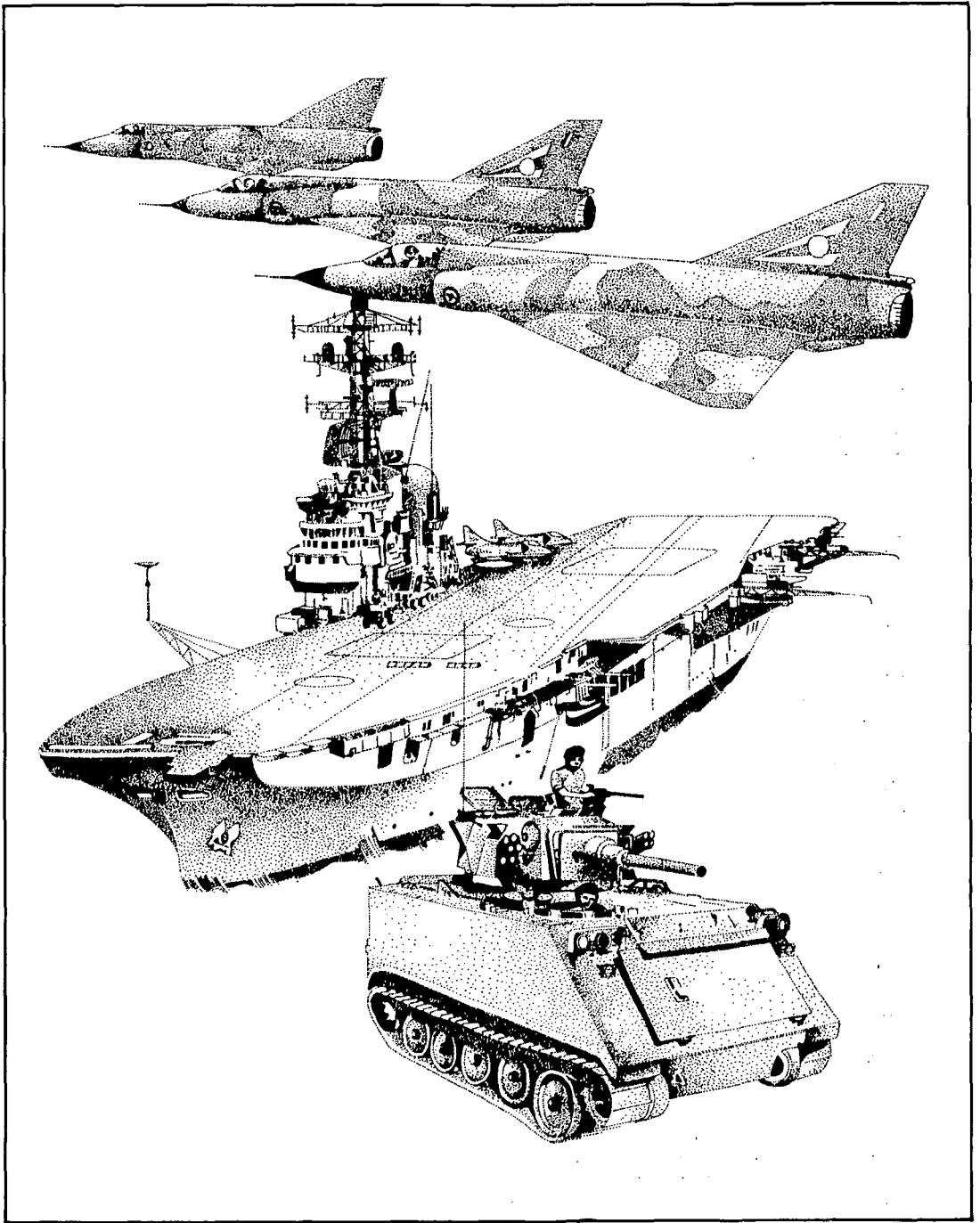


## **CHAPTER 4**

# **DEFENCE**



## CHAPTER 4

### DEFENCE

This chapter outlines Australia's defence policy and its defence relationships with other countries; the higher defence organization; the functions, organization, manning and training of the three Services; the functions and activities of the Defence Science and Technology Organization; the Natural Disasters Organisation; and the functions of defence production.

Further information on Australia's strategic environment and defence policies and programming is contained in the Government's White Paper on Australian Defence tabled in Parliament on 4 November 1976 and supplementary statements made to the House of Representatives by the Minister for Defence on 22 September 1977 and 24 October 1978. Further factual information on the programs and activities of the Department and the Defence Force is contained in past Defence Reports and other publications issued by the Department of Defence.

#### Current defence policy

The primary aim of Australian defence policy is to ensure the security of Australia and its Territories. While Australia's strategic prospects are judged on balance to be favourable, there are uncertainties which must be insured against. Defence policy is to maintain the ability to deploy a balanced force to cope with a range of lesser situations, or to expand in time should the need arise to meet a serious emergency.

The Australian alliance with the United States under ANZUS gives substantial grounds for confidence that, in the event of a fundamental threat to Australia's security, U.S. military support would be given. However, even though her security may be ultimately dependent upon U.S. support, Australia owes it to herself to be able to mount a national defence effort that would maximise the risks and costs to any aggressor.

Short of this major and improbable situation, Australia could face a range of other situations that she should expect to handle more independently. The requirements and the scope for Australian defence activity are today confined basically to areas close to home—areas in which military deployments by a power potentially unfriendly to Australia could permit that power to attack or harass Australia itself or Australian Territories, or the maritime resources zone and the nearer lines of communication.

The promotion of increased self-reliance derives essentially from our own national interests and responsibilities. It also accords with Australia's status as an ally of the United States: by accepting local responsibilities, Australia can contribute to the alliance relationship and to the U.S. global effort.

Australia remains deeply mindful of her natural associations with the liberal democracies and with the Western strategic community. Additionally, Australia maintains her concern for the security and development of the strategic neighbourhood—South-East Asia, Papua New Guinea and the South-West Pacific. High value continues to be placed on her defence links with the region.

#### Higher defence organization

*Legislation concerning the present organization of the higher management of the Defence Force and the Department of Defence was passed by the Commonwealth Parliament in September 1975 and became effective on 9 February 1976. It specifically recognised that responsibility for the general control and administration of the Defence Force rests with the Minister for Defence.*

The Chief of Defence Force Staff exercises command of the Defence Force through the three Service Chiefs of Staff (Navy, Army and Air) who are the professional heads and have responsibility for the management of their respective arms of the Defence Force. The Chief of Defence Force Staff is the principal military adviser to the Minister.

The Secretary, Department of Defence has the powers and functions generally prescribed for such appointments in the Australian Public Service Act, but these are qualified by the statutory authority of the Chief of Defence Force Staff and by Ministerial directives to the Secretary, enjoying responsiveness of the Public Service structure to the operational priorities of the Chiefs of Staff. The

Secretary is responsible to the Minister for advice on general policy, financial policy, and on the management and utilisation of defence resources. As Permanent Head, the Secretary, is responsible under the terms of the *Audit Act 1901* for financial operation of the Department and to furnish to the Secretary of the Department of Finance information relating to, and explanations of, the receipts and expenditure of the Department and other requirements of section 50 of the Act. Central Administration is divided functionally into areas concerned with manpower and financial services, strategic policy and force development, management and infrastructure services, supply and support, and defence science and technology.

The Chief of Defence Force Staff and the Secretary, Department of Defence advise the Minister on matters involving their joint responsibility in respect of administration of the Defence Force. The three Service Chiefs of Staff, the Chief of Defence Force Staff and the Secretary, Department of Defence all have the right of direct access to the Minister.

#### **Higher defence machinery**

The *Council of Defence* considers and discusses matters referred to it by the Minister relating to the control and administration of the Defence Force and the respective Arms of the Defence Force. The Council is chaired by the Minister for Defence and membership includes the Minister Assisting the Minister for Defence, the Chief of Defence Force Staff, the Secretary of the Department of Defence and the Chiefs of Staff.

An extensive committee system exists to identify the respective Armed Services' operational requirements to meet defence objectives. It is also designed to facilitate the professional management of military careers, the sound management of resources and the development of general policy. The committee system brings together the expertise of both military and civilian members in the internal policy formulating process and the proffering of advice to Government. The more important committees are described below:

The *Defence Committee*, chaired by the Secretary with the Chief of Defence Force Staff, the three Chiefs of Staff, and the Secretaries of the Departments of the Prime Minister and Cabinet, Treasury and Foreign Affairs as members. It advises the Minister on general defence policies calling for co-ordinated information and advice about strategic, military, foreign affairs and economic aspects.

The *Chiefs of Staff Committee*, chaired by the Chief of Defence Force Staff, is responsible for providing the Minister with collective professional advice on military operations; military implications of defence policy; endorsement of military plans; and other related subjects.

The *Defence Force Development Committee*, chaired by the Secretary with the Chief of Defence Force Staff and the three Chiefs of Staff as members. It is primarily concerned with the formulation of the Five Year Defence Program and with advising the Minister on related matters encompassed by it.

**EXPENDITURE ON THE DEFENCE FUNCTION**  
(S'000)

Departmental Category	Actual Expenditure					Estimated Expenditure
	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
<b>Department of Defence</b>						
Capital equipment . . . . .	90,050	151,589	281,200	319,238	406,880	442,554
Defence facilities . . . . .	121,846	112,437	116,837	111,596	90,828	92,673
Defence co-operation . . . . .	88,647	38,951	25,369	26,952	24,600	28,493
Manpower including Defence Force Retirement and Death Benefits . . . . .	1,008,998	1,112,147	1,222,941	1,333,830	1,413,667	1,525,409
Other running costs . . . . .	366,588	437,665	504,031	569,285	633,872	742,292
<i>Total (a)</i> . . . . .	<i>1,676,129</i>	<i>1,852,789</i>	<i>2,150,378</i>	<i>2,360,900</i>	<i>2,569,847</i>	<i>2,831,422</i>
<b>Department of Productivity and other Departments</b>						
Capital equipment . . . . .	12,246	10,520	7,762	6,410	10,167	12,509
Defence facilities . . . . .	5,574	7,469	9,234	8,832	6,915	8,898
Manpower costs . . . . .	21,583	8,095	9,115	9,641	9,484	7,775
Other running costs . . . . .	75,116	64,384	78,167	85,246	89,870	94,721
<i>Total (b)</i> . . . . .	<i>114,519</i>	<i>90,468</i>	<i>104,278</i>	<i>110,129</i>	<i>116,436</i>	<i>123,903</i>
Provision for increase in wages/salaries . . . . .	..	..	..	..	..	30,000
<b>Total defence function expenditure</b> . . . . .	<b>1,790,648</b>	<b>1,943,257</b>	<b>2,254,656</b>	<b>2,471,029</b>	<b>2,686,283</b>	<b>2,985,325</b>

(a) Research and Development formerly with the Department of Productivity integrated with Defence Science and Technology of the Department of Defence during 1974-75. (b) Historic data up to and including 1974-1975 has not been adjusted for the reclassification of Department of Productivity expenditure attributable to the Defence Functions.

The acquisition of Boeing 707 (VIP) aircraft cost \$10,201,000 in 1978-79, bringing the total defence expenditure for that year to \$2,696 million. A further \$4,374,000 is expected to be spent on the aircraft during 1979-80.

#### Equipment for the Defence Force

An amount of \$417.0 million (excluding Boeing 707 aircraft) was spent on equipment of a capital nature in 1978-79. An amount of \$455.1 million is expected to be spent in 1979-80.

The major equipment items received by the Services in 1978-79 included 6 P3C *ORION* aircraft, 12 C-130H *HERCULES* aircraft, 2 *NOMAD* aircraft, 14 *LEOPARD* gun tanks, 27 fire support vehicles, 16 medium girder bridge trailers, 410 light trucks, 10 light duty tracked tractors, 46 off-pavement forklifts, 16 medium duty graders, 38 light armoured fighting vehicles, 5 Rapier optical low-level air defence fire units, 3 work boats, 2 Boeing 707 aircraft, 8 submarine fire-control systems, 1 F-111C reconnaissance modification kit and the procurement of a second *UNIVAC* miniframe computer.

Major new equipments planned for delivery in 1979-80 include 1 amphibious heavy lift ship (*HMAS TOBRUK*), 1 patrol craft (*HMAS FREMANTLE*), 1 oceanographic ship (*HMAS COOK*), 3 F-111C reconnaissance modification kits, 21 fire support vehicles, 3 water/dieso lighters, 15 Rapier optical low-level air defence fire units, 400 light trucks, 2 *LEOPARD* tanks (recovery vehicles), 7 work boats, 7 precision approach radars, 1 air traffic control surveillance radar, 44 fire fighting vehicles, and 67 medium and light duty tracked tractors.

New major capital equipment decisions approved in the context of the 1979-80 Budget include a continuation of the Mirage refurbishment program, a new tactical air defence system for the RAAF, a precision approach radar for RAN Nowra, 4 new 30 metre survey motor launches, an update program for the RAN's six *OBERON* submarines to provide a capability to launch while submerged the anti-ship missile *HARPOON*, new UHF radios for existing fleet vessels, new HF radio systems for our primary defence trunking communications systems, and an upgrading of heavy calibre forging facilities for the production of heavy ammunition for the Army and Navy.

## Defence manpower

### Employment

The following table indicates the range of activities and occupations in which defence military and civilian manpower are involved.

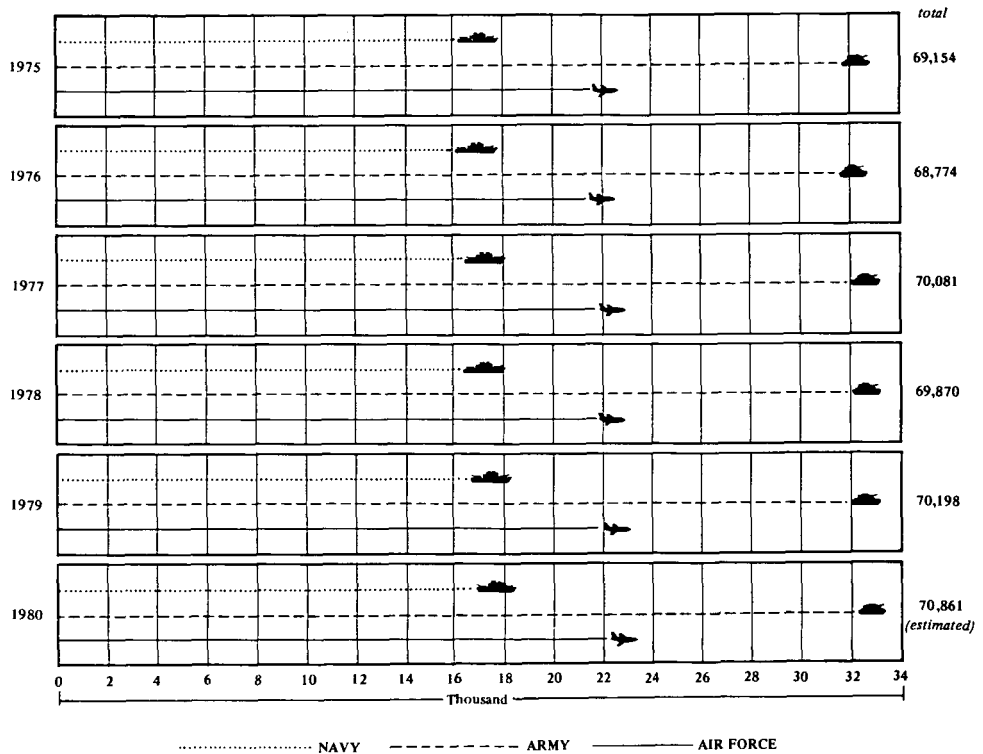
FUNCTIONAL DISTRIBUTION OF DEFENCE MANPOWER AS AT 30 JUNE 1979

	Service	Civilian	Total
Operational forces and direct logistic support . . . . .	30,390	760	31,150
Specialist support (e.g. communications, medical services) . . . . .	4,900	3,870	8,770
Stores and supply; storage and control . . . . .	2,965	4,670	7,635
Dockyards, equipment production, repair and overhaul . . . . .	3,015	6,640	9,655
Training . . . . .	18,360	1,570	19,930
Support to reserves and cadets . . . . .	1,405	110	1,515
Research and development . . . . .	315	4,940	5,255
Central headquarters and administration including overseas representation . . . . .	3,510	3,110	6,620
Regional commands and administration . . . . .	5,045	3,800	8,845
Defence co-operation . . . . .	295	-	295
<b>Total</b> . . . . .	<b>70,200</b>	<b>29,470</b>	<b>99,670</b>

NOTES: Figures have been rounded.  
 Figures cannot be reconciled with those in previous Year Books owing to changes within classifications.  
 Civilian figures include only full-time operatives and exclude 1,269 locally-engaged civilians overseas, persons on extended leave and part-time staff.

### Permanent Defence Force

PERSONNEL STRENGTHS OF THE PERMANENT DEFENCE FORCE



COMPOSITION OF PERMANENT DEFENCE FORCE (a)  
as at 30 June 1979

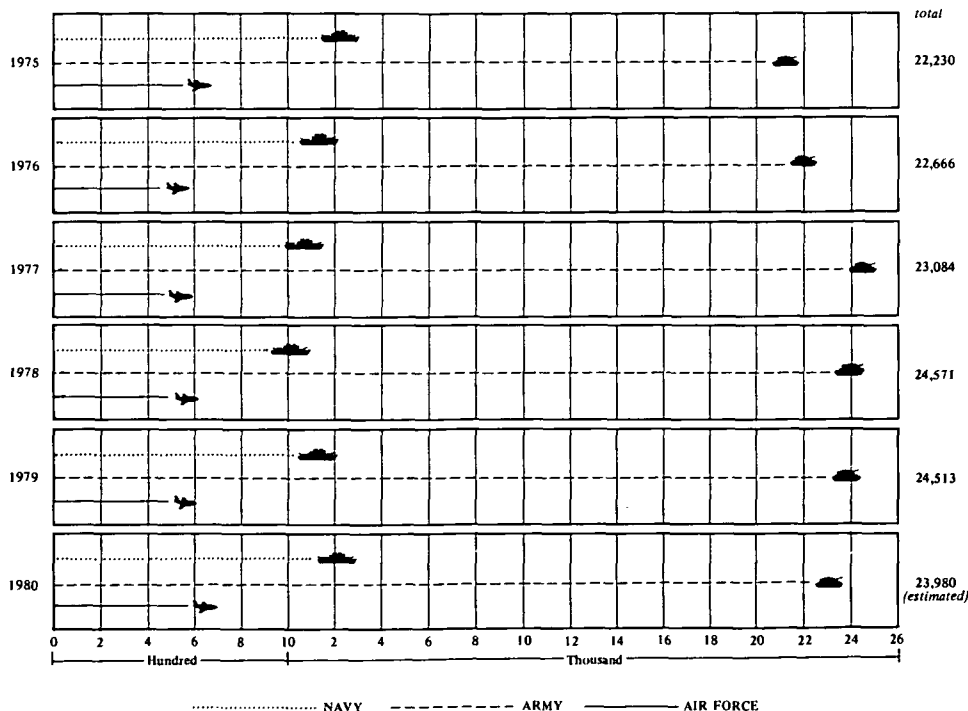
	Navy	Army	Air Force	Total
<b>Male—</b>				
Officers . . . . .	1,992	4,168	3,340	9,500
Other ranks . . . . .	12,352	24,788	16,232	53,372
Cadets . . . . .	375	447	368	1,190
Apprentices . . . . .	682	868	356	1,906
Junior recruits . . . . .	244	—	—	244
<i>Total</i> . . . . .	<i>15,645</i>	<i>30,271</i>	<i>20,296</i>	<i>66,212</i>
<b>Female (b)—</b>				
Officers . . . . .	75	237	165	477
Other ranks(c) . . . . .	862	1,305	1,342	3,509
<i>Total</i> . . . . .	<i>937</i>	<i>1,542</i>	<i>1,507</i>	<i>3,986</i>
<b>Total Strength</b> . . . . .	<b>16,582</b>	<b>31,813</b>	<b>21,803</b>	<b>70,198</b>

(a) Citizen Forces and reserves on full time duty are included in the appropriate category. (b) Females serve in the Women's Royal Australian Naval Service, the Royal Australian Naval Nursing Service, the Women's Royal Australian Army Corps, the Royal Australian Army Nursing Corps and other Army Specialist corps. (c) Includes female officer cadets.

**Reserve Forces**

Reserves comprise trained and partly trained volunteers who are available to participate in the defence of Australia and its interests in times of war or defence emergency. Royal Australian Navy and Royal Australian Air Force Reserves can be used to supplement and increase the rate of effort of the Permanent Forces. The Army Reserve consists mainly of formed units and sub-units, which, with the Regular Army, provide the basis for expansion of the Army.

PERSONNEL STRENGTHS OF THE RESERVE FORCES (a)



(a) Strengths refer to Reserves with a training obligation and exclude those members who are serving full time in the Permanent Defence Force, but includes all other listed Reserve members including some who have not fulfilled their minimum training obligations.

## Defence co-operation

In support of Australia's defence policy, the Government conducts defence co-operation program activities with South-East Asian and South Pacific countries. These activities include joint projects, training in Australia, loan of personnel and combined military exercises.

In 1978-79, expenditure on defence co-operation with Papua New Guinea totalled \$11.5 million. This included the loan of Australian servicemen to P.N.G., training for P.N.G. servicemen in Australia, survey and engineering projects in P.N.G. and the provision of defence equipment.

Expenditure on the Defence Co-operation Program with Indonesia in 1978-79 amounted to \$7.2 million. Major current projects include the survey and mapping of Irian Jaya, and the Maluccas, Sioux helicopters, language training, defence research and development, and a maritime patrol project (involving patrol boats and Nomad aircraft).

Annual expenditure on defence co-operation with Malaysia and Singapore is approximately \$4.0 million and \$0.5 million respectively. Major continuing projects in Malaysia include an Armed Forces manufacturing workshop, Special Warfare Training Centre and Defence Research Centre. Assistance to Singapore is mainly training in Australia and loan of advisory personnel.

Assistance to South-West Pacific countries includes technical advisory assistance, project and equipment aid, and the provision of training in Australia. In 1978-79 expenditure on defence co-operation totalled \$1.4 million.

Training-in-Service training establishments in Australia is an important part of defence co-operation activities. Between 600-700 overseas personnel are trained in Australia each year by the three Services.

## Defence representation overseas

Defence representatives are accredited to Afghanistan, Britain, Canada, France, India, Indonesia, Iran, Japan, Republic of Korea, Malaysia, Nepal, New Zealand, Pakistan, Papua New Guinea, the Philippines, Singapore, Thailand and the United States of America.

## Defence Force activities overseas

The main areas in which Australian Defence Force elements have been deployed overseas during the year are Malaysia/Singapore and Papua New Guinea. Units have also visited Indonesia, the Philippines, Japan, New Zealand, and the United States.

Australian Defence Force elements in the Malaysia/Singapore area include:

*Navy*—A destroyer or destroyer escort is maintained in South-East Asian waters for much of the year;

*Army*—An Australian Army infantry company is maintained at Butterworth on a basis of three month detachments from Australia in a training role;

*Air Force*—Two squadrons of Mirage fighter aircraft are maintained at Butterworth in Malaysia, with a detachment at Tengah in Singapore.

The Defence Force continued to contribute to United Nations peace-keeping operations with a RAAF helicopter contingent and a small RAN element in Sinai, and Australian Army observers in Kashmir and the Middle East.

## THE DEFENCE FORCE

### Royal Australian Navy

The RAN maintains and exercises a modern, well-equipped and highly-trained maritime force. The structure of this force is based primarily on the provision at sea, of a balanced force group, consisting of surface warships, naval aviation and submarines.

#### Higher organisation

The Chief of Naval Staff has command of the RAN, subject to the overall command of the Defence Force by the Chief of Defence Force Staff. Principal staff officers to the Chief of Naval Staff are the Deputy Chief of the Naval Staff, and the Chief of Operational Requirements and Plans, the Chief of Personnel, the Chief of Technical Services, and the Chief of Materiel. Other senior officers of the RAN include the Flag Officer Commanding HM Australian Fleet and the Flag Officer Naval Support Command.



### **Ships of the Royal Australian Navy**

The Fleet, October 1979: *Melbourne*—aircraft carrier; *Supply*—oiler; *Stalwart*—destroyer tender; *Perth, Hobart, Brisbane*—guided missile destroyers; *Vampire*—destroyer; *Yarra, Parramatta, Stuart, Derwent, Swan, Torrens*—destroyer escorts; *Jervis Bay*—training ship; *Curlew, Snipe*—coastal minehunters; *Ibis*—coastal minesweeper; *Moresby, Flinders*—surveying ships; *Diamantina, Kimbla*—oceanographic research ships; *Orway, Onslow, Ovens, Otama, Oxley, Orion*—submarines; *Attack, Acute, Advance, Adroit, Assail, Aware, Barbette, Barricade, Bayonet, Bombard, Buccaneer*—patrol boats; *Banks, Bass*—general purpose vessels; *Brunei, Labuan, Tarakan, Wewak, Betano, Balikpapan*—heavy landing craft.

### **Fleet Air Arm**

The Fleet Air Arm maintains three front line squadrons for embarkation in the operational carrier HMAS *Melbourne*. These squadrons currently consist of Skyhawk A4G fighter ground-attack aircraft, Tracker S2G anti-submarine aircraft and Sea King Mk 50 anti-submarine helicopters. Three training and support squadrons are based at the RAN Air Station, Nowra, New South Wales. Other aircraft operated by the Navy are the Bell 206B helicopter in the survey ship HMAS *Moresby*, Iroquois UH1B and Wessex 31B helicopters (utility tasks, and search and rescue), HS-748, S2Es, Macchi trainer and Jindivik pilotless target aircraft.

### **Ship construction and repairs**

There are two naval dockyards, one at Garden Island, Sydney and one at Williamstown, near Melbourne. A third yard at Cockatoo Island in Sydney harbour is operated by Vickers Cockatoo Dockyard Pty Ltd under agreement with the Australian Government; this Company carries out considerable naval refitting work, particularly of submarines, and in August 1979 was awarded a building contract for the RAN's new replenishment ship.

Other current construction projects include one patrol boat being built in the United Kingdom and fourteen in Cairns, three guided missile frigates in the United States of America, and one amphibious heavy lift ship in Newcastle, New South Wales.

Modernisation of three destroyer escorts is being undertaken by Williamstown Naval Dockyard where construction of the oceanographic ship HMAS *COOK* has just been completed.

### **Training and entry**

**Officer entry.** The Royal Australian Naval College at Jervis Bay is the training centre for officers in the RAN. Male applicants for permanent service are selected either after completing Year 10 (at fifteen or sixteen years of age) or after matriculating, to age twenty. The majority of these officers study for degrees in Arts, Science or Engineering at the University of N.S.W. Male and female applicants for short-service are selected after completing Year 12, to age twenty three. Entry is also available to professionally qualified persons, such as doctors, dentists, teachers, engineers and lawyers.

**Sailor entry.** There are a number of entry schemes available, depending upon an individual's age, educational standard and own particular interests. These include:

- *HMAS Nirimba* at Quaker's Hill, New South Wales, is the primary establishment for all RAN trade training which includes courses for apprentices aged between fifteen and seventeen-and-a-half and technical training for general entry personnel.
- *HMAS Leeuwin* at Fremantle, Western Australia, is the junior recruit training establishment for boys aged between fifteen-and-three-quarters and sixteen-and-a-half.
- *HMAS Cerberus* at Westernport, Victoria, is the main training establishment for general entry enlisted members aged between seventeen and twenty-six. Recruits receive twelve weeks basic training before advancing to specialist training courses.

On completion of initial training further branch and category training is undertaken at the various schools at *HMAS Penguin, HMAS Watson* and *HMAS Nirimba* in Sydney, *HMAS Cerberus* in Victoria and the Naval Air Station at Nowra, New South Wales. A number of specialised training courses are conducted in the United Kingdom and the United States.

## **Australian Army**

The Australian Army maintains a potential ability and readiness to conduct operations on land for the defence of Australia and, in co-operation with the other arms of the Australian Defence Force, shares a responsibility to deter aggression, to ensure the nation's security and to preserve its national interests.

### Higher organisation

Command of the Army is the responsibility of the Chief of the General Staff, subject to the overall command of the Defence Force by the Chief of Defence Force Staff. He has for his principal staff officers the Deputy Chief of the General Staff, the Chief of Operations, the Chief of Personnel, the Chief of Logistics, the Chief of Materiel and the Chief of the Army Reserve.

The Army is organised into three commands as follows:

- *Field Force Command* which commands all field force units of the Australian Army, both Regular and Army Reserve.
- *Logistic Command* which commands the principal logistic elements of the Army.
- *Training Command* which is responsible for all individual training and commands all Army training establishments and schools with the exception of the Royal Military College, Duntroon (which is under the command of the Chief of the General Staff).

Military Districts as listed below provide administrative support for the three commands, and, in certain cases act as intermediate headquarters for them:

- *1st Military District*—the State of Queensland.
- *2nd Military District*—the State of New South Wales, less those parts included in 3rd and 4th Military Districts.
- *3rd Military District*—The State of Victoria and part of southern New South Wales.
- *4th Military District*—the State of South Australia, plus a portion of south-western New South Wales.
- *5th Military District*—the State of Western Australia.
- *6th Military District*—the State of Tasmania.
- *7th Military District*—the Northern Territory.

The military district headquarters also handle those matters in which both Commonwealth and State Governments are involved.

### Training

*Australian Staff College.* The Australian Staff College is located at Queenscliff, Victoria. The course is held annually and is of twelve months duration. The normal intake is eighty students, twenty of whom are from overseas countries. The course is intended to train selected officers for appointments in all branches of the staff in peace and war and to prepare them to assume, after experience, command and higher staff appointments.

*Royal Military College.* The Royal Military College was established in 1911 at Duntroon in the Australian Capital Territory to provide trained officers for the Army. The conditions of entry are laid down in the Royal Military College Regulations. The course is either four or five years of military and academic studies depending upon the academic course undertaken. On graduation, cadets are appointed lieutenant in the Australian Regular Army.

*Officer Cadet School.* The Officer Cadet School was established in 1951 at Portsea, Victoria, to increase the rate at which junior regimental officers could be produced for the Australian Army. Civilians between eighteen-and-a-half and twenty-two-and-a-half years are eligible for entry. Serving soldiers are eligible for entry from eighteen-and-a-half up to twenty-seven years. Civilians accorded special entry status because of completed or part completed tertiary qualifications are eligible for entry between eighteen-and-a-half and twenty-five years. The course lasts for forty-four weeks and, on graduation, cadets are appointed second lieutenants in the Australian Regular Army.

*Women's Royal Australian Army Corps School.* The WRAAC School at Mosman, New South Wales, has two wings: one whose task is the training of officer cadets for the WRAAC; and one which is a basic training wing. The officer cadets are selected on the same criteria as entrants to the Officer Cadet School. The course is of forty weeks duration and, on graduation, cadets are appointed second lieutenants in the Women's Royal Australian Army Corps.

*Land Warfare Centre.* The Land Warfare Centre at Canungra provides training for personnel in tactics and administration and conducts sub-unit and individual training in battle skills.

*Army Apprentices School.* The Army Apprentices School was opened in 1948 at Balcombe, Victoria, to train youths as skilled tradesmen for the Regular Army and to provide them with a background for an Army career. The course is open to youths between the ages of fifteen and seventeen and provides training in a number of highly skilled trades.

*Other Schools.* Army schools have been established for the major arms and services to train officers and other ranks in the up-to-date techniques of their own arm of service, to qualify them for promotion and to produce trained instructors. Courses at Army Schools are conducted for members of both the Regular Army and Army Reserve.

## Royal Australian Air Force

The function of the Royal Australian Air Force is the conduct of operations in the air for the defence of Australia and Australian interests.

### Higher organisation

The Chief of the Air Staff (CAS) has command of the Royal Australian Air Force subject to the overall command of the Defence Force by the Chief of Defence Force Staff. The CAS is assisted in his decisions by an advisory committee which includes the Deputy Chief of the Air Staff, Chief of Air Force Personnel, Chief of Air Force Technical Services, Chief of Air Force Operations, Chief of Air Force Materiel, Director General Supply—Air Force, Assistant Secretary Resources Planning, and other senior officers or specialists as may be directed by the CAS. The Committee has no statutory authority nor executive function and the CAS is not obliged to accept its recommendations.

The Chief of Air Staff administers and controls RAAF units in Australia through two commands: Operational Command and Support Command. Operational Command is responsible to the CAS for the command of operational units and the conduct of their operations within Australia and overseas. Operational units based at Butterworth, Malaysia, contribute to the development of the Malaysian and Singapore defence capability and provide forces for the Integrated Air Defence System. An operational unit in the Middle East contributes to United Nations peace keeping activities. Support Command is responsible to the CAS for training of personnel, and the supply and maintenance of Service equipment.

### Structural organisation

The RAAF has five operational elements, the units of which actively and directly participate in air operations. These elements are the strike/reconnaissance force, tactical fighter force, air transport force, tactical air support force and the maritime force. The strike/reconnaissance force provides a capability for offensive air operations against land and naval targets, and a long range reconnaissance capability. The tactical fighter force is responsible for air superiority, air defence and air interdiction operations, and also provides close air support to sea and land forces. The air transport force is used for routine strategic and domestic transport, and in addition has a tactical transport role. Tactical transport and close air support aircraft normally operate within a tactical air support force which is usually controlled by a joint (Air Force/Army) headquarters. Maritime forces are primarily employed in ocean surveillance, anti-submarine warfare and search and rescue. Major maritime operations are controlled by a joint (Air Force/Navy) headquarters.

The support component consists of those units and personnel which support units of the operational component. The elements are maintenance, supply, air training, ground training, administrative and the Citizen Air Force.

### Aircraft

The RAAF's strike/reconnaissance force is currently equipped with F111C and Canberra aircraft. The air defence and ground attack squadrons are equipped with the Mirage 111-0. Transport aircraft currently in use are Hercules C130H and C130E, Caribou, Dakota, Mystere 20, HS748, Boeing 707, and BAC1-11. Three squadrons operate Iroquois helicopters and one operates the Chinook medium lift helicopter. The two maritime squadrons operate Orion P3B and P3C aircraft. Aircraft used for basic training are the CT4 Airtrainer, Macchi and HS748.

### Training

*RAAF Academy.* The RAAF Academy at Point Cook, Victoria is an affiliated college of the University of Melbourne. Cadets are selected principally for the General Duties Branch, and, after three years tertiary training, graduate with a Bachelor of Science degree. The Graduate Diploma in Military Aviation is awarded after the completion of a fourth year of aeronautical science and defence studies. Graduates then complete a basic aircrew training course. Cadets selected for the Engineer Branch study the first year at the Academy and then attend the University of Sydney to graduate with a Bachelor of Aeronautical Engineering degree.

*Engineer Cadet Squadron.* The Engineer Cadet Scheme provides training for degree or diploma status in aeronautical, mechanical, electrical and communication engineering at the Royal Melbourne Institute of Technology and similar institutes in the Melbourne area.

*Equipment Cadets.* Cadets selected for Equipment Branch duties undertake a three year course at the Darling Downs Institute of Advanced Education in Queensland. They graduate with a Bachelor of Business degree.

**Basic Aircrew Training.** Flying training for RAAF pilots is conducted at Point Cook, Victoria, and Pearce, WA, while RAAF navigators are trained at East Sale, Victoria. Officer and military training forms part of the flying training course. Trainees receive their wings and are commissioned on graduation. The RAAF also provides pilot and observer training for the RAN and initial pilot training for the Army. Airmen, aircrew for employment as flight engineers, loadmasters and crewmen are trained in two phases: a basic aircrew course at Richmond, NSW, and flying training within the conversion training or operational squadrons.

**Aircrew Operational Conversion.** Conversion training to Mirage fighter aircraft and Orion Maritime aircraft is conducted by the respective conversion training squadrons. Conversions to other operational aircraft are conducted within the operational squadrons.

**Officer Training.** With the exception of those officers commissioned from the RAAF Academy or the flying training schools, all officers entering directly (with or without tertiary qualifications), commissioned airmen and airwomen, engineering and equipment cadets and undergraduate students undergo the Officers' Initial Training Course at the Officers' Training School, Point Cook, Victoria.

**Staff College.** The RAAF Staff College located at Fairbairn ACT, provides staff training and higher service education to selected officers normally of the rank of Squadron Leader. The course, which is of one year's duration, is designed to broaden the students' professional background and to prepare them for command and staff appointments of greater responsibility. A two year correspondence course covering communication skills, military studies, international affairs and management is a compulsory prerequisite for entry to this course.

**Ground Training.** The major ground training schools are the School of Radio at Laverton, Victoria and the School of Technical Training at Wagga, New South Wales. Both schools provide apprentice and adult trade training for technical and other ground personnel. Training is generally provided in two stages: basic training to bring the trainee to a level of proficiency in his particular trade so that he can be employed as a qualified tradesman, and advanced training on higher level training courses including supervision and management techniques, and specialist courses on particular aircraft or telecommunications systems.

**SERVICE ESTABLISHMENTS PROVIDING EDUCATIONAL COURSES OF SIX MONTHS DURATION OR LONGER  
AUSTRALIA, 1976 AND 1977**

Establishment	Students enrolled			New entrants during year			Number completing course during year		
	1976	1977	1978	1976	1977	1978	1976	1977	1978
<b>Staff colleges—</b>									
Joint Services Staff College . . . . .	72	80	82	72	80	82	72	80	82
Australian Staff College . . . . .	81	80	80	81	80	80	81	80	80
RAAF Staff College . . . . .	42	42	48	42	42	48	41	42	48
<b>Officer cadet training establishments—</b>									
RANC . . . . .	112	222	264	92	96	119	56	33	41
RMC . . . . .	440	432	438	130	142	148	77	52	89
RAAFA . . . . .	99	96	122	40	42	45	19	21	26
<b>Apprentice schools—</b>									
Navy . . . . .	283	390	419	170	180	240	168	170	101
Army . . . . .	537	559	563	260	252	274	197	217	218
<b>Air Force</b>									
Wagga Wagga . . . . .	274	253	278	149	136	135	104	103	133
Laverton . . . . .	91	79	77	56	40	37	30	32	38
<b>Other—</b>									
RAN Junior Recruit Training School . . . . .	496	713	326	801	760	330	673	652	570
RAAF School of Languages . . . . .	29	37	37	29	37	37	29	37	37

### Defence Science and Technology Organization

The Chief Defence Scientist heads the Defence Science and Technology Organization (DSTO) which is engaged in research, analysis, development, trials and evaluation. It consists of a central office and thirteen establishments, a small number of people in overseas posts and some in joint activities with other nations. The DSTO contains about 4,800 staff (including some 1,100 professional) who provide a degree of scientific expertise in most physical sciences and some engineering fields of relevance to defence.

The objective of DSTO is to ensure that Australia takes best advantage of modern technology in its Defence Force. The major activities are: scientific input to Defence policy formulation; solution of Service problems particularly where high technology or special features of Australian physical or military environment are involved; modification and extension of life of Service equipment; development of Australian equipment; evaluation of Service equipment and procedures by trials, exercise analysis or operational research; support to defence industry; international co-operation in defence Research and Development.

The central office of DSTO in Canberra has 3 Divisions:

*Programs and Administration Division* controls the management and administration of the DSTO forward planning and advises on the optimum deployment of DSTO resources; co-ordinates co-operation with overseas governments and is responsible for information services as well as career planning and assessments.

*The Projects and Analytical Studies Division* provides management and advice on Major Projects and co-ordinates relevant establishment activities; co-ordinates analytical studies throughout DSTO, manages special joint undertakings with other countries; fosters DSTO contacts with other national science and technology agencies and bodies.

*The Service Laboratories and Trials Division* plans and executes trials of Defence Force equipment; maintains a source of engineering design for development and modification of military equipment; advises on appropriate engineering and trials standards.

### DSTO Establishments

DSTO laboratories are located in eastern and southern Australia. Those primarily concerned with testing and evaluating Service equipment are functionally grouped under the Services Laboratories and Trials Division. The other laboratories are headed by Chief Superintendents and responsible to the Chief Defence Scientist.

The DSTO establishments are:

- Advanced Engineering Laboratory*, Salisbury, S.A.
- Armed Forces Food Sciences Establishment*,\* Scottsdale, Tas.
- Aeronautical Research Laboratories*, Fishermen's Bend, Vic.
- Central Studies Establishment*, Canberra, A.C.T.
- Engineering Development Establishment*,\* Maribyrnong and Monegeetta, Vic.
- Electronics Research Laboratory*, Salisbury, S.A.
- Joint Tropical Trials Research Establishment*,\* Innisfail, Qld
- Materials Research Laboratories*, Maribyrnong, Vic.
- Materials Testing Laboratory*,\* Alexandria, N.S.W.
- Royal Australian Navy Trials Research Laboratory*,\* Edgecliff, N.S.W.
- Royal Australian Navy Trials and Assessing Unit*,\* North Sydney, N.S.W.
- Trials Resources Laboratory*,\* Salisbury, S.A.
- Weapons Systems Research Laboratory*, Salisbury, S.A.

\* Responsible to Chief Defence Scientist through Controller Services Laboratories and trials Division.

### Natural Disasters Organisation

The Natural Disasters Organisation (NDO) was established in the Department of Defence in 1974, absorbing the functions of the former Directorate of Civil Defence; the latter had been in the Department of the Interior until moved to Defence in December 1972.

The organisation mitigates the effects of disasters at the request of State and territory counter disaster organisations and in conjunction with the Defence Force, Commonwealth Government Departments and other Government and non-Government organisations; and supports the development of a core civil defence structure. The NDO and the State and Territory Emergency Service organisations constitute the core civil defence structure for Australia, but their main continuing activity in peace is related to mitigation of the effects of disasters. The States and Territories have complete responsibility for their own counter disaster organisations.

At the national level NDO is required to develop and implement contingency plans involving Commonwealth resources to cope with disasters and civil defence needs. The headquarters of the NDO in Canberra provides a focal point for the co-ordination of national effort in disasters and civil defence emergencies. In such emergencies it ensures that, when requested by States and Territories, the full physical support of the Commonwealth Government is made available. A Disaster Earmark Store has been established at the RAAF Stores Depot, Dubbo, NSW from which initial urgent disaster assistance can be provided.

The NDO administers a number of programs from Commonwealth funds for the support of the Emergency Service organisations, namely: the supply of emergency type equipment (radios, rescue vehicles, first aid kits, generators, flood rescue boats, etc); reimbursement of salaries of State/Territory full time organisers at regional level; provision of training films and handbooks, and subsidies on a limited dollar-for-dollar basis to provide accommodation for the State/Territory units at local government level.

Other programs which benefit all organisations with a counter-disaster involvement, and the community at large, are: training, principally at the Australian Counter Disaster College at Macedon, Victoria; emergency broadcasting facilities; a fall out shelter survey service; and a public awareness program.

## DEFENCE PRODUCTION

The Government production establishments became one of the functions of the Department of Productivity following its creation on 8 November 1976, the function having previously been the responsibility of the Department of Industry and Commerce (*see* Year Book No. 61, page 109).

### Defence production functions of Department of Productivity

The defence production functions of the Department of Productivity are carried out under the *Supply and Development Act 1939* and include the following:

Planning, establishment, operation and management of facilities producing aircraft, guided missiles, small arms, ammunition, explosives, clothing and other defence goods. Acquisition, maintenance, and disposal of strategic materials, investigation and development of Australian sources of supply of defence material in conjunction with the Department of Defence.

For the performance of the above functions the Department has two production divisions—

Munitions Supply, and Aircraft, Guided Weapons and Electronics Supply—supported by Marketing Branch and elements of Central Office and Regional technical and administrative staffs.

#### Munitions supply

The Munitions Supply Division is responsible for the production of munitions required by the Defence Force. Production is carried out in Government factories, which may place orders with private industry for components and materials. The factories currently in operation and their main products or services are as follows:

Ammunition Factory, Footscray, Victoria (fuses, primers, cartridge cases and small arms ammunition); Clothing Factory, Victoria (uniforms and clothing); Albion Explosives Factory, Deer Park, Victoria (high explosives, propellant); Explosives Factory, Maribyrnong, Victoria (propellants, explosives, rocket motors); Mulwala Explosives Factory, New South Wales (propellants and chemicals); Munitions Filling Factory, St Marys, New South Wales (filling of ammunition and explosive munitions); Ordnance Factory, Bendigo, Victoria (heavy guns, mountings, large gears); Ordnance Factory, Maribyrnong, Victoria (guns, projectiles, heavy forgings, rocket motor components); and Small Arms Factory, Lithgow, New South Wales (rifles, machine guns, mortar shells, calibre shells and fuse components).

#### Aircraft, guided weapons and electronics supply

Production both in Government factories, and in industry, of aircraft, aero-engines, other aircraft components and guided weapons is the responsibility of this Division. Planning of capacity and negotiation (in conjunction with the government purchasing authority) of contractual arrangements concerning aircraft modification, repair and overhaul, and for the supply of spare parts and airborne equipment for the Services, are also functions of the Division.

The following factories are operated by the Division: Government Aircraft Factory at Fishermen's Bend, Victoria, together with its Final Assembly Workshops and Test Airfield at Avalon, Victoria and the Aircraft Engineering Workshop at Pooraka, South Australia.

A twin turbo-propeller utility aircraft known as Nomad has been designed and developed by the Government Aircraft Factories (GAF) and the Government has approved production of 145 aircraft. A new Mark IV version of the Jindivik is being developed with costs being shared by Britain and Australia. The Ikara anti-submarine weapon system which has been fitted into 9 RAN ships has also been purchased by the British and Brazilian Navies. A commercial workload has also been maintained, a prime activity being the production of components for Boeing aircraft.

**Marketing**

Overseas sales orders of munitions items in 1978-79 amounted to approximately \$4.5 million, the main items sold being the Firing Device Demolition to the U.S.A., RDX/T.N.T. and propellant to the U.K. and rifle spares to Malaysia.

**Finance**

The total outlay by the Department of Productivity on defence-orientated activities was \$93.6 million during 1978-79. This was in addition to a turnover of \$85.2 million by the Government Factories through their trust accounts.

**Personnel**

At 30 June 1979, 8,333 personnel were employed on specifically defence-orientated functions (excluding general financial and administrative management support) as follows: administration 186; aircraft production 2,360; munitions production 4,764; miscellaneous production 679; and overseas staff 5.

