government. The installed capacity of continuous duty generating plant in the 135 minor power stations owned by the Government at 30 June 1973 was approximately 8,130 kW, excluding emergency plant. The centres of Wau, Bulolo, Kupiano, Napa Napa, Gemo Island and Banz are supplied by private electrical undertakers under franchise from the Commission.

The demand for power throughout Papua New Guinea continues to increase, although the rate of growth has lessened. In Port Moresby, contracts have been let for the installation of two 6 mW sets at Rouna No. 3 Power Station which is under construction alongside the existing Rouna No. 1 Station. When commissioned in mid-1974 this Station will boost the city's installed generating capacity to 49 mW.

New diesel plant was commissioned at Madang, Goroka and Kerevat during the year ended 30 June 1973 and the installation of two 3.2 mW diesel sets at Lae Power Station was nearing completion.

Contracts have been let for the design, manufacture and installation of three 15 mW generators at the Ramu No. 1 hydro-electric power station. Stage 1 of which is under construction near Kainantu in the Eastern Highlands. Work has also commenced on the erection of some 330 miles of high-voltage transmission lines which will interconnect the new station with the towns of Lae, Madang, Goroka, Mount Hagen and some smaller Highland centres. This scheme is scheduled for commissioning in mid-1975.

Future development. The Commission is investigating other power developments for Port Moresby. Alternatives include Rouna No. 4 Power Station of 12 mW, Musa River Hydro-electric Scheme which may be built in stages to the ultimate potential of about 400 mW and the possible inter-connection of the Port Moresby System with the Ramu Scheme. Economic feasibility studies are being carried out to determine the pattern of development of the Ramu Scheme as well as supply to possible copper ore projects near the West Irian border. Alternatives being considered include further power stations and a dam (at Yonki) on the Ramu River, and another power station on the Waga River near Mendi.

In conjunction with a large Japanese firm of consulting engineers, the office studies and field investigations continue for the utilisation of the over 1500 mW power potential of the Purari River. To cater for the future power requirements of the developing timber and oil palm industries in West New Britain, investigations have commenced to evaluate the hydro power potential of the Lobu River near Lake Hargy.

Trade, transport and communication

Value of imports and exports

PAPUA NEW GUINEA: IMPORTS AND EXPORTS, 1967-68 TO 1971-72 (\$A'000)

(Source: Overseas Trade Statistics, Papua New Guinea Bureau of Statistics)

	1967-68	1968-69	1969-70	1970-71	1971-72
Total imports(a)	(b)145,303	150,455	213,051	254,599	256,386
Exports—					
Domestic exports	59,089	64,896	71,443	77,447	93,039
Re-exports	11,161	10,348	22,117	24,485	34,142
Total exports	70,250	75,244	93,560	101,932	127,181

(a) Includes value of outside packages. (b) Includes floating oil rig valued at \$8 million, re-exported in July 1969.

Country of origin or destination

PAPUA NEW GUINEA: COUNTRY OF ORIGIN OF IMPORTS, 1967-68 TO 1971-72 (\$A'000 f.o.b. port of shipment)

(Source: Overseas Trade Statistics, Papua New Guinea Bureau of Statistics)

Country of origin	1967-68	1968-69	1969-70	1970-71	1971-72
Australia	78,108	82,165	114,332	130,395	141,330
Canada	852	1,162	3,012	2,066	2,556
Ceylon	366	341	342	329	328
China, People's Republic of	1,715	2,758	2,254	2,201	1,905
France	825	1,402	1,668	1,031	823
Germany, Federal Republic of	2,739	3,448	3,933	3,893	4,598
Hong Kong	4,583	4,760	5,654	7,542	6,121
Italy	1,449	746	1,122	895	1,347
Japan	14,448	17,849	26,393	43,650	38,009
Malaysia and Singapore	3,874	4,357	5,692	6,685	9,648
Netherlands	880	913	2,046	2,795	3,828
New Zealand	77	841	2,618	2,727	3,169
Sweden	480	610	613	640	638
United Kingdom	7,213	8,574	12,347	9,823	11,415
United States of America	(a)19,613	11,589	22,556	29,585	20,232
Other countries	8,081	8,940	8,469	10,342	10,439
Total	145,304	150,455	213,051	254,599	256,386

(a) Includes floating oil rig valued at \$8 million.

PAPUA NEW GUINEA: COUNTRY OF DESTINATION OF EXPORTS, 1967-68 TO 1971-72

(\$A'000 f.o.b. port of shipment)

(Source: Overseas Trade Statistics, Papua New Guinea Bureau of Statistics)

Country of destination	1967-68	1968-69	1969-70	1970-71	1971-72
Australia	29,288	29,548	41,295	43,373	53,245
Germany, Federal Republic of	4,656	8,403	7,549	5,377	17,590
Japan	4,652	3,732	8,560	11,813	21,377
Netherlands	2,194	3,869	4,303	2,066	1,537
United Kingdom	20,279	18,769	15,394	19,567	13,264
United States of America	5,403	5,662	11,076	13,337	10,710
Other countries	3,778	5,261	5,383	6,399	9,458
Total	70,250	75,244	93,560	101,932	127,181

Principal commodities exported

PAPUA NEW GUINEA: PRINCIPAL DOMESTIC EXPORTS, 1967-68 TO 1971-72

(\$A'000 f.o.b. port of shipment)

(Source: Overseas Trade Statistics, Papua New Guinea Bureau of Statistics)

Commodity	1967-68	1968-69	1969-70	1970-71	1971-72
Copra	13,943	14,804	13,340	14,209	9,392
Other coconut products(a)	7,405	6,361	7,619	9,901	6,476
Coffee beans	14,320	15,531	20,182	20,572	20,458
Cocoa beans	11,794	16,060	15,549	13,643	11,109
Timber(b)	2,662	2,296	3,796	6,401	6,988
Plywood(c)	2,429	2,504	2,529	2,505	212
Rubber(d)	1,956	2,276	2,798	2,297	1,995
Gold	825	807	824	720	814
Crayfish and prawns	978	268	659	875	2,051
Crocodile skins	509	473	452	264	198
Peanuts	430	469	550	518	616
Pyrethrum extract	417	313	332	286	227
Passionfruit juice	202	122	131	1	288
Tea	42	297	645	1,094	1,500
Other	1,177	2,315	2,037	4,161	30,715
Total	59,089	64,896	71,443	77,447	93,039

(a) Deseccated coconut, copra oil and copra pellets. (b) Logs and sawn timber. (c) Plywood, veneer and battery veneer. (d) Raw and scrap rubber.

Shipping

In 1971-72 shipping entries (excluding coastal shipping and cargoes) at Papua New Guinea ports totalled 2,031, and 1,627,000 tons of cargo were discharged and 976,000 tons were loaded. Corresponding figures for 1970-71 were 2,019, 1,498,000 and 865,000 respectively.

Regular passenger and freight services operate between Australia and Papua New Guinea. Vessels trading between Australia and the East also call at Papua New Guinea ports, and there are services from continental and United Kingdom ports. Coastal and inter-island shipping services are maintained by vessels operating from the principal ports of the country.

Other forms of transport and communication

Scheduled flights provide a network of air transport throughout Papua New Guinea and regular air services link the country with Australia and neighbouring countries, also with Manila, Hong Kong, Honiara and Jaipura. There were 441 licensed aerodromes in the whole of Papua New Guinea at 30 June 1973, and of these 10 were the responsibility of the Department of Civil Aviation, 136 are Papua New Guinea Government owned commercial airfields, 94 are privately (i.e. non Government) owned commercial airfields and 201 are restricted airfields either Papua New Guinea Government or privately owned. Much of the internal traffic and freight is carried on a charter basis.

PAPUA NEW GUINEA: AIR TRANSPORT; SUMMARY OF SCHEDULED AND CHARTER SERVICES, 1967-68 TO 1971-72

Year ended 30 June—	<i>Overseas services(a)</i>			<i>Internal scheduled services(b)</i>			<i>Internal charter services</i>		
	<i>Passengers embarked</i>	<i>Freight</i>	<i>Mail</i>	<i>Passengers embarked</i>	<i>Freight</i>	<i>Mail</i>	<i>Passengers embarked</i>	<i>Freight</i>	<i>Mail</i>
	No.	short tons	short tons	No.	short tons	short tons	No.	short tons	short tons
1968	114,015	2,460	476	244,467	4,989	900	103,136	29,506	
1969	132,557	2,794	534	280,618	4,927	902	106,212	25,618	138
1970	166,078	3,298	583	346,440	6,538	975	112,973	25,104	102
1971	195,490	3,358	633	425,554	7,358	1,080	216,350	22,372	118
1972	206,755	3,325	608	472,641	8,107	1,080	233,144	21,867	104

(a) Services to ports outside Papua New Guinea.

(b) Internal scheduled airline services only.

At January 1972 there were 10,117 miles of roads in the country. Total motor vehicle registrations (excluding defence force vehicles) at 31 December 1971 were 38,163.

Telephone services operate between the main centres by radio telephone. These together with telex and telegraph services are operated within the country by the Department of Posts and Telegraphs, while overseas traffic is handled by the Overseas Telecommunications Commission. The Australian Broadcasting Commission broadcasts on medium wave and short wave from Port Moresby and Rabaul. The Administration Department of Information and Extension Services operates transmitters at a number of centres, broadcasting programs in several local languages.

Indigenous labour

From an estimated 190,000 indigenous workers, some 140,000 were enumerated in the Department of Labour count of the indigenous labour force as at 30 June 1970. Of the enumerated indigenous labour force, 29 per cent were employed by the Papua New Guinea Government and Australian Government Departments. Private industry employed 71 per cent. The larger industries employed the following percentages of the workforce; rural industry, 30 per cent; building and construction, 11 per cent; commerce, 11 per cent; manufacturing, 7 per cent and transport and storage, 5 per cent. Of the uncounted 50,000, approximately 8,000 were in private domestic service, 3,000 were enlisted Service personnel, and most of the balance were employed in the rural sector. The number of skilled indigenous workers continues to increase.

At 31 December 1971, 1,135 tradesmen, including 5 expatriates, had satisfactorily completed their indentures in 29 trades and had been awarded completion certificates. At the same date 1,618 apprentices, including 52 expatriates, were undertaking indentures under provisions of the *Papua New Guinea Apprenticeship Ordinance 1967-1970*. In addition there are approximately 650 vacancies notified for the 1972 intake. It is expected that approximately 450 apprentices will satisfactorily complete their indentures during the period 1 January to 30 June 1972.

Minimum conditions of employment for Papua New Guinean workers are prescribed by statute under the *Native Employment Ordinance* 1958–1971, and the *Public Service (Papua and New Guinea) Ordinance* 1964–1971. The minimum rate of pay is prescribed under the *Industrial Relations Ordinance* 1962–1971, and can further be raised by a Minimum Wage Board which may be established under that ordinance. Conditions of employment and wage rates are also prescribed by awards negotiated by agreement between organisations of employers and employees and by determinations of arbitral tribunals established under the *Industrial Relations Ordinance* 1962–1971 and the *Public Services Conciliation and Arbitration Ordinance* 1969–1970.

The minimum statutory wage for an unskilled worker is \$5.90 a week. Where a worker is provided with accommodation, food, clothing and other issues, deductions may be made from the cash wage by agreement between employer and employee up to legally prescribed limits or as authorised by a District Labour Officer of the Department of Labour. The maximum permissible deductions for accommodation and food are 87 cents and \$2.50 a week respectively.

General employment awards are in force in Lae, Goroka, Mount Hagen, Madang, Wewak, Kavieng, Rabaul, Lorengau, Popondetta, Samarai-Alotau and Bwagaoia and Port Moresby. These agreements apply to all workers employed by members of the Employer's Federation regardless of whether or not they are members of a Workers' Organisation (other than those employees directly engaged in primary production, domestic duties, stevedoring operations in shipping services or apprentices indentured under the *Apprenticeship Ordinance* 1967–1970). In many of the above centres or localities the agreements are applied to all workers engaged not only by members of the Employers' Federation but also by employers who are not members of the Federation due to common rules being declared. The agreements cover annual and sick leave entitlements and rates of pay and conditions of employment for workers in those areas. In all cases the agreements are negotiated between the Employers' Federation of Papua New Guinea and the local workers' association or union.

In addition to agreements applying to workers in particular localities there are also awards which apply to workers in particular industries, e.g. stevedoring, timber, building and construction, mining and shipping.

The minimum wage rates for adult unskilled workers in industries and locations covered by awards and agreements range between \$6.50 and \$11.50 a week. Margins for skill are prescribed for semi-skilled and skilled workers ranging up to about \$30 a week.

The *Industrial Organizations Ordinance* 1962–1970 provides for the registration and control of industrial organisations. At 30 June 1973 there were forty-four registered employees' organisations in Papua New Guinea with a total membership of 36,073 workers, of which 32,615 are Papua New Guineans. Twelve of the above employee organisations have joined together to form the Federation of Workers' Associations of Papua New Guinea. Another four have joined together to form a Council of Trade Unions which was registered on 31 May 1973.

The Bureau of Industrial Organisations is a statutory authority established on 23 March 1972. The functions of the Bureau are to provide advice and assistance in the establishment, administration and development of industrial organisations and to provide courses and programs of training for members and officials of industrial organisations.

The Papua New Guinea Labour Advisory Council advises the Administrator's Executive Council and the Government on labour matters generally, and in particular on:

- methods of improving industrial relations,
- measures needed to achieve full and efficient use of the country's manpower,
- methods of bringing about rapid localisation of the work force in the private sector and incentives and other measures to achieve this end,
- measures to improve productivity, and
- trade union development.

Housing

Village housing is constructed to traditional patterns using local materials including bush timber, bamboo, grass, pit-pit and sago palm leaves. Town housing is generally constructed from comparatively expensive imported material including fibrous asbestos cement, aluminium and galvanised iron. The majority of houses are timber framed and made from both locally milled and imported timber.

The rapid growth of urban areas consequent upon increased economic development has created a housing shortage. Major programs are directed towards reducing this shortage.

The Housing Commission was established in 1968, with charter to construct housing and accommodation for all sections of the community. The intention is for the Commission to progressively assume responsibility for all Administration houses in its areas of operation. The Commission currently operates in Port Moresby, Lae, Madang, Rabaul and Goroka.

The major urban centres in Papua New Guinea have squatter settlement problems. Squatter houses are mostly of the substandard shanty type. The Administration and the Housing Commission are assisting squatters with self-help housing schemes in both existing squatter settlements and new resettlement areas by providing housing allotments, supervisory staff, building materials at cost price, and basic services. Self-help housing schemes are to be expanded significantly over the next five years, particularly in the major urban centres.

Education and health

Education

Schools in Papua New Guinea are conducted by the Papua New Guinea Government and various Christian missions. In February 1970 the Australian Government adopted the recommendations of the Advisory Committee on Education in Papua New Guinea, and the House of Assembly subsequently passed the *Education (Papua New Guinea) Ordinance, 1970* and the *Teaching Service (Temporary Provisions) Ordinance 1970*. The new legislation provided for the voluntary merger as from 1 July 1970 of mission schools and colleges and teaching staff, with those of the Administration, into a unified National Education System and a single National Teaching Service. A representative National Education Board and a number of District Education Boards were created to advise on educational planning and administration at the national and district levels respectively. A Teaching Service Commission was also created to employ teachers and to determine their salaries and conditions of service.

At 30 June 1972 there were 227,699 children enrolled in 1,658 primary schools in the Papua New Guinea national education system; and a further 30,350 enrolled in 151 secondary technical and vocational schools. Some 6,688 of the 9,062 teachers employed in schools were Papua New Guineans. Qualified teachers are recruited from Australia and overseas and some are trained at the Canberra College of Advanced Education, and in 12 teachers' colleges in Papua New Guinea, 11 of these are primary colleges and one secondary, conducted by the missions and the Papua New Guinea Government.

At the post-secondary level of education there are a range of specialist vocational training institutions including two Universities.

The University of Papua New Guinea and the Papua New Guinea University of Technology are autonomous institutions offering courses at both degree and diploma level. The University of Papua New Guinea has faculties of Arts, Law, Science, Education, Medicine and Agriculture. In 1973 there were 1,020 full-time and 407 part-time students enrolled in degree, diploma and post-graduate courses. Of these 1,004 are Papua New Guinean students. As at May 1973 there had been a total of 192 graduates from the University of whom 105 were Papua New Guineans.

The University of Technology offers degree and diploma courses in civil, electrical and mechanical engineering, architecture, building, surveying, valuation and chemical technology. Certificate level courses are also being introduced as needed. There were 535 Papua New Guineans and 11 expatriates enrolled at the University of Technology in 1973. The total number of graduates as at December, 1972 was 42, of whom 38 were Papua New Guineans.

There are four technical colleges in Papua New Guinea offering a wide range of trade apprenticeship and secretarial courses. Certificate level courses are available in the engineering, building and commercial fields. The Vudal Agricultural College offers a post form IV Diploma course in agriculture and lower level certificate courses are provided at two agricultural training centres. The Bulolo Forestry College offers a diploma course in Forestry.

There are three Government and seven Mission Primary Teachers' Colleges. Secondary Teacher training is provided at the Goroka Teachers' College and at the University of Papua New Guinea. Most of the other post-secondary institutions are operated by government departments and include the Co-Operative College, Police College, Public Service Board Administrative College, Local Government Council Staff College and the Para Medical Colleges. To ensure that there is co-ordination among post-secondary training institutions and that the future development of post-secondary courses is related to Papua New Guinea manpower needs, the Government has now established an Office of Higher Education within the Department of the Chief Minister.

School of Pacific Administration. In November 1971, the Commonwealth Government decided that the Australian School of Pacific Administration at Mosman, Sydney, would be developed as an important centre for training Papua New Guineans.

In its new role, the School is supplementing training and undertaking specially structured training which cannot be better or more conveniently provided in Papua New Guinea or elsewhere in Australia. The School is concentrating on administrative and specialised training to prepare Papua New Guinean Public Servants.

The School's program provided for over 296 Papua New Guineans to attend courses during 1973. Of this number, 120 have undertaken vocationally oriented courses of 8 months duration to upgrade their qualifications for advancement within the Papua New Guinea Public Service. The balance of trainees undertook shorter courses in advanced administrative and executive development training, industrial relations and local government practice.

Health

The Department of Public Health of Papua New Guinea has the general oversight of all medical and dental services. The Department has the following seven functional divisions: medical services, preventive medicine, medical training, maternal and child health, dental education, administrative services, and mental health. To facilitate administration and co-ordination of the field services of the Department of Public Health, Papua New Guinea is divided into four geographical regions: the New Guinea Mainland, Highlands, New Guinea Islands Region and Papua.

Finance

Revenue and expenditure

PAPUA NEW GUINEA: REVENUE AND EXPENDITURE, 1968-69 TO 1973-74 (\$'000)

	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74(a)
REVENUE						
Customs	17,669	23,951	30,960	33,135	34,141	36,100
Licences	814	907	1,038	1,440	1,535	1,550
Stamp duties	553	870	683	964	833	750
Postal	4,682	5,289	(b)	(b)	(b)	(b)
Land revenue	832	1,102	1,098	1,200	1,566	1,750
Mining receipts	72	116	241	153	1,859	2,005
Fees and fines	364	459	567	647	845	1,040
Health revenue	352	464	676	725	658	660
Forests	547	684	923	938	1,203	1,380
Agriculture	1,015	1,011	1,021	1,053	1,233	1,770
Public utilities	1,173	1,273	1,653	1,791	1,812	1,450
Direct taxation	17,187	21,075	29,375	36,117	38,229	41,900
Miscellaneous	4,614	5,381	5,953	6,708	9,153	19,145
Recoverable services	5,264	9,862	9,478	10,382	..	..
<i>Total internal revenue(c)</i>	<i>55,137</i>	<i>72,442</i>	<i>83,666</i>	<i>95,253</i>	<i>93,067</i>	<i>109,500</i>
General loans	7,183	(d)6,736	15,587	25,540	27,600	33,250
Grant by Australian Government	87,271	97,271	(e)70,000	(e)69,875	(e)82,863	(e)138,250
International loans	51	1,384	2,620	8,131	7,869	21,250
Australian Government loans . . . . .	..	5,000	6,300	11,700	4,400	2,200
Special Loan—Purchase of Equity in Bougainville Copper Ltd . . . . .	..	12,500	12,500	..	..	..
Consolidated revenue . . . . .	..	344	203	..	367	..
Total revenue	149,642	195,677	190,876	210,499	216,166	304,450

For footnotes see end of table next page.

PAPUA NEW GUINEA: REVENUE AND EXPENDITURE, 1968-69 TO 1973-74—*continued*
(\$'000)

	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74(a)
EXPENDITURE						
Special appropriations	5,734	(d)5,567	13,295	13,943	14,174	17,691
Administrator(f)	1,327	9,278	6,491	8,056	9,700	..
Government House Office(g) . . . . .	..	..	..	..	..	80
Chief Minister and Development Administration(h) . . . . .	..	..	..	..	..	7,664
Foreign Relations and Trade(i) . . . . .	..	..	..	..	..	1,652
House of Assembly	291	383	409	377	393	482
Information and extension services	1,187	1,239	1,171	1,600	1,603	1,998
Public Service Board	1,550	1,838	1,155	1,367	2,290	2,945
Finance (formerly Treasury)	11,623	3,313	4,928	3,948	3,800	4,045
Public health	12,217	14,255	13,231	14,491	16,242	18,804
Social development and home affairs(j) . . . . .	..	6,953	5,297	7,089	9,937	13,280
District administration(k)	6,570	..	..	..	..	..
Labour	778	957	741	880	1,037	902
Education	17,214	21,204	17,939	20,758	25,230	28,708
Agriculture, stock and fisheries	7,492	8,751	7,209	7,983	9,081	10,409
Royal Papua New Guinea Constabulary	6,671	7,965	7,689	7,908	9,627	10,065
Law	2,930	4,009	3,705	4,556	2,107	2,171
Lands, surveys and mines	3,270	5,321	4,780	4,398	4,115	4,711
Forests	2,469	2,677	2,082	2,367	2,509	2,554
Posts and Telegraphs	5,688	7,661	6,774	6,519	4,791	5,191
Trade and industry(f)	2,826	3,243	817	647	754	..
Transport(l) . . . . .	..	..	2,504	2,984	3,351	10,806
Business development(m) . . . . .	..	..	377	865	1,012	1,075
Stores for resale	1,625	5,677	5,368	6,410	..	..
Public works	7,115	8,105	5,564	5,677	5,594	4,166
General overheads	2,241	2,745	2,540	2,817	2,220	2,239
Maintenance	12,217	14,046	15,698	17,040	18,211	19,300
Capital works	21,379	28,215	29,675	40,000	33,392	35,000
Other institutions	11,498	15,474	15,022	22,868	30,313	61,824
Motor transport	3,214	3,555	3,482	3,659	..	..
Government printer	361	446	417	538	..	..
Purchase of investments . . . . .	..	12,500	12,500	..	..	1,219
Special advance to the Secretary of Finance . . . . .	..	..	..	..	4,683	35,469
Total	(n) 149,485	(n)195,377	(n)190,860	(n)209,745	216,166	304,450

(a) Estimated. (b) Postal Revenue is retained by the Department of Posts and Telegraphs in accordance with the change to commercial accounting for that Department. (c) Refunds of revenue have been deducted from gross collections by items. (d) The Budget figure for General Loans and Special Appropriations is reduced by \$8.9 million as this amount was borrowed and repaid during the year. (e) As from 1970-71, the following additional amounts which were not part of the Papua New Guinea Budget, were provided by the Australian Government: for Australian Staffing Assistance (salaries and allowances) in 1970-71, \$31.5 million was provided; in 1971-72 \$38.3 million and in 1972-73 \$43.3 million. Also \$0.8 million was provided for Termination and Retirement Benefits, and \$1.1 million for Emergency Food Relief in the Highlands. In 1973-74, \$49.9 million will be provided by the Australian Government for Australian staffing assistance, and \$17.8 million for Termination and Retirement Benefits. (f) Abolished in 1972-73. (g) New Office established in 1972-73, formerly included in Department of the Administrator. (h) New Department established in 1972-73 which includes former sections of the Department of the Administrator. (i) New Department established in 1972-73 which includes former sections of the Department of Trade and Industry and the Department of the Administrator. (j) New department established in 1969-70; includes former sections of the Department of the Administrator, Department of the Treasury and the former Department of District Administration. (k) Abolished in 1969-70—functions taken over by the Department of the Administrator and the Department of Social Development and Home Affairs. (l) New Department established in 1971 from former sections of Departments of the Administrator, Treasury and Trade and Industry. (m) New Department established in 1970-71 which includes former sections of Department of Trade and Industry. (n) Amount reduced by taxation refunds and refunds of revenue.

Taxation

The main forms of taxation are income tax and import duties. *Income Tax* was imposed on 1 August 1959 to operate from 1 July 1959. In the case of individuals two different methods of calculating tax payable are used. Tax on taxable incomes has applied since 1 July 1959 and is calculated on a similar basis to that in Australia. Income Tax is about two thirds of the tax payable on the same taxable income in Australia. Tax on chargeable income was introduced to apply from 1 January 1967 and has supplanted a previous *Personal Tax* of \$4 payable by all males eighteen years and over.

Chargeable income consists of gross income less expenses directly incurred in earning the income. No deductions are allowable for dependants or any other private expenditure such as medical or education expenses. The tax is a flat rate of 2.00 cents in the \$1 applying on income above \$416 with a maximum of \$20.00. The two methods of calculating tax payable are supplementary, the method applied to any particular taxpayer being the one resulting in the greater amount of tax payable. Companies are taxed on a similar basis to that in Australia, and deductions allowable are generally comparable to those in Australia. From 1 July 1959 to 30 June 1967 the rates on public and private companies differed, public companies being taxed at a flat rate of 20 cents in the \$1 and private companies at 12.5 cents in the \$1 for the first \$10,000 and 17.5 cents in the \$1 for the remainder. From 1 July 1971 a flat rate of 25 cents in the \$1 applies to all companies, and from the same date private companies are no longer required to distribute a portion of their income in dividends each year. As from 1 July 1972, companies paying a dividend to shareholders resident outside Papua New Guinea are required to deduct and pay a dividend withholding tax of 15 per cent. To encourage industry in Papua New Guinea certain companies manufacturing products new to Papua New Guinea may be granted complete tax exemption for the first five years of operation under the *Industrial Development (Incentive to Pioneer Industries) Ordinance 1965-1969*. This includes exemptions from the dividend withholding tax. In addition to income taxes the Native Local Government Councils (which are formed voluntarily by the indigenes) are empowered to levy local taxes for the purpose of providing for local services carried out by the councils. These taxes are set off against the taxpayers' personal taxation.

Papua New Guinea has a single column tariff applying to all goods regardless of country of origin. The present *Customs Tariff* provides high revenue rates on imports of ale, spirits, tobacco and cigarettes, timepieces, cigarette papers, fancy goods, and jewellery, but allows entry duty free or at a low rate of duty on most necessities affecting living and building costs. Under the Customs Tariff, plant, machinery and chemicals to be used mainly for industrial and developmental purposes are generally duty-free. A by-law covers goods imported by passengers. No preferential rates are specified in the schedule. Export duties imposed on copra, cocoa, rubber, mother-of-pearl, trochus and burgos shell, and gold were repealed in July 1959.

Provision is made in the *Australian Customs Tariff* for the free entry into Australia of certain goods produced in and imported direct from Papua New Guinea (see Chapter Overseas Transactions). In addition, goods produced or manufactured in Papua New Guinea and imported directly into Australia are exempted from primage duty.

Effective from 2 September 1970, a general levy of 2½ per cent was imposed, subject to certain exemptions on all goods imported into Papua New Guinea. Exemptions apply in the main to goods imported by the Administration and/or the Australian Government and their statutory authorities, goods imported for the use of charitable organisations and goods used for educational, health or medical services or for scientific research.

This levy, although administered by the Comptroller of Customs is not a Customs Duty and does not affect rates of duty imposed under the Customs Tariff.

Banking

The banking system in Papua New Guinea is based on Australia's, and provides full trading and savings bank facilities. Four Australian trading banks have branches in the main centres. They are: the Commonwealth Trading Bank of Australia, the Bank of New South Wales, Australia and New Zealand Banking Group and the National Bank of Australasia Ltd. Affiliates or subsidiaries of banking institutions operate savings banks in the Territory. Rates of interest for bank deposits and advances are the same as those applying in Australia. A branch of the Reserve Bank of Australia in Port Moresby carries out central bank functions and acts as banker for the Administration and Commonwealth Government Departments in the Territory. The Territory uses the same currency as Australia.

The Banking (Foreign Exchange) Regulations of the Commonwealth of Australia apply to Papua New Guinea. All remittances abroad require exchange control approval, though in practice no restrictions are imposed on current transactions and the trading banks have been authorised to deal with the great majority of these transactions as agents of the Reserve Bank.

Average weekly deposits of cheque-paying banks in Papua New Guinea for the year 1971-72 were \$49,966,000 and loans, advances, including term loans and farm development loans, \$108,088,000. Average weekly debits to customers' accounts amounted to \$33,527,000. Savings banks depositors' balances at 30 June 1972 amounted to \$45,683,000, comprising indigenous \$19,085,000 and non-indigenous \$26,599,000 having increased since June 1961 from \$2,999,000 and \$9,663,000 respectively. Average weekly level of loans, advances, bills etc during 1971-72 were \$16,663,000.

The Papua New Guinea Development Bank was established in 1967 to provide finance for primary production, manufacturing and commerce. In early 1972 the Papua New Guinea Investment Corporation was established to acquire equity interests in major enterprises in Papua New Guinea for disposal to Papua New Guinea institutions and individuals.

Co-operative societies

Co-operatives are under the guidance of the Department of Business Development. The present structure of the co-operative movement is based on primary societies, associations of societies, regional unions and a Territory-wide Federation formed by the unions. At 31 March 1971 there were 340 primary societies with 139,000 members. Turnover exceeded \$7 million including \$5 million from produce. In addition there are service organisations for wholesale trade, insurance and shipping. A Co-operative College is being set up near Port Moresby with United Nations Development Programme and International Labour Organisation assistance. The first buildings were opened in May 1971.

HEARD ISLAND AND McDONALD ISLANDS

These islands, about 2,500 miles south-west of Fremantle, were transferred from the United Kingdom to Australia as from 26 December 1947. The laws of the Australian Capital Territory were declared to be in force in the Territory of Heard Island and McDonald Islands by the *Heard and McDonald Islands Act* 1953. In 1968, the responsibility for the administration of this Act was transferred from the Minister for External Affairs to the Minister for Supply, and in 1972 the responsibility was transferred to the Minister for Science.

In December 1947 an Australian scientific station was established on Heard Island, and meteorological investigations were conducted until the station was closed in March 1955 following the establishment of Mawson station on the Antarctic mainland. Australian expeditions have since visited the island from time to time. Heard Island is about twenty-seven miles long and thirteen miles wide. The McDonald Islands are twenty-six miles to the west of Heard Island. They are small, rocky and precipitous. The first known landing on McDonald Island, the largest of the group of the same name, took place on 27 January 1971 when two members of the Australian National Antarctic Research Expeditions (ANARE) paid a short visit on their way to the Heard Island Station.

AUSTRALIAN ANTARCTIC TERRITORY

An Imperial Order in Council of 7 February 1933 placed under Australian authority all the islands and territories other than Terre Adélie situated south of 60° S. latitude and lying between 160° E. longitude and 45° E. longitude. The Order came into force with a Proclamation issued by the Governor-General on 24 August 1936 after the passage of the *Australian Antarctic Territory Acceptance Act* 1933. The boundaries of Terre Adélie were definitively fixed by a French Decree of 1 April 1938 as the islands and territories south of 60° S. latitude lying between 136° E. longitude and 142° E. longitude. The *Australian Antarctic Territory Act* 1954 declared that the laws in force in the Australian Capital Territory, are so far as they are applicable and are not inconsistent with any ordinance made under the Act, in force in the Australian Antarctic Territory. In 1968, responsibility for the administration of this Act was transferred from the Minister for External Affairs to the Minister for Supply, and in 1972 the responsibility was transferred to the Minister for Science.

On 13 February 1954 the Australian National Antarctic Research Expeditions (ANARE) established a station on Mac-Robertson Land at latitude 67° 36' S. and longitude 62° 53' E. The Station was named Mawson in honour of the late Sir Douglas Mawson and was the first permanent Australian station to be set up on the Antarctic continent. Meteorological and other scientific research is conducted at Mawson, which is the centre for coastal and inland survey expeditions.

A second Australian scientific research station was established on the coast of Princess Elizabeth Land on 13 January 1957 at latitude 68° 35' S. and longitude 77° 58' E. The station was named in honour of Captain John King Davis, second in command of two of Mawson's expeditions and master of several famous Antarctic ships. The station was temporarily closed on 25 January 1965 and reopened on 15 February 1969. On 4 February 1959 the Australian Government accepted from the United States Government custody of Wilkes Station, which was established by the United States on 16 January 1957 on Vincennes Bay at latitude 66° 15' S. and longitude 110° 32' E. The station was named in honour of Lieutenant Charles Wilkes who commanded the 1838-42 United States expedition to the area. The station was closed on 19 February 1969 when activities were transferred to Casey Station built about 1½ miles south of Wilkes. Casey Station, which was opened on 19 February 1969, was named in honour of Baron Casey, former Governor-General of Australia, in recognition of his long association with Australia's Antarctic effort.

On 1 December 1959 Australia signed the Antarctic Treaty with Argentina, Belgium, Chile, France, Japan, New Zealand, Norway, South Africa, the U.S.S.R., the United Kingdom, and the United States of America, Poland, Czechoslovakia, Denmark, the Netherlands and Romania have subsequently acceded to the Treaty. The Treaty reserves the Antarctic area south of 60° S. latitude for peaceful purposes, provides for international co-operation in scientific investigation and research, and preserves, for the duration of the Treaty, the *status quo* with regard to territorial sovereignty, rights and claims. The Treaty entered into force on 23 June 1961. Since then the Antarctic Treaty powers have held seven consultative meetings under the Treaty, the first at Canberra in July 1961, the second at Buenos Aires in July 1962, the third at Brussels in June 1964, the fourth at Santiago in 1966, the fifth in Paris in 1968, the sixth in Tokyo 1970 and the seventh in Wellington in 1972.

COCOS (KEELING) ISLANDS

General description

The Cocos (Keeling) Islands, two separate atolls comprising some twenty-seven small coral islands with a total area of about 5½ square miles, are situated in the Indian Ocean in latitude 12° 05' S. and longitude 96° 53' E. They lie some 1,720 miles north-west of Perth and 2,290 miles almost due west of Darwin, while Johannesburg is some 3,800 miles further distant to the south-west and Colombo is 1,400 miles to the north-west of the group.

The main islands of the Territory are West Island, the largest, about six miles from north to south, on which are the aerodrome and most of the European community; Home Island, the headquarters of the Clunies-Ross Estate; Direction Island; South Island; and Horsburgh Island. North Keeling Island, which forms part of the Territory, lies about fifteen miles to the north of the groups and has no inhabitants.

Main settlements are on West Island and Home Island. The group of atolls is low-lying, flat and thickly covered by coconut palms, and surrounds a lagoon which has an anchorage in the northern part but which is extremely difficult for navigation.

The climate is equable and pleasant, usually being under the influence of the south-east trade winds for about three-quarters of the year. However, the winds vary at times, and meteorological reports from the Territory are particularly valuable for those engaged in forecasting for the eastern Indian Ocean. The temperature varies between 21°C and 32°C., and the average rainfall is about 2180 mm. There are occasional violent storms. The estimated population at 30 June 1972 was 637.

History and administration

Summarised particulars of the discovery of the islands and their history up to 1946, when they became a dependency of the Colony of Singapore, are given in Year Book No. 51, page 140, and in earlier issues. On 23 November 1955 the Cocos Island ceased to form part of the Colony of Singapore and were placed under the authority of Australia. The transfer was effected by an Order in Council made by Her Majesty Queen Elizabeth the Second under the Imperial Act entitled the Cocos Islands Act 1955 and by the *Cocos (Keeling) Islands Act 1955* of the Australian Parliament whereby the islands were declared to be accepted by Australia as a Territory to be known as the Territory of Cocos (Keeling) Islands.

Responsibility for the administration of the Territory rests with the Minister for External Territories. The first Official Representative was appointed on 23 November 1955 to take charge of the local administration of the Territory. Under the *Official Representative Ordinance 1955-1961* of the Territory, the Official Representative is given such powers and functions in relation to the Territory as are delegated to him by the Minister under the *Cocos (Keeling) Islands Act 1955-1966* or are otherwise conferred on him under that Act or by or under any other law of the Territory. The laws of the Colony of Singapore which were in force in the islands immediately before the date of the transfer were, with certain exceptions, continued in force by the *Cocos (Keeling) Islands Act 1955-1966*. They may be amended or repealed by Ordinances made under the provisions of that Act which empower the Governor-General to make Ordinances for the peace, order and good government of the Territory.

Transport and communication

There is an international airport at West Island under the control of the Commonwealth Department of Civil Aviation. A fortnightly air service is provided between Perth and the Cocos Islands by Ansett and T.A.A. alternately. Although there is no regular shipping service, vessels from Australia and Singapore call at intervals. A radio teletype link with Perth is maintained by the Administration. Local postal and telephone services exist, and a non-commercial broadcasting station operates.

CHRISTMAS ISLAND

Christmas Island is an isolated peak situated in the Indian Ocean in latitude 10° 25' 22" S., longitude 105° 39' 59" E. It is approximately 224 miles south from Java Head at the south entrance to Sunda Strait, 815 miles from Singapore and 1,630 miles from Fremantle. Christmas Island covers an area of about fifty-two square miles. It consists of a central plateau of about 600 to 800 feet with several prominent rises up to 1,170 feet. The plateau descends to the sea in a series of steep slopes alternating with terraces, the last dropping in a cliff of 200 to 300 feet to a shore terrace, terminating in a sea cliff of 10 to 150 feet, which is continuous round the island except in a few places, the chief of which is Flying Fish Cove, where the principal settlement is located and which is also the only known anchorage.

The climate is pleasant, and the prevailing winds come from the south-east to east-south-east from May to December, but from then to April (the wet season) they occasionally shift round to between north and west. The average yearly rainfall is about 64 inches with a marked summer incidence. The porous nature of the ground prevents the formation of pools of water, but there are several good springs which maintain an adequate supply of fresh water for the small population and the installations. The mean average temperature is about 27°C., and does not vary greatly throughout the year.

The economy of the Territory is based almost entirely on the mining and extraction of phosphate. Because of the nature of the land there appears little prospect of establishing any other economic activity.

At 30 June 1972 the estimated population was 2,741 (1,825 males and 916 females).

Education

The Christmas Island education system comprises a primary school and a secondary school following the Singapore curriculum, a primary school following an Australian curriculum and a technical training centre. The Singapore curriculum schools provide classes to Form 4 level and scholarships are available for students wishing to proceed to Singapore or Australia for education beyond that level.

At 30 June 1972, 712 children were enrolled at the primary and secondary schools following the Singapore curriculum. The combined staff establishment consisted of a headmaster, two senior teachers, 28 trained teachers and 2 assistant teachers. The Australian curriculum primary school had 67 pupils at 30 June 1972, with teachers seconded from the Western Australian Department of Education. There is also a Technical Training Centre, which opened in 1969.

History and administration

Summarised particulars of the history of Christmas Island up to its administration by the United Kingdom as a separate Crown Colony from 1 January 1958, pending transfer to Australia, are given in Year Book No. 51, page 141, and in earlier issues. On 1 October 1958 the island was transferred to Australia by the *Christmas Island Act* 1958. Responsibility for the administration and government of the Territory rests with the Minister for External Territories, and day to day affairs on the island are administered by an Administrator under delegation from the Minister. The laws which were in force on the island at 30 September 1958 were continued as the laws of the Territory after its transfer to Australia. They may be amended or repealed by Ordinances or by laws made under Ordinances of the Territory.

Phosphate deposits

The only commercial activity carried out is the mining of phosphate. The British Phosphate Commissioners act as managing agents for the Christmas Island Phosphate Commission. Phosphate is mined at several locations on the Island. During 1971-72, 767,350 tons of phosphate were exported to Australia and New Zealand. In addition 154,890 tons of phosphate dust were exported to South-East Asia and 2,822 tons went to Australia.

Transport and communication

Transport to and from the island is maintained by vessels operated under charter by the Christmas Island Phosphate Commission. One vessel makes regular trips between Christmas Island and Singapore, and other vessels carry phosphate to Australian ports and New Zealand.

A post office is staffed and operated by the Administration. The British Phosphate Commissioners operate an internal telephone system which comprises five automatic exchanges and three small subscriber-attended exchanges. A radio station is used for messages via Perth and Singapore and for communication with ships at sea. A limited broadcasting station commenced operating during c966-67.

CORAL SEA ISLANDS

The Coral Sea Islands were declared to be a Territory of the Commonwealth by the *Coral Sea Islands Act* 1969. The scattered reefs and islands, often little more than sandbanks, spread over a sea area of 400,000 square miles with only a few square miles of actual land area, between the Great Barrier Reef, latitude 12°S and longitude 157° 10' E. The Territory which is administered by the Minister for the Capital Territory, has no permanent inhabitants. There is a manned weather station on Willis Island, some 300 miles east of Cairns and a number of unmanned facilities are operated by the Commonwealth Government.

