Ministry of Defence
Government of India

सत्यमेव जयते

Annual Report
2002-2003

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2002-2003

MiG-29 Trainer

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Front Cover: Multi Barrel Rocket Launching System (MBRLS)—PINAKA

1

Security Environment

Keeping Vigil

1.1 India's security concerns are defined by a dynamic global security environment and the perception that South Asia region is of particular global security interest. The continuing presence of terrorist and fundamentalist forces in its neighbourhood has prompted India to maintain a high level of defence vigilance and preparedness to face any challenge to its security.

1.2 The security challenges facing India are varied and complex. The country faces a series of low intensity conflicts characterized by tribal, ethnic and left wing movements and ideologies as also the proxy war conducted by Pakistan and various radical jehadi outfits through the instrumentality of terrorism. India is also affected by the trafficking in drugs and proliferation of small arms and the fact that it is surrounded by two neighbours with nuclear weapons and missiles and history of past aggressions and war. There is also the ever present possibility of hostile radical fundamentalist elements gaining access to the weapons of mass destruction in Pakistan. The country has experienced four major conventional border wars besides an undeclared war at Kargil. India's response to these threats and challenges has always been restrained, measured and moderate in keeping with its peaceful outlook and reputation as a peace loving country.

NATIONAL SECURITY OBJECTIVES

1.3 India's national security objectives have evolved against a backdrop of India's core values namely, democracy, secularism and peaceful co-existence and the national goal of social and economic development. These are:-

- defending the country's borders as defined by law and enshrined in the Constitution;
- protecting the lives and property of its citizens against war, terrorism, nuclear threats and militant activities;
- protecting the country from instability and religious and other forms of radicalism and extremism emanating from neighbouring states;
- securing the country against the use or the threat of use of weapons of mass destruction;
- development of material, equipment and technologies that have a bearing on India's security, particularly its defence preparedness through indigenous research, development and production, inter-alia to overcome restrictions on the transfer of such items;
- promoting further co-operation and understanding with neighbouring countries and implementing mutually agreed confidence-building measures; and
- pursuing security and strategic dialogues with major powers and key partners.

SALIENT FEATURES OF THE SECURITY ENVIRONMENT

1.4 India is strategically located in relation to both continental Asia as well as the Indian Ocean region. India's geographical and topographical diversity, especially on its borders, poses unique challenges to our armed forces in terms of both equipment and training.

1.5 It's peninsular shape provides India a coastline of about 7600 kms and an exclusive economic zone(EEZ) of over 2 million sq kms. The island territories in the East are 1,300 kms away from the main land, physically much closer to South East Asia . The peninsular India is adjacent to one of the most vital sea-lanes stretching from the Suez canal and Persian Gulf to the Straits of Malacca through which much of the oil from the Gulf region transits. This is an area which has attracted super power rivalries in the past and continues to be a region of heightened activity by extra regional navies on account of current global security concerns.

1.6 India's size, strategic location, trade interests and a security environment that extends from the Persian Gulf in the west to the Straits of Malacca in the east and from the Central Asian Republics in the north to near the equator in the south, underpin India's security response. In view of this strategic spread, it is essential for the country to maintain a credible land, air and maritime force to safeguard its security interests.

THE REGIONAL PICTURE

1.7 Though there have been positive developments in Afghanistan and Sri Lanka, a closer look at the neighbourhood and the wider region continues to present a disturbing picture. Many of the countries

face internal instability threatening their economic progress and peace. However, the single greatest threat to peace and stability in the region is posed by the combination of terrorism nurtured in and by Pakistan for its strategic objectives, and the ingrained adventurism of the Pakistani military motivated by its obsessive and compulsive hostility towards India. Virtually every terrorist act anywhere in the world today has a Pakistani fingerprint somewhere. It is the root and epicentre of international terrorism in the region and beyond.

1.8. Afghanistan has, with the intervention of the international community, only just emerged from the dark years of a reactionary, medieval and fundamentalist regime essentially created by Pakistan. While the new Government has international legitimacy, the task of reconstruction and rebuilding the institutions is formidable. Pakistan has a vested interest in a weak and unstable Afghanistan which provides it an opportunity to meddle in the internal affairs of the country in pursuit of its quest for strategic depth vis a vis India and Central Asia. Any revival of jehadi activities supported by Pakistan is of direct security concern to India in view of their linkages with terrorism and the proxy war against India. India is also committed to international engagement in Afghanistan so that Pakistan cannot exploit the neglect and inattention of the international community, as it did after the Soviet withdrawal from Afghanistan, to sponsor jehadi politics and training in the region.

1.9 In Pakistan, fundamentalist political parties have taken advantage of the manipulated elections that debarred the two most popular political leaders from contesting, to seize power in two provincial governments and a share in the coalition government at the Centre. Reports and evidence mount of both inward and outward proliferation of nuclear weapon technologies. Pakistan has also not lived up to its much-publicised promises to the international community to cease cross-border terrorism against India reversing even those cosmetic steps that it took at the beginning of the year, under international pressure, against fundamentalist organizations. Worse still, periodic Pakistani nuclear sabre-rattling, veiled and unveiled, has passed virtually unreprimanded by the international community.

1.10 In Bangaladesh too, conservative, right wing, religious fundamentalist political parties now have a place in the coalition government. Pakistan continues to take advantage of a favourable environment in Bangladesh and of weak government in Nepal, to promote fundamentalist thinking and ISI activities in India in both these countries. In Sri Lanka, the ceasefire between the LTTE and the government is a positive development though the LTTE remains a potent non-state military force that continues to arm itself, and the danger of backsliding of the political process remains. In Myanmar, the tussle between the forces of democracy and the military government remains alive.

1.11 Further west of the region, the US-led war against Iraq has generated a series of security concerns for India notably in relation to the security of the large Indian community resident there, and of oil and energy supplies. There is also a very real risk that the US-led coalition war in Iraq will distract attention from Pakistani behaviour in its neighbourhood, particularly in India but also Afghanistan, which Pakistan will use to step up its adventurist activities in the region as it did after the Soviet withdrawal from Afghanistan. The war against Iraq could also aggravate the divide between the Muslim and non-Muslim world.

1.12 Against this backdrop, India remains fully committed to maintaining peace with its neighbours and stability in the region through a combination of defence-preparedness and unilateral restraint, confidence building and dialogue and expanding bilateral interactions.

1.13 In the area of defence-preparedness, it has reformed its higher defence management and streamlined procurement procedures. Its defence policy and force postures remain defensive in orientation while its nuclear policy is characterized by a commitment to no-first-use, moratorium on nuclear testing, minimum credible nuclear deterrence, and the rejection of an arms race or concepts and postures from the Cold War era.

PAKISTAN

1.14 Pakistan's polity has been repeatedly hijacked by the military who have a vested interest in tension with India as it

strengthens their pre-eminence in the Pakistani power structure. The past year witnessed a progressive consolidation of the role of the military, and in particular that of General Musharraf, in the Pakistani polity through the "referendum" of April 2002, the Legal Framework Order (LFO) of August, the enhanced and institutionalized role of the army in the strengthened National Security Council of Pakistan, and the patently manipulated elections of October. Together with the rise of fundamentalist MMA, these developments do not augur well for India's security.

1.15 India has been on the receiving end of Pakistan's policy of a proxy war against India using terrorism for several decades now, first in the Punjab and then in Jammu & Kashmir and elsewhere. Pakistani provocation reached a dangerous point with the December 13, 2001 attack on the Parliament. A more forceful response became necessary. Additional troops were moved along the Line of Control (LoC) and the International Boundary in a state of readiness, inter alia to prevent further infiltration of terrorists into India.

1.16 In response to these measures and international pressure, Pakistani President, General Pervez Musharraf announced in a speech on January 12, 2002, that "Pakistan will not allow its territory to be used for any terrorist activity anywhere in the world", that "no organization will be allowed to indulge in terrorism in the name of Kashmir" and that "anyone found involved in any terrorist act would be dealt with sternly". There was a temporary crackdown on extremists in Pakistan. Terrorist groups such as Jaish-e-Mohammed and Lashkar-e-Tayyaba were banned and some of their financial assets were frozen. Some leaders were placed under house arrest and around 2000 low-level cadres of terrorist organizations were arrested.

1.17 There was a temporary decline in cross border infiltration and terrorist violence linked to it in the months of January-March 2002 while 'jehadi' cadres were advised to lie low. However, cross border infiltration and terrorist violence continued and increased as the measures were relaxed with time. On May 14, 2002, terrorists attacked family lines of an army camp in Kaluchak, Jammu district, killing 32 civilians including 11 women and 11 children. On May 18, 2002, India asked the Government of Pakistan to recall their High Commissioner in New Delhi in view of Pakistan's continued support to cross border terrorism. Once again, under pressure, General Musharraf responded in his speech of May 27, 2002 with a commitment to stop cross border infiltration and terrorism on a permanent basis.

1.18 Despite General Musharraf's commitments, cross border infiltration and related terrorist violence increased from July 2002 onwards. On July 13, 2002 Pak-based terrorists attacked a low-income neighbourhood in Qasimnagar. Attacks on soft targets calculated to inflame sentiments have continued . These include the attacks on temples at Akshardham, and in Jammu and on women in J&K. As recently as on March 20, 2003, Kashmiri Hindus living in Nadimarg, Jammu were targeted in which 24 Pundits, including 11 women and 2 children were massacred in cold blood. These incidents underscore once again that there has been no respite in terrorism from Pakistan. They also underline the need for Pakistan to take decisive steps to end infiltration on a permanent basis and wind down the infrastructure of support to terrorism.

1.19 Cross border infiltration and linked terrorist violence reached a height in the run up to the Jammu & Kashmir Legislative Assembly election. However, the successful conduct of elections to the Jammu & Kashmir Assembly with a voter participation of 43.70% in the face of terrorist threats and intimidation, and public satisfaction with the results, was seen as a vindication of the desire of the people of Jammu & Kashmir for peace and of the credibility of the elections.

1.20 On October 16, 2002, the Government decided to re-deploy the troops from positions on the international border as the Armed Forces were deemed to have achieved the immediate objectives assigned to them. It was also decided that there would be no lowering of the vigil in Jammu & Kashmir.

1.21 India remains firmly committed to the path of dialogue and reconciliation in keeping with the Simla Agreement and the Lahore Declaration and has repeatedly called upon Pakistan to end its sponsorship

of terrorism in India so that a conducive environment can be created for the resumption of bilateral dialogue. Should Pakistan move purposefully towards eradicating cross border terrorism, India will be prepared to resume bilateral dialogue to address differences and enhance cooperation. It should not be forgotten that the two most bold and meaningful initiatives for dialogue at Lahore and Agra came from India.

CHINA

1.22 China, India's largest neighbour, is passing through a period of rapid economic growth and modernization with the aim of achieving great power status in the shortest time possible. India's border with China is almost 3,500 km long. China continues to occupy approx. 38,000 sq. km of Indian territory mainly in the Aksai Chin Area, and claims yet another 90,000 sq km in the Eastern Sector. Further, 5,180 sq. km of territory under Pak occupation in Northern Kashmir was illegally ceded to China by Pakistan in 1963. (Whilst several rounds of Border Talks have been held with China, a number of disputed pockets remain).

1.23 China is rapidly modernising its Armed Forces. In its White Paper on National Defence issued recently, China has stressed the vital importance of maintaining international stability and a global strategic balance, as also a legal regime governing international arms control and disarmament, in order to address an international situation that is undergoing profound changes including a serious disequilibrium in the balance of military power especially between the developed and developing countries. As reported by the Chinese Government to the 16th National Party Congress in November 2002, strengthening of national defence is a "strategic task in China's modernization drive".

1.24 As far as India is concerned, it cannot be ignored that every major Indian city is within reach of Chinese missiles and this capability is being further augmented to include Submarine Launched Ballistic Missiles(SLBMs). The asymmetry in terms of nuclear forces is pronouncedly in favour of China and is likely to get further accentuated as China responds to counter the US missile defence programme. China's close defence relationship with Pakistan takes a particular edge in view of latter's known belligerence and hostility to India and its acquisition of nuclear assets.

1.25 Notwithstanding these concerns, India continues its endeavour to seek a long term and stable relationship with China, based on the principles of Panchsheel, mutual sensitivity to each other's concerns and equality and is committed to the process of dialogue to resolve all outstanding differences. Some Confidence Building Measures(CBMs) have been initiated and while these are bearing fruit incrementally, the pace of progress has been less than satisfactory. A number of high level visits have taken place in recent years. The President of India visited China in the year 2000. This was followed by Mr. Li Peng's visit to India in January 2001. These high level visits have improved bilateral relations and understanding of each other's viewpoint thereby contributing to further reduction in tension.

1.26 Important developments marking the progress of India-China relations in 2002-03 included the initiation of direct Delhi-Beijing flights, the first meeting of the India-China dialogue mechanism on counter terrorism, the completion of the process of exchange of maps for clarification of the Line of Actual Control (LAC) in the Middle Sector, the implementation of the MOU (signed during Premier Zhu's visit) on sharing hydrological data from the upper reaches of the Brahmaputra and accordance of 'Approved Tourist Destination Status' to India by China. The Joint Working Group on the Boundary Question met in its 14th session in November 2002. The first informal Foreign Minister level India-China-Russia dialogue took place in September 2002 on the sidelines of the UNGA. Interaction in other agreed dialogue mechanisms also continued.

1.27 India has, of late, commenced some cooperation with the armed forces of China. Naval Ships of both the countries have been exchanging visits and some of India's mid level officers are undergoing courses in Chinese institutions. During 2002-2003, exchange of high level defence delegations continued.

OTHER NEIGHBOURS

BANGLADESH

1.28 India's relation with Bangladesh is characterized by both affinity and occasional friction. Key security concerns

relate to the problem of uncontrolled migration, which Bangladesh refuses to recognize, across the 4,000 kms common boundary, the presence and activities of Indian insurgent groups and leaders from the north-east of India on Bangladeshi soil which it refuses to acknowledge, the rising influence of political parties and organizations of radical Islamic and fundamentalist orientation within and outside the coalition government led by the Bangladesh National Party, and border demarcation and border management problems which give rise to ugly incidents from time to time. Border management problems, such as smuggling, illegal immigration, insurgency, trafficking of women and children, and the construction, repair and maintenance of boundary-related structures are addressed through Border Coordination Conferences between the Border Security Force (BSF) and Bangladesh Rifles (BDR) while issues such as exchange of enclaves and adverse possessions are addressed by the Joint Boundary Working Groups (JBWGs) constituted for the purpose. Following the elections, India continued with its policy of close engagement with its eastern neighbour discussing all issues in a forthright manner.

NEPAL

1.29 Relations between India and Nepal have consistently been close and extensive, reflecting the historical, geographical, cultural and linguistic links between the two nations. In keeping with this close relationship, several high-level interactions took place between India and Nepal. Defence relations too have been traditionally close.

1.30 During the year, Nepal was beset on the one hand by a political and constitutional crisis and on the other, by a growing Maoist insurgency and violence that had spread to almost all the districts of Nepal, with mid-West to Western districts as thrust areas.

1.31 Another area of growing concern for India's security is the increased activities of Pak ISI and terrorist organizations amongst Nepal's Muslim minority.

SRI LANKA

1.32 The ethnic conflict in Sri Lanka has, over the years, extracted a severe political and security cost for India, internally and externally, that goes beyond the assassination of a former Prime Minister through a terrorist act and serious casualties incurred by the Indian Armed Forces in an effort to ameliorate the situation. It has created the possibility for countries hostile or unfriendly to India to establish a foothold there in a manner inimical to India's security interests. The LTTE remains a proscribed terrorist organization in India and its leader, a proclaimed offender under the law.

1.33 The keystone of the Government of India's policy towards the ethnic conflict in Sri Lanka is a firm commitment to the unity, sovereignty and territorial integrity of Sri Lanka and to the restoration of a lasting peace through a peaceful, negotiated settlement that meets the just aspirations of all elements of Sri Lankan society. On the political front, India continues to support the activities of the Sri Lankan Government towards the Peace Process. The Government of India welcomed the ceasefire agreement stating that it would provide an opportunity to both sides to move forward towards a substantive dialogue for a negotiated political settlement of the ethnic conflict.

MYANMAR

1.34 Myanmar remains an area of security interest for India not only on account of the activities of north-eastern insurgent groups that have set up camps across the Indian border, but also because of the activities of countries working against India's legitimate security concerns and the repercussions of the tussle between the forces of democracy and military government on these interests. India welcomes the greater openness of the Myanmar government in its external relations, and steps towards political reconciliation, internally.

BHUTAN

1.35 India shares a relationship based on close friendship, good neighbourliness and mutual trust with Bhutan underpinned by a strong and diverse mutually beneficial partnership in the sphere of economic and social development, and a tradition of high-level visits.

1.36 Traditionally, Bhutan has been sensitive and mindful of India's security concerns.

The two countries continue to be in close touch with each other on the issue of presence of ULFA-Bodo militants in Southern Bhutan.

AFGHANISTAN

1.37 India is closely watching the changing scenario in Afghanistan since it has ramifications on the security scenario of the region and the country, including in the state of Jammu and Kashmir. India would not like to see Afghanistan once again becoming a breeding ground for terrorism, or a victim of terrorism sponsored from across its borders. India was amongst the first countries to appoint a Defence Attaché in Kabul. India-Afghanistan ties continued to expand and strengthen during the year.

1.38 In general, the situation in Afghanistan has improved. However, the security situation in crucial parts of Afghanistan is still not stable. Two senior ministers have been assassinated. Armed clashes have been taking place between different groups in Northern and Western Afghanistan. Of particular concern are the signs of the regrouping of the Taliban and Al Qaeda remnants and the forces of Gulbuddin Hekmatyar in the southern and eastern Afghanistan.

CENTRAL ASIAN REPUBLICS (CARS)

1.39 The strategic map of Central Asia has changed almost unrecognisably since the disintegration of the former Soviet Union. Post Cold War, it has become a theatre of a new 'great game' not only because of its strategic location but also its natural resources, notably oil and natural gas. Since 9/11, it has also acquired a new layer of strategic interest because of its vantage point vis-à-vis the central security concerns of the region namely terrorism in its local, regional and global aspects. Pakistani vanguards, including the ISI are widely viewed as continuing their destabilizing activities of recruiting and training fundamentalist elements and encouraging radical movements in the Central Asian Republics. This has the twin objectives of extending their influence in the region and promoting anti-India activities. Major players are actively using defence diplomacy to advance their interests.

1.40 Central Asia is an area of vital importance to India not only on account of its geographical proximity and India's historical and cultural links with the region, but also because of the common challenge they face from jehadi terrorism. Relations, based on a shared commitment to open and progressive societies, secularism and democracy, have been reinforced by similarity of views in the fight against terrorism. India and countries of Central Asia also share views with regard to checking the menace of drugs trafficking.

1.41 Relations with Central Asian countries have been informed by a shared interest in mutual benefit and all round growth. Economic relations are showing steady improvement. Raksha Mantri visited Tajikisthan in April 2002 and Uzbekistan in February 2003. Other senior level visits also took place. In the sphere of defence, cooperation is taking the form of a security dialogue and training of armed forces personnel many of whom are presently undergoing courses in Indian defence training establishments.

THE ASIA-PACIFIC

1.42 Reverberations of religious fundamentalism and terrorism were heard in parts of South East Asia too especially in Indonesia where a blast in October 2002 took toll of about one hundred tourists in Bali.The Bali bombings focussed international attention on South East Asia as a nodal point in international terrorism and an emerging hub of militant Islam. This prompted the US to step up its military presence in, and assistance to the region and to seek alternative solutions to the problem of terrorism ranging from cooperative security to controversial pre-emptive doctrines. Elsewhere in Asia, the stand-off on DPRK's nuclear programme set off alarms regarding DPRK's nuclear intentions and the source of some of its nuclear technologies.

1.43 Given that India shares maritime boundaries with some of the countries of the South East Asia and is within the periphery of the Asia-Pacific, these developments have relevance for India. Keeping this in view, India has initiated discussions with the governments concerned on terrorism and related issues such as trafficking in drugs, people and small arms, piracy etc. At the India-ASEAN Summit in Phnom Penh in November 2002, the Prime Minister conveyed India's decision to subscribe to

the ASEAN Declaration on Terrorism, and also willingness to enter into a similar declaration on India-ASEAN cooperation in this field.

1.44 Defence cooperation relationships with countries of South East Asia and the Pacific have been growing steadily focussing mainly on exchanges of high-level visits, strategic dialogues, port calls, training exchanges and some sourcing of defence equipment. Prospects of their further development are good. Mechanisms for defence cooperation already exist with Malaysia, Vietnam, Indonesia, Australia and Laos, and more are under process of conclusion. The 4th Malaysia-India Defence Committee meeting held in September 2002 and the 2nd India-Australia Strategic Dialogue held in March 2003 provided opportunities to discover new areas of convergence and cooperation in security matters. Defence exchanges between India and Japan and also the ROK reflected the mutual recognition that strengthened cooperation between them was a positive factor for maintenance of peace and stability.

WEST ASIA / GULF

1.45 India's security environment is closely linked to that of the neighbouring West Asia region. As a member of the international community, India has been gravely concerned with the vicious cycle of violence and counter-violence and the consequent serious deterioration of the security situation in West Asia and has repeatedly called for de-escalation of tensions.

1.46 In the Persian Gulf, the growing tension between the US and Iraq finally exploded into war on March 20, 2003 with the failure of diplomatic efforts under the auspices of the UN Security Council. The full political and security implications are still to unfold and will take some time to assess, but it would be safe to assume that they will be far reaching in terms of their strategic impact.

EUROPE

1.47 India's relations with the European Union and individual member countries in the field of defence and security cover a broad spectrum of activities including training exchanges, joint exercises and defence procurement, production and R&D. A mechanism for a security dialogue exists with France at the highest executive levels. Mechanisms for defence cooperation also exist with the UK and Italy. Fresh agreements on defence cooperation providing for an enhanced level of cooperation were signed with Italy and Poland in February 2003 during the visits of the Italian Defence Minister and the Polish Prime Minister to India. Defence-related exchanges have also been expanding with other countries in Europe like Germany, the Czech Republic, Ukraine and Belarus. Cooperation with Europe on defence procurement and production could be greater still if it were not for mechanisms that introduce uncertainties in the fulfillment of contracts on extraneous political grounds. The evolving relationship with France shows that there is a good potential for a path-breaking defence-industrial relationship in areas of advanced technologies cutting across the normal pattern of North-South relations as epitomized during the visit of the Prime Minister of France to the Aero India Air Show in Bangalore in February 2003.

RUSSIA

1.48 Indo-Russian relations pursued a steady, all-round and strategic course during the year covering the gamut of political, defence, security and economic fields. The two sides continued to deepen their consultations on strategic and mutual security concerns.

1.49 Bilateral defence cooperation was fortified through several meetings and visits by the high dignitaries of the two countries. Raksha Mantri visited the Russian Federation from April 10-13, 2002. The third session of the Inter-Governmental Commission on Military Technical Cooperation (IGC-MTC) was held in Moscow in January 2003, co-chaired by Raksha Mantri and the Minister of Science and Technology and Industry of the Russian Federation Mr. Ilya Klebanov. Discussions covered acquisition, licensed production, R&D, product support and new areas and forms of cooperation in the defence field.

UNITED STATES OF AMERICA

1.50 Following the end of the Cold War and in response to the changing international environment, Indo-US relations are undergoing a qualitative transformation. Cooperation and consultations have

broadened and diversified considerably. Both the countries have recognised that closer Indo-US relations would be an important and a positive factor both for stability of the region as well as in the global affairs.

1.51 There has been a significant progress in defence and security relationship between India and the United States during last year. As part of the enhanced bilateral engagement on these matters, there were several important bilateral visits and meetings in the context of cross-border terrorism by Pakistan, and in pursuit of a shared objective of building a strategic relationship. With a view to accelerating the pace of Indo-US defence cooperation, the apex level Defence Policy Group (DPG) met for a second time in May 2002 after its resumption in December 2001. Apart from the DPG, bilateral Executive Steering Groups of the Army, Navy and Air Force, the Security Cooperation Group (to advance a defence supply relationship) and the Joint Technical Group (to advance R & D collaboration in defence) have also been meeting or are scheduled to meet. The two countries have conducted mutually beneficial combined exercises in India and United States besides stepping up training exchanges.

1.52 The terrorist attacks in the United States on September 11, 2001 and on the Parliament on December 13, 2001 have led to a deepening of Indo-US cooperation in combating international terrorism.

TERRORISM

1.53 India has been a victim of terrorism for many decades, much before the West experienced its deadly reality on September 11, 2001. The terrorist menace in Jammu and Kashmir has its roots in Pakistan and is supported financially and materially by the government and institutions of that country. The Indian Armed Forces have dealt with the problem of cross-border terrorism with a multi-pronged strategy that includes psychological warfare, innovative military tactics and counter intelligence methods. These efforts have met with reasonable success but this is a prolonged battle. India's long experience in tackling terrorism can be of valuable help to other countries that are facing similar challenges now.

1.54 For any terrorist movement to be contained, the Government's resolve and the security forces' firmness are a must. India's fight against terrorism has been a long and arduous one and the Indian Armed Forces are fully geared to handle any problem that

Ready with N.B.C. protective gear

may arise in future. It is important that the state support for any form of terrorism must cease. Terrorist organisations have long arms and global reach. The world, therefore, has to fight a united battle by pooling resources in order to remove this scourge from the face of the earth.

INDIA'S NUCLEAR POLICY

1.55 India remains a firm and consistent proponent of general and complete disarmament and attaches the highest priority to global nuclear disarmament. India's policy on disarmament also takes into account changes that have taken place in the world, especially in the 1990s. The nuclear tests of May 1998 do not dilute India's commitment to this long-held objective. As a nuclear weapon State, India is even more conscious of its responsibility in this regard and, as in the past, continues to take initiatives in pursuit of global nuclear disarmament both individually and collectively. The steps that were announced after the tests, and the initiatives that India has taken since, strengthen this commitment.

1.56 India's nuclear weapons capability is meant only for self-defence and seeks only to ensure that India's security, independence and integrity are not threatened in the future. India is not interested in a nuclear arms race. This is the rationale behind the two pillars of India's nuclear policy – minimum deterrence and no-first use.The determination of the profile of this deterrent, including accurate and refined delivery systems, is a sovereign responsibility.

1.57 After concluding the series of tests of May 1998, India announced a voluntary moratorium on further underground nuclear test explosions. In announcing this moratorium, India accepted the core obligation of a test ban and also addressed the general wish of the international community to foreswear testing. This moratorium continues, subject to the supreme national interests, a provision granted under the CTBT to every country. India has also announced its willingness to move towards a *de jure* formalisation of this voluntary undertaking.

PLANNING CONSIDERATIONS

1.58 The security environment that has been highlighted above clearly brings out four key elements that are fundamental determinants of our security planning. These are:

(a) the Indian Armed Forces have a two front obligation, which require them to safeguard the security of our borders with Pakistan as well as with China;

(b) India is not a member of any military alliance or strategic grouping, nor is this consistent with our policies necessitating a certain independent deterrent capability;

(c) due to external abetment, India's Armed Forces are involved in internal security functions on a relatively larger scale than is normal requiring a force structure that will be able to cope with it; and

(d) India's interests in the North Indian Ocean, including the security of our EEZ and Island territories, highlight the need for a blue water Naval capability commensurate with our responsibilities.

2

Organisation And Functions Of The Ministry Of Defence

T-90(S) Tank on display at Republic Day Parade, 2003

HISTORICAL BACKGROUND

2.1 A Military Department was created in the Government of the East India Company at Calcutta in the year 1776, having the main function to sift and record orders relating to the Army issued by various Departments of the Government of East India Company. The Military Department initially functioned as a branch of the Public Department and maintained a list of Army personnel.

2.2 With the Charter Act of 1833, the Secretariat of the Government of East India Company was reorganised in four Departments, including a Military Department, each headed by a Secretary to the Government. The Army in the Presidencies of Bengal, Bombay & Madras functioned as respective Presidency Army till April 1895, when the Presidency Armies were unified into a single Indian Army. For administrative convenience, it was divided into four Commands viz., Punjab (including the North West Frontier), Bengal, Madras (including Burma) and Bombay (including Sind, Quetta and Aden).

2.3 The supreme authority over the Indian Army vested in the Governor General-in-Council, subject to the Control of the Crown, which was exercised by the Secretary of State for India. Two Members in the Council were responsible for military affairs, one of whom was the Military Member, who supervised all administrative and financial matters, while the other was the Commander-in-Chief who was responsible for all operational matters. The Military Department was abolished in March 1906 and it was replaced by two separate Departments, the Army Department and the Military Supply Department. In April 1909 the Military Supply Department was abolished and its functions were taken over by the Army Department. The Army Department was redesignated as the Defence Department in January 1938. The Department of Defence became the Ministry of Defence under a Cabinet Minister in August 1947.

POST-INDEPENDENCE ORGANISATIONAL SET-UP AND FUNCTIONS

2.4 On August 15, 1947, each Service was placed under its own Commander-in-Chief. Under the Constitution, the Supreme Command of the Armed Forces vests in the President. In 1955, the title of Commander-in-Chief was abolished and the three Service Chiefs were designated as the Chief of the Army Staff, the Chief of the Naval Staff and the Chief of the Air Staff. In November 1962, a Department of Defence Production was set up to deal with research, development and production of defence equipment. In November 1965, the Department of Defence Supplies was created for planning and execution of schemes for import substitution of requirements for defence purposes. These two Departments were later merged to form the Department of Defence Production and Supplies. A Scientific Adviser to the Defence Minister was appointed to advise him on scientific aspects of military equipment, research and design of equipment used by the Defence forces. In 1980, the Department of Defence Research and Development was created.

2.5 The Armed Forces are primarily responsible for ensuring the territorial integrity of the nation. The Ministry of Defence, provides policy framework and wherewithal to the Armed Forces to discharge their responsibility in the context of the defence of the country.

DEPARTMENTS

2.6 The Ministry of Defence consists of three Departments, namely, Department of Defence, Department of Defence Production & Supplies and Department of Defence Research & Development. The Defence Secretary functions as head of the Department of Defence and is additionally responsible for co-ordinating the activities of the three Departments in the Ministry. The principal functions of all the Departments are as follows:

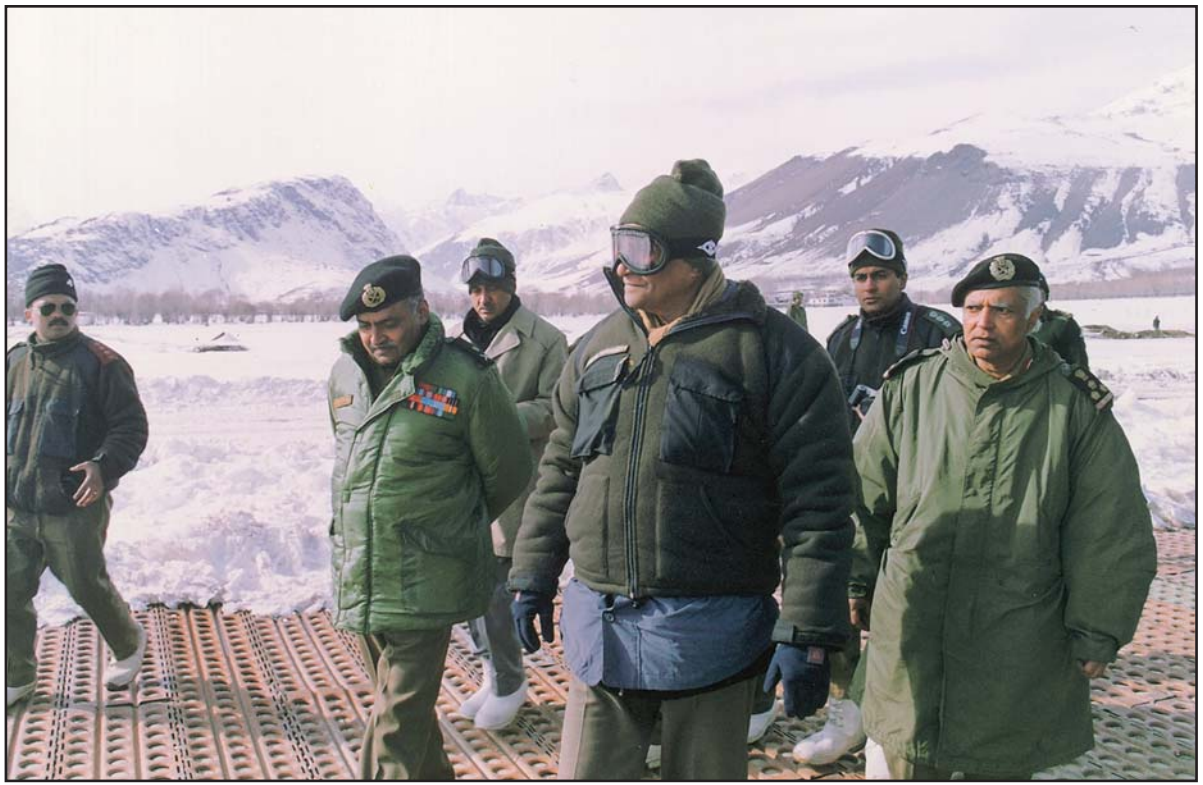
(i) The Department of Defence deals with the three Services and various Inter-Service Organisations. It is also responsible for the Defence Budget, establishment matters, defence policy, matters relating to Parliament, defence co-operation with foreign countries and co-ordination of all activities.

(ii) The Department of Defence Production and Supplies is headed by a Secretary and deals with

matters pertaining to defence production, indigenisation of imported stores, equipment and spares, planning and control of departmental production units of the Ordnance Factory Board and for Defence Public Sector Undertakings (DPSUs).

(iii) The Department of Defence Research and Development is headed by a Secretary, who is also the Scientific Adviser to the Raksha Mantri. Its function is to advise the Government on scientific aspects of military equipment and logistics and the formulation of research, design and development plans for equipment used by the Services.

2.7 The Finance Division of the Ministry of Defence is headed by Secretary Defence (Finance). He exercises financial control over proposals involving expenditure from the Defence Budget and is responsible for internal audit and accounting of defence expenditure. In the latter tasks, he is assisted by the Controller General of Defence Accounts (CGDA).



Raksha Mantri in Forward Area

COMMITTEES

2.8 A number of Committees dealing with defence related activities assist the Raksha Mantri. He holds weekly meetings which are attended by the Defence Secretary, Secretary (Defence Production & Supplies), Scientific Adviser to Raksha Mantri, Secretary Defence (Finance), Principal Secretary to the Prime Minister, Cabinet Secretary, Foreign Secretary and the Chiefs of Staff of the three Services to review important developments and discuss issues concerning national security.

2.9 The Chiefs of Staff Committee is a forum in which the Service Chiefs discuss matters having a bearing on the activities of the Services and advise the Ministry. The position of Chairman of the Chiefs of Staff Committee devolves on the longest serving Chief of Staff, and consequently rotates amongst the three Services. To facilitate the work of the Chiefs of Staff Committee, a number of sub-committees have been established.

2.10 The principal task of the Ministry is to obtain policy directions of the Government on all defence and security related matters and communicate them for implementation to the Services Headquarters, Inter-Service Organisations, Production Establishments and Research & Development Organisations. It is also required to ensure effective implementation of the Government's policy directions and the execution of approved programmes within the allocated resources. A list of items dealt with by the Departments in the Ministry of Defence is given in Appendix-I to this report.

2.11 The three Services Headquarters, viz., the Army Headquarters, the Naval Headquarters and the Air Headquarters function, under the Chief of the Army Staff (COAS), the Chief of the Naval Staff (CNS) and the Chief of the Air Staff (CAS) respectively. They are assisted by their Principal Staff Officers (PSOs). The Inter-Services Organisations, under the Department of Defence are responsible for carrying out tasks related to common needs of the three Services such as medical care, public relations and personnel management of civilian staff in the Defence Headquarters.

2.12 Information regarding the Ministers in the Ministry of Defence, the Chiefs of Staff, the Secretaries in the three Departments of the Ministry and the Secretary Defence (Finance) who held positions from April 01, 2002 onwards is given in Appendix-II to this report.

REFORMS IN MANAGEMENT OF DEFENCE

2.13 The broad array of challenges both existing and potential to the national Security in the fast changing geo-strategic security environment mandate a periodical re-appraisal of our security procedures to cope with them. The Government, keeping this in view, had instituted a comprehensive review of the National Security System in its entirety for the first time in the history of independent India. The review was carried out by a Group of Ministers(GOM) constituted on April 17, 2000. The GOM consisted of the Home Minister, the Raksha Mantri, the External Affairs Minister and the Finance Minister. The Group of Ministers set up four Task Forces one each in the areas of (i) Internal Security; (ii) Border Management; (iii) Intelligence Apparatus; and (iv) Management of Defence, which were multi-disciplinary in character and comprised of acknowledged experts, to facilitate its tasks. The recommendations of the Group of Ministers, which aim at integration of the civil and military components and ensuring 'Jointness' and 'Synergy' among the Armed Forces, were approved by the Government on May 11, 2001.

2.14 The Report of the GOM in so far as 'Management of Defence' is concerned included amongst others, measures such as creation of the Chief of Defence Staff(CDS), creation of a Defence Procurement Board, a Defence Production Board, a Defence R&D Board, preparation of holistic and integrated Defence Perspective Plans for 15-20 years, establishment of a National Defence University, effective media management, establishment of Andaman & Nicobar Island Command and Strategic Forces Command, integration of Service Headquarters with the Ministry of Defence and delegation of higher administrative and financial powers to the Services.

2.15 The process of implementation of the recommendations made by the Group of Ministers regarding reforms in Defence was initiated in 2001. These reforms have brought about improvements in the organizations, structures and processes for the integration of civil and military components. Some of the major reforms are detailed in the following paragraphs.

2.16 **Integrated Defence Staff :** A decision regarding the recommendation of the Group of Ministers for creation of the Chief of Defence Staff (CDS) has not been taken by the Government as yet pending consultation with political parties. However, with a view to ensure higher degree of jointness amongst the Services and attempt inter-service and intra-service prioritization, the Government has set up the Integrated Defence Staff, headed by the Chief of Integrated Staff to Chairman, Chiefs of Staff Committee (CISC), to support the Chiefs of Staff Committee and its Chairman in the optimal performance of their roles and functions. The CISC supervises the Integrated Defence Staff, chairs all multi-Service bodies and the Defence Crisis Management Group (DCMG) and is also responsible for the coordination of long-range plans, five year plans and annual budgetary proposals of the three Services in consultation and co-ordination with the Integrated Services Headquarters. The CISC renders advice to the Government on prioritization for developing force levels and capabilities through restructuring proposals, undertakes net assessment comprising the totality of the national capability, formulates joint doctrines in consultation with Service Headquarters, conceptualises policy and programmes on joint planning and military education for personnel of Defence Services, render advice for evolving responses to non-conventional

and unconventional threats to national security and proposes measures to be taken for ensuring the required jointness amongst the Armed Forces and enhancing the efficiency and effectiveness of the planning process through intra and inter-Service prioritization.

2.17 **Defence Intelligence Agency :** The Government has also set up the Defence Intelligence Agency (DIA) under DG DIA to co-ordinate and synergise the intelligence Wings of the Services. The DIA is responsible for providing integrated intelligence inputs to the higher echelons of Defence Management.

2.18 **Defence Acquisition Council :** The Government has set up a Defence Acquisition Council headed by the Raksha Mantri for decision making in regard to the totality of the new planning process, which *inter-alia* involves according 'in principle' approval of capital acquisitions in the long term perspective plan and according 'in principle' approval for each capital acquisition programme. The decisions flowing from the Defence Acquisition Council are to be implemented by the following three Boards:-

(i) **Defence Procurement Board** headed by the Defence Secretary;

(ii) **Defence Production Board** headed by the Secretary (Defence Production & Supplies); and

(iii) **Defence Research & Development Board** headed by Secretary (Defence Research & Development).

These Boards have been entrusted with specific functions. A **Defence Acquisition Wing** headed by Special Secretary (Acquisition) has also been created to assist the Defence Procurement Board in its functioning.

2.19 The new structures are intended to facilitate expeditious decision-making in an integrated manner in areas relating to acquisitions for the three Services while at the same time imparting a higher degree of transparency and cost effectiveness to the process of acquisition of equipment, weapon and weapon systems.

2.20 **Defence Technology Council (DTC) :** Defence Technology Council has been constituted under the Chairmanship of Raksha Mantri by the Government to provide guidance and supervision of growth and promotion of research, development and production related to Defence Technologies. DTC will assist the Defence Acquisition Council in taking holistic decisions on specific Defence Projects related to long term perspective plans and five year plans.

2.21 **Andaman and Nicobar Command :** The first tri-Service Joint Command was established in October 2001 in Andaman and Nicobar under the Commander-in-Chief (C-in-C) who exercises control over all force components of the three Services and the Coast Guard located in Andaman and Nicobar Islands. The C-in-C, Andaman and Nicobar Command reports to the Chairman, Chiefs of Staff Committee.

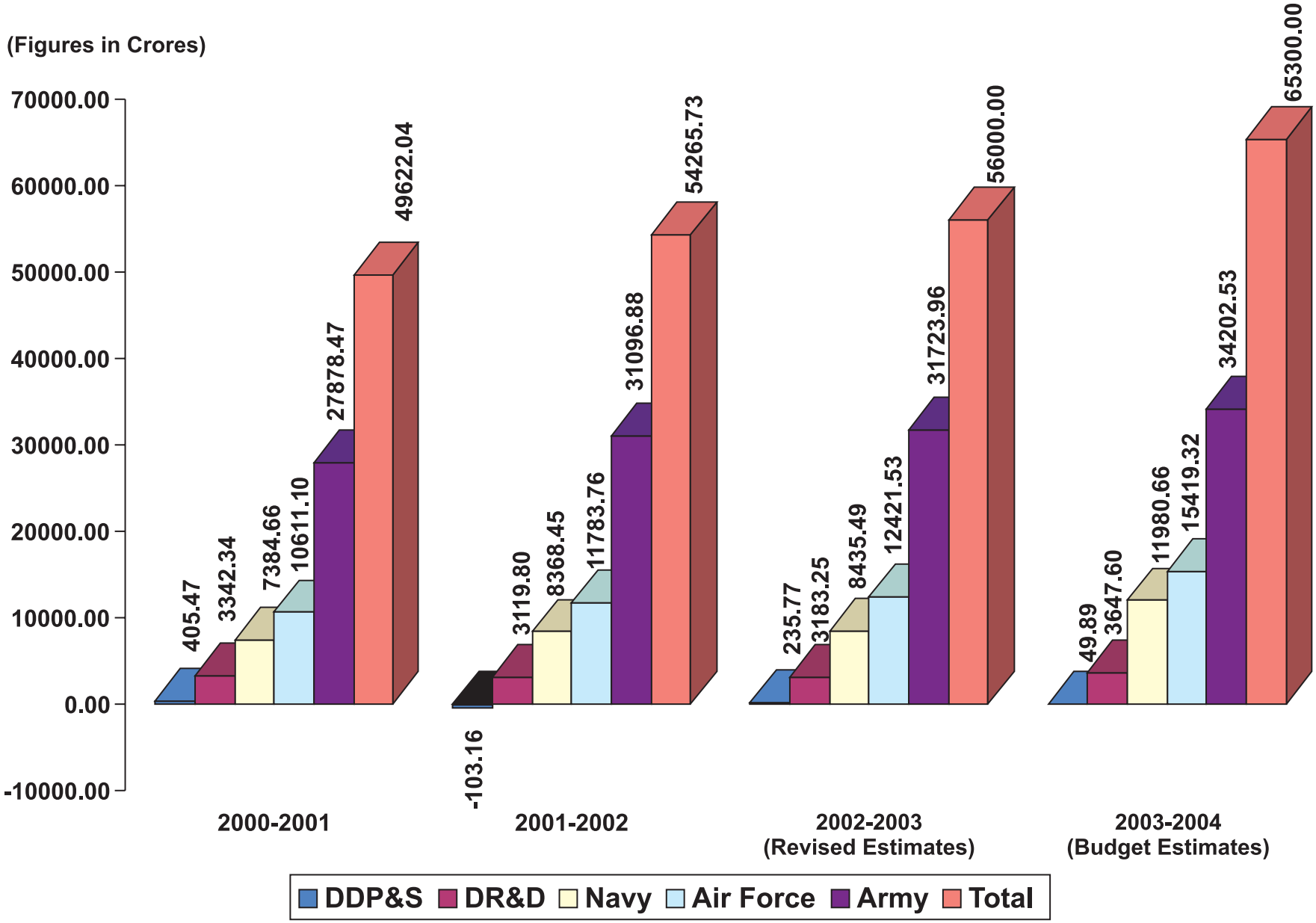
2.22 **Management of Strategic Assets :** Keeping in view the nuclear, chemical and biological dimensions of our security environment and in keeping with our commitment to no first use of strategic assets, the Government has approved establishment of requisite structures for administering the Strategic Assets and also set up the Strategic Forces Command.

2.23 **Delegation of Administrative and Financial Powers :** Various administrative and financial powers have been delegated to the Integrated Service Headquarters to impart enhanced autonomy in their functioning. Decentralisation of decision-making powers has strengthened and upgraded the decision-making apparatus in the Services. With higher delegation of financial powers, greater efficiency and cost effectiveness with accountability has brought about the transparency desired in the system of defence related expenditure.

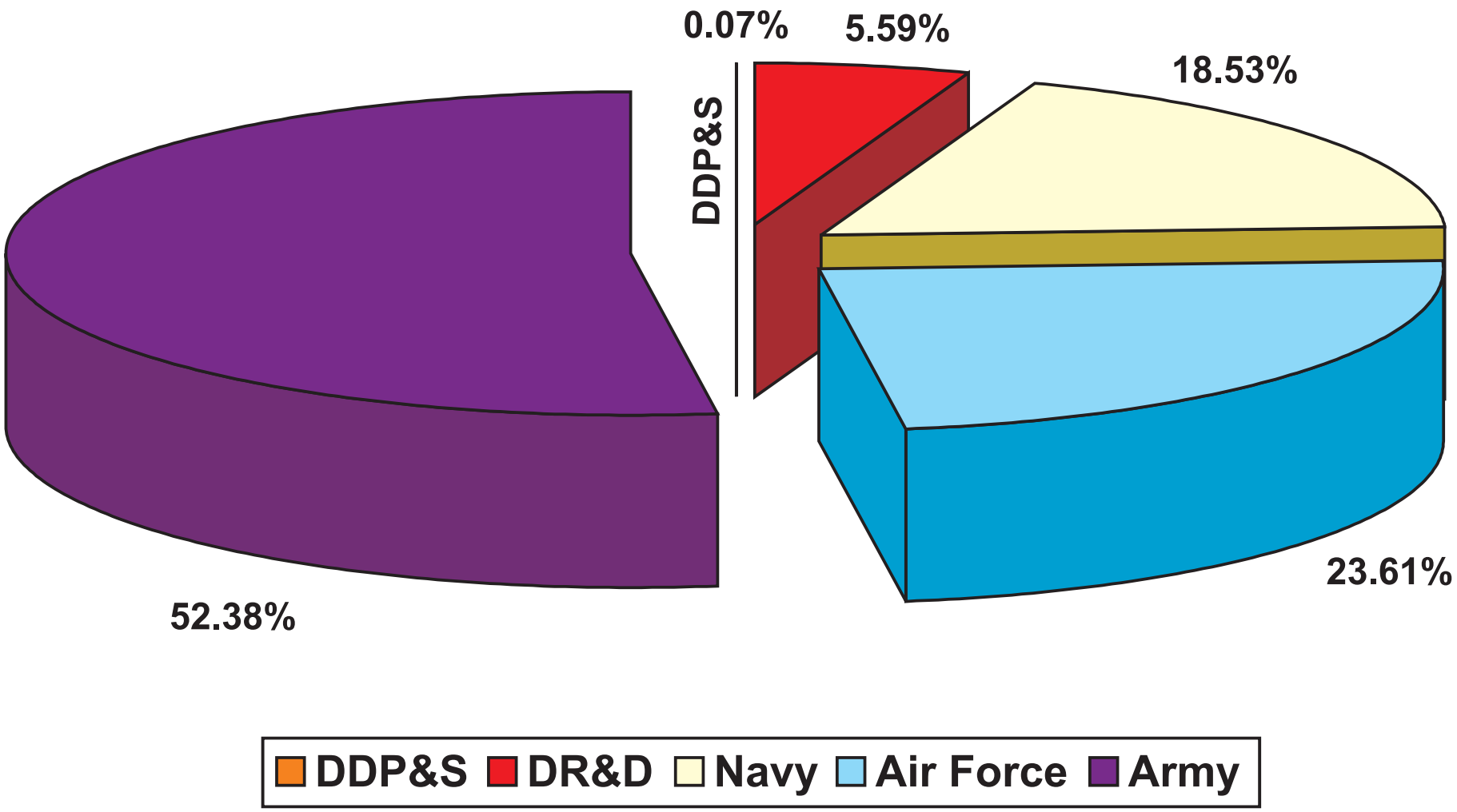
DEFENCE EXPENDITURE

2.24 The two charts in this chapter represent Service/Department-wise break-up of Defence expenditure for the years 2000-2001, 2001-2002, 2002-2003(RE) and 2003-2004(BE) and Service/Department-wise expenditure as a percentage of total Defence expenditure.

Service/Department-wise Break-up of Defence Expenditure



Service/Department-wise Expenditure as a Percentage of Total Defence Expenditure 2003-04 (BE)



3

Indian Army

Infantry and Armour — A Deadly Combination

3.1 The primary task of the Army is to safeguard the territorial integrity of the nation against external threats. Our military capabilities are directed towards ensuring the defence of our territory. In addition, Army is called upon, as and when necessary, to assist civil administration during internal disturbances to maintain law & order, as well as to organize relief operations during natural calamities such as floods, earthquakes, cyclones etc. The Army has been structured, equipped and trained to fulfil its primary task and to accomplish other tasks assigned to it.

OPERATION 'PARAKRAM'

3.2 The Armed Forces were mobilized in December, 2001, to thwart the active promotion of cross border terrorism and posturing by Pakistan. After the Armed Forces achieved their objectives they were re-deployed in October, 2002 from positions on the international border with Pakistan without impairing their capacity to respond decisively to any emergency and without lowering of vigil in Jammu & Kashmir.

MODERNISATION OF WEAPON SYSTEMS AND EQUIPMENT

3.3 During the year various measures and projects were implemented to modernize and upgrade the weapons & weapon systems of the Army to enhance its combat efficiency as also to address the requirements of modern day warfare. The more notable of such measures of each area are indicated in the succeeding paragraphs.

(i) **Armoured Corps:** T-90 tanks were inducted. These tanks are state of the art and have night vision capability and advanced armour protection. Trials of thermal imagery based sighting and fire control system were conducted with a view to equip the existing T-72 tanks. Image Intensifier night vision devices for the existing T-55 tanks were also trial evaluated.

(ii) **Artillery:** A new class of multi-barrel rocket launching system was introduced. The existing 130 mm field guns are being upgraded to 155mm. A new class of weapon locating radars were also contracted and there was introduction of various types of more accurate, terminally guided ammunition and projectiles.

(iii) **Infantry:** A major exercise was initiated to reorganize the infantry battalion for optimum utilization of combatant manpower and enhancement of combat efficiency. The infantry units were provided with various advanced types of grenade and rocket launchers as well as Ground Position Receiver System.

(iv) **Air Defence Artillery:** Army has successfully developed in-house, a simulator system 'Drona', for indoor & cost-effective training of soldiers for improving marksmanship on various weapons.

(v) **Signals:** Special emphasis was laid on equipping the forces with the latest, suitable and effective communication system, particularly for counter insurgency operations. The equipment include radio sets with frequency hopping and encryption facility, High Frequency and Very High Frequency set for the mechanized forces & infantry and wide band radio relay sets for point to point communication. A secure network of Very Small Aperture Terminal was commissioned for reliable and stable communication in the forward areas. The Phase-III of Army Static Communication Network was initiated, which is planned to eventually extend to Kashmir Valley and the North East.

(vi) **Engineers:** Production of Assault bridges, hitherto imported, have been indigenised under the guidance and support of Defence Research & Development Organisation. The 'Sarvatra' bridge manufactured indigenously is qualitatively superior to its percurser, the imported

Tank T-72 in Action

AM-50 bridge set. To match the increasingly advanced types of improvised explosive devices (IED) employed by terrorists and anti-national elements, particularly in the insurgency prone areas, state of the art counter IED equipment is being procured and issued to units deployed in such areas.

COUNTER INSURGENCY OPERATIONS

Jammu & Kashmir

3.4 The steady pressure of counter insurgency operations maintained in J&K by the Army, as also the Rashtriya Rifles, along side other security forces has been able to keep the security situation in the State from deteriorating further. The strategy of the Army has been to dominate the Line of Control and thus minimize infiltration of terrorists from across the LOC. Cross LOC infiltration did show a somewhat downward trend especially during the first half of the year but infiltration picked up during the latter part of the year, particularly prior to and during the J&K elections. Terrorists continued to make attempts to infiltrate across the LOC and several such attempts were foiled by the Army. In the hinterland, the Army, in synergy with other security forces, has been able to contain the activities of insurgents. The impact of operations of the Army and other security forces was most visible in the successful conduct of elections in J&K, despite threats of terrorist violence and serious and sustained efforts by the terrorists to intimidate the people of J&K and disrupt the election process, including through attacks on election rallies and killing of political figures. The celebration of the 54th Republic Day, with enthusiastic participation from the people of the State was also held across the State in district headquarters all over J&K, including in the Kashmir valley.

North-East

3.5 The magnitude of the decades old situation of insurgency in the North East has de-escalated considerably. The visible signs of peace and tranquility in Nagaland are a direct result of the cease-fire with both factions of National Socialist Council of Nagaland (NSCN), the oldest insurgent group in the North East. This, along with the peace talks held with the Bodo Liberation Tigers (BLT) bode well for the region. Operations by the security forces against other insurgent groups in the region have marginalized the latter considerably.

3.6 Salient aspects of the prevalent security environment in the North East are given below in brief:

(a) **Assam :** Sustained military operations by the Security Forces

Vigil from the Tree Top-Nagaland

under the Unified Headquarters have met with success resulting in the near marginalisation of the United Liberation Front of Assam (ULFA) and National Democratic Front of Bodoland (NDFB). Heavy attrition has been inflicted on ULFA's cadres by security forces.

(b) **Nagaland :** The cease-fire with National Socialist Council of Nagaland (IM) effected since August 1997 has been extended by another year. Government had also entered into a cease-fire agreement with NSCN(K) w.e.f. April 2001. The general situation in the State has continued to be peaceful despite sporadic incidents of unlawful activities by the two factions of NSCN.

(c) **Manipur :** The situation in the State has been generally under control and the valley based insurgent groups have maintained a low profile. However, there have been continuing turf wars between various groups, notably between the UNLF – NSCN(K) combine and NSCN(IM).

(d) **Tripura :** Operations conducted by the Security Forces in Tripura have resulted in large number of surrenders by activists of National Liberation Front of Tripura and All Tripura Tigers Force. Owing to these operations, activities of both these groups have been largely contained.

UN PEACEKEEPING OPERATIONS

3.7 Peacekeeping Operations under the over all aegis of United Nations have grown in relevance and importance. India is one of the largest contributor of troops and materials for UN Peacekeeping Missions. Officers and troops contingents of the Indian Army have been actively involved in Peacekeeping Missions in Lebanon, Ethiopia-Eritrea, Democratic Republic of Congo, Angola and Kuwait as given below in brief :-

(a) **Lebanon :** One Indian infantry battalion group as well as staff personnel, comprising 651 personnel, are deployed as peacekeepers in the UN Interim Force in Lebanon (UNIFIL). The Force Commander of the Mission is an Indian Army officer.

(b) **Ethiopia-Eritrea:** An Indian contingent, comprising an Infantry Battalion, a mechanized company, an Engineer company and personnel from Corps of Signals, Army Medical Corps, Electrical and Mechanical Engineers and Army Education Corps, has been deployed for the Peacekeeping Operations in Ethiopia and Eritrea (UNMEE). Indian Army is one of the largest troops contributor in this Mission with 1548 personnel. The Engineering Construction Company, has performed commendably by taking on variety of developmental work in the entire area of responsibility of UNMEE. In both UNIFIL and UNMEE, the Indian contingents have been giving humanitarian assistance and medical aid to the local populace, earning considerable goodwill and international appreciation.

(c) **DRC (Congo):** There are forty Indian Army officers serving as military observers in the UN mission in DRC (Congo) (MONUC).

(d) **Kuwait:** Eight Indian Army officers were serving as military observers in the UN Iraq Kuwait Observer Mission (UNIKOM), till February.

RASHTRIYA RIFLES

3.8 Ever since its raising in 1990, Rashtriya Rifles, a para military force under the operational control of the Army, has emerged as the main specialized force to counter proxy war and insurgency in the Jammu & Kashmir. Six additional battalions of Rashtriya Rifles were sanctioned during the year raising the force strength to fifty-four battalions. Operational performance of Rashtriya Rifles has been exemplary, with high motivational level of troops and good administration. However, success in proxy war and counter insurgency has not been without its cost, with many gallant officers and men of Rashtriya Rifles having made the supreme sacrifice in the relentless pursuit of the given objective.

3.9 Rashtriya Rifles troops have undertaken a number of goodwill missions in their respective areas. These include running of schools, providing medical aid and

organizing friendly matches between Army and locals. There has been overwhelming response from the civilian population with respect to such programmes which has generated a lot of goodwill for Rashtriya Rifles troops.

TERRITORIAL ARMY

3.10 A total of thirty-five units of the Territorial Army (TA) were embodied and mobilized for Operation PARAKRAM. This included thirty-one non-Departmental and four Departmental units of TA.

3.11 The Committee constituted to review the TA as well as a Task Force on Management of TA, set up by the Government, have submitted its recommendations.

TRAINING

3.12 A Junior Leaders Academy, for training of junior commissioned officers and non commissioned officers in the army, the second such institution for the army, was sanctioned this year for raising at Ramgarh. This academy is proposed to be eventually shifted on a permanent basis to Anandpur Sahib, Punjab.

Raksha Mantri Meeting Jawans During Operation Parakram

ADVENTURE & SPORTS ACTIVITIES

3.13 **Airborne Africa – 2002 :** Exercise Airborne Africa – 2002, an International airborne combat readiness competition was held in Botswana from June 01 to 15, 2002. A total of 28 teams representing 12 countries from different continents participated in the competition. Two teams represented the Indian Army from 10 PARA (Special Forces). The competition involved a grueling schedule requiring the teams to traverse a distance of more than 80 kilometers in the Northern part of Kalahari Desert over three days and included events such as Endurance March, Cross Country Navigation, Casualty Evacuation, Home Run and Combat Shooting. The two Indian teams led from the front securing first and second positions in the Endurance March, and also top honours in other events as well.

3.14 **Sailing Regatta 2002 :** "Sail the Gulf" Regatta is a prestigious championship held at Doha under the aegis of the Doha Sailing Association. In the Sailing Regatta 2002, there were a total of 100 boats representing 21 countries from all over the world. At this Regatta Nb Subedar Rajesh Choudhary of the Corps of Electrical and Mechanical Engineers represented India in the Laser Class Sail Boat Event. India won the current title and also won five out of the seven races sailed.

3.15 **Antarctic Expedition :** The Army's involvement commenced with the second expedition in 1982-83 when a small

contingent of three officers, including a medical officer, formed part of the expedition. Ever since then, the Army has been intimately involved in the conduct of these expeditions every year. Army's participation in these expeditions mainly involves assisting the Department of Ocean Development. This primarily involves :-

(a) Construction of permanent stations.

(b) Repair, maintenance and extension of stations.

(c) Running of all life support systems in the station and their maintenance.

(d) Overland transportation of men and material in Antarctica.

3.16 **Joint Indo-Bangladesh White Water Rafting Expedition :** A joint expedition of Indian rafting team with Bangladesh Army personnel was successfully conducted in mid November 2002. The team rafted down the Ganges River from Karan Prayag to Rishikesh from November 10 to 14, 2002.

3.17 **Joint Indo-Bhutan Motor Cycle Expedition :** A joint Motor Cycle Expedition was undertaken from October 14 to 20, 2002. The expedition team was flagged off from Thimphu on October 14, 2002 by HE Lyonpo Thinley Gyamtsho, the Home Minister of Bhutan. It covered a total distance of 1380 Kms traversing eight major passes, the highest being 3988 mtrs. and terminated at Haa on October 20, 2002 when it was flagged in by HE Lyanpo (Dr) Kinzang Dorji, the Prime Minister of Bhutan.

3.18 **Indian Army shooters :** The Army Marksmanship Unit Mhow has excelled in the National and International shooting arena. In the XVII Commonwealth Games at Manchester from July 24 to August 04, 2002, the shooters trained in the Army Marksmanship Unit bagged a rich haul of medals for the country. In the shooting events, out of a total of 14 Gold, 07 Silver and 03 Bronze Medals won by the Indian contingent, six Army shooters won 06 Gold, 01 Silver and 02 Bronze Medals.

3.19 **Annapurna-I Mountaineering Expedition:** On May 06, 2002, a glorious chapter was added to the history of Indian mountaineering when four army mountaineers scaled the 8091 mts. high Annapurna-I in the Nepal Himalayas, which is one of the highest peaks in the world. It has been scaled by very few mountaineers till date due to steep slope and hazardous climbing conditions.

WELFARE

3.20 Next of kin of all battle casualties occurred during the period from August 15, 1947 till April 30, 1999 have been granted one time payment of Rupees fifty thousand each from National Defence Fund and Army Central Welfare Fund. Disabled soldiers who are boarded/ invalided out of service with effect from August 15, 1949 to April 30, 1999 (other than Operation Vijay Kargil) have been paid for one time grant of Rupees one lakh out of Army Central Welfare Fund.

3.21 Army Central Welfare Fund has been set up as a corpus which receives generous donations from public and various organizations/corporate houses. The annual income out of the corpus of the fund is utilized for the rehabilitation and welfare of the families of martyrs and war disabled soldiers.

3.22 **Army Centre of Education (ACE) :** Army Centre of Education has been established under the Army Welfare Education Society (AWES), at AEC Training College and Centre Pachmarhi to provide education for the dependents of Army personnel. Army Schools, Army Public Schools and vocational institutions are imparting quality education and training in management, engineering, law, dental sciences, information technology etc. 27 schools are also being run for education of physically and mentally challenged children of Army personnel.

3.23 **War Widows Children Hostel:** 36 Hostels have been established and six more are being established for providing accommodation facilities to children of war widows.

3.24 **Welfare schemes for the wives of martyrs:** Widows welfare Cells are established in Area Headquarters, all Sub Areas and Station Headquarter in Andhra Pradesh, Tamil Nadu, Karnataka, Kerala and Goa, for expediting financial benefits, job opportunities etc. for the wives of martyrs.

3.25 **Medical Welfare Teams to Nepal :** 15 Medical Welfare Teams have been identified to visit and treat the Ex-servicemen and dependants of Serving

Personnel of Indian Army domiciled in Nepal during this financial year.

3.26 **Army Welfare Society:** This society was established and registered in June, 1998 with a view to process welfare projects. The Army is running 28 vocational-cum-rehabilitation training schools for disabled children at several cantonments. The Government is providing funds to run these schools.

3.27 **Officers' Selection and Recruitment of Other Ranks :** During the year intake of officers and recruits was as under:-

(a) **Officers Selection**

(i)	NDA	-	615
(ii)	IMA	-	335
(iii)	OTA	-	445
(iv)	Technical Entries	-	368
(v)	Women Officers	-	118

(b) **Recruits** - 1,10,660 (including 13850 recruits in current year upto June 30, 2002)

Jawans in Action

3.28 **Manpower State of Army (Personnel Below Officers Ranks) :** Manpower state of the Army in respect of PBORs is quite satisfactory. The deficiency is below 5% and all possible measures have been initiated to make up this deficiency at the earliest. In addition, there are approximately one lakh recruits under training at various training Centres posted to the units to make up the deficiency.

4

Indian Navy

Amphibious Operations

4.1 The last one year has been a tumultuous year for the Navy. There was unprecedented naval activity in the Indian Ocean Region, especially the North Arabian Sea. Several extra-regional powers were active in the area. The presence of multinational maritime forces in North Arabian Sea deployed for combating global terrorism was unprecedented. The Indian Navy had to take notice of these developments so close to our shores.

4.2 The year witnessed a steady upswing in naval cooperation with friendly foreign countries in the fields of training, exercise and operations. This is in consonance with the Navy's long-term vision to maintain its ability to influence events in our areas of interest.

4.3 Two Naval Ships namely Prabal (Missile Boat) and Gaj (Ocean Going Tug) were commissioned during this year. The commissioning of these indigenously built ships, truly reflects the multifaceted expertise of the defence shipyards and the maturity of our naval designing and building expertise.

MAJOR OPERATIONS AND EXERCISES

4.4 **Straits of Malacca (SOM) Escort Operation - Op Sagittarius:** As part of the Indo-US military cooperation for Operation 'Enduring Freedom', Indian Navy's participation in escort of high value shipping through the Straits of Malacca, code named 'Op Sagittarius' was started by Indian Navy in April, 2002. Indian Naval Ships (INS) escorted 24 High Value Vessels (HVV) through the Straits of Malacca before the operation was terminated on September 16, 2002.

4.5 **Low Intensity Maritime Operations (LIMO):** The Navy is involved in LIMO on the East as well as the West coast. **Operation Tasha** in the Palk Bay on the East coast is aimed at preventing smuggling of arms/narcotics and refugee influx along the Tamil Nadu coast. **Operation Swan** on the West coast is aimed at prevention of landing of explosives and other contraband on the coast of Gujarat and Maharashtra. The coastal areas of Maharashtra and Gujarat are kept under continuous surveillance with setting up of nine Naval Detachments (Nav Dets) working in tandem with Coast Guard and local civil administration.

SEARCH AND RESCUE OPERATIONS/ DIVING ASSISTANCE

4.6 **Causality Evacuation**: A patient was airlifted from MV Eagle about 280 miles south-west of Kochi on July 12, 2002.

4.7 **Diving Assistance**: Assistance was provided by the divers of the Navy on seven different occasions to various State Governments.

EXERCISES

4.8 **AMPHEX – 01**: A Tri-Service Amphibious Exercise, AMPHEX 01, was conducted in the Andaman & Nicobar Islands from October 3 to November 10, 2002. A large number of assets from the three Services and the Coast Guard participated in the exercise.

4.9 **Defence of Goa Exercise:** The Defence of Goa Exercise (DGX- 01) was conducted in the Central Arabian Sea from November 19 –23, 2002. Seventeen ships and submarines from the Western Naval Command, one ship from Coast Guard and aircraft of the Navy, Air Force and Coast Guard took part in the exercise.

4.10 **SPRINGEX – 02**: A major tactical exercise, SPRINGEX - 02 was conducted on the west coast from February 5 – 25, 2002 in which ships and aircraft from Indian Navy and Coast Guard, aircraft from Air Force and Army participated.

OVERSEAS DEPLOYMENTS OF INDIAN SHIPS

4.11 **1st Training Squadron:**

(a) **Malacca Straits:** The Training Squadron consisting of Indian Naval Ships Tir, Krishna and Tarangini was deployed in Malacca Straits during March, 2002. The ships entered Penang, Malaysia (March 21-23, 2002) and Phuket, Malaysia (March 25 – 27, 2002).

(b) **Persian Gulf:** The training Squadron consisting of Indian Naval Ships Tir and Sujata were deployed in Persian Gulf in October, 2002. During the deployment ships entered Kuwait (October 14 – 17, 2002) and Salalah (October 23 – 26, 2002).

4.12 **Eastern Fleet**: Eastern Fleet comprising Indian Naval Ships Ranjit, Shakti and Khanjar was deployed in Malacca Straits during August 2002. During the deployment the Fleet entered Singapore from August 20-23, 2002.

4.13 **Western Fleet**:

(a) **North Arabian Sea:** Western Fleet comprising of Indian Naval Ships Viraat, Delhi, Vindhyagiri, Ranvijay, Godavari, Mysore, Jyoti and Shakti was deployed in North Arabian Sea during March-April, 2002. During the deployment, ships visited following ports:-

(i) **Muscat**: Delhi, Vindhyagiri and Ranvijay visited Muscat from March 25 to 28, 2002.

(ii) **Al Jubayl**: Mysore and Godavari entered Al Jubayl, Saudi Arabia from March 25 to 28, 2002.

(iii) **Abu Dhabi:** Viraat and Shakti visited Abu Dhabi, UAE from March 30 to April 2, 2002.

(b) **South Indian Ocean:** Western Fleet comprising of Indian Naval Ships Delhi, Ranvijay, Aditya and Godavari was deployed in South Indian Ocean and east coast of Africa during August 2002 and the ships called on ports in Mauritius, Seychelles, Kenya and Tanzania.

4.14 **Training Voyage - Sail Training Ship Tarangini**: Indian Naval Ship Tarangini carried out a training voyage from July 25 to September 18, 2002 in preparation for round the world voyage being planned for 2003-04. Two officers from Seychelles embarked for training on Port Victoria - Male leg.

4.15 **International Fleet Review – Tokyo**: Indian Naval Ship Mysore was deployed for representing India at the International Fleet Review (IFR) held at Tokyo from October 9 –15, 2002. On completion of IFR, the ship took part in the multinational Search and Rescue Exercise (SAREX).

4.16 **International Hydrographic Meeting at Monaco**: Indian Naval Ship Darshak visited Monaco from April 17 to 19, 2002 to represent India during the International Hydrographic Meeting.

COOPERATION WITH FOREIGN COUNTRIES

4.17 **Visits by Foreign Dignitaries:**

S.No.	Country	Name	Dates
(a)	Singapore	Rear Admiral Lui Tuck Yew	March 3- 6, 2002
(b)	France	Admiral JL Ballet	May 1- 5, 2002
(c)	Israel	Yedidia Ya'ari	Mid Dec., 2002

EXERCISES/ JOINT OPERATIONS WITH FOREIGN NAVIES

4.18 **Varuna 02 –1**: The second Indo - French exercise Varuna 02 - 1 was held off Goa on May 14, 2002. From the French side, the nuclear powered carrier, FNS Charles de Gaulle and FNS Cassard, a Type F 70 Guided Missile Destroyer and from the Indian side, Indian Naval Ships Godavari and Ranvijay participated. This is the first time that a French aircraft carrier participated in a joint exercise with the Indian Navy.

4.19 **Escort of Mexican Sail Training Ship:** Mexican sail training ship Cuauhtmoc had requested for an escort through Malacca Strait on her passage to Singapore. Indian Naval Ship Sukanya escorted the Mexican ship from off Aceh to off Singapore from July 16 to 19, 2002.

4.20 **MALABAR 2002**: The fourth Indo - US bilateral exercise was conducted off Kochi from September 29 to October 2, 2002, after a gap of five years. Indian Naval Ships Delhi, Gomati, Shankul and Aditya and US Ships Chancellorville and Paul F Foster participated. P3C Orion and Dornier aircraft also took part.

Operating with the French Navy

4.21 **PASSEX**: Indian Navy carried out Passage Exercise (PASSEX) as follows:-

(a) **French Navy**: Indian Naval Ship Brahmaputra with French Naval

Ships De Grasse and Jules Verne, off Mumbai on April 15, 2002.

(b) **German Navy**: Indian Naval Ship Sharda with German ship Mecklenburg-Vopermman on July 30, 2002, off Kochi.

(c) **Mauritius Coast Guard**: Indian Naval Ships Delhi and Ranvijay with Mauritian Coast Guard ships on August 17, 2002 off Port Louis.

(d) **Seychelles People's Defence Force**: Indian Naval Ships Aditya and Godavari with Seychelles People's Defence Force ships on August 17, 2002 off Port Victoria. Items worth Rs 35.5 lakhs were gifted to Seyechelles Coast Guard for setting up of Boat Repair Workshop.

PROGRESS IN THE FIELD OF INFORMATION TECHNOLOGY

4.22 **Encrypted Information Storage Software:** An encryption tool named SENIC (Secure Environment for Naval Information on Computers) has been developed and distributed. The encryption software, which allows information in any memory device like Floppy, Hard Disk drive or any magnetic media to the software, also caters for Key or any magnetic media to be encrypted. The software also caters for Key Escrow mechanism. This software has been circulated in the Navy to allow all the machines to store information in an encrypted form.

4.23 **Security Measures Adopted**: Antivirus software for Navy usage was procured and distributed across the Navy. In addition, policy directives on Disaster Recovery Mechanisms and Laptop Security have also been promulgated.

4.24 **Information Technology (IT) Training**: The IT training for all the naval personnel has been targeted and is being progressed by the Indian Navy. The main initiative in the field of IT training is the signing of an Memorandum of Understanding (MoU) for training of naval personnel through Centre for Development of Advance Computing (CDAC) for high end IT courses mainly in the areas of IT Administration, Networking, Databases and Security.

4.25 **Naval Enterprise Wide Network (NEWN)**:The Navy has implemented an enterprise wide network, which connects 22 Naval locations all over the country. The Intranet is based on frame-relay network on Wider Area Network (WAN) and Ethernet on Local Area Network (LAN) with voice and data facilities. The NEWN is now being integrated with the Command Headquarters LANs in phased manner. This will enable sharing of information between NHQ and the Commands.

TRAINING

4.26 NHQ has so far deputed 26 officers/sailors for courses abroad in the Financial Year 2002-03. The new courses that have been availed this year are:-

(a) US Midshipmen Exchange Programme.

(b) Attachment with French Navy.

(c) National Defence University, China

(d) Staff Course in Germany

(e) Indonesian Naval Command & Staff College Course, Jakarta.

(f) College Intermesh de Defence (CID) Course in France.

(g) Visiting Fellowship Programme at USA/UK

(h) International Mine Warfare Staff Officers Course in Belgaum.,

(i) International Senior Rating Instructor (Missile) Course, UK.

(j) Joint Amphibious Operations Planning Course, UK.

(k) Intelligence and International Relations Course, UK.

(l) **Courses in USA:** The following courses have been availed for the first time/after a long gap in USA under USIMETP: -

(i) National Defence University (NDU) International Fellows Programme.

(ii) Senior International Officers Supply Management Course.

(iii) Surface Warfare Officer/ Advance Ship Handling Course.

(iv) Underwater Demolition/ Seal Indoctrine/Seal Training Basic Course.

(v) Senior International Defence Management Course.

(vi) Amphibious Warfare School Course.

(vii) Hull Maintenance Technicians Course for Sailors.

4.27 **Training of Foreign Naval Personnel**: Foreign Naval Personnel presently undergoing training at Naval training establishments under various schemes is as follows:-

S.No.	Country	Officers	Sailors
(a)	Bangladesh	06	00
(b)	Nigeria	04	01
(c)	Maldives	04	07
(d)	Sri Lanka	18	38
(e)	Mauritius	04	00
(f)	Malaysia	09	00
(g)	Cambodia	00	02

SPORTS AND ADVENTURE

4.28 **Commonwealth Games:** The following Naval personnel won medal in the Commonwealth Games held at Manchester in July – August, 2002:-

Sl No.	Name	Rank	No	Disciplines
(a)	Mukesh Kumar	MCPO-IIUC3	177485-A	Shooting
(b)	CPR Sudheer Kumar	CPO	128439-H	Weight Lifting

4.29 **Asian Games**: In the 14th Asian Games held at Busan (South Korea) from September 29 to October 14, 2002 Lt Cdr Mahesh Ramachandran won the Bronze Medal in Yachting event.

4.30 The following adventure activities were organised for naval personnel: -

(a) **Mountaineering**: The Indian Navy sent a nine-member team of naval personnel who in their maiden attempt successfully scaled a hitherto virgin peak in the Kumaon Himalayas.

(b) **Trek to Harsil to Har Ki Doon (Garhwal)**: A high altitude trek from Harsil to Harsil Ki Doon (Garhwal) region via Lham Khaga Pass (5280 M) and Barasu Pass (5450 M) was undertaken by a team of nine naval personnel.

Navy Contingent in Republic Day Parade

5

Indian Air Force

SU-30 MK-1

5.1 The responsibilities of the Indian Air Force (IAF) are multifarious. They range from air defence of the nation to providing reconnaissance, battlefield airstrikes and counter air operations during hostilities. The security environment of South Asia necessitates building and maintaining credible deterrence capabilities against threats from the north and the west. In contemporary wars/hostilities, air power application would precede any operation. Hence air superiority is a mandatory prerequisite to success in any land and sea battle. Alongside these responsibilities, the IAF undertakes peacetime operations like assistance to civil administration during natural calamities and transporting personnel for maintenance of law and order. It also meets the requirements of troops guarding border outposts on the high ranges of Himalayas, the deserts of Rajasthan and the inaccessible regions of the North East.

5.2 Keeping in view the challenges of the future technology-intensive warfare and the necessity for optimal utilization of resources, the IAF has embarked upon a modernization programme through new induction of aircraft systems, force multipliers and upgrade of old workhorses and weapon systems to keep pace with the emerging technologies. It has maintained its equipment and ensured high standards of professionalism.

5.3 The induction of the Light Combat Aircraft (LCA) is expected to take place soon. The upgraded MiG-21 Bis aircraft (Bison) now packs a lethal punch. A squadron of MiG 21 Bis UPG aircraft has been inducted into the IAF and is operational. Development of Su-30 MK-I aircraft has been completed and all the aircraft of phase-I have been delivered. The Hon'ble Raksha Mantri formally inducted the Su-30 MK-I aircraft on September 27, 2002.

5.4 The Jaguar Navigation and Weapon Aiming Sub-System (NAVWASS) aircraft are slated to be upgraded next year. Details of the proposal for upgrade of the MiG-29 fleet are being worked out. Defence Avionics Research Establishment (DARE), Bangalore, Hindustan Aeronautics Limited (HAL) and other indigenous agencies are involved in most of these projects. The Advanced Light Helicopter (ALH) has been inducted in the Indian Air Force. Upgrade of HS-748 is underway and contract for modification of the remaining aircraft is in final stages.

ACHIEVING TECHNOLOGICAL EDGE

5.5 The IAF is in the process of equipping all aircraft with the basic Electronic Warfare (EW) suite. Indigenous development of EW

Mirage 2000 back from mission

equipment is also being processed. Procurement of additional support equipment for Mirage-2000 to enhance its capability is under progress. Upgrade of Mi-35 helicopter is being serially carried out to enhance its overall capabilities.

FLIGHT SAFETY

5.6 A number of Streak Shadow micro light aircraft have been inducted for survey of bird activities in the extended local flying areas. The drive for clearance of vegetation and implementation of anti-bird measures is being vigorously pursued. Operational Safety Management workshops are being conducted by Directorate of Flight Safety at all major air bases and Base Repair Depots (BRD) to indoctrinate aircrew and officers of all branches to actively participate in reducing Human Error (HE) accidents.

FORCE MULTIPLIERS

5.7 Force multipliers such as Air-to-Air Refuellers (AAR) are being inducted to enhance the Radius of Action (ROA) of the strike aircraft and loiter time of the Air Defence (AD) aircraft.

INFORMATION WARFARE

5.8 **Space Applications:** Space and space assets being vital part of the nation's war fighting capability, IAF made significant progress by using space technologies in the field of communications, surveillance & reconnaissance and search & rescue. With the launch of satellite IRS-TES, India now has enhanced capabilities in imagery. INSAT series of satellite is used for communications, while IRS series is used for imaging.

SURVEILLANCE AND EARLY WARNING

5.9 **Aerostat Based Surveillance Systems**: Aerostat based surveillance systems are being acquired to provide gap-free low-level radar coverage in the western and southern sectors.

ST-68(U) — A low level radar on deployment

5.10 **Air Route Surveillance Radar**: A contract has been signed for procurement of one Air Route Surveillance Radar as replacement to the existing radar.

5.11 **Unmanned Aerial Vehicles (UAV):** The UAVs are now operational at their bases. These UAVs also took part in Op Parakram.

5.12 **Imagery**: Imagery capabilities have been enhanced with induction of modern equipment for quality analysis of satellite imagery. These facilities are being expanded rapidly.

5.13 **Media Utilisation**: Media is an important factor, in portraying the desired image of an organisation. IAF has taken steps to project correct image of itself and its activities. A film named 'Akash Yodha' was produced in 2001-02. In order to improve awareness about careers in IAF, the Air Force career website has been operationalised at **www.careerairforce. nic.in**. Since then there has been a 10% increase in the number of volunteers applying for the posts in Indian Air Force in 2002.

METEOROLOGY

5.14 The IAF participated in Arabian Sea Monsoon Experiment (ARMEX), sponsored by Department of Science & Technology, as a part of Indian Climate Research Programme from June to August. The routine observational data was passed to Operation Centre at National Centre for Medium Range Weather Forecast (NCMRWF), New Delhi in real-time. The IAF provided two modified An-32 aircraft for this experiment. A team of IAF meteorological personnel and scientists from Indian Institute of Tropical Meteorology (IITM), Pune were flown in each of the missions to record atmospheric parameters such as temperature profile, wind profile, aerosol composition, electrical conductivity of air and video mapping of cloud imageries. Twenty such missions were flown totaling 87 hours of flying effort.

TRAINING

5.15 **Recognition of Training/Courses**: The Director General Civil Aviation (DGCA)

granted recognition to selected flying establishments of IAF for the purpose of issuing commercial pilots licence to IAF pilots. The matter relating to recognition of the training imparted to maintenance personnel (both officers and airmen) by DGCA is also under progress. Similarly, the award of diploma in engineering duly recognized by All India Council for Technical Education (AICTE), to the technical training imparted in Indian Air Force is also under consideration.

5.16 **Training of Foreign Personnel:** Foreign students are availing training in Indian Air Force training establishments. During the year, officers and airmen from Bangladesh, Botswana, Cambodia, Indonesia, Malaysia, Mauritius, Maldives, Myanmar and Sri Lanka underwent training at various training establishments in India.

5.17 **Improving Ab Initio Pilot Training at NDA:** Super Dimona Motor Gliders have been acquired for training of the Air Force cadets of National Defence Academy (NDA).

MiG-29 with its arsenal

DEFENCE COOPERATION

5.18 Keeping in line with the development of relations between India and various countries, IAF undertook various joint exercises. These exercises have helped our personnel to acquaint themselves with the latest developments in the field of aviation as well as understand one another's procedures and promote goodwill. Details of the exercises in which IAF participated are given below.

5.19 **Exercise 'Balance Iroquois'**. A joint air transport exercise 'Balance Iroquois' was conducted at Agra with United States Special Forces from May 7 to 27, 2002, with the purpose of developing interoperability.

5.20 **Exercise Geronimo Thrust 02-1:** Exercise 'Geronimo Thrust 02-01' was a platoon level airborne exercise with United States Army, as mutually agreed to in the Executive Steering Group (ESG) (Army) meeting. It was conducted from September 28 to October 11, 2002 at Fort Richardson, Alaska. 50 (I) Para Brigade of the Indian Army /IAF and 1 Battalion 501 Parachute Infantry Regiment of United States Army Pacific (USARPAC), participated in the exercise. IAF contingent included four observers and one IL-76 with crew for transporting the Indian contingent. This was the first time that an IAF IL-76 had landed in USA for participation in an exercise.

5.21 **Exercise 'Cope India'**: Exercise 'Cope India' was conducted at Air Force Station, Agra from October 21 to 26, 2002. Participating forces comprised five C-130

Mi-35 being inspected before the mission

aircraft, the Contingency Response Squadron (CRS) and 150 -air/ground crew of United States Air Force (USAF). One IL-76 and seven An-32 aircraft of IAF participated in the exercise.

5.22 **Exercise 'Cope Thunder'**: IAF's observers participated in Exercise 'Cope Thunder' in Alaska from July 11 to 27, 2002.

5.23 **Exercise 'Garuda':** Various exchange visits were undertaken under the Indo-French Defence Cooperation Plan. A joint exercise 'Garuda' was held in February 2003 at Gwalior.

SPORTS AND ADVENTURE

5.24 **Skydiving :** IAF personnel proved their courage on and off duty hours. Skydiving jumps were made by Group Captain TK Rath, Wing Commander Sanjay Thapar, Squadron Leader RC Tripathi and Flight Lieutenant Jaikishan from a height of 17,000 feet Above Mean Sea Level (AMSL) with a landing at 4100 feet AMSL. This is the highest drop zone where jump has been carried out. Flight Lieutenant Kamal Singh Oberh became the first Indian to have carried out skydiving jumps both at North and South Poles.

5.25 **Parasailing:** Shri Alok Yadav, Lower Division Clerk, became the first Air Force civilian parasailing instructor.

6

Coast Guard

Hovercraft of Coast Guard

6.1 The Coast Guard is an Armed Force of the Union, set up in 1978, for the protection of our Exclusive Economic Zone (EEZ). The Coast Guard is responsible for keeping India's EEZ under regular surveillance in order to prevent poaching/smuggling and other illegal activities. The duty of Coast Guard also includes the pollution control at Sea, Search and Rescue (SAR) and protection of Marine Environment.

ORGANISATION

6.2 The Command & Control of the Coast Guard is exercised by the Director General, Coast Guard from the Coast Guard Headquarters located at New Delhi. It has three Regional Commands with the Regional Headquarters situated at Mumbai, Chennai and Port Blair. The entire coastline of India and the maritime zones are divided into three Regions. The Regions are further divided into Coast Guard Districts, each representing a coastal State, under a District Commander. There are two Air Stations at Daman and Chennai and four Air Enclaves at Goa, Mumbai, Kolkata and Port Blair.

COMMISSIONING/ ACTIVATION OF BOATS/ UNITS

6.3 (a) **Commissioning :** Two Interceptor Boats C-141 and C-142 and one Hovercraft H-186 have been commissioned into the service of Coast Guard.

(b) **Activation :** The following units have been activated: -

(i) Coast Guard Aeronautical inspection service at Chennai w.e.f. April 01, 2002.

(ii) Dornier Sqn 747 (CG) at Kochi with effect from April 22, 2002.

(c) **Operational Control of Coast Guard Units :** The operational control of all Coast Guard units was transferred to Navy during the "Operation Parakram". The redeployment of Coast Guard units was done by Naval authorities in consultation with respective Coast Guard Regional Commanders.

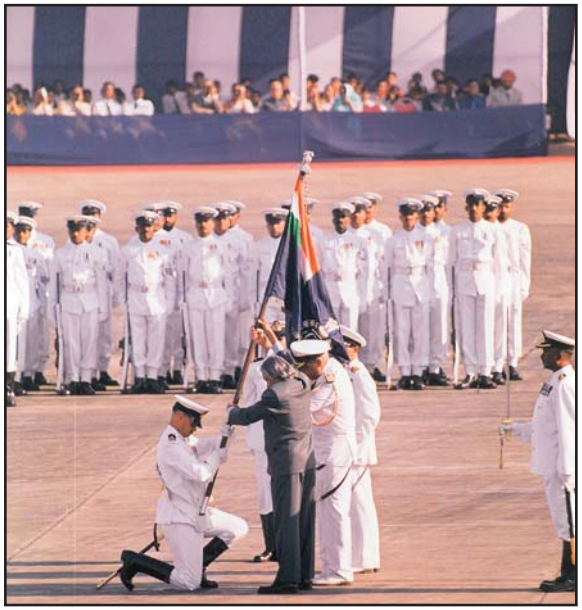
COAST GUARD PLANS

6.4 **Coast Guard Development Plan 2002–07 (CGDP 2002–07) :** The Coast Guard Development Plan (Kamath Plan) and Fifteen Year Perspective Plan (1985-2000) were reviewed in 2001-02 and a new Fifteen Year Perspective Plan (2002-2017) for the growth of Coast Guard was formulated. Based on this Perspective Plan, the five-year development plan (CGDP-2002-07) has been prepared.

MAIN ACTIVITIES, IMPORTANT CONTRIBUTION AND ACHIEVEMENTS

6.5 **Achievements :**

(a) Poaching boats apprehended	-	17
(b) Smuggling vessels apprehended	-	05
(c) Contraband confiscated	-	worth Rs.1.8 Cr
(d) Lives saved at sea	-	87
(e) Ships saved from distress	-	117
(f) Sea pollution averted	-	04
(g) Sea pollution combated	-	02



Colour presentation to Coast Guard by the President

JOINT EXERCISES

6.6 The third Indo-Japan Coast Guard joint search and rescue exercise was conducted at/off Chennai on November 9, 2002 wherein visiting Japan Coast Guard patrol vessel Yashima with its helicopter and one Advanced Offshore Patrol Vessel (AOPV), one Offshore Patrol Vessel (OPV), and one helicopter from Indian Coast Guard and one tanker from Shipping Corporation of India participated. The objective and motto of the exercise was "**Safer seas through co-operation**". This was comprehensively achieved and demonstrated during the exercise.

OPERATIONS

6.7 (a) **Operation Tasha :** Protection of Tamil Nadu Coast against the infiltration of militants has been entrusted to the Indian Navy and the Coast Guard. One Coast Guard ship ex-Chennai and one Interceptor Boat/ Interceptor Craft (IB/IC) from ex-Mandapam remains on continuous patrol in the Palk Strait. A Dornier aircraft ex- Chennai carries out air surveillance in Palk Strait and Gulf of Mannar.

March Past by Coast Guard

(b) **Operation Swan :** In the year 1993, consequent to the Mumbai serial bomb blast, large scale smuggling of arms and explosives was reported through sea, adjoining Maharashtra and Gujarat coasts. To counter this, Operation Swan was launched in co–ordination with Navy in April 1993 to patrol sensitive areas off the West Coast. This operation appears to have contained the situation to a large extent.

(c) **Operation Nakabandi :** With increased hostilities in Sri Lanka, influx of Tamil refugees have commenced again. Local fishermen have started smuggling diesel and other explosive making material. To check the influx of refugees and to curb the clandestine activities in Palk Bay and Gulf of Mannar, Operation Nakabandi was launched on August 13, 1996 and is continuing.

(d) **Anti Smuggling Operations :** Based on intelligence inputs from Department of Customs and Department of Revenue Intelligence, Coast Guard undertakes anti-smuggling operations. In addition, random anti-smuggling patrols are also conducted. Due to Coast Guard patrolling, incidents of smuggling contraband have come down drastically.

(e) **Search and Rescue (SAR) Operations :** Coast Guard ships and aircraft undertook various Search and Rescue missions and were instrumental in saving 87 lives at sea after receipt of distress messages from International Maritime Co-ordination Centre (INMCC), Bangalore. This has strengthened the Search and Rescue responses in the Indian Ocean under the new Global Maritime Distress System (GMDSS) operation. The major SAR operations are detailed below: -

(i) **Search and Rescue Assistance to MT Mario :** A Coast Guard Ship assisted to a Sierra Leone registered Motor Tanker - MT Mario, which was about to sink in position 180 miles east of point Calimere, Tamil Nadu in August 2002.

(ii) **Co-ordination of Search and Rescue Operations for Merchant Vessel (MV) Jasmine :** Coast Guard deployed one Dornier aircraft immediately for Search and Rescue co-ordination when the owner of the Vessel - MV Jasmine informed Coast Guard Station, Chennai that the vessel was flooding due to crack in her hull. The Dornier aircraft of the Coast Guard directed another ship MV XPRESS RESOLVE in the vicinity to render assistance that rescued all 25 crew members of MV Jasmine.

(iii) **Rescue of Crew – FV Kalicharan :** A Coast Guard aircraft launched from Calcutta to locate a missing fishing boat, Kalicharan-1, informed the Coast Guard ship – Sucheta Kriplani that assisted and rescued all 9 crews and brought them to Haldia from Sunderban Delta.

(iv) **SAR – Noor-Ul-Behr :** A Coast Guard ship - Kamladevi sailed

for Search and Rescue of a missing fishing vessel "Noor-Ul-Behr" South of Cannannore. The boat was located off Kasaragod light. Coast Guard provided medical aid, logistic support and the boat was towed to New Mangalore safely.

ANTI-POACHING OPERATIONS

6.8 Anti poaching operations were conducted on a regular basis in the Indian EEZ. Coast Guard ships have apprehended 17 fishing vessels. The details of major anti-poaching operations are:-

(a) Coast Guard ship Sangram, apprehended two Pakistani fishing vessels AL AZIZ/15270-B and AL-ZUKARIYA 14725-B with six crew each in position 28 nautical miles from Mitha Port Light.

(b) Coast Guard ship Tarabai apprehended two Sri Lankan fishing vessels Puspa Rani and Danuskhaputa with 6 crew in each vessel in position 80 nautical miles west of Vilinjam Light.

(c) Coast Guard ship Vajra apprehended two Thai fishing vessels Nava Udomsap-2 with 21 crew (4 Thai and 17 Myanmarese) and Nava Udomsap-3 with 17 crew (5 Thai and 12 Myanmarese) in Andaman & Nicobar Islands and handed over to local police at Port Blair.

(d) Coast Guard Hovercraft apprehended a Bangladeshi fishing vessels 'FB Hashim' with 12 crew in Hugli river. The Vessel along with crew was handed over to local police at Haldia.

OTHER OPERATIONS

6.9 An operation code named "Olive" was launched off Orissa Coast with a view to protect the endangered species of Olive Ridely turtles. Coast Guard ships and aircraft continue to be deployed during November - May each year for protection of the turtles. As a result of intensified patrolling by Coast Guard ships, fishing activities in the restricted area gets reduced considerably.

6.10 **Interception of adrift Merchant Vessel :** A Merchant Vessel Al-Murtada was reported adrift off Ratnagiri on July 3, 2002. A Coast Guard Dornier aircraft and a ship were immediately launched to identify and monitor the drifting vessel. The aircraft on task reported that the vessel is adrift and likely to run ground off Maharashtra coast. The Coast Guard, the Kandla Custom and the Immigration authorities intercepted the vessel and handed over ship and crew members of Al-Murtada to District Magistrate, Sindhudurg, Maharashtra.

6.11 **Assistance to Indonesian Motor Tanker MT TIRTA :** Coast Guard ships Priyadarshini and Jijabai were diverted from Paradip port to assist Indonesian registered Motor Tanker TIRTA, adrift at high seas, with cargo of Palmolien oil. Despite adverse sea conditions, the 24-crew member of Indonesian vessel were rescued and their ship was towed to safety by Coast Guard Ship Jijabai.

6.12 **Salvage Operation of Bangladeshi Barge:** Bangladeshi Barge 4B-416 loaded with 872 metric tones of bridge construction material under tow by Tug ENA Fortune was reported missing since May 6, 2002. A Coast Guard ship Jijabai was sailed from Paradip to locate and tow the drifting Barge that had become a navigational hazard for the vessels operating at sea on the East coast. The barge was safely brought to Paradip and handed over to the local agent.

OTHER ACTIVITIES

6.13 **Seaward Security to oil Rigs :** Coast Guard ships and aircraft carry out regular patrol in the offshore area to provide seaward security to oil rigs off Mumbai and off Tamil Nadu coast. The Director General of Coast Guard is the Chairman of the Offshore Security Co-ordination Committee, which discusses the security and disaster management of oil rigs once in a quarter. Coast Guard is conducting following security and maritime law implementation activity off Maharashtra coast.

(a) **Operation Tromscan** - Coast Guard is carrying out this operation to provide seaward security to Bhabha Atomic Research Centre (BARC) - Trombay. Coast Guard Interceptor Boats and aircraft are deployed for this operation.

(b) **National Data Buoy Programme of National Institute of Ocean Technology :** Coast Guard Ships and aircraft are providing security for

National Data buoys position in Arabian sea and Bay of Bengal for collection and monitoring of Oceanographic Data by Department of Ocean Development.

6.14 **Medical Evacuation :** The motor tanker PORT ARTHUR which was on its passage from Singapore to Fujairah, United Arab Emirates contacted Coast Guard Station, Goa for assistance to evacuate their crew member Mr Petre Marian, who sustained head injury due to fall on deck. A Coast Guard ship immediately sailed to intercept vessel in rough seas and successfully evacuated the patient on board and provided urgent medical assistance. The patient was thereafter, admitted to local hospital for emergency treatment.

COMMUNITY INTERACTION

6.15 While the Coast Guard carries out its duties as per charter, there are certain unwritten requirements of all national organisations to fulfil certain national goals towards development and the greater common good. With this in mind, the Coast Guard has initiated a Community Interaction Programme with the fishing and coastal community and the school children. Fishermen are given talks on safety at sea, action in distress, carrying of life jackets, radio frequencies on their transistors, rule of the road etc. In addition, certain sports programmes, such as volleyball or tug of war and inter village sports are being arranged. School children are given talks on the sea, shipping environment and maritime awareness. A sea cadet corps station is being started in Daman, which will be followed by units at smaller places, such as, Tuticorin, Mandapam, New Managalore and Paradip. Coast Guard ships have adopted an island each in the Lakshadweep where the doctor conducts OPD for a few hours.

USE OF HINDI

6.16 Coast Guard encourages the use of Hindi in the office-work and during this year a great emphasis was given for noting/ drafting in Hindi. All the Coast Guard Bulletins and Coast Guard Orders are printed in Hindi. The incentive schemes introduced by the Government are also implemented and the Coast Guard personnel were awarded cash prize for writing 20,000 words in Hindi. A Hindi fortnight programme was organised from September 16 – 27, 2002 in which various competitions were held like essay writing, noting and drafting, translation, dictation, Quiz etc.

THE COAST GUARD (AMENDMENT) ACT, 2002

6.17 The Coast Guard (Amendment) Bill, 2002 was introduced in the Monsoon Session – 2002 of Parliament to amend various sections relating to personnel matters. The Bill has been passed by the Parliament and assented by the President as "The Coast Guard (Amendment) Act No. 44 of 2002".

Coast Guard personnel in Diving operation

7

Defence Production And Supplies

Aero-India Show 2003

7.1 Department of Defence Production was set up in 1962, in the aftermath of the Chinese aggression to create a self-reliant and self-sufficient indigenous Defence production base. In November 1965, Department of Defence Supplies was created to forge linkages between the civil industries and Defence production units. The two departments were merged in December 1984 into the Department of Defence Production and Supplies.

7.2 Since 1962, 16 new Ordnance Factories have been set up. Their capacities have been augmented and modernised selectively keeping in mind the emerging requirements of the Armed Forces. All the Ordnance Factories and Defence Public Sector Undertakings (DPSUs) are engaged in the task of manufacture of equipment and stores for Defence Services. One more Ordnance Factory is being set up at Nalanda, Bihar. In addition, the capacities of civil sector are also utilised for the purpose. The following DPSUs are functioning under the administrative control of the Department :-

(i) Hindustan Aeronautics Limited (HAL)

(ii) Bharat Electronics Limited(BEL)

(iii) Bharat Earth Movers Limited(BEML)

(iv) Mazagon Dock Limited (MDL)

(v) Goa Shipyard Limited (GSL)

(vi) Garden Reach Shipbuilders and Engineers Limited (GRSE)

(vii) Bharat Dynamics Limited(BDL)

(viii) Mishra Dhatu Nigam Limited (MIDHANI)

7.3 In addition, the following organisations are also associated with the Department of Defence Production and Supplies for technical support:-

(i) Directorate General of Quality Assurance (DGQA)
(ii) Directorate of Standardisation
(iii) Directorate General of Aeronautical Quality Assurance (DGAQA)
(iv) Directorate of Planning and Coordination
(v) Defence Exhibition Organisation (DEO)

7.4 These Defence production units have become self reliant, progressively. Additional capacities have been built up and new items have been productionised. These include the main battle tank Arjun, the Advanced Light Helicopter(ALH) and a range of 155 mm ammunition.

7.5 The total value of issues by Ordnance Factories and Defence Public Sector Undertakings during the last three years, is as follows: -

(Rupees in crore)

Year	**Ordnance Factories Under-takings**	**Public Sector**	
	Total Sales	**Total Sales**	**Grand Total**
2000-2001	5522.00	7666.58	13188.58
2001-2002	6105.00	7666.32	13771.32
2002-2003 (Targets)	6725.00	9042.27	15767.27
Achievements (upto Dec, 2002)	2836.22	7831.65	10667.87

7.6 Defence Public Sector Undertakings and Ordnance Factories have exported items worth Rs.114.05 crore up to December 31, 2002 against the annual target of Rs. 232.63 crore for the year 2002-2003.

SUPPLIES WING

7.7 With a view to achieving self-reliance in the vital sector of Defence, the Department has been endeavouring to indigenise defence equipment wherever technologically feasible and economically viable. It has been a part of our indigenisation effort to locate and develop broad-based indigenous supply sources both in the public sector as well as in the civil trade for many sophisticated and complex equipment. There has been a significant change in the role of private sector/civil trade in the field of indigenisation, i.e., from the role of supplier of raw-materials, components, sub-systems, they have now become partners in the manufacture of complete defence equipment/ systems. The defence industry sector, which was so far reserved for the public sector, has now been opened up for participation by the Indian private sector. The Indian companies are now eligible to apply for license to set up defence industry for manufacture of all types of defence equipment. Such companies can also have foreign direct investment, upto 26% of their equity. This is a watershed in the history of Defence Production. Detailed guidelines have already been issued by the Department of Industrial Policy & Promotion (DIPP) in consultation with the Ministry of Defence setting out the modalities for consideration

of applications for grant of license. During the year twelve applications from private sector have been considered by the Department for grant of Letters of Intent.

7.8 For indigenisation of spares of defence equipment, an institutional framework has been in existence in the form of 8 Technical Committees, comprising of officers from the Directorate General of Quality Assurance. Each Committee is headed by a Technical officer of the rank of Major General/ Brigadier or equivalent. These committees maintain a compendium of civil industries capable of undertaking the task of indigenisation of defence equipment / stores after conducting surveys and assessing their capabilities. After identifying items in consultation with the user services for indigenisation and keeping in view the commercial viability and the strategic needs, these Committees take up indigenisation activities and ensure timely supply of defence equipment/stores. Government has taken a decision in February, 2002 that in future indigenisation work would be the responsibility of Production Agencies like Ordnance Factories & Defence PSUs and Service Headquarters.

7.9 With the objective of encouraging civil industry for indigenous development of Defence stores, a scheme of National Award for Excellence in indigenisation was introduced in the year 1993-94. The efforts made by the Industry in substituting inputs of defence equipment & stores are duly recognized by the Department and deserving units are presented with suitable awards.

7.10 To help the civil sector familiarize itself with the requirements of Armed Forces, permanent sample rooms are maintained in the four metropolitan cities. For facilitating greater and more meaningful interaction, conferences/exhibitions are organised from time to time in collaboration with civil industry. During the year 2002-2003 (upto December, 2002) six exhibitions were conducted at various locations throughout the country.

7.11 In the year 2001-2002, Supply Orders were placed for ab-initio development of 1405 items along with 4 systems/sub-systems. During 2002-2003, 778 items were taken up for development upto 31.12.2002.

ORDNANCE FACTORIES

7.12 Ordnance Factories are an integrated base for indigenous production of defence hardware & equipment and function under the Department of Defence Production & Supplies. Defence production is highly specialized, complex and poses unique challenges. Products have to be safe, reliable, consistent in quality and capable of operating under varying terrains as well as climates and under extreme conditions. Accordingly, the technologies applied, which cover a wide spectrum of engineering, metallurgy, chemical, textile, leather and optical technologies, should ensure high quality and productivity, apart from meeting the primary objective of self-reliance. Apart from supplying armaments to Armed Forces, wherever adequate capacities are available, the Ordnance Factories also fulfil the requirements of Paramilitary & Police Forces/Ministry of Home Affairs (MHA) for arms, ammunition and clothing etc. Thus, the Ordnance Factories endeavour to enhance their capacity utilization not only by securing work load from the defence forces but also through sustained efforts in diversification to non-defence customers and exports.

7.13 The Indian Ordnance Factories Organisation completed 200 years of its existence on March 18, 2002. The Ordnance Factories Organisation is a fine blend of the old and the state-of-the-art factories with the first Ordnance Factory established in 1801 at Cossipore, near Kolkata and the 40th factory being set up with state-of-the-art technology at Nalanda, Bihar for production of Bi-modular Charges. The 40 Ordnance Factories are geographically distributed all over the country at 25 different locations. The pre-independence factories had capacities created not only for production of finished stores, but also had in-house facilities integrated backwards for supply of basic and intermediate materials, for which indigenous industrial infrastructure in the civil sector was then inadequate. In respect of the factories set up after Independence and with gradual emergence and development of civil industrial infrastructure in public and private sector, the concept of backward integration was progressively given up and the emphasis shifted from production of basic intermediate inputs to production of finished stores by drawing upon supplies from the civil sector for raw-materials, components and semi-finished goods to the extent practicable.

7.14 **Organisation :** The structure of the Ordnance Factory Organisation was changed in 1979 to promote cohesive, effective and coordinated functioning, based on the recommendations of an expert and high-powered committee (Rajadhyaksha Committee). The Ordnance Factory Board (OFB) was accordingly formed with Director General Ordnance Factories (DGOF) as Chairman and 9 Members in the rank of Additional DGOF; one member being from the Finance stream.

7.15 Presently, Ordnance Factories are divided into 5 operating groups/divisions, based on the main products/technologies employed; these are:

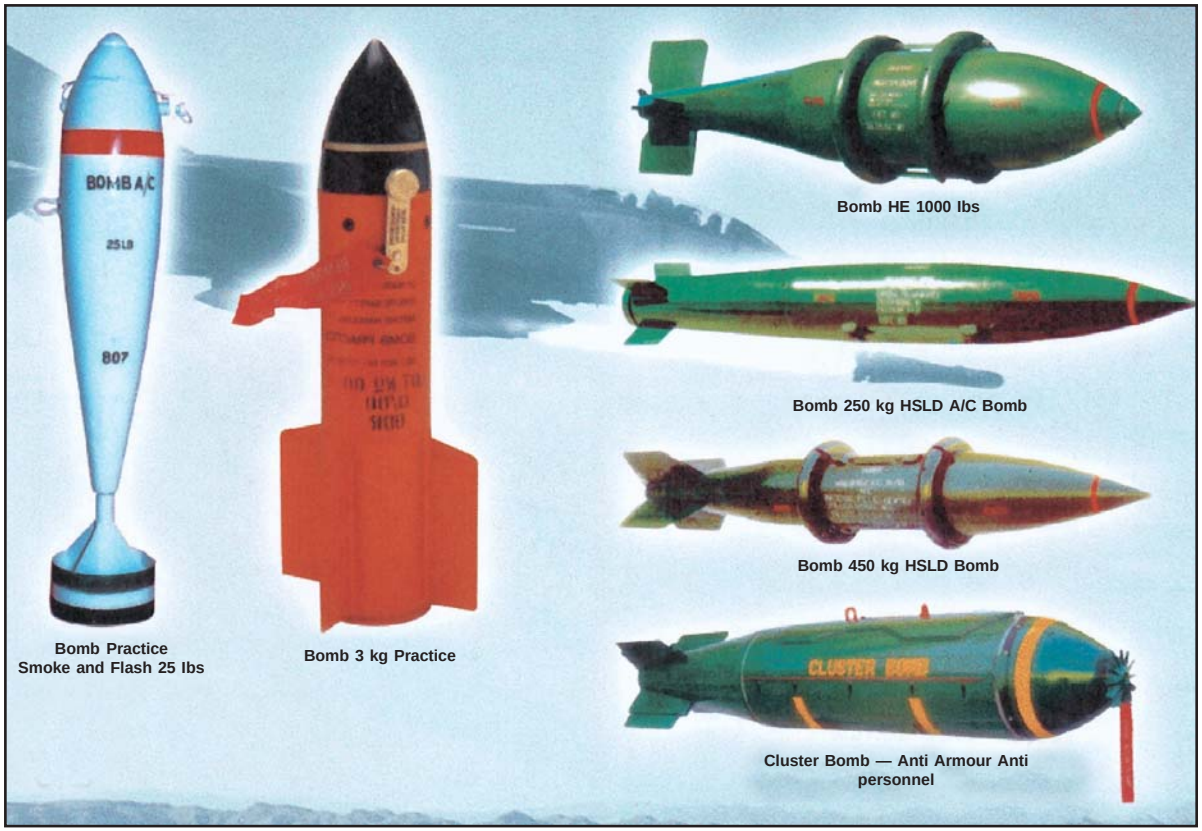
- Ammunition & Explosives
- Weapons, Vehicles and Equipment
- Materials and Components
- Armoured Vehicles and
- Ordnance Equipment Group of Factories.

7.16 A member/Addl. DGOF heads each of the above group of factories. The remaining four Members are responsible for staff functions, viz. Personnel, Finance, Planning & Material Management, Projects & Engineering and Technical Services.

7.17 A Special/Extended Ordnance Factory Board provides for representation of the Army, Defence Research & Development Organisation and Ministry of Defence. The Special Board meetings are held periodically to provide appropriate inputs and perspectives for planning resources, upgrading technology of products and process and on various other critical issues necessary for the efficient functioning of OFB.

7.18 **Product Profile and Technology :** The Ordnance Factories continuously upgrade their products and the manufacturing technologies to meet the emerging needs of Defence Forces. The facilities and capacities in the Ordnance Factories produce a wide range of arms and ammunitions for the Infantry, Artillery and Armoured Corps of the Army; Navy and the Air Force. The factories produce Military Transport Vehicles, Infantry Combat Vehicles, Armoured Vehicles, Optical and Opto-electronic instruments, summer & winter uniforms, parachutes, miscellaneous leather goods and general stores etc. Facilities also exist for design & manufacture of special purpose machine tools for captive use in the production of arms & ammunition.

7.19 A major thrust is being given in Ordnance Factories to achieve optimum capacity utilization not only by securing increased workload from the Defence Forces but also through sustained efforts



Aerial Delivery Bombs manufactured in Ordnance Factories

in diversification to non-defence customers and exports.

7.20 **Growth :** The sales of Ordnance Factories have been steadily growing over the years. A record total sales of Rs.6105 crore was achieved during 2001-2002 representing an increase of about 8.9% over the preceding year's sales of Rs. 5608 crore. In 2002-2003, the sales of Ordnance Factories are expected to be higher at Rs. 6502 crore. Ordnance Factories have endeavoured to keep pace with the development in arms, ammunition and other equipment by updating/upgrading technology either through Defence Research and Development Organisation or through transfer of technology (TOT) route.

7.21 The Ordnance Factories have also steadily increased their sales to non-defence customers, including exports. During 2001-2002, 12.4% (Rs 756 crore) of the total sales of the Ordnance Factories was to non-defence customers. This represents a 25.2% growth over the previous years' sales to non-defence customers (Rs 604 crore). In 2002-2003, the sales to non-defence customers are expected to be much higher at Rs.874 crore.

7.22 **Highlights :** Some of the significant achievements of Ordnance Factories in last few years have been as follows:-

(i) While all the thirty nine Ordnance Factories(40th being set up) have been accredited with Quality Management Systems (ISO 9002:9004), five Ordnance Factories have also been accredited IS/ISO 9001:2000 quality system, which is an upgraded version that gives special emphasis on customer satisfaction and continued improvement in Quality and Process Control. Apart from the five Ordnance Factories already accredited with IS/ISO 9001:2000, two more Ordnance Factories have been recommended for IS/ISO 9001:2000 accreditations.

(ii) The increased capacity utilization saw the defence forces benefit by way of reduced prices. The year 2001-2002 saw a 3.00% reduction in the average weighted price of Ordnance Factories. During 2002-2003, the average weighted price has been further reduced by another 1.01%.

(iii) Ordnance Factory Project, Medak (OFPM) has established new method of proof firing Carrier Mortar Track (CMT) Vehicles. This will increase the proof firing capacity by three times.

(iv) Rifle Factory, Ishapore (RFI) has developed and established production of a state-of-the-art 0.22" Revolver, a new weapon for personal safety. The development and manufacture of this Revolver was completed in less than a year, and the Revolver was formally launched on 17.6.2002.

(v) In line with the international trend to upgrade existing equipment, since it is economical to upgrade the existing equipment such that it matches the performance of the new equipment, Ordnance Factories are in the process of producing 155 mm upgraded equipment for the Army.

(vi) Ordnance Factories are going to establish Radial Forging Facilities for production of heavy caliber gun barrels. This is a state-of-the-art plant available only in a few countries.

(vii) Opto Electronics Factory, Dehradun (OLF) obtained accreditation for its Optical Calibration Laboratories from the National Accreditation Board for Laboratories (NABL).

(viii) Ordnance Factory, Nalanda is a green field project conceived for manufacture of Propellant Charges for 155 mm weapon systems at Rajgir in Nalanda district of Bihar. An area of 2700 acres has been acquired and civil works have commenced at the site.

(ix) The T-90 Main Battle Tanks have been inducted into the Indian Army and its indigenous production is planned in the Ordnance Factories. The activities pertaining to establishment of indigenous production is progressing in full swing and the first indigenously produced T-90 tank is expected to roll out during 2003-2004. The induction of T-90 tanks is expected to increase the strike capability of the Indian Army.

7.23 **Self Certification in Ordnance Factories :** Continuing their commitment to quality, and in line with the practices prevailing in industry, both within and outside the country, Ordnance Factories have started self-certification since 1.4.2002, thereby,

standing guarantee to the products supplied by them to the Defence Forces. Presently, self-certification extends to seven fast moving clothing & general store items accounting for about 20% of the turnover of the Ordnance Equipment Group of factories. In course of time, more items will be covered under self-certification.

7.24 **In-house Research and Development Activities :** In-house Research & Development activities towards Product & Process improvements are receiving great deal of attention in Ordnance Factories. Techniques of solid modelling and sensitivity analysis are adopted to meet the design needs of defence stores. Some of the major achievements in the field of in-house R&D are as follows:-

(i) Development of indigenous substitute of various components & sub-assemblies of Shell 155 mm Illuminating 18 km MIRA.

(ii) Development of Aluminum Alloy 7010 Flat for Light Combat Aircraft in controlled stretched T-76351 condition.

(iii) Development of indigenous capacitor unit for TDPK-I (Laser Ranging Finder with Fire Control System)

(iv) Development of indigenous ignition unit for TDPK-I.

(v) Development of indigenous photo Detector Assembly with modified Ignition unit for Block 'D' of TDPK-I.

(vi) Development of Assault Rifle to match the capabilities of AK-47, the Rifle has been offered to the Ministry of Home Affairs units for trials.

7.25 **Diversification into Civil Trade and Exports :** Ordnance Factories produce a large variety of chemicals for commercial use by industries in the civil sector. They also manufacture a wide range of textiles, leather goods and sporting arms and ammunition for the civil sector. The sales towards civil trade during 2001-2002 were Rs. 271 crore as compared to Rs. 218 crore in the preceding year, which represents a growth of 24%. The production of .32" Revolvers & Pistols was substantially increased to 19,000 Revolvers and 4300 Pistols during 2001-2002, as compared to 10,500 Revolvers and 1600 Pistols in the preceding year, which generated revenue worth Rs 103 crore during 2001-2002. Ex-shelf position has been achieved in respect of .32" Pistol. The revenue from sporting arms & ammunition during 2000-2001 was Rs. 167 crore as against Rs. 118 crore in the previous year, which represents a 41.5% growth.

7.26 Arms & ammunition, weapon spares, chemicals & explosives, leather and clothing items have been exported by Ordnance Factories to thirty countries worldwide. Ordnance Factories are making vigorous marketing efforts to boost exports by participating in International Exhibitions, product promotion through advertisements in the international media, interaction with visiting delegations from target countries, agents and customer's representatives, both in India and abroad. Product catalogue Compact Discs (CDs) that are e-mail-able and printable, have been developed to enable customers immediate access to the desired information. Online Internet ID has been set up to cut down response time to a few hours. With this aggressive marketing effort, Ordnance Factories were able to book orders to the tune of Rs. 62 crore till 31.10.2002.

7.27 While OFB have maintained their foothold in traditional markets of Nepal, Thailand, Malaysia, Algeria, Turkey and Botswana, they have also booked orders from USA, Swaziland, New Zealand etc. in the current year. During 2001-2002, Ordnance Factories made exports to the tune of Rs. 35.3 crore. During, 2002-2003 exports are expected to be in the range of Rs. 60 crore.

MODERNISATION OF ORDNANCE FACTORIES

7.28 Government has finalized a modernisation plan for all the Ordnance Factories. The plan encompasses upgrading technology, augmenting capacities and replacement of old/obsolete technologies and production facilities with plant & machinery of latest technology. Modernisation and automation of the infrastructure in Ordnance Factories is being done to update the plant and machinery to meet the quantitative and qualitative demands of the end products. The product technology, as well as the process requirements and capabilities, are kept in mind during the process of modernisation. The technologies and machines being planned are flexible so as to cater to a wide range of products. During the 10th plan period, an investment of Rs. 1786 crore is envisaged for the modernization plan.

ENERGY CONSERVATION

7.29 Efforts aimed at energy conservation are a continuous process in Ordnance Factories. The conservation measures encompass all spheres of activities. Consequent to the energy conservation measures adopted by Ordnance Factories, there have been reduction in the cost of energy consumption with respect to the cost of production. Economy in energy consumption is achieved through improved efficiency, enhanced utilization and by upgrading technology. The energy consumption during 2001-2002 was 3.38% of the value of production as against the targetted 4.2% for the year.

SAFETY

7.30 The corporate safety policy was reviewed during 1996 to bring in stringent safety standards, safety consciousness and vigilance in the ordnance factories. The safety manuals and standing instructions supplement safety policies. A disaster management plan is also prepared for contingent measures and Safety Committees (central and shop level) have been constituted. Accident prone and hazardous areas merit special concern and attention.

7.31 A three-tier safety audit and monitoring system ensures strict implementation of the laid down safety norms. Safety audits are carried out at level-I by the factory on monthly basis, at level-II by a team of Safety Officers from other Factories on six monthly basis and at Level-III by Regional Controllerate of Safety (RCS). Rectification of the deviations reported in the audit is closely monitored by the respective RCS and at Corporate level by the Controller of Safety (COS)/OFB.

7.32 A one-day safety seminar was organised at Pune by Ordnance Factory Staff College on October 20, 2002 to discuss and deliberate on various safety aspects and concerns and to ensure focus on safety preparedness and evolve preventive strategies and formulate action plan.

POLLUTION CONTROL

7.33 The pollution control activities in the Ordnance Factories are given due importance. The factories obtain statutory consent orders from the respective State Pollution Control Boards for discharge of liquid effluents and gaseous emissions and have fully operational Effluent Treatment Plants. The factories also submit annual Environmental Statements to the respective State Pollution Control Boards in the specified format within the stipulated time frame.

ENVIRONMENT PROTECTION

7.34 In line with the Government policy for protection of environment, afforestation is undertaken in all the Ordnance Factories as an ongoing process. It is planned to plant 41,25,025 new trees in 2002-2003 out of which 21,32,041 trees have been planted up to 31.10.2002.

PRODUCTIVITY BONUS

7.35 The formula for payment of Productivity Linked Bonus (PLB) to civilian employees of Defence Production Establishments has been revised. Based on the revised formula, PLB equivalent to 41 days wages was paid to the eligible employees for the year 2001-2002.

COMPUTERISATION IN ORDNANCE FACTORIES

7.36 Information Technology (IT) is a major thrust area to provide Management Information for decision support systems at all levels, improve design capabilities, improve accounting and analysis and reduce paper work.

7.37 At the Ordnance Factory Board and in all the Ordnance Factories Computerised Applications have been implemented in the areas of:

- On line Production Planning and Control (PPC)
- Pay-roll
- Personnel Information System (PIS)

7.38 Computerized Personnel Information System for all employees of Ordnance Factories and Production Monitoring System (PROMOS) are maintained at OF Board, Kolkata. Local Area Network (LAN) has been established in Ordnance Factories, Regional Training Institutes, Ordnance Factory Staff College and Ordnance Factory Board. Satellite based Wide Area Network (WAN) has been established to connect the Ordnance Factories and OFB for Voice and Data Communication. Video conferencing facility is also available at 5 locations. A project for LAN & WAN integration and computerized MIS at Board level is under progress. Updated information on

Products, Services and other relevant matters is now available at Ordnance Factory Board website www.ofbindia.com.

QUALITY MANAGEMENT

7.39 In Ordnance Factories, quality improvement is an ongoing process and is inbuilt into the production system. Implementation of Total Quality Management (TQM) concepts has been given a major thrust in all Ordnance Factories. The Quality Management principles outlined in ISO 9000:2000 are being incorporated in all Ordnance Factories. Measurable indices are being developed in line with ISO-(December, 2000 revision) standards for incorporation in Quality Procedures towards ISO 9001:2000 certification well before the deadline of December 2003. Nineteen Ordnance Factories have already got accreditation of their laboratories from National Accreditation Board for Laboratories (NABL).

CUSTOMER SATISFACTION

7.40 To get feedback from customers, teams from Ordnance Factories regularly visit depots and forward areas to attend to customer complaints, understand the problems faced by the users and also understand their expectations from the product. Joint teams comprising officers from OFB and DGQA also visit forward areas to get user feedback with a view to improve quality.

RAJBHASHA

7.41 Progressive use of Hindi is given due importance in the Ordnance Factories. Separate Official Language Implementation Committees (OLICs) are functioning at each unit. Quarterly meetings are being held regularly to review the progress of Rajbhasha in various units as well as the Ordnance Factory Board.

7.42 Hindi Workshop classes were organized for employees in OFB Headquarters. The objective of the workshop was to provide an opportunity to the participants to understand the use of Hindi in day-to-day office work. Rajbhasha competitions were held in all Ordnance Factories and the OFB Headquarters. The competitions included Hindi Essay, Debate, Typing, Noting and Drafting etc. The winners of these competitions were suitably awarded at functions held on Hindi Day/Fortnight on 14.09.2002. Efforts are being made to provide bilingual software for most of the computers.

PUBLIC SECTOR UNDERTAKINGS

7.43 The Investment, Value of Production and Sales and Profit of the 8 Defence Public Sector Undertakings are given in Appendices-I to III to this chapter.

HINDUSTAN AERONAUTICS LIMITED (HAL)

7.44 Hindustan Aeronautics Limited was formed in October 1964 by merging of Hindustan Aircraft Limited and Aeronautics India Limited. The company has 12 divisions located in 6 States.

7.45 Hindustan Aeronautics Limited (HAL) has evolved into a large Aeronautics Complex in Asia. It has built up comprehensive skills in design, manufacture and overhaul of Fighters, Trainers, Helicopters, Transport Aircraft, Engines, Avionics and System Equipment. Its product track record consists of 11 types of Aircraft from in-house R&D and 13 types by licence production inclusive of 8 types of Aero Engines and over 1000 items of Aircraft System Equipment (Avionics, Mechanical and Electrical).

7.46 HAL's major supplies/services are to the IAF, the Navy, the Army, the Coast Guard and the BSF. As a spin-off, Transport aircraft and Helicopters have been supplied to Airlines as well as State Governments. The company also supports fully the Space Vehicle programme of Indian Space Research Organisation (ISRO) and participates in the missile development and manufacture programmes.

7.47 Presently, HAL has developed itself into a large multi-disciplinary Aeronautical Complex. In order to meet the challenges of the 21st century, the company has redefined its mission as follows:-

"To become a globally competitive Aerospace industry while working as an instrument for achieving self-reliance in design, manufacture and maintenance of Aerospace Defence equipment and diversifying to related areas, managing the business on commercial lines in a climate of growing professional competence."

7.48 Realising the urgent need in the post liberalization phase for strengthening Research & Design activities, the same has been re-organised into several discrete and functional Research & Design Centres and

co-located with related manufacturing divisions for synergy.

7.49 Significant achievements of HAL during the year are highlighted below: -

(i) HAL has undertaken several new projects, such as Series Production of Advanced Light Helicopter (ALH), Licence Production of SU-30MKI, Development of Intermediate Jet Trainer (IJT), Limited Series Production of Light Combat Aircraft (LCA) apart from several upgrade programmes such as MiG-21 BIS, MiG-27M, Jaguar and HS-748.

HPT-32

(ii) 5775 items are planned for indigenisation during 2002-03 resulting in an estimated savings of Rs.31.00 crore per annum at current price level. 4174 items were indigenised during the period April - December 2002 and the anticipated foreign exchange savings would be Rs.24.61 crore per annum.

(iii) The company has bagged "Gold Trophy" of Standing Conference of Public Enterprises (SCOPE) for excellence and outstanding contribution to the Public Sector Management- Institutional Category 1998-99 and the "Best Top Ten MOU" Award by the Department of Public Enterprises for 1999-2000.

(iv) The company has received Engineering Export Promotion Council (EEPC) Award for the ninth successive year, sponsored by the Ministry of Commerce, Government of India for best performance in "Engineering Consultancy, Technology Know-how and other Engineering Services" category.

(v) All the manufacturing and overhaul divisions of HAL are certified to ISO 9001/9002 standards of Quality Systems. 5 Divisions are also certified for ISO 14001 Environmental Management Systems.

(vi) Implementation of a number of quality and safety improvements as part of the quality improvement plans has resulted in significant reduction in customer complaints and premature withdrawals of HAL products.

(vii) HAL Divisions are providing a total support (both technical and logistics) required by the customers for effective utilization of the products manufactured/ overhauled at HAL and keep the aircraft, engines and equipment fit for use to fulfil the customer's mission.

(viii) A world-class multi-role, multi-mission cost effective Advanced Light Helicopter of 5 ton category with a high degree of composite and advanced technology features has been developed by HAL for the first time to cater to the requirements of Army, Navy, Air Force and Civil applications. 7 Helicopters have been delivered to Army (4), Navy (1), IAF (1), CG (1) in 2001-02 and 11 are planned for delivery in 2002-03.

(ix) HAL being the major partner in the Light Combat Aircraft (LCA) project has contributed by way of structural design, systems design and integration, development of prototype and also design and development of a large number of electrical, hydro-mechanical and advanced avionics items.

(x) HAL has initiated the project for developing a new Intermediate Jet Trainer aircraft (HJT-36), which will have better performance and manoeuvrability with lesser weight and lower operating cost, higher armament carrying capability and modern systems & avionics.

(xi) The upgradation of direct supply Jaguar Navwass aircraft has been undertaken by the company for integration of latest avionics system for improving navigation and weapon aiming performance. The system integration on trial aircraft and the development work are expected to be completed by 2003-04 and will be followed by upgradation on the series aircraft.

(xii) The development of PTAE-7 Engines for use on Pilotless Target Aircraft has been successfully completed. Further performance fine tuning requested by Aeronautical Development Establishment (ADE) are being taken up.

(xiii) MIG-21 BIS upgradation has commenced at HAL and upgradation has been completed on 21 aircrafts as of December 2002 out of the 123 planned for upgradation.

BHARAT ELECTRONICS LIMITED (BEL)

7.50 The Bharat Electronics Limited, established in 1954 with its corporate office at Bangalore, has nine units in the country. It is engaged in the design, development and manufacture of sophisticated state-of-the-art electronics equipment components for the use of defence services, para-military organizations and other governmental users like All India Radio, Doordarshan, Department of Telecommunications, Police Wireless, Meteorological Department etc. BEL is focusing on R&D within the company to generate substantial business for the company using the state-of-the-art manufacturing and testing facilities available. On-line computerization for materials management, state-of-the-art test facilities, facilities for carrying out environment and reliability checks, electro-magnetic interference/electro magnetic compatibility testing facility, antenna testing facility, back-up support from standardisation, technical information and documentation, and computer-aided design and manufacture have made BEL a modern professional electronic company.

7.51 Significant achievements of BEL during the year are: -

(i) Around 72% of BEL's turnover has been for the Defence Services and BEL's contributions to the Services in their various programmes like Plan AREN for Army, Plan ADGES for Air Force and Navy's modernization programmes have been very significant. BEL meets a variety of requirements of the Services in the area of Radars, Sonars, Communication Equipment and Systems, SATCOM, Tank Electronics, Electronic Warfare Equipment etc., meeting stringent Defence specifications with the assurance of lifetime product support.

(ii) BEL is also playing a significant role in the civilian 'Professional Electronics' sector of the country particularly for the Ministry of Information and Broadcasting by supplying it with bulk of its infrastructural requirements for Radio and TV Broadcasting, like Studio Equipment, Transmitters, Satellite Uplinks, OB Vans etc. In the field of telecommunication too, BEL has had an important part to play, particularly in the area of transmission equipment where it had met the significant requirements of the Bharat Sanchar Nigam Limited (BSNL). BEL had important role in the modernisation of the Airports through supply of Primary/Secondary Surveillance Radars to Airports Authority of India. Some of the recent additions to BEL's product mix in the Civil Sector include Integrated Fish Finder and Navigation Guidance System, Solar Traffic Signals, Mother boards for computer, Satellite Communication Network for Andhra Pradesh, Electronic Voting Machine (EVM) etc.

(iii) BEL pioneered the growth of the electronic 'Components' industry in the country by setting up the manufacture of electron tubes [TV picture tubes for the consumer electronics industry, transmitting tubes for All India Radio/ Doordarshan and the Industrial needs, microwave tubes, x-ray tubes, vacuum interrupters etc.], Semiconductor Devices, Integrated Circuits, Hybrid Micro Circuits, Liquid Crystal Displays, Solar Cells & systems, passive components like Crystals & Capacitors etc.

(iv) BEL's R&D Units develop a number of new products every year. These new products contribute to the turnover through successful commercialisation. The efforts of R&D have resulted in substantial savings of foreign exchange through import substitution and indigenisation over the years. Many strategic requirements of the nation in the area of professional electronics & defence

electronics have been developed through the R&D efforts. Some of the R&D developed products find place in the world market also. BEL R&D Units have been receiving National R&D awards, quite regularly.

(v) BEL has been conferred with DSIR National R&D Award for in-house R&D efforts under Electronics Industry Sector for R&D project Radar Video Generator & Simulation Scenario Generator for the Reporter Radar.

(vi) All the Units of BEL are certified for ISO 9001/9002. Action has already been initiated to graduate to ISO 9000: 2000 during the year 2001-02 and already 5 divisions have been certified ISO 9000 : 2000.

(vii) The MoU rating for the period under review is excellent.

BHARAT EARTH MOVERS LIMITED (BEML)

7.52 Bharat Earth Movers Limited was established in May 1964 and commenced operations from January 1965. With the disinvestments of shares of BEML, Government of India is still the major shareholder as of end March 2002, holding over 61.23% of equity shares of the company. BEML's manufacturing divisions are located at Bangalore, Kolar Gold Fields (KGF) and Mysore.

7.53 All the production units of BEML are fully equipped with necessary general purpose machines and special purpose machines like extra heavy duty machines, Computer Numerically Controlled boring machines (CNC machines), CNC bevel generating system of Gleason design, flexible manufacturing system, heavy and large size fabrication facility, welding robots, etc., to manufacture transmission and axles, Hydraulic control valves, cylinders and pumps, diesel engines, railway coaches, rail buses, railway wagons, Alternating Current Electrical Multiple Units(ACEMUs), heavy duty all terrain multi axle trucks, earth moving machinery and Tracked military vehicles like armoured recovery vehicles, self propelled gun, tanks and other military vehicles like heavy recovery vehicles, bridge laying tank, truck based mobile bridge system, mounted gun system on truck chassis, rocket launcher system etc.

7.54 Significant achievements of BEML during the year : -

(i) Continued emphasis is given to R&D activities so that the Company maintains its position of leadership in earthmoving industry. Moving ahead in this direction, the Company has successfully productionised BE1600 Hydraulic Excavator, BG605A Articulated Motor Grader & BL10C Side Discharge Loader.

(ii) BEML's R&D wing is presently working on design and development of disaster management equipment with financial assistance from Technology Information, Forecasting and Assessment Council (TIFAC) of the Department of Science and Technology. The project envisages design changes to accommodate special attachments on 30 Ton class Excavators for application in clearance of material in disaster affected areas as well as a radio controlled dozer for deployment in hazardous working environment.

(iii) BEML's products are exported to UK, Middle East, Sri Lanka, Bangladesh and African Countries. Value of exports till December 2002 was Rs. 10.36 crore.

(iv) All the manufacturing units of BEML continue to hold accreditation to ISO 9001 certification.

MAZAGON DOCK LIMITED (MDL)

7.55 Mazagon Dock Limited was taken over by Government of India in May 1960. It is a leading shipyard in the country and builds a variety of ships for the defence and civil sectors. Its product range includes, destroyers, frigates, missile boats, corvettes, submarines and patrol vessels for the defence sector and merchant vessels, dredgers etc. for the civil sector. MDL has also diversified its product range to cater to the needs of the oil exploration sector by producing and installing well head platforms of the Oil and Natural Gas Commission.

7.56 Significant achievements of the Company during the year have been:

(i) Delivery of Missile Boat "INS PRABAL" to Indian Navy.

(ii) Launching of the first Border Outpost (BOP) Seema Prahari Dwarka for Border Security Force.

(iii) Laying of keels of the first, second and third BOP for BSF and second warship of P-17 Project for Indian Navy.

GARDEN REACH SHIPBUILDERS & ENGINEERS LIMITED (GRSE)

7.57 Garden Reach Shipbuilders and Engineers Ltd. was acquired by the Government of India in 1960 as a public sector undertaking under the Ministry of Defence. The company builds and repairs warships and auxiliary vessels for the Indian Navy and the Coast Guard. Its product range includes frigates, corvettes, oil tankers, patrol vessels, attack craft, high technology ship borne equipment, portable bailey type steel bridges, turbine pumps for the agricultural sector, main sewage treatment plants, diesel engines etc.

7.58 Significant achievements of the Company during the year are highlighted below :

(i) Third and fourth Fast Attack Crafts (FACs) of the series was delivered to the Indian Navy.

(ii) The third follow-on Corvette of P-25A series was delivered to the Indian Navy.

(iii) The last of the series of six Hovercrafts (H-186) was delivered to the Coast Guard.

(iv) An export order of Rs. 25 lakh (US$ 54,000) was successfully completed for a South East Asian firm.

GOA SHIPYARD LIMITED (GSL)

7.59 Goa Shipyard Limited was taken over by the Government of India in 1967 as a Public Sector Undertaking under the Ministry of Defence. The company builds a variety of medium size, special purpose ships for the Defence and Civil Sector. Its product range includes survey vessels, missile boats, patrol vessels, offshore supply vessels, oil tankers, passenger ferries, tugs and barges etc.

7.60 Significant achievements of the Company during the year are indicated below:-

(i) One Fast Patrol Vessel was delivered to Indian Coast Guard in November 2002.

(ii) The Company has augmented its ship repair facilities by renovating and modernising two slipways with a view to obtain large repair and shipbuilding orders for marine and naval vessels.

(iii) The Company has been awarded ISO 9001 Certification for 'Design, Construction and Repair of various types of ships and crafts'. The Company also initiated steps to obtain certification under ISO 9000-2000 in the year 2002-2003.

(iv) The Company has embarked on an export promotion drive through bidding for global tenders and participating abroad in exhibitions, seminars and presentations relating to shipbuilding capacities of the Company.

BHARAT DYNAMICS LIMITED (BDL)

7.61 BDL was set up in 1970 for manufacture of Guided missiles. It is among a few strategic industries and possesses the capability to produce advanced Guided Missile systems. The Company is working hand in hand with DRDO for technology absorption of other missiles under Integrated Missile Development Programme.

7.62 The highlights of BDL's performance during the year are: -

(i) During the year 2001-2002, the 4th Division of BDL, Information Technology Division also received ISO – 9001 accreditation.

(ii) BDL attaches the utmost importance to customer satisfaction. The company regularly participated in field firings conducted by the users.

(iii) BDL carried out various improvements in manufacturing process and inspection procedures. Efficiency in the process has increased by way of computerization. These have resulted in increasing value added per employee, steadily.

(iv) BDL has also started manufacturing the lightweight torpedo developed by DRDO, which can be launched from surface ships to helicopters.

MISHRA DHATU NIGAM LIMITED (MIDHANI)

7.63 Mishra Dhatu Nigam Limited (MIDHANI) was incorporated as a Public Sector Undertaking in 1973 at Hyderabad to achieve self-reliance in the areas of super-alloys, titanium alloys and special purpose steels required for strategic sectors like Aeronautics, Space, Armaments, Atomic Energy, Navy, Special products like molybdenum wires and plates, titanium and stainless steel

tubes, alloys for electrical and electronic application like soft magnetic alloys, controlled expansion alloys and resistance alloys.

7.64 The significant achievements of MIDHANI during the year are summarised as under:-

(i) MIDHANI successfully demonstrated the technological capability of producing a sophisticated Niobium alloy required for critical space application.

(ii) Successfully developed complicated shaped forgings of a special stainless steel as a part of Company's strategy to move towards value added products.

(iii) Successfully completed hot rolling of thick plates of titanium alloy for fabrication of high-pressure 'Gas Bottles' for the first time in the country.

(iv) Successfully productionised a wide range of high quality bio-medical implants made of Titanium as low-cost import substitutes and attained a stage for launching it on commercial scale.

(v) MIDHANI continued to extend special materials support to programmes of national importance such as LCA, PSLV/GSLV, Armaments in the Defence, Aeronautical, Space & Atomic Energy Sectors.

(vi) Executed an export order for large size plates/slabs of titanium alloy (Ti-6 Al- 4V).

(vii) MIDHANI has successfully developed and characterized the filler wires and subsequently used them to overlay AB2PK forgings as per the requirements.

(viii) MIDHANI exported goods valued at Rs 64.84 lakhs upto December, 2002, which consisted mainly of Molybdenum and Titanium products to Netherlands, Taiwan, Vietnam, Japan and United States of America.

(ix) MIDHANI has developed manufacturing process for making titanium alloy hemisphere through super plastic forming, which is a very advanced technology. The specialized Tungsten Inert Gas (TIG) facility for making value added items have been commissioned. Welding and testing of weld coupons is in progress.

(x) Surveillance audit by Bureau of Indian Standards (BIS) for certification of MIDHANI Quality System to IS/ISO 9002, 1994, has been successfully completed during the year.

(xi) MIDHANI has obtained quality certification of its products from -

- M/s Boeing Aircraft Company, USA for Titanium and titanium alloys for C-17 program and MD series,
- M/s General Electric Aero Engines, USA, and
- DGCA, DGAQA, DGQA and customers like VSSC.

OTHER ORGANISATIONS IN DEPARTMENT OF DEFENCE PRODUCTION AND SUPPLIES

DIRECTORATE GENERAL OF QUALITY ASSURANCE (DGQA)

7.65 The Directorate General of Quality Assurance (DGQA) is an inter-service organisation functioning under the Department of Defence Production & Supplies. It is responsible for Quality Assurance of all defence stores and equipments, both imported and indigenous for the Army, the Navy (excluding naval armaments) and all common users items for the Air Force. It has, therefore, a vital role to play in the defence preparedness of the Country.

7.66 The Organisation is structured into seven Technical Directorates each of which is responsible for a distinct range of equipment. The Technical Directorates are vertically structured in three - tiers for functional purposes, comprising their respective Headquarters, Controllerates, Field Quality Assurances Establishments & Proof Establishments (for Armament discipline only). The tasks performed by them are complimentary and are integrated to achieve maximum efficiency.

7.67 **Inspection of stores:** The DGQA are ensuring that stores accepted are strictly as per prescribed specifications and performance parameters. The value of stores inspected & accepted by DGQA during the last three years are as under:

Year	Value (Rs. in crore) Inspected
2000-2001	11837
2001-2002	12808
2002-2003 (upto Dec., 2002)	9695

7.68 **Quality Assurance of Imported Equipment :** DGQA is performing the vital role of inspection of Imported Equipment and Weapon System being acquired by the Armed Forces. During the last 3 years Consignments from foreign sources of Ammunition, Missiles, Weapons and Clothing items worth Rs. 2500 crore (approx) have been inspected by DGQA.

7.69 **Self Certification :**DGQA Organisation has been awarding Self-Certification status to Quality conscious firms/ manufacturers who have well established Quality Management system and demonstrate consistent product quality during the execution of successive Defence Supply Orders. 30 firms have been awarded Self-Certification status so far.

7.70 **Exhibition :** DGQA in association with Department of SSI, organised 8 exhibitions at different locations all over the country during the year. In addition to displaying the samples by various technical directorates, Vendor Awareness Programmes were organised by Defence Institute of Quality Assurance, Bangalore.

DIRECTORATE GENERAL OF AERONAUTICAL QUALITY ASSURANCE(DGAQA)

7.71 DGAQA has its Headquarters at New Delhi with Resident Inspection Establishments at various production centres in the country. Its main functions *inter-alia* include quality assurance during design/development, production, overhaul and repair of military aircraft and accessories, technical association with DRDO, establishment of indigenous spares for production of aeronautical stores etc.

ALH Dhruv

7.72 During the year 2002-2003, (upto December, 2002), DGAQA has inspected Aeronautical Stores of the value of Rs.1260.00 crore. DGAQA also actively associated in the QA of various sophisticated indigenous projects and also participated in Integrated Guided Missile Development Programme (IGMDP) and non-IGMDP Projects like Prithvi/Akash/ Trishul Missiles, both as the overall Nodal Agency and Quality Assurance Agency for most of the major systems.

DIRECTORATE OF STANDARDISATION

7.73 Directorate of Standardisation was set-up in 1962 with the objective of controlling items proliferation within Defence Services. Nine standardisation cells and six Detachments have been located at nodal stations in the country to give a boost to the Standardisation activity. The prime objective of Directorate of Standardisation is to establish commonality in equipment and components among the three Services so that the overall inventory of Defence Services is reduced to the minimum. This objective is sought to be achieved through:

(i) Preparation of Standardisation documents such as Joint Services Specifications, Joint Services Preferred Ranges, Joint Services Rationalised Lists, Joint Services Guides, Joint Services Policy Statements & Joint Services Qualitative requirements.

(ii) Codification & Cataloguing of Defence Inventory and

(iii) Entry Control

7.74 Standardisation activities are done through 13 Standardisation Sub – Committees, Panels/Working Groups under these Sub – Committees and several Specialist Technical Panels (STP).

7.75 Its major achievements during the year have been as follows:-

(i) 408 documents, which had completed 5 years life, have been revised.

(ii) 690 standard documents were formulated.

(iii) 486 items were considered for variety reduction under 21 Joint Services Rationalized Lists during 2001-2002. This quantity was reduced by 115 items, thus bringing about a 23.40% reduction.

7.76 **Codification and Cataloguing :** In continuation of the process of accelerating the pace of codification, 1.13 lakh items were codified during the year 2001-2002, thereby making the cumulative number as 21.95 lakh as on 31st March 2002. 2308 catalogues regarding Main Equipment/ Sub-Assemblies and components were published during the year.

7.77 **Networking and Website :** The website of the Directorate of Standardisation has since been uploaded with large volumes of various Standards for the Organisations responsible for design, development, manufacture and bench marking of Defence inventory. 4 Departmental Servers have been set up for Codification and Cataloguing, Administration, Standardisation and Technical Support & Information Technology Group. The total capacity of the Server is now 409.5 GB. Various Indian and Foreign standards are available on the website.

7.78 Metropolitan Area Network (MAN) has been designed so that the Codification and Standardisation Database will be replicated at various Defence Standardisation Cells Networks. MAN at Jabalpur, Avadi, Pune, Ichapur, Hyderabad and Bangalore has established connectivity with this Directorate's Network. Various users are now accessing this service.

7.79 ISO 9000 Certification was awarded to the Directorate of Standardisation and its cell Institute of Standard Training, Pune in March 2002 for the technical support and service provided by Directorate of Standardisation to various organisations.

DIRECTORATE OF PLANNING & CO-ORDINATION

7.80 The Directorate of Planning and Coordination was set up in 1964 with the primary objective of preparing the overall plans for production of defence equipment in the country. It acts as a catalyst in the defence production efforts by providing a dynamic link between the production organisations, the users, the Research & Development (R&D) agencies and the quality assurance organisations thereby facilitating Transfer of Technology (ToT) and the modernisation plan of Ordnance Factory Board. In furtherance of its role, the Directorate represents the Department of Defence Production and Supplies in the General Staff Equipment Policy Committee, the R&D panels and Standardisation Committees. The Directorate also represents the Department of Defence Production and Supplies in the Licensing Committee meetings of the Ministry of Industry to ensure that there is no overlap in the capacities created elsewhere and under the Ministry of Defence. The cases for setting up of Ordnance Factories in the country at the green field sites as well as progressing electronics related projects for the defence forces are processed by the Directorate. The Directorate is also the nodal point in the Department for international co-operation on defence production and defence exports.

DEFENCE EXHIBITION ORGANISATION

7.81 The Defence Exhibition Organization (DEO) established in 1981, is primarily responsible for organising and coordinating defence exhibitions in India and abroad. It maintains a permanent defence exhibition pavilion at Pragati Maidan, New Delhi. The Ordnance Factory Board; Defence Public Sector Undertakings (DPSUs); Defence Research and Development Organisation (DRDO); Directorate General of Quality Assurance (DGQA); the three Services; the Coast Guard and the National Cadet Corps(NCC) are represented in the exhibition. Products manufactured by Ordnance Factories and the Defence Public Sector Undertakings are displayed in the pavilion. The pavilion provides an overview of the wide range of defence infrastructure in the country and regularly participates in India International Trade Fair held in November each year.

7.82 DEO also assists the Department of Defence Production & Supplies (DDP&S) in vendor awareness and development programme of the production units, in collaboration with Directorate General of Quality Assurance (DGQA).

7.83 As a part of export promotion effort, DEO coordinates the participation of Defence Public Sector Undertakings and Ordnance Factory Board in one selected international

exhibition every year. During 2002-03, Defence Public Sector Undertakings, Ordnance Factory Board and Defence Exhibition Organisation participated in the Defendory International 2002 Exhibition, held at Athens, during October 1-5, 2002.

INTERNATIONAL LAND & NAVAL SYSTEMS EXHIBITION – DEFEXPO INDIA – 2002

7.84 After the success of Defexpo India '99 which gained acceptance as a world class forum for exhibition of Land & Naval Systems, it had been decided to organize the second International Land & Naval Systems Exhibition "DEFEXPO INDIA-2002" at Pragati Maidan, New Delhi during February 19-23, 2002. The exhibition, was organized by the Confederation of Indian Industry (CII) in association with the Department of Defence Production & Supplies, Ministry of Defence. Countries like UK, Russia, South Africa, Israel, France and Poland had set up their National Pavilions in the exhibition.

AERO INDIA 2003

7.85 Aero India 2003, held at Air Force Station, Yelahanka, Bangalore from February 5-9, 2003 was inaugurated by Raksha Mantri on February 5, 2003. The Chief Minister of Karnataka presided over the function.

7.86 Aero India 2003 took place in the backdrop of the liberalization underway in the Indian economy. As a part of the continuous reform process, private sector participation in defence sector – with FDI upto 26% is now welcome. The show provided excellent interface for exhibitors to promote and showcase their products to industry leaders opening up possibilities for meaningful collaboration.

7.87 The show was an ideal platform for showcasing the capabilities of Indian and foreign companies in design, development and production of aircraft and ground systems, both for defence and civil sectors. The five day long exhibition attracted 176 international companies from 22 countries. Besides, 75 Indian companies also participated. They presented a variety of aircraft material, systems manufacture and systems integration and major civil and military engine and aircraft integration. Some of the prominent foreign aircrafts at the show were ATR-42 MP, Hawk helicopter BEL-407, Falcon 900 EX, Falcon 2000 CJ, Legacy 103, Transall C-160, Heron UAV, AN-140, MIG 29 M2 and MIG AT. Some of the major indigenously developed aircraft shown were Surya Kiran, ALH and a fly past by the LCA. A Seminar "Aerospace Technologies – Development and Strategies" was also organized by the Defence Research & Development Organisation (DRDO). To commemorate the 100th Anniversary Year of Man's First Flight, two plenary sessions, one on World Aviation and another on Indian Aviation were held during the seminar.

7.88 High level defence delegations, some of them at Defence Minister level, along with Air Chiefs/Senior Defence Officials from 24 countries visited the show. The French Premier also visited AERO INDIA 2003 on February 6, 2003. The fifth International Aerospace Exposition AERO INDIA 2005 will be organized from February 9-13, 2005.

Appendix-I

INVESTMENT

(Rs. In Crore)

Name of the PSUs	2000-2001		2001-2002		2002-2003 (Estimated)	
	Equity	Govt. loans	Equity	Govt. loans	Equity	Govt. loans
HAL	120.50	-	120.50	-	120.50	-
BEL	80.00	-	80.00	-	80.00	-
BEML	36.87	-	36.87	-	36.87	-
MDL	199.20	-	199.20	-	199.20	-
GRSE	239.02	-	123.84	-	123.84	-
GSL	19.40	-	19.40	-	19.40	-
BDL	115.00	-	115.00	-	115.00	-
MIDHANI	-	-	-	-	-	-
TOTAL	**809.99**	**-**	**694.81**	**-**	**694.81**	**-**

Appendix-II

WORKING RESULTS
VALUE OF PRODUCTION AND SALES

VOP = Value of Production
(Rs. In Crore)

Name of the PSUs	2000-2001		2001-2002		2002-2003 (Upto December, 2002)	
	VOP	**Value of Sales**	**VOP**	**Value of Sales**	**VOP**	**Value of Sales**
HAL	2603.26	2446.55	2963.44	2774.81	1981.00	1709.00
BEL	1787.57	1715.33	2029.98	1941.99	1427.19	1296.00
BEML	1343.17	1347.40	1436.10	1424.15	1021.64	864.67
MDL	711.59	1517.59	582.65	737.83	310.69	504.94
GRSE	491.06	229.17	498.44	298.46	369.74	70.57
GSL	190.00	133.67	153.50	101.42	141.81	321.82
BDL	218.61	164.26	251.44	283.36	173.10	169.54
MIDHANI	113.87	112.61	107.17	104.30	54.21	58.89
TOTAL	**7459.13**	**7666.58**	**8022.72**	**7666.32**	**5479.38**	**4995.43**

Appendix-III

PROFIT AFTER TAX

(Rs. In Crore)

Name of the PSUs	2000-2001	2001-2002
HAL	243.65	344.78
BEL	155.21	199.68
BEML	6.00	5.35
MDL	(-)18.36	(-)14.58
GRSE	31.42	13.02
GSL	4.93	14.37
BDL	48.99	72.55
MIDHANI	0.24	0.08
TOTAL	**472.08**	**635.25**

8

Defence Research & Development

3 Dimensional Central Acquisition Radar (3D-CAR)

8.1 Defence Research and Development Organisation (DRDO) was formed in 1958 from the amalgamation of then already functioning Technical Development Establishments (TDEs) of the Indian Army and the Directorate of Technical Development & Production (DTDP) with the Defence Science Organisation (DSO). Today DRDO is having 49 laboratories, engaged in developing Defence technologies covering various disciplines like aeronautics, armaments, electronics, combat vehicles, engineering systems, instrumentation, missiles, advanced computation and simulation, special materials, naval systems, life sciences, training, information systems and agriculture. DRDO is backed by over 5000 scientists and about 25,000 other scientific, technical and supporting personnel.

MISSION

8.2 The Department of Defence Research and Development, which was created in 1980, is dedicated to the mission of progressive enhancement of self reliance in defence systems and state-of-the-art defence technologies. To facilitate accomplishing this mission, there is a mission-mode structure headed by the Scientific Adviser to Raksha Mantri, who is also the Secretary, Department of Defence Research & Development and Director General, Research and Development.

CONTRIBUTION OF DRDO TO SERVICES

8.3 The Organisation has made great strides, which have not only insulated the Armed Forces from the ill effects of the tightened arms export controls clamped by the advanced countries, but have also progressively enhanced their combat effectiveness through induction of state-of-the-art indigenous defence systems. DRDO has developed a large number of Defence systems and equipment as per requirements of the Armed Forces which have led to production in the last five years. These include :

- Surface-to-surface Tactical Battlefield Missile - PRITHVI for Army
- Long Range Surface-to-surface Missile - AGNI-II
- Main Battle Tank - ARJUN
- Pilotless Target Aircraft - LAKSHYA
- Electronic Warfare system for Air Force
- 105 mm Light Field Gun
- 5.56 mm Indian Small Arms System (INSAS) (Rifle, Light Machine Gun & Ammunition)
- 125 mm Fin Stabilised Armour Piercing Discarding Sabot (FSAPDS)
- Soft Core Ammunition for T-72 Tank
- Carrier Mortar Tracked (CMT) - a specialist role vehicle on BMP-II
- Armoured Amphibious Dozer (AAD) for earth moving operators
- Armoured Engineer Recce Vehicle (AERV) for recce of water obstacles
- Bridge Layer Tank on T-72 chassis
- Bridge Assault Mechanically Launched : SARVATRA
- Mat Ground Surfacing
- Containerised Operation Theatre Complex and Wards on Wheels
- Mobile decontamination system for decontaminating Nuclear, Biological and Chemical (NBC) Agents of personnel
- Subscriber End Speech Secrecy Telephone : SECTEL
- Muting system for deactivating remotely controlled explosive device – SAFARI (Mk-I)
- Bulk secrecy equipment with high grade digital secrecy : SANSAR
- Airborne Signal Intelligence System: CATCH
- Communication Intelligence/ Electronic Intelligence System : COIN— A/B
- HUMSA Avalanche Victim Detector—Hull Mounted Sonar System
- Submarine Sonar –PANCHENDRIYA and its derivative – USHUS
- Aircraft Arrester Barrier, various types of Parachutes
- Aircraft Weapon Trolley – BHEEM
- Meals-ready-to-eat (MREs)
- Surveillance (U/VHF) Jamming Vehicle – SUJAV
- Relocatable Balloon Barage System

- Artillery Combat Command Control System
- 155 mm Propelled Gun System
- Multi-Barrel Rocket System - PINAKA, an area weapon system to supplement the existing artillery gun at ranges beyond 30 kms, having quick reaction time and high rate of fire has been accepted by the user after extensive trials.

MANAGEMENT OF DRDO

8.4 DRDO Hqrs under the Department of Defence Research and Development, is organized in 9 Technical Directorates and 9 Corporate Directorates. The Technical Directorates act as 'single window' to facilitate laboratories under their area of work in obtaining various sanctions & co-ordinating information with laboratories and Hqrs. Corporate Directorates like Directorate of Personnel, Human Resource Development, Material Management, Planning & Coordination, Management Services & Rajbhasha, Budget Finance & Accounts, Security & Vigilance, Civil Works & Estates and Extramural Research and Intellectual Property Rights assist the laboratories in providing sanctions and facilities in their respective areas. Recruitment & Assessment Centre (RAC) & Personnel Assessment Centre (PEACE) undertake fresh recruitments and assessment for promotions of officers for all laboratories & Hqrs of DRDO under Defence Research & Development Services (DRDS) and Defence Research Technical Cadre (DRTC) respectively.

NETWORK OF DRDO LABORATORIES

8.5 The programmes/projects, undertaken by the Department, are executed through a network of R&D laboratories/ establishments and the Centre for Military Airworthiness and Certification (CEMILAC). These laboratories/ establishments are situated all over the country from Tezpur in the East to Jodhpur in the West and Leh in the North to Kochi in the South.

8.6 The programmes/projects are executed in close partnership with user Services, Defence Public Sector Undertakings, academic institutions, national research laboratories and private enterprises, to harness optimally the best available national resources & expertise and to meet the threat of technology denials posed by developed countries. The 'concurrent engineering' approach is being followed, in case of high technology projects, to reduce the time lag between design, development and production.

REVIEW MECHANISM

8.7 There are institutionalized programme/ project monitoring and review mechanisms in the Department. There is an in-house apex level body called 'DRDO Council', chaired by Scientific Adviser to Raksha Mantri, to review progress of major projects of all the laboratories. In addition, Corporate Reviews covering techno-managerial aspects are also carried out by a high level committee. The staff projects for Army are being reviewed by the Vice Chief of Army Staff (VCOAS), twice a year. For all major programmes/projects, there are multi-tier 'Programme Management Boards', having representation from the Services, defence R&D laboratories/ establishments, production agencies, quality assurance agencies and in some cases from academic institutions and other national research laboratories, which periodically monitor and review the programmes and give mid-course directions.

DRDO DEVELOPED ITEMS LED TO PRODUCTION

8.8 Pilotless Target Aircraft (PTA) (named as "Lakshya") is a reusable aerial target system. Lakshya is remotely operated from ground to provide aerial target for training of gun and Missile crew and Air Defence pilots for all the three Services. Delivery of five Lakshya systems with 26 operational flights for Air Force have been accomplished in 2001-2002. The first batch of Lakshya has already been delivered to the Navy. Three aircraft with Ground Control and Support System have been handed over and four operational flights have been conducted. Phase-I delivery for Army is planned shortly.

8.9 Under project 'FALCON' - a Remotely Piloted Vehicle (RPV), "Nishant" has been developed as per the General Staff Qualitative Requirement (GSQR) issued by the Army. The objectives of the project include battle field surveillance, reconnaissance, real time engagement of targets by artillery fire and damage

assessment. RPV has been developed to carry electro-optical payloads on board for surveillance, target acquisition and target tracking. The field configuration of NISHANT system comprises, Air Vehicles, Ground Control Station, Antenna Tracking System, Launcher and mission Support Vehicle. Till date more than 84 development flights have been carried out. 70 of these development flights have been towards validation of the air vehicle, flying and handling characteristics and to verify the flight control and navigation systems. Army has decided to go in for induction of NISHANT through Limited Series Production. Summer trials have been successfully conducted by DRDO for Army evaluation. These include two shake down sorties and 12 user trial flights in realistic operational conditions at Pokharan. Limited Series Production will commence shortly.

8.10 A bund blasting device, to reduce the height of canal bund to facilitate launching of bridge equipment for advancement of Infantry troops, has been successfully developed and accepted by the Army. An indent for supply of 240 sets has been received from Army.

8.11 First Limited Series Production (LSP) vehicle of Armoured Engineer Recce Vehicle (AERV) on BMP-II has been completed and is ready for handing over to the users. A repeat LSP order for eight more AERVs has also been placed by the Army.

8.12 Order for Limited Series Production of six numbers of Armoured Amphibious Dozer(AAD) on BMP-II has been placed by Army.

8.13 Mobile Decontamination System (MDS) has been accepted by the users after carrying out exhaustive trials. An order for 12 systems has been placed by the Army.

8.14 Limited Series Production order for 12 Bridge Layer Tank T-72 (BLT) has been placed by the Army. Six of these BLTs are getting ready for delivery to the Army. The BLT incorporates some of the most modern and state-of-the-art technological features having high degree of commonality with current tank fleet of the Indian Army.

8.15 The fixed butt 5.56 mm INSAS rifle and LMG are under regular production by Ordnance Factories (OF) and are being used by soldiers of the Indian Army. During the year the bulk production clearance for folding butt versions of 5.56 mm INSAS rifles and LMG has also been accorded.

8.16 Fifteen numbers of KITE, an airborne Electronic Warfare (EW) system, under programme SANGRAHA have been produced and installed on the platforms for exploitation.

8.17 SUJAV a compact communication EW system based on technologies developed under programme SAMYUKTA has been productionised. Two units have been evaluated by Army and Navy.

8.18 A counter terrorism equipment called SAFARI which mutes "Remotely Controlled Improvised Explosive Devices (RCIED)" during the passage of Army/civil convoys has been developed. A total of 71 such systems have been produced and delivered to Army. With the changing threat scenario, further variants of SAFARI, are being developed and field evaluated.

8.19 SANKET, an Electronic Support Measure (ESM) system for patrol boats based on technologies developed under programme SANGRAHA has been productionised. Deliveries of systems ordered by Navy will commence soon.

8.20 AGNI-I, a single stage, solid propellant missile, having a range of 800 kms, was test fired on January 25, 2002 and January 9, 2003. It can be launched from rail/road mobile launchers.

8.21 Advanced Numerical Research and Analysis Group (ANURAG) has designed, developed and delivered a parallel processing super computer named PACE++ (Processor for Aerodynamic Computational & Evaluation). It is being used for solving Computational Fluid Dynamic (CFD) application used in missiles & aircraft design. ANURAG has also designed & developed two microchips to be used in flight control computer of LCA.

8.22 Centre for Artificial Intelligence and Robotics (CAIR) has been the major contributor for the Army's Tactical Communication System called Plan AREN. 40 systems of data concentrator manufactured by BEL, Bangalore, have been delivered to the user.

8.23 CAIR has also developed "Secure Telephone" (SECTEL), for providing high

grade secrecy to telephone users. Defence & non-Defence versions of SECTEL have been developed. About 500 numbers of SECTELs have been manufactured and supplied to the three Services and several Government agencies/departments this year.

PROGRESS MADE IN MAJOR R&D PROGRAMMES/PROJECTS DURING THE YEAR

8.24 By June 2002, Light Combat Aircraft (Technology Demonstrator I) [LCA (TD1)] successfully completed the first block of 12 test flights demonstrating its soundness of design. The first block of flight tests covered gentle manoeuvres upto 2.5g, left & right rolls, handling quality (HQ) tests, climb upto 8 km, formation flights, tower-fly-by-test, parametric identification manoeuvres, neutral point estimation, air data calibration, landings with/without use of brake parachute and a host of system related tests. The aircraft behaved extremely well and all the test objectives were fully met. Analysis of the test flight results have indicated a reasonably good match between flight tests and design objectives.

8.25 The Second Technology Demonstrator (TD2) was flown for the first time on June 06, 2002 and has since completed a total of 20 sorties. Equipping of the third aircraft, reduced weight standard LCA Prototype Vehicle (PV1), is also in progress. Preparation of LCA(PV1) for system integration checks is in progress. The fourth aircraft - LCA(PV2) is the production standard LCA and its equipping is in progress. Design activities on LCA Trainer Variant - LCA(PV5), ensuring commonality with LCA (Navy), has been initiated. TD2 has achieved the speed of 0.8 Mach and altitude of 12 km.

LCA on Display

8.26 Kaveri engine for the LCA is undergoing development trials. As on date two Kabini prototypes (C1, C2) and five Kaveri engine prototypes (K1, K2, K3, K4 & K5) have been built for engine testing apart from various modules and components manufactured for their testing in the rigs to assess their aerodynamic performance and structural integrity. Kaveri engine has accumulated 1200 hrs of development tests. K5 engine with the modified compressor has completed 50 hours of ground testing in the test bed prior to dispatch to M/s CIAM, Russia for Exploratory Altitude Testing (EAT) during February, 2003.

8.27 The spin-off project 'Kaveri Marinisation' has been taken up and detailed design of the sub-systems have been completed. Fabrication and manufacturing works are under progress.

8.28 Upgradation of "Avionics" and advanced

EW Suite for MiG-27 has been undertaken by Defence Avionics Research Establishment (DARE) in close coordination with Hindustan Aeronautics Limited (HAL).

8.29 Four development flight trials of TRISHUL have been conducted during the year 2002. Two flight trials were conducted successfully in sea skimming mode against Electronics & Static targets from INS Dronacharya. Shore based surveillance, tracking and launching systems have been established at INS, Dronacharya. Last two flight trials were conducted for Army from Trishul combat vehicle against a flying target during September, 2002.

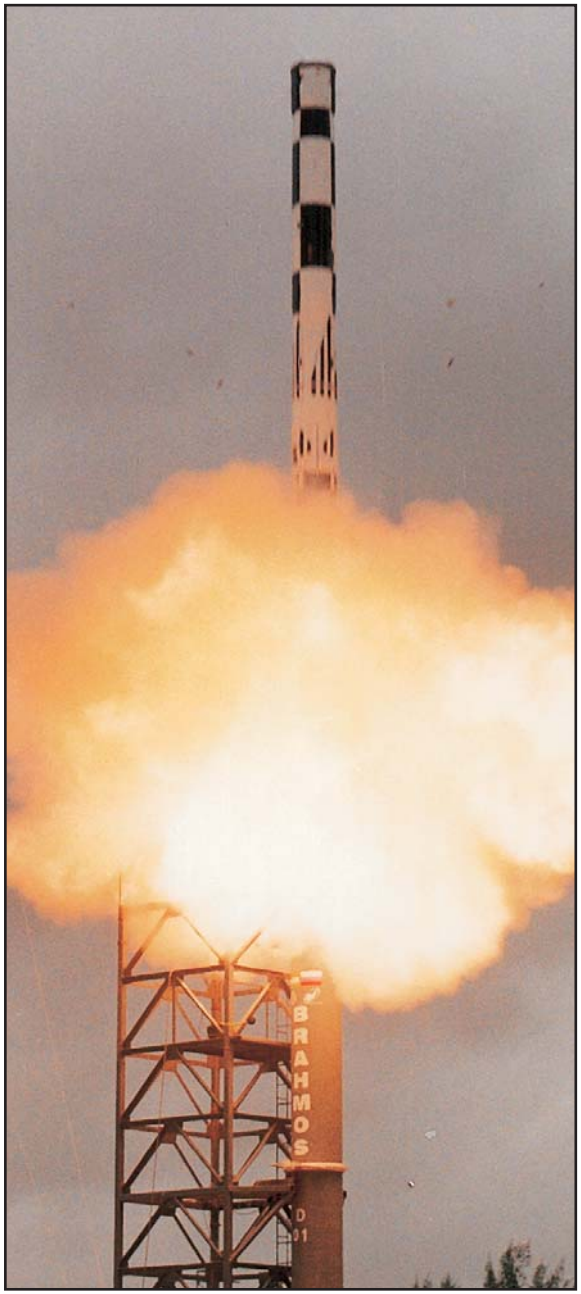
8.30 Development of three types of warheads for PRITHVI consisting of pre-fragmented, bomblet and incendiary have been completed and production line has been established. Army has cleared incendiary warheads for production. Rail Tracked Rocket Sled (RTRS) trials on imported Impact Delay fuse for Runway Denial Penetration System (RDPS) warhead have been conducted twice. Final evaluation of the RDPS in detonics mode and in self-destruct mode have been conducted successfully in November, 2002. Hardware realization and integration completed for two Warhead Test Vehicle (WHTV) trials for RDPS warhead.

8.31 Two development flight trials of AKASH have been undertaken during the year 2002 with the last flight trial on October 04, 2002 modified propulsion system have been proved. All sub-systems for Battery Level Radar (BLR)-II have been realized and integrated and testing has been completed. Acceptance Test Procedures for Battery Control Centre (BCC)-II has also been completed. 3 Dimensional Central Acquisiton Radar (3 DCAR) has been demonstrated to users and the system is ready for intergrated evaluation testing.

8.32 Three guided flight trials have been conducted for NAG during the year 2002. Last guided flight conducted on September 17, 2002 with day and night seeker has established the seeker performance. Three static trials for warhead with main charge were conducted at Armament Research & Development Establishment (ARDE). Assembly of Thermal Sight, Charged Coupled Devices (CCD) & Laser Range Finder (LRF) has been completed. Propellant System design & development programme plan has been established and production documents have been completed. One set each of Forward Looking Infra Red (FLIR)/Charged Coupled Devices (CCD) & Thermal Sight (TS) /Laser Range Finder (LRF) for Advanced Light Helicopter (ALH) version has been realized.

8.33 BRAHMOS is a supersonic cruise missile and can be used against ship and land targets. It has a range of upto 300 kms. The missile is uniquely configured for installing in ships, submarines & aircraft and on ground vehicles. It has been flight tested twice during June 2001 and April 2002 meeting all mission objectives.

8.34 Multi Barrel Rocket Launcher System, PINAKA has accomplished every major



Brahmos Missile During Launch

milestone through conduct of successful confirmatory user trials. The system has met all user's requirements including accuracy, consistency and area coverage. Its induction into Service is being considered by the Army.

8.35 A number of advanced demolition devices to replace the existing demolition devices available with Services have been developed. The devices include modular and intended charges, shaped charges, flexible linear shaped charges, cutting charges etc. The devices are at present undergoing user's trials.

8.36 DRDO developed Influence Mine (anti-tank) MK-1, produced by Ordnance Factory Board (OFB) has been issued to Army. An improved version of the Influence Mine (anti-tank) called MK II is in an advanced stage of development. An active sensor based on the induction balanced principle has been developed and proved.

8.37 SAMYUKTA, an electronic warfare (EW) system for Army is in advanced stage of development and testing. A stand-alone jammer (SAJ) after completing evaluation in the factory, has been evaluated in the field by users and inputs from this evaluation are being incorporated in electronic counter measure (ECM) for non-com segment, in all three frequency bands namely low, mid and high bands. With this development, ECM for non-com segment, has been completed and entities are under evaluation.

8.38 Development of all five types of electronic warfare (EW) systems have been completed under the project SANGRAHA, (an indigenous EW programme for Navy) and demonstrated to the users. Field evaluation of the systems for airborne platforms are in various stages of evaluation and that for the submarine platform, has been completed successfully. Navy required two systems for their submarines-one has been delivered and second is nearing completion.

8.39 State of development of Night Vision Devices (NVD) based on Image Intensifier Tubes (IITs) has reached a high maturity level and the devices/systems are in regular production. The Second Generation IITs are under regular production and efforts are on for developing super-generation IITs. Development of sensors for NVD, based on Thermal Imagers, however, has not made much progress and efforts are in hand to catch up with the technology.

8.40 Integration/interfacing of the Electro-optical Director (Turret) with all the three Electro Optical (EO) sensors, thermal imager, day time TV camera and Laser Range finder and other sub-systems have been completed. Acceptance tests of the integrated system completed. Electro-Optical Fire Control ystem (EOFCS) for naval ship has been installed on the ship for user evaluation.

8.41 SAMVAHAK programme envisages development and fielding of distributed battlefield information system covering the tactical zones from Corps Hqrs down to battalion level to enable the Commanders to take quick decisions. Indigenously developed application software (for orbat & location state) has been ported into the test bed hardware at Corps zone. Development of intelligent and operational logistics sub-system is in progress.

8.42 Development of an indigenous Weapon Locating Radar (WLR) has been launched. This will be the first state-of-the-art indigenous radar as a force multiplier in the battle field for weapon location and fire detection.

8.43 Technology for development of Trans-Receiver (T/R) modules for Active Aperture Array has been established. This technology will be utilized in the development of L - Band Solid State Active Array Radar (LSTAR).

8.44 The state-of-art ship-borne sonar HUMSA, designed and developed by Naval Physical and Oceanographic Laboratory (NPOL), Kochi and productionised by Bharat Electronics Ltd., Bangalore is a standard fit for naval ships. Twelve systems have been productionised.

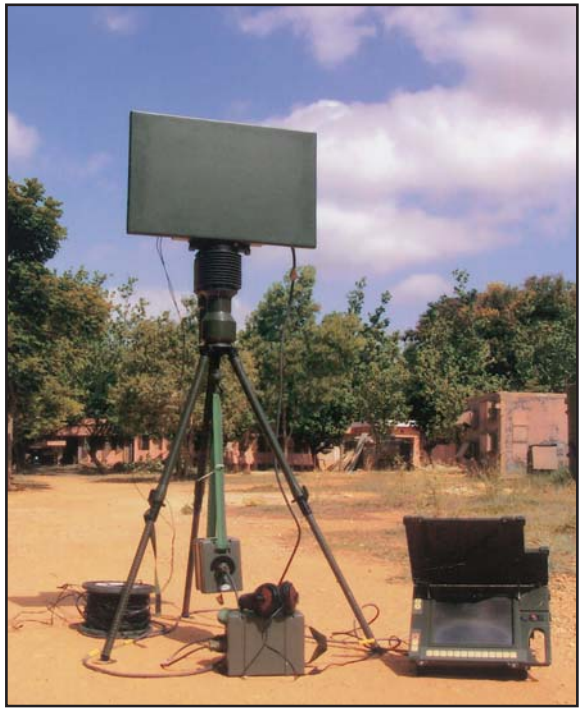
8.45 Technical evaluation trials of air borne dunking sonar, MIHIR have been completed successfully. The Sonar is cleared for installation onboard Advanced Light Helicopter. Variants of this sonar for ship borne installation are also being considered by the Indian Navy.

8.46 Towing trials of NAGAN, first indigenous Active cum Passive Towed Array Sonar, have been completed successfully.

8.47 The submarine-sonar, project USHUS being productionised based on transfer-of-

technology (TOT) from NPOL by concurrent engineering approach is making rapid progress at BEL, Bangalore. The order has been placed on production agency by Navy and NPOL is providing technical consultancy and support. One system is being installed and integrated in Russia and the other system is on-board Indian submarines.

8.48 A man portable short range "Battle Field Surveillance Radar" (BFSR-SR) to detect, track and classify moving surface target like crawling & walking men, light and heavy vehicles and low flying helicopters has been developed for use by Army. User trials in plains, mountains and deserts have been successfully completed. Radar met all General Staff Qualitative Requirements given by Army. The system has been recommended for induction into Services with certain modifications.



Short Range Battlefield Surveillance Radar

8.49 A 3D Central Acquisition Radar (3D CAR) has been developed as medium range Early Warning Sensor. This state-of-the-art radar is capable of detecting & tracking multiple targets in a hostile electronic warfare environment. The radar was demonstrated to the Services with live sorties provided by Air Force. The radar has gone through extensive in house evaluation and field exploitation by the Air Force for three months. Variants of this radar will be useful for Army, Navy and Air Force.

8.50 A Maritime Patrol Radar for Naval use has been designed and developed for detection of sea surface and airborne targets like boats, ships, frigates, sea skimming missiles, low flying aircrafts & submarines under sea clutter and rain. Very encouraging results were seen against sea surface targets recently. The radar has been mounted on a helicopter and evaluation is under progress.

8.51 SANJIVANI, a portable life detecting device for use in emergency rescue mission to detect live human beings or animals trapped under debris of collapsed building/landslides has been developed.

8.52 Transfer of Technology (TOT) for production of 124 numbers of Main Battle Tank - Arjun at Heavy Vehicle Factory (HVF) is in progress. Meanwhile the pre-production tanks handed over to the Army are being exploited to the full potential for which product and technical support is being provided by DRDO. The first two production tanks are expected to be rolled out at Heavy Vehicle Factory (HVF), Avadi, soon. All efforts are being made to complete the production of first 15 tanks by March 2004.

8.53 The manufacture of DRDO developed Combat Improved Ajeya (CIA) has also begun at HVF. The major sub-systems being integrated on the normal Ajeya tank for combat improvement are : Thermal Image Fire Control System (TIFCS), Muzzle Reference System (MRS), Explosive Reactive Armour (ERA), Integrated Fire Detection & Suppression System (IFDSS), and Global Positioning System (GPS).

8.54 Production of 198 numbers of Carrier Mortar Tracked (CMT) developed on BMP-II chassis is in progress at Ordnance Factory, Medak (OFM). 75 CMT vehicles have so far been produced and these are being delivered to the users.

8.55 After successful completion of field/firing trials by the Army, the 155mm Tracked Self Propelled Gun (Bhim T-6) developed by CVRDE, Avadi by integrating turret from M/s LIW, South Africa on MBT Arjun derivative chassis, has been recommended for production. M/s BEML has been nominated as the nodal production agency for manufacture of 100 numbers of BHIM T-6.

8.56 DRDO is developing futuristic Infantry Combat Vehicle (ICV) 'ABHAY' as a technology demonstrator for replacement

of BMP-II vehicles which are presently in Service. Development of first Mild Steel (MS) prototype has been completed. This is presently under extensive testing for proving of automotive systems. Development of first armoured prototype is also in progress.

8.57 A technology demonstrator Amphibious Floating Bridge & Ferry System (AFFS) is under progress. The project aims at establishing competence in the development of systems with dual capability to move on land and water with floating bridge of MLC30 class for negotiation of water obstacles. This would be a fore-runner to MLC 70 class of AFFS required by the Army.

8.58 Avalanche Forecast Warnings for the areas of J&K including Op- Meghdoot (Siachen), Kargil, Mushkoh valley, Shamshabari range and Pir - Panjal ranges and also for HP covering area Manali - Rohtang - Patseo were issued regularly three days in advance with good accuracy during the winter 2001-2002 for use by Army as well as civil population. Apart from the 35 surface observatory network covering J&K, Siachen and part of HP, quality data from 16 Automatic Weather Stations (AWS), linked to the recently launched METSAT, was used for avalanche forecasting. This has helped the Armed Forces in planning movements and deployment of troops in snowbound region prone to avalanches, thus resulting in saving of precious lives.

8.59 Fly-through models using optical imageries and Survey of India maps were developed and demonstrated to the users for familiarizing the troops for safe conduct during winter months.

8.60 Flameless Ration Heater (heating system) for food pouches based on exo-thermic reaction have been developed by Naval Materials Research Laboratory (NMRL). Field trials were conducted in May, 2002. The trials were successful and further improvement is in progress.

8.61 Flameless Room Heater (Bhukhari) has been developed and tested. It is methonal based and does not generate toxic fume or soot. It can generate 1.5 kw and work on high capacity Bhukhari upto 10 kw is in progress.

8.62 Fuel Cell provide a pollution free viable alternative to the existing sources of energy on fossil fuel. Technology has been developed for a 5 kw Phosphoric Acid Fuel Cell (PAFC). Work on 25 kw fuel cell is in progress. The laboratory has developed Methonal Reformer to generate hydrogen for the fuel cell. The laboratory has also developed miniature fuel cells of 100 watts and 2 to 5 watts for low power requirements.

8.63 Platinised titanium anode-based Impressed Current Cathodic Protection (ICCP) System has been developed for protection of hulls from underwater corrosion. The system consists of auto control unit, reference electrode and anodes. The silver-silver chloride (Ag-AgCl) reference electrodes have been developed to meet the requirement of the Navy for the existing ICCP system onboard ships. The complete system has been installed on INS Vidyut.

8.64 Processor Based Ground Mine and Processor Based Moored Mine have been cleared for production. These are intelligent mines and can be actuated by acoustic, magnetic and pressure signatures. An order for eight numbers of mines is being placed.

8.65 The Light Weight Torpedo which can be launched from ship and helicopters for anti submarine warfare has been cleared for production. These Torpedos will be subjected to further trials.

8.66 Trials on Heavy Weight Wire Guided Torpedo are in progress.

8.67 BMP-II based NBC Recee Vehicle has been developed by fitting radiological sensors i.e. Roentgenometer, Chemical Sensor viz. M-90, Portable Gas Chromatograph, Meteorological Sensor, and Global Position system. The user trials in four phases have been conducted successfully as per trial directives issued by Army Hqrs and the items will be introduced into Services after some minor modifications.

8.68 An ultra fast state-of-the-art fire detection and suppression system has been developed and successfully installed in the Trishul Launcher Barbette at INS Dronacharaya, Fort Kochi. The system has cleared through the user trials on a fire created inside the Barbette, which has been suppressed instantaneously by this system in less than two seconds.

8.69 Technologies for Tent Glacier (10-12 men), Activated Carbon Sphere, Oil OX 320, Oil-M3 S3 and Auto Rust and Scale Inhibitors

were transferred to the entrepreneurs during 2002. Orders for extreme cold weather clothing items like Cap Glacier, Gaiter Glacier, Poncho Glacier, Gloves Glacier, Over-garment Blouse, Over-garment Trousers, Combination Harness, Rope Climbing, Cord Avalanche, Bag Waterproof and Mattress Glacier have been received from paramilitary forces.

8.70 Defence Research & Development Establishment (DRDE) tested and confirmed the absence of suspected anthrax spores in the envelopes received from different parts of the country. It arranged a series of training programmes for defences against Chemical War and Biological War for senior IAS and IPS officers. A breakthrough in hybridoma technology has been achieved by DRDE to generate the desired types of high affinity monoclonal antibodies and consultancy for the same was provided to representatives of World Health Organisation (WHO).

TECHNOLOGY DEVELOPMENT/ INNOVATION

8.71 Feasibility of development of the advanced technology for manufacture of Combustible Cartridge Case (CCC) incorporating resin as a binder in the nitro cellulose matrix has been established. The newly developed CCC has excellent tensile strength without any penalty on its combustibility. These CCCs are also dimensionally stable when stored/handled under extreme environmental conditions.

8.72 Gallium Arsenide Enabling Technology Centre (GAETEC) produced and delivered Monolithic Microwave Integrated Circuit (MMIC) amplifier modules in various frequency bands for various defence and space systems. The centre has also produced S-Band Receive Beam Former and Digital Attenuator and Single Pole Double Throw (SPDT) switch MMIC chips for L-Band Trans-receive module for use in state-of-the-art radar systems.

BASIC RESEARCH

8.73 To provide thrust to basic research in areas of strategic importance, DRDO has already constituted four research boards viz., the Aeronautics Research & Development Board (AR&DB); Armament Research Board (ARMREB); Naval Research Board (NRB) and Life Sciences Research Board (LSRB). These boards promote research in collaborative mode with academic institutions and other national R&D laboratories, through approval, funding and monitoring of grants-in-aid projects.

8.74 The Aeronautics Research & Development Board (AR&DB) is currently funding 150 projects in upstream areas of aeronautics R&D at 25 academic & research institutions. Three Centres of Excellence have been set up at Indian Institute of Technology (IIT), National Aerospace Limited (NAL) and Indian Institute of Science (IISc) in the area of systems design & engineering, computational fluid dynamics (CFD) and composite structures with linkages at other expert organizations.

8.75 Under Armament Research Board (ARMREB) 31 projects have been sanctioned, covering the field of High Energy Materials, Sensors, Ballistics, Combustion & Detonics, Modeling/ Simulation and other fields related to armaments, to various academic institutions and other R&D Organisations. Out of these, two projects have been successfully completed and remaining are being pursued.

8.76 Life Sciences Research Board (LSRB) is a registered society established for purpose of expanding and deepening the knowledge-base of life sciences in the country through strengthening national resources of knowledge, know-how, expertise, facilities and infrastructure. The LSRB also endeavours to create conditions suitable for attracting talent and experience from overseas locations through research collaborations and other academic exchanges. So far, LSRB has sanctioned 38 projects in various life sciences fields, out of which 5 projects were sanctioned during the year April, 2001 - March, 2002.

8.77 Naval Research Board (NRB) continued to support the basic research applicable to naval technologies. Five new grants-in-aid projects were sanctioned to academic institutions at a total cost of Rs. 1.4 crore taking the total number of sanctioned projects to 39 at a cumulative total of Rs. 6.9 crore. 17 out of 39 projects have since been completed.

SUPPORT TO SERVICES

8.78 DRDO has developed a variety of software for Simulator Training of Army personnel on Air Defence Combat and Reporting of enemy aircraft & missiles.

8.79 Operational rations packs have been developed for MBT crew. The menus for three days of rations (in one pack) were finalized in consultation with the users. User trials in respect of these rations have since been completed in the nominated units at Patiala and Jaisalmer. The rations have been very well received by the crew of the Army units.

8.80 The DRDO agricultural laboratories in the far flung areas of Central Himalayas and cold deserts of Ladakh are engaged in evolving sustainable, eco-friendly agro-technologies to support the needs of the Armed Forces with respect to fresh agricultural produce besides socio-economic upliftment of inhabitants of the region through multi-disciplinary network of integrated research and development activities. DRDO has supplied to the Army through its own field laboratory in Leh, 32 tons of fresh vegetables, more than one lakh litres of fresh milk and 22 tons of poultry meat during the six months period from April 1, 2002 to October 31, 2002.

8.81 Regular training courses are being organised for Service personnel by the DRDO agricultural laboratories. The training covers various areas viz. vegetable cultivation in glass/poly house, mushroom cultivation, angora rabbit, poultry, dairy, fish farming etc. Many Army formations are benefiting from this activity. This training helps the Army personnel in their rehabilitation after retirement.

8.82 The protocol developed by the DRDO lab at Tezpur for containment of malaria in Assam has benefited the Services in the region. Besides, monthly monitoring and surveillance of malaria in Lama Camp cantonment revealed no malaria incidence. The herbal mosquito repellents developed by DRDO are undergoing field trials.

8.83 DRDO in collaboration with the High Altitude Medical Research Centre, Leh, have designed and developed a new treatment modality using inhalation of a gas mixture containing Nitric Oxide and Oxygen for the treatment of High Altitude Pulmonary Edema (HAPE) patients. This also included the indigenous development of a Nitric Oxide (NO) delivery system to be used at extreme and remote high altitude areas, which is currently undergoing tests for human safety regulatory measures.

8.84 DRDO scientists have developed and standardized a set of Intelligence Test consisting of verbal and non-verbal tests along with norms for the Directorate of Recruitment, Army Hqrs for the selection of serving personnel to the commissioned ranks.

8.85 DRDO has made significant contributions in the area of clinical nuclear medicine, radiation biology, bio-cybernetics, radio-pharmaceuticals and dental research. Multi-centric clinical trials are being carried out in patients with brain tumours at three leading cancer hospitals and research institutions using 2-deoxy-D-Glucose therapy. Several radio-pharmaceutical kits have also been developed, which are undergoing extensive clinical trials prior to technology transfer.

8.86 The nuclear medicine laboratory has also developed indigenous titanium dental implants with surgical kits and clinical trials are nearing completion. Acceptance has been received from Director General Armed Forces Medical Services (DGAFMS) and Addl. DG Dental to issue dental implants to 7 centres in the Defence Forces for clinical use. These implants, which are far less expensive than the imported ones, help physical and psychological rehabilitation of personnel injured with maxillo-facial injuries due to mine blasts and Improvised Explosive Devices (IED) used by counter insurgency elements.

INTERACTION OF DRDO WITH INDUSTRY & STATE GOVERNMENTS

8.87 The DRDO laboratory at Mysore has transferred the technology for freeze drying of fruit juices and hurdle preservation of pineapple to M/s Transindia, Kolkata. The firm is setting up a multi fruit-processing unit at Bodhjungnagar, Agartala.

8.88 DRDO has established a Germplasm Centre of German Angora Rabbit at Village Munisiyari in Pithoragarh under the aegis of UNDP and State Government of Uttaranchal. The germplasm has been maintained and multiplied by farmers under the technical guidance of DRDO. The farmers have been given theoretical and

practical training on feeding, breeding, management, record keeping, shearing of wool and health cover aspects. Good progress has been made at the Germplasm Centre both in terms of multiplication of rabbits and marketing of adult rabbits and angora woollens.

8.89 DRDO has also identified a village-Ahom Gaon, as a model village to study the Psychological Impact of Socio-economic Development in the North East. Socio-economic support was provided in terms of materials like computers, sewing machines, water pumps, and accessories for library and recreation centre. The support resulted in a positive change in attitude of the villagers.

HUMAN RESOURCE DEVELOPMENT

8.90 Manpower Planning Board has been constituted in DRDO to look after management of scientific, technical and other administrative manpower. Manpower requirement in all categories for various DRDO projects has been reviewed. Through various mechanisms like rationalization of cadre structure, incentive schemes, training policies, enhanced promotional opportunities, exit interviews, the organization has endeavoured to ensure optimum utilization of human resource, apart from attracting and retaining best talents. DRDO's two training institutes – the Institute of Armament Technology (IAT) and the Institute of Technology Management (ITM) are also engaged in conducting specialized courses. To make the exercise more effective and result-oriented HRD cells have been set up in all laboratories/establishments of DRDO. The Corporate Review teams have a charter to specifically review the HRD aspects/guidelines enunciated by the organization.

8.91 To cater to the present and the futuristic requirement of scientific and technical know-how for its projects, various technical & non-technical programmes/ courses have been undertaken. Under research & training scheme, a total of 85 personnel were sponsored to undergo M.E./M.Tech. courses in various disciplines at IITs and other institutions of repute. Continuing Education Programme (CEP) courses in different disciplines were conducted with faculty from the academic institutions and other centres of excellence of the disciplines.

9

Inter-Service Organisations

Learning Foreign Languages in the Language Lab

9.1 The following Inter-Service Organisations function directly under the Ministry of Defence :-

(i) Military Engineer Services

(ii) Armed Forces Medical Services

(iii) Directorate General of Defence Estates

(iv) Office of the Chief Administrative Officer

(v) Directorate of Public Relations

(vi) Army Purchase Organisation

(vii) Services Sports Control Board

(viii) Armed Forces Films and Photo Division

(ix) School of Foreign Languages

(x) History Division

(xi) National Defence College

(xii) College of Defence Management

(xiii) Defence Services Staff College

(xiv) Ministry of Defence Library

MILITARY ENGINEER SERVICES

9.2 The largest construction agency of the country, the Military Engineer Services (MES) provides works cover in 450 stations across the country in peace areas as well as in forward areas. It is the premier engineering arm of the Ministry of Defence which provides works services to the three Services and other related departments. Today, it handles an annual workload exceeding Rs. 3300 crores.

9.3 MES functions under the overall control of Engineer-in-Chief, who is the adviser to the Ministry of Defence and the three Services on construction engineering. It executes work under the supervision of Officers and staff consisting of both civilians as well as combatants from the Corps of Engineers. It has an integral multi-disciplinary team of architects, civil, electrical and mechanical engineers, structural designers, quantity surveyors and contract specialists for planning, designing and supervising the works.

9.4 MES has specialized in wide spectrum of civil works, ranging from conventional buildings and factories to sophisticated complex laboratories, marine works, jetties, dockyards, wharves, workshops, slipways, air fields, roads, blast pens, etc. It also provides sophisticated infrastructural services like air-conditioning, cold storage, water supply, compressed air, sewage treatment plants, lifts, crane, etc. for the three Services.

9.5 The following important time-bound projects are being executed by the MES during the year:-

(i) **Naval Academy Project at Ezhimala:** The project was sanctioned for Rs.166.94 crores. The execution of the project has commenced and is expected to be completed by October, 2005.

(ii) **CAD Pulgaon – Construction of 32 Estt. Sheds 18 x 15.25 x 4.9M (300 MT each):** The project, comprising 27 sheds with traverses and 5 sheds within existing traverses, was sanctioned for Rs. 25.46 crores on January 30, 2002 under FTP procedure. The work is to be completed in 24 months.

9.6 **Married Accommodation Project (MAP):** A gigantic task of construction of 1.98 lakh married quarters for officers, JCOs and ORs, covering most of the military stations in peace as well as many hard areas, at a cost of approximately Rs. 17350 crores, over a period of four years has been undertaken. The project will be executed under the supervision of Director General, Married Accommodation Project.

ARMED FORCES MEDICAL SERVICES

9.7 The Armed Forces Medical Services (AFMS), consisting of the Army Medical Corps (AMC), the Army Dental Corps (ADC) and the Military Nursing Services (MNS) provide comprehensive health care to the serving Armed Forces personnel, their families and dependents, numbering approximately 66 lakhs. In addition, Ex-Servicemen and their families are also entitled to free treatment from Services sources as per rules and so are the Para Military Organizations like Assam Rifles, Rashtriya Rifles, Coast Guard as well as the DRDO and Border Road Organisation personnel, while posted in the field. Armed Forces Medical Services are also activated in aid to civil authorities during epidemics, natural calamities and internal security duties, especially in inaccessible and difficult areas. In addition to this, life saving emergent care is also provided to all civilians by the establishments of AFMS.

9.8 **Infrastructure :** The Armed Forces Medical Services are the largest and amongst the best organized health-care delivery systems in the country. There is a network of Regimental Aid Posts manned by doctors. These are supported by 89 Field Ambulances, which are mobile 45 bedded hospitals. Besides the facilities made available in combat zones, 127 hospitals of varying sizes and facilities, spread over the length and breadth of the country, are also functional. While the peripheral hospitals have basic specialist facilities, the eight Command/Army Hospitals have super specialist centers with state-of-the-art equipment and facilities.

9.9 **Medical Research :** The Directorate General of Armed Forces Medical Services looks after research activities in the Armed Forces Medical Services (Army, Navy and Air Force). The Armed Forces Medical Research Committee meets yearly at Armed Forces Medical College, Pune in the month of February to discuss and select new research proposals and also to review progress of on-going projects. During the current financial year a sum of Rs. 1.5 crore has been sanctioned for research & development to meet the requirements of 108 Armed Forces Medical Research Committee projects.

9.10 **Conferences and Continuous Medical Education :**

(a) Conference of the International Committee for Military Medicine held in South Africa, was attended by DG (AFMS) along with four other specialist officers.

(b) DG (AFMS) with two other medical officers attended the yearly Asia Pacific Military Medicine Conference at Kuala Lumpur, Malaysia in April 2002.

(c) 42 in-house CMEs, Updates, Workshops, Seminars etc. were organized at various premier Armed Forces Hospitals including peripheral units.

(d) Approximately 1287 Armed Forces medical officers attended various conferences and workshops of 127 approved civil bodies all over the country in the capacity of official and member delegates.

(e) A Meeting of the High Altitude Medical Research Centre, Research Advisory Committee was held on June 21, 2002 at Defence Institute of Physiology and Applied Sciences (DIPAS) Delhi under the chairmanship of the DGAFMS to consider various research projects in relation to the medical problems of the troops at high and extreme altitude.

(f) Defence Research & Development Organization-Commanders Interactive Conference on health related issues in Eastern Sector was held on September 27, 2002 at Headquarter 4 Corps.

(g) Technical Library – Medical journals and medical text books costing Rs. 2.05 lacs and 2.95 lacs respectively were purchased for DGAFMS Technical Library in the year 2002-2003.

9.11 **Admission to MBBS course at Armed Force Medical College, Pune :** 83684 candidates appeared in the written examination for admission to the 2002 session of MBBS course at Armed Forces Medical College, Pune. Based on their merit 917 candidates were called for interview, out of which 638 candidates appeared for interview. Finally 130 (105 boys and 25 girls) have been admitted for the MBBS course 2002. All candidates have liability to serve as commissioned officers in the Army Medical Corps on completion of the course. In addition, five sponsored candidates were also admitted from friendly neighbouring countries without any service liability.

9.12 **Advanced Course :** Medical Officers of Armed Forces Medical Services, on the basis of a competitive examination, are selected for Advanced Course during which they acquire Post Graduate qualification from Pune and other Universities. 95 officers were detailed during 2002.

DIRECTORATE GENERAL OF DEFENCE ESTATES

9.13 The Directorate General of Defence Estates (DGDE) is the apex body of the Defence Estates Organisation, having its offices in various parts of the country. It functions as an adviser to the Ministry of Defence on Land and Cantonment Board matters.

9.14 DGDE is the nodal executive agency of the

Ministry of Defence for procurement of immovable property for defence purposes by way of acquisition, transfer, requisitioning, hiring and maintaining land records. During the current year, 1684 buildings have been hired by the organization for residential and office accommodation of the Defence Forces with an outlay of Rs. 7.6 crore expenditure. The total area of land held on hiring and requisitioning for defence is 76463 acres and 23683 acres respectively with an approximate annual outlay of Rs. 12.60 crore as expenditure on rental/recurring compensation. Out of 17.31 lakh acres of defence land holding 0.68 lakh acres of land is under the management of DGDE.

9.15 An additional feature, since the last financial year is, the provision for payment of ex-gratia compensation to the people/ farmers for the damages occurred to their crops during the preparatory stage of Defence preparations in the border areas. A sum of Rs. 166 crore so far has already been sanctioned and released to the State Governments of Rajasthan, Punjab and Jammu & Kashmir for further disbursement to the affected farmers.

9.16 There are 62 cantonments in India. These are located in 19 States and National Capital Territory of Delhi. The Cantonment Boards are autonomous bodies functioning under the overall control of the Central Government in the Ministry of Defence under the provisions of Cantonment Act, 1924, which is presently under review of the Government with a view to bring a new Act. The Cantonment Boards comprise of elected representatives besides ex-officio and nominated members. Parity is maintained between elected and official members. The Station Commander is President of the Cantonment Board. Supervision and control over the working of these bodies are exercised through the Principal Director, Defence Estates and General Officer Commanding-in-Chief of the Commands at the intermediate level and by the Central Government through DGDE/Ministry of Defence at the apex level.

9.17 The Central Government provides financial assistance by way of grant-in-aid and service charge in lieu of property tax to the Cantonment Boards to balance their budget.

9.18 In order to improve the level of services in the Cantonments, provided by the Cantonment Board and improving financial resources of the Boards, various steps were taken up by DGDE such as:-

(i) A pilot project of rain water harvesting and non conventional energy resources has been undertaken at Lansdowne and Jabalpur Cantonments.

(ii) In Cantonments like Dehu Road, Pune, Jabalpur, Secunderabad, Kirkee, Ahmednagar etc; tax rates have been updated and new taxes, as permissible, have been levied for resource mobilization for deficit Cantonment Boards. Hospital's reconstruction, establishing public libraries at Bareilly Cantonment, water supply system at Ramgarh, sewage/drainage system at Varanasi, Public parks at Meerut, Lucknow, Delhi etc. are a few examples of development works in Cantonment Boards of the country.

9.19 A total of 69 hospitals/dispensaries are being maintained by various Cantonment Boards to cater to the civil population of the Cantonment as well as the adjoining areas.

9.20 A number of primary and secondary schools and colleges are being maintained by the Cantonment Boards according to local requirements. The total number of such schools and colleges maintained by Cantonment Boards is 189.

OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER

9.21 The office of Chief Administrative Officer (CAO) is responsible for providing civilian manpower and infrastructural support to the Services Headquarters and the Headquarter offices of Inter-Service Organisations (ISOs) under Ministry of Defence. Joint Secretary (Training) discharges the functions of the Chief Administrative Officer and Director (Security). In relation to security, he oversees the work of the Chief Security Officer.

9.22 The functioning of CAO's Office is discharged by the following six Divisions:-

(i) Administration Division

(ii) Personnel Division.

(iii) Manpower Planning and Recruitment Division

(iv) Training, Coordination and Welfare Division

(v) Finance and Materials Divisions

(vi) Estates and Works Division

9.23 The Administration Division provides administrative cover to about 10,000 civilian employees employed in Army Headquarters and 26 Inter-Service Organisations. A Grievances Cell is functioning within the Administration Division to examine the grievances of serving/retired Armed Forces Headquarters civilian employees and to ensure their speedy settlement.

9.24 The Personnel Division provides civilian manpower to the Service Headquarters and Inter- Service Organisations and deals with the management of this manpower.

9.25 The Defence Headquarter Training Institute functioning under the Training, Coordination and Welfare Division of CAO's Office caters for the training needs of the civilian personnel posted in Service Headquarters and Inter-Service Organisations.

9.26 Estates & Works Division performs the estate functions in respect of residential accommodation of Service Officers posted at Armed Forces Headquarters.

9.27 The welfare of civilian employees in Service Headquarters and Ministry of Defence is being looked after by this Office. Armed Forces Headquarters/Inter-Service Organisations Welfare Fund and Defence Civilian Medical Aid Fund (DCMAF) provide financial help to the employees during hours of acute distress.

9.28 Sports and cultural activities are also given a place of importance. Civilian employees are encouraged to join different sports and cultural activities. Every year, employees of this Organisation participate in various competitions at different levels and win prizes for the Organisation. Armed Forces Headquarters Day is observed every year on 1st August.

9.29 The Chief Security Officer and the personnel under his command ensure the physical security of office buildings in the Defence Security Zone under the supervision of JS (Trg) & CAO. Security of the buildings has to be ensured to preclude breach of physical security in the zone. Efforts are also made through briefings to sensitise officers and personnel on maintaining security of information.

DIRECTORATE OF PUBLIC RELATIONS

9.30 In a democratic polity such as ours, the media plays a pivotal role in disseminating information to the public. The Directorate of Public Relations with its Headquarters in New Delhi and 24 offices across the country, acts as the facilitator and is the nodal agency for providing media support and services to the Ministry of Defence, the three Services and Inter-Service Organizations under the Ministry of Defence. The Directorate of Public Relations also has a photo section that provides photographs of important defence related events to the print media. The Directorate coordinates preparation of the daily radio programme **'Sainikon ke liye'**, a popular forty minute programme broadcast over All India Radio for the benefit of the Armed Forces personnel.

9.31 The Directorate brings out a fortnightly journal **Sainik Samachar** for the Armed Forces in 13 languages, viz., Assamese, Bengali, English, Gorkhali, Hindi, Kannada, Malayalam, Marathi, Oriya, Punjabi, Tamil, Telegu and Urdu.

ARMY PURCHASE ORGANISATION

9.32 Army Purchase Organisation (APO) in the Ministry of Defence is entrusted with the responsibility of the procurement and timely supply of dry ration items for the consumption of the Defence Forces. APO procures rice and wheat through the Food Corporation of India; sugar is allotted by the Directorate of Sugar out of levy quota. Other items like pulses, animal rations, edible oils, vanaspati, tea and milk products are purchased from the Central and State Public Sector Undertakings, and various National/State-Level Cooperative Consumer Federations/Cooperatives. Whole milk powder, skimmed milk powder, butter and ghee are purchased through negotiated contracts from National Cooperative Dairy Federation of India. Tinned items like vegetables, fruits, jelly and jams, tinned milk, meat and fish products, coffee, egg powder etc. are procured from the Registered Suppliers including private parties/dealers through open tender. The indented quantities as per the Army Specifications are procured keeping in view the flush season of the items so as to ensure cost effective procurement.

9.33 During the year 2002-03, a budget provision of Rs. 804 crore was provided to the Army Headquarters for procurement of

the above items by this Organisation. As against this, supply orders/contracts worth Rs. 714 crore were placed by APO upto March 31, 2003.

9.34 The quality control of the contracted items is ensured by the Composite Food Laboratories under the charge of the Army Headquarters (AHQ) who, after inspection and acceptance of the tendered commodities, also supervise dispatches of the goods to different Supply Depots as per the Despatch Instructions issued by AHQ. Payments for the supplies are made by the Principal Controller of Defence Accounts (Hqrs) after verification of receipted vouchers by the Supply Depots/Officers Commanding, Composite Food Laboratories.

SERVICES SPORTS CONTROL BOARD

9.35 **Services Championships :** The Services Sports Control Board (SSCB) conducts and co-ordinates various sports activities in the three Services. A total of four teams (Army Red, Army Green, Navy and Air Force) participates in 19 Services championships conducted under the aegis of SSCB. During the year 2001-2002, Army Red were overall champions winning 12 out of 19 events.

9.36 **National Championships :** SSCB is affiliated to 26 National Sports Federations and participates in 36 National Championships including 10 Junior sections. The overall performance was quite good as our teams won overall championship in 10 events and were runners-up in 04 events. 04 events were not conducted at National level.

9.37 **International Championships :** During this period, there were approximately 85 international representation including sportsmen, coaches and officials. In addition to this 55 sportsmen and officials were selected for 14th Asian Games held at Busan. Results are as under:-

S.No.	Event	Selected Players	Medal Winners	Sub-Event
1.	**Athletics**	Nb/Sub P Anil Kumar	-	
		Hav Sanjay Ghosh	-	
		Hav Satbir Singh	Silver	4x400m Relay
2.	**Boxing**	CPO NG Dingko Singh	-	
		Nb/Sub Ramanand	-	
		Hav SB Pun	-	
		Hav V Jognson	-	
3.	**Equestrian**	Maj Deep Ahlawat,		
		Capt Rajesh Pattu	Bronze	Team Event
		Dfr RL Malhi	-	
		Capt NS Sandhu	-	
		Maj Sandeep Dewan	-	
		Nb/Ris JP Masih	-	
		Lt Col SS Ahlawat	-	
		Lt Col SS Das	-	
		Dfr Raghunath Singh	-	
		Nk Harphool Singh	-	
		Swr Devendra Singh	-	
		Rfn Devendra Singh	-	
		Dfr Rajpal Singh	-	
4.	**Kabaddi**	WO Ram Mehar Singh	Gold	Team Event
		Hav Jagdeesha KK		
5.	**Rowing**	Nb/Sub Kasam Khan	-	Team Event (Coxless Four 2000m)
		Nb/Sub Inderpal Singh,		
		Nb/Sub Roshan Lal,		
		Hav Jenil K,		
		Hav Paulose PT	Bronze	
		Hav Sunil Kakade	-	
		Nb/Sub Mujeeb Rehman	-	
		Hav Kudrat Ali	-	
		Hav Saji Thomas	-	
		Hav Ratheesh DB	-	
		Hav Udaybir Singh	-	
		Nb/Sub RK Pillai		
6.	**Hockey**	Nb/Sub Ignace Tirkey	Silver	Team Event

9.38 17th Commonwealth Games were held in August 2002 at Manchester (UK) where 11 sportsmen from SSCB were part of the Indian contingent. A total of 08 medals (05 Gold, 01 Silver, 02 Bronze) were won by Services players. The results are given as under:-

S.No	Event	Name of Players	Medal	Sub Event
1.	Shooting	Maj RVS Rathore	Gold	Double Trap (IndI)
		Maj RVS Rathore	Gold	Double Trap (Team)
		Sub BL Dhaka & MCPO-II Mukesh Kumar	Gold	Rapid Fire Pistol (Team)
		Sub AP Subbaiah	Bronze	Free Rifle 3 posn (Team)
		Nb/Sub Charan Singh	Gold	Free Rifle 3 posn (IndI)
		Nb/Sub Mahavir Singh	Gold	Centre Fire Pistol (Team)
2.	Boxing	Hav SB Pun	Silver	
3.	Weight Lifting	PO CPR Sudhir Kumar	Bronze	69 kg

9.39 **CISM Competition :** SSCB is an affiliated member of International Military Sports Council (CISM). Every year CISM conducts various competitions and invites sportsmen of Armed Forces of each member countries. Accordingly, 12 boxers took part in the 46th World Military Boxing Championship held at Ireland from September 06-16, 2002.

9.40 **32nd National Games :** These Games were held at Hyderabad (AP) from December 13 to 22, 2002. SSCB fielded its teams in 21 sports disciplines. Services stood third by winning a total of 117 medals (i.e. 48 Gold, 34 Silver, 35 Bronze). Andhra Pradesh, the host, won the overall championship whereas Punjab was runners-up.

9.41 **Best Services Sportsman :** Based on the performance in the Services, National and International Championships, one best sportsman is selected from the three Services. Nb/Sub Ramanand who is a boxer was adjudged the "Best Services Sportsman" for the year 2001-2002. The said boxer won gold medal in 22nd International Boxing Competition in Finland and was adjudged best boxer during Grand Prix Boxing Tournament, 2001 held at Ustinad Labem (Czech Republic). AVM Jaswant Singh Trophy for Best Services sportsman was presented by Chairman, Chiefs of Staff Committee to him during the Combined Commander's Conference on October 26, 2002.

ARMED FORCES FILMS & PHOTO DIVISION

9.42 The Armed Forces Films & Photo Division (AFFPD) has been entrusted with the task of meeting the requirements of Services Headquarters and other Defence Organisations with regard to production, procurement and distribution of training films, production of photographs, art work etc.

9.43 The Central Defence Film Library of this Division maintains a rare collection of films and photographs of Indian Forces. As on date, the library holds 570 titles in 35 mm sizes, 1290 in 16 mm sizes and 300 in video formats. During the year, 3039 training Films/Video Cassettes have been distributed.

9.44 Keeping in mind the fact that responsiveness of forces is dependent upon speed with which information and orders are disseminated, four films have been specially made during this year on the latest communication technology, namely, Communication Techniques, Local Area Network and Wide Area Network (LAN & WAN), Integrated Services Digital Network (ISDN) and Very Small Aperture Terminal (VSAT). Besides, work on 11 films has been completed, 4 films are at the final stages of completion and work on 15 films remained in progress. Till date, 14,105 colour/black & white photographs/slides have been made and 5477 pieces of art work prepared.

9.45 The Mobile Cinema Unit of AFFPD also procures/distributes documentary films/ news magazines of information, cultural and family welfare values, to the troops in the forward areas.

SCHOOL OF FOREIGN LANGUAGES

9.46 The School of Foreign Languages (SFL) is an Inter-Service Organization under the aegis of the Ministry of Defence. It is a unique institution of our country because

no where else so many foreign languages are taught. It has been the pioneer in foreign language teaching in India since 1948. At present, the School is engaged in imparting training in 16 foreign languages to personnel of the three Services of the Indian Armed Forces. It also caters to the needs of the other Ministries of the Government of India, such as the Ministry of External Affairs, the Cabinet Secretariat, Central Police Organization etc.

9.47 **Courses :** Arabic, Bhasa Indonesia, Burmese, Chinese, French, German, Persian, Pushto, Russian, Spanish, Sinhala and Tibetan languages are taught on regular basis at the SFL. It offers the following courses:-

a) Interpretership Course

b) Certificate of Proficiency Course

c) Advanced Diploma Course

d) Short-term Course /Adhoc Course

9.48 The Interpretership Course is a full time Course. The students are sponsored by the Ministry of Defence, the Cabinet Secretariat and other Government departments. This course trains the students to become experts in the highly skilled work of interpretation and translation. Further more, they are trained in writing and speaking the target language with utmost fluency. The course is need-oriented and has been designed and formulated solely to meet the specific needs of the Armed Forces. It is a highly specialized course which has no parallel anywhere else in India. It is only at the SFL that languages of strategic importance such as Sinhala, Bhasa Indonesia, Burmese, Pushto and Tibetan are taught.

9.49 The Certificate of proficiency Course is followed by the Advanced Diploma Intensive Course. Both are part-time courses and each of one year duration. Together, this 2-year course is equivalent to the 3 year Diploma Courses of the universities.

9.50 Short-term courses are purely need-based programmes. They are conducted as and when necessary, especially for Military Attaches Designates and officers being sent on UN Missions.

9.51 The SFL is the controlling organization for other defence institutions namely National Defence Academy, Pune and Army Education Centre and Training College, Pachmarhi, where foreign languages are taught. It conducts their examinations and issues diplomas to the successful candidates. For the Indian Foreign Service probationers, it is obligatory to pass Advanced Diploma examination conducted by this Institute.

9.52 From July 10, 2002, a regular course in Persian has been started which will cater to the pressing need of training defence personnel in Persian language.

HISTORY DIVISION

9.53 Historical Section was created after the end of World War II to prepare a detailed official history of the War with particular reference to the operations conducted by the Armed Forces of the undivided India. After partition, it served as the Combined Inter Services Historical Section (India and Pakistan). The official history of the Armed Forces of undivided India in World War II (1939-45) was brought out in 24 volumes by the Combined Inter Services Historical Section (India and Pakistan). On completion of the work it was wound up in 1963.

9.54 In the meanwhile, Historical Section (India) was established on October 26, 1953 to write and publish official account of the post independence military operations of the Indian Armed Forces. History of the operations in Jammu and Kashmir (1947-48) was its first assignment. Till now, it has brought out 19 volumes. The Historical Section was redesignated as History Division w.e.f. April 01, 1992.

9.55 The History Division also serves as military records and reference organization of the Ministry of Defence and the Indian Armed Forces. It also provides expert advice to the Ministry of Defence and the three Services Headquarters on matters relating to heraldry and ceremonials. During the year, about 4500 operational records were received from the Services Headquarters, Units and Formations for permanent retention in the History Division. About 375 service officers and scholars visited the record room to consult records and books in connection with research assignments pertaining to military history. This Division has provided information relating to military history in respect of over 300 queries received from various Units and Formations, and scholars from India and abroad.

9.56 This Division also provides two Research fellowships for conducting research in military history under the Research Fellowship Scheme of the Ministry of Defence.

9.57 The Heraldic Cell of the History Division has been assisting the three Services Headquarters and the Ministry of Defence by suggesting names for new establishments, designing of crests and badges and coining suitable mottoes for Units/Formations.

NATIONAL DEFENCE COLLEGE

9.58 The National Defence College (NDC) inaugurated on April 27, 1960 is the only institution in the country that imparts knowledge on all aspects of national security and strategy. Senior Defence and Civil Service Officers participate in a 47 weeks comprehensive programme of national security and strategy. The training at NDC is highly specialized to equip the participants with future planning of national strategy in the context of world polity. The NDC alumni have risen to the highest military posts in India and abroad and some of them have even become heads of their countries.

COLLEGE OF DEFENCE MANAGEMENT

9.59 Institute of Defence Management, Secunderabad was established in 1970. It was renamed as the College of Defence Management (CDM) in 1980. The CDM conducts training programmes oriented towards the application of management concepts and techniques to defence situations in all facets : operations, logistics, intelligence and training. The prominent programmes conducted by CDM are Long Defence Management Course, Senior Defence Management Course, Defence Management Seminar and Assignment Oriented Management Training Programme. The college also undertakes management consultancy studies. The college is equipped with modern and state-of-the-art training aids.

DEFENCE SERVICES STAFF COLLEGE

9.60 The Defence Services Staff College (DSSC) is one of the oldest military institutions which was established in 1905 in Deolali and has been functioning at Wellington since 1950. The DSSC imparts training to middle level officers of the three Services besides a few civilian officers and officers from friendly foreign countries. The college conducts a 45 weeks training programme from June to April every year. The Staff Course at DSSC aims at imparting training in operational and staff functions in an Inter-Service as well as Joint Service environment. The training enables the officers to effectively perform any staff/ operational appointment as Maj/ Lt Col and equivalent ranks in other Services.

MINISTRY OF DEFENCE LIBRARY

9.61 The Ministry of Defence Library provides literature on subjects relevant to planning and policy formulation in the Ministry of Defence, three Services Headquarters, Inter-Service Organisations and other allied Defence Establishments located in Delhi. It specializes in Defence and related subjects, besides catering to the needs of general readers. The reading material for the library is selected by a Book Selection Sub-Committee. During the year, the library added 850 books, subscribed to 123 journals and 23 Newspapers.

Trishul Missile Firing

10

Recruitment And Training

Training at NDA—A cadet displaying his combat skill

10.1 The Armed Forces epitomize the ideals of service, sacrifice, patriotism and our country's composite culture. The recruitment to the Armed Forces is voluntary and every citizen of India, irrespective of his caste, class, religion and community, is eligible for recruitment into the Armed Forces provided he meets the laid down physical, medical and educational criteria.

RECRUITMENT OF OFFICERS

10.2 Recruitment of Commissioned Officers in the Armed Forces is mainly done through the Union Public Service Commission (UPSC). For technical branches, women special entry scheme, NCC special entry scheme and service entries, recruitment is made directly through the respective Recruiting Directorates for the Army, the Navy and the Air Force.

RECRUITMENT THROUGH THE UPSC

10.3 The UPSC holds an all-India competitive examination, known as the Combined Defence Services Examination (CDSE), twice a year. University graduates are eligible to appear in the examination. Successful candidates join the respective training academies, viz., the Indian Military Academy (IMA) for the Army, the Naval Academy for the Navy and the Air Force Academy for the Air Force.

10.4 The UPSC also holds, twice a year, an examination for entry into the National Defence Academy (NDA). Candidates on completion of the 10+2 Examination or while in the 12th standard, are eligible to compete. Successful candidates join the NDA. On completion of the NDA course, they are sent to the respective Service academies for their pre-commission training.

RECRUITMENT THROUGH SELECTION BOARD

10.5 Recruitment through Service Selection Boards/Air Force Selection Board is made for the following branches of the Army, Navy and Air Force:-

ARMY	All Arms of Services.
NAVY	Electrical Engineering, Engineering (Naval Architects), Logistics, Law, Education, Air Traffic Control.
AIR FORCE	Aeronautical Engineering (Electronics), Aeronautical Engineering (Mechanical), Education, Administration, Logistics, Accounts and Meteorology.

UNIVERSITY ENTRY SCHEME

10.6 Final/pre-final year students in Engineering disciplines are eligible for induction into the technical Branches/Services of the Army as Commissioned Officers under the University Entry Scheme.

SHORT SERVICE COMMISSION (TECHNICAL) ENTRY SCHEME

10.7 The Short Service Commission(Technical) Entry Scheme envisages recruitment of qualified technical graduates through the Service Selection Boards (SSBs), to attend the Officers Training Academy (OTA), Madras, after medical tests, for a 10 months course. On completion of training at the OTA, successful candidates are inducted as Short Service Commissioned Officers in the Technical Branches of the Army.

RECRUITMENT OF MEDICAL OFFICERS

10.8 Medical graduates from the Armed Forces Medical College, Pune are directly inducted as Permanent Commissioned Medical Officers in the Armed Forces. For recruitment of Regular Commissioned/Short Service Commissioned Medical Officers from the Graduates/Post Graduates of Civil Medical Colleges, the Director General of the Armed Forces Medical Services conducts an all India competitive examination.

RECRUITMENT OF WOMEN OFFICERS

10.9 Eligible women are recruited as Short Service Commissioned Officers in the following Branches of the Armed Forces.

ARMY	EME, Signals, Engineers, Army Education Corps, Army Ordnance Corps, Army Service Corps, Intelligence and Judge Advocate General's Branch
NAVY	All Branches of the Indian Navy
AIR FORCE	Flying, Aeronautical Engineering (Electronics), Aeronautical Engineering (Mechanical), Education, Administration, Logistics, Accounts and Meteorology.

RECRUITMENT THROUGH NCC

10.10 University graduates possessing NCC 'C' Certificate with minimum 'B' grading and 50% marks in graduation are inducted in the Navy and Air Force as Regular Commissioned Officers and as Short Service Commissioned Officers in the Army. These graduates are exempted from appearing in the CDSE conducted by the UPSC and are selected through the SSBs.

INDUCTION UNDER SPECIAL COMMISSIONED OFFICERS SCHEME

10.11 Government had approved the creation of a 6,000 strong Support Cadre of Special Commissioned Officers. These posts are filled up by eligible JCOs and ORs. Under this entry, serving JCOs/NCOs/ORs in the age group of 30-35 years, with an Army Senior School Certificate Pass (Class XI CBSE Pattern) qualification, are eligible for Commission after screening/selection through Service Selection Board and a Medical Board. They have to undergo a pre-commission training of six months duration. The officers so commissioned earn promotion upto the rank of Colonel. The rules for substantive promotion and acting promotion are the same as for regular officers. These officers are employed in units as sub unit Cadres/QM job/ERE appointments etc. upto the rank of Major. They retire at the age of 57 years after serving about 20-25 years as officers. The scheme not only improves the career prospects of the existing JCOs/NCOs/ ORs but also helps in making up the deficiency of officers in the Army to a considerable extent.

10 + 2 TECHNICAL ENTRY SCHEME

10.12 Under this scheme, candidates with 10+2 qualification, after selection through SSB, are sent for military and engineering training at IMA and the College of Military Engineering, Pune. Initial six months military training is followed by Degree Engineering Training of 4 years. The objective of this scheme is to help in bringing down the deficiency of officers in Technical Arms/Services.

RECRUITMENT OF OTHER RANKS

10.13 Recruitment of Airmen to the Air Force is done through the Central Airmen Selection Board, located at the Air Force Station, New Delhi. There are 13 selection centers under this Board.

RECRUITMENT OF JAWANS THROUGH OPEN RECRUITMENT RALLIES

10.14 A new system of recruitment has been introduced with effect from April 1, 1998. Under the revised system, recruitment of jawans in the Army is carried out through open recruitment rallies only. Recruitment rallies are planned well in advance, keeping in view the geographical, demographical and topographical considerations. At least one such rally is held in each month combining districts, areas and regions, depending upon the response anticipated, thereby giving every aspirant, irrespective of his place of residence, minimum one opportunity in a year to get himself enrolled in the Army. In the old system of Branch Recruiting Office-oriented recruitment, aspirants had to travel long distances to reach the nearest BRO for enrolment, whereas in the revised system, recruitment has been brought closer to their area of domicile. Advance publicity regarding an ensuing rally in a particular area/district is given by putting up hoardings, advertisement in local newspapers, radio etc.

PUBLICITY FOR RECRUITMENT

10.15 Measures have been taken to make the youth of our country more aware of the opportunities in the Army, both for officers including women officers and Other Ranks categories. The means of publicity adopted to attract better talent are as follows:

(a) **Press Advertisements:** Advertisements are released through the Directorate of Advertising and Visual Publicity (DAVP) in the Employment News/Rozgar Samachar and in newspapers in different languages for various entries viz – National Defence Academy, Combined Defence Services Examination, Technical Graduate Course, Short Service Commission (Technical and Non-Technical), University Entry Scheme, Law Graduates, Induction in Medical Services for both men and women, Special Entry Scheme (Officers), Havildar Instructors, Junior Commissioned Officers (Catering and Religious Teachers) etc. A composite advertisement for various entries in the Army is also brought out periodically both in

English and Hindi. Concerned Zonal Recruitment Offices (ZRO)/Branch Recruitment Offices (BROs) also publish advertisements on recruitment of Other Ranks in local regional newspapers.

(b) **Advertisements in Journals/ Magazines:** These are normally brought out in the journals/ magazines of educational institutions.

(c) **Hoardings:** Hoardings are erected at ZRO/BRO premises as well as adjacent to Engineering Colleges all over the country to attract technical talents into the Army. DAVP approves the sites and, thereafter, the hoardings giving detailed information are installed and maintained by them.

(d) **Printed Publicity:** Information folders, leaflets, brochures, data cards, posters and blow-ups, prepared through DAVP and private professional agencies, are widely distributed.

(e) **Exhibition and Fairs:** Each year, at the Defence pavilion at the India International Trade Fair, New Delhi, a stall is established where information regarding recruitment is provided to visitors. This is also done in other organized fairs, which are career oriented and meant for students.

IMAGE PROJECTION CAMPAIGN

10.16 To meet out the shortage of officers and bring out awareness of the opportunities that are available on commissioning in the Army amongst the target group (youths), an advertising campaign was launched in September 1997 with the assistance of a professional advertising agency to project positive aspects of a wholesome career available to Service Officer. The aim of the campaign was to reach out to every corner of the country through the print, audio, visual and audio-visual media. An evaluation check of the impact of the campaign through independent market research agency MODE revealed that the campaign worked in the desired direction. On this basis the campaign is continuing.

TRAINING

10.17 Several features distinguish Human Resource Management in the Defence Sector. Training being imparted aims to equip the soldier with necessary inputs to make him not only an efficient fighting man, but also a man well informed on national and international developments. Specialized and rigorous recruitment procedures, environment in which the defence officers have to interact, demand a holistic approach in training. The training requirements are properly matched for the freshly recruited officers, for officers in need of advanced and specialized training, and for Other Ranks (ORs). Accordingly, a large number of training institutions in the Defence Sector work in coordination with one another to achieve these objectives.

SAINIK SCHOOLS

10.18 The Scheme to establish Sainik Schools was started in 1981 to broad-base recruitment and remove regional imbalance in the officer's cadre of the Defence Forces. Sainik Schools are a joint venture of the Central and State Governments. At present 18 Sainik Schools are being administered by Sainik Schools Society. The Sainik Schools are fully residential and admit students in classes VI and IX only, strictly in the order of merit decided as per the All India Sainik Schools Entrance Examination held in February each year subject to medical fitness. The medium of instruction in Sainik Schools is English although knowledge of English is not a pre-requisite for admission in these schools. Schools give due attention to both co-curricular and extra-curricular activities for all round development of their cadets. These schools are affiliated to Central Board of Secondary Education and follow 10+2 pattern in science stream only.

10.19 During the year 2002, a total of 108 students from Sainik Schools joined NDA, which takes about 600 cadets every year. Besides, 16 students joined Navy and Army through technical 10+2 entry scheme during 2001. As on date, about 6000 officers of the Defence forces are alumni of Sainik Schools.

MILITARY SCHOOLS

10.20 There are five Military Schools in the country at Ajmer, Bangalore, Belgaum, Dholpur and Chail. The Military Schools admit boys in class VI, based on an all India Entrance Examination. In the Military Schools, 67% seats are reserved for the wards of JCOs/ORs called "entitled category". Out of the 33% non-entitled category seats, 20% are reserved for wards of service officers and 13% for wards of civilians.

10.21 Aim of the Military Schools is to impart quality education to enable the students to take All India Secondary School Examination and Senior Secondary Certificate Examination conducted by CBSE and also to facilitate their entry into the NDA.

RASHTRIYA INDIAN MILITARY COLLEGE, DEHRADUN

10.22 Rashtriya Indian Military College (RIMC) was founded on March 13, 1922 with the object of providing necessary preliminary training for boys of Indian birth or domicile, wishing to become officers in Indian Armed Forces. The institution now serves as a feeder institution to the National Defence Academy, Khadakwasla (Pune), wherein cadets of the Army, Navy and Air Force receive their initial training. The aim of this College is to train suitable candidates for admission to the NDA. Selection for the RIMC is through a written examination-cum-viva-voce conducted through the State Governments. Seats for respective States are reserved based on their population. Intake into RIMC is biennial in January and August, 25 cadets per term with maximum strength of RIMC being 250. The intake of boys is at Class VIII in the age group of 11 ½ to 13 years. The college runs classes from 8th to 12th on 10+2 CBSE pattern.

NATIONAL DEFENCE ACADEMY, KHADAKWASLA

10.23 National Defence Academy (NDA) is a premier Joint Services Institution for training of young cadets as future officers of the Defence Services. It has a four-fold aim: -

(a) attain requisite educational standard and acquire mental, moral and physical qualities essential to the cadet's progressive and continued development as officers of the fighting services;

(b) obtain such basic service training as will assist in developing their character, initiative, self-confidence and above all qualities of leadership;

(c) develop ability to appreciate inter-service aspect of the armed forces; and also

(d) develop interest in extra curricular activities particularly out-door oriented.

10.24 Entry into NDA is based on a competitive examination conducted by UPSC. Cadets of all three Services viz. Army, Navy and Air Force undergo combined training at NDA for three years. After passing out from the NDA, the cadets go to their respective Service academies for specialised training before being commissioned in the Armed Forces. The Academy is a unique institution wherein Inter Service aspects are developed right from the formative stages of an officer, thus developing a bond of friendship and respect for each other's service.

10.25 The academic curriculum of NDA is in tune with the national educational format of 10+2+3. The syllabus of the Academy has been approved by the Jawaharlal Nehru University for grant of B.A. or B.Sc. degree at the time of passing out from the Academy.

10.26 The training curriculum at NDA is structured to impart Service and Academic training to the cadets with a great amount of emphasis being laid on extra curricular and out-door activities to develop the concept of holistic man and the finer qualities which are pre-requisites of the officer cadre in the Defence Services.

10.27 A number of cadets from friendly foreign countries like Bhutan, Nepal, Seychelles, Singapore, Afghanistan, Tanzania, Ghana, Maldives etc. have undergone training at NDA. The present strength of NDA is 1788 including 69 foreign cadets. It includes 52 cadets from Bhutan, 7 cadets from Palestine, 1 cadet from Lesotho, 1 cadet from Krgystan and 8 cadets from Maldives.

INDIAN MILITARY ACADEMY, DEHRADUN

10.28 The Indian Military Academy (IMA), founded in 1932, has a glorious and colourful history. The Academy is located between the Shivalik ranges and the Himalayan foothills in the beautiful valley of Dehradun. Aim of IMA is to train Gentlemen Cadets (GCs) for commission into the Army. It also has a Wing for training service cadets selected for commission in the Army.

10.29 It aims at the fullest development of intellectual, moral and physical qualities with basic military training and broad academic education. It develops the qualities of dynamism, initiative and understanding, which form the very basis of leadership in war, as well as in peace.

Passing out ceremony at IMA, Dehradun

10.30 The various modes of entry into IMA are: -

(a) on graduation from NDA;

(b) on graduation from Army Cadet College, which is a Wing of the IMA itself;

(c) direct entry graduate cadets, who join on qualifying in the Union Public Service Commission Examination and the Services Selection Board;

(d) technical Graduates;

(e) University Entry Scheme for engineering college students in Final/Pre-Final year of studies; and

(f) 10+2 Technical Entry Scheme for candidates who have passed 10+2 with more than 70% marks in Physics, Chemistry and Maths.

10.31 The IMA also imparts training to Gentlemen Cadets from friendly countries. The present strength in IMA is 1257 Gentlemen Cadets including 36 foreign GCs. It includes 23 cadets from Bhutan, 5 cadets from Palestine, 2 cadets from Lesotho, 1 cadet from Mauritius and 5 cadets from Maldives.

ARMY CADET COLLEGE, DEHRADUN

10.32 This is a Wing of IMA which caters for training of service cadets selected for commission. The academic format is similar to the NDA on the lines of 10+2+3 and the syllabus is common. On completion of the course, these cadets also qualify for a B.A. or B.Sc. degree, recognised by the Jawaharlal Nehru University.

OFFICERS TRAINING ACADEMY, CHENNAI

10.33 The Officers Training Academy (OTA) was established in 1963 as 'Officers Training School' to meet increased demand of officers in the Army. It was re-designated as 'Officers Training Academy' from January 01, 1988 on completion of 25 years of its existence. To begin with, its main task was to train Gentlemen Cadets for grant of Emergency Commission. From 1965 onwards, the Academy started training cadets for Short Service Commission, after which the Emergency Commission was dispensed with.

10.34 Since September 21, 1992, the Indian Army has opened up its portals for entry of women as commissioned officers. Initially 50 lady cadets were commissioned every year with the entries presently limited to Army Service Corps, Army Ordnance Corps, Army Education Corps, Judge Advocate General's Department, Corps of Engineers, Signals and Electrical and Mechanical Engineers. Approximately 100 Lady Officers get commissioned from OTA every year.

10.35 Aim of the OTA is to train Gentlemen/ Lady Cadets so as to make them fit for a Short Service Commission in the Army.The training is designed to:-

(a) impart basic military knowledge;

(b) provide broad based general education to stimulate interest in professional studies and generate general awareness;

(c) to develop highest qualities of leadership, moral & physical courage and physical fitness; and

(d) to instill high sense of patriotism, devotion to duty, discipline, integrity, loyalty and honour.

10.36 The OTA imparts pre-commission training for the following courses:

Sl. No.	Type of Course	Educational Qualification
(a)	Short Service Commission (Non-Technical)	Graduation
(b)	Short Service Commission (Technical)	University Graduation in Engineering
(c)	Women's Special Entry Scheme	Graduate/Post Graduate

10.37 Against the designed capacity of 500, OTA is presently training 446 GCs including 59 Lady Cadets. It is planned to enhance the capacity of OTA from 500 to 750 cadets.

COLLEGE OF COMBAT, MHOW

10.38 College of Combat was created out of Infantry School and established as an independent institution on April 1, 1971. It is a premier All-Arms-Tactical-Training Institution for officers and performs the important functions of evaluation of new concepts and doctrines in the fields of tactics and logistics. The college trains over 1200 officers from armed forces and para-military forces every year. About 100 officers from friendly countries are also trained every year. The College moved to its new campus in 1988. This campus is spread over an area of 533.5 acres and has been very aesthetically developed. This year, the college has been renamed as "Army War College".

Officers training in the Multi Media Lab, OTA, Chennai

10.39 The training vision of the college is to harmonise and synchronise the training in the three wings of the Armed Forces and impart contemporary teaching based on realities of existing operational environment and proposed modernization of the Army. The teaching tries to validate new operational and logistic concepts through conceptual studies, war games, discussions and seminars. The Faculty of Studies keeps abreast with all tactical, logistical and technical developments in India and abroad in all aspects connected with training. The Faculty acts as a bridge between tutorial precepts and ground realities in vetting various exercises. It revises and updates all training material and conducts lectures and demonstrations for the courses.

10.40 **Courses :** The Higher Command Course, Senior Command Course, Junior Command Course, M Phil Programme, which is affiliated to Devi Ahilya Vishwa Vidhalaya (DAVV), Indore (HC Course students are eligible for award of M. Phil degree in Defence and Management) and Defence Management Course. Defence Correspondents Course (DCC) is also conducted to acquaint defence correspondents with the basic organisation and functioning of the Army and the role of the Army in various operations.

JUNIOR LEADERS WING, BELGAUM

10.41 Role of Junior Leaders Wing, Belgaum is to train junior officers, JCOs and NCOs in Sub Unit level Tactical and Special Mission technique to make them capable to carry out assigned operational missions in varied terrain conditions under severe stress and strain and be able to command and administer their Sub Units effectively in war and peace.

10.42 Charter of duties of the Junior Leaders Wing includes :-

(a) to train officers and NCOs of Army, Para Military Forces and friendly

foreign countries in commando type operations and make them capable of tactical and administrative handling of the sub-unit, forming part of special mission groups and leading independent missions in all types of terrain and operational environments;

(b) to expose officers to different types of terrain conditions on our borders and to highlight the dynamism required to exercise tactical missions and instill confidence in them to face varying operational situations; and

(c) to re-enforce analytical, logical and rational thinking in the officers to deal with unconventional operational situations.

JUNIOR LEADERS ACADEMY, BAREILLY

10.43 The Junior Leaders Academy (JLA) is a Category 'A' institution raised to develop leadership qualities in the Junior Leaders of the Indian Army. It imparts institutionalised leadership training for our Junior Leaders i.e. JCOs and NCOs. The JLA was set up in the training year 1998-1999 at Belgaum. An Interim JLA was set up at Madgaon (Goa). On July 11, 1999, the Academy moved to its permanent location at Bareilly. JLA imparts training to 3888 students in a year.

10.44 The following two types of JL courses are conducted for the JCOs/NCOs of all arms and services :-

(a) **Junior Leaders Course (JLC) :** It is a six weeks duration course for officers comprising of newly promoted JCOs and NCOs approved for promotion to the rank of the JCO. Six courses are conducted annually to train 3240 students;

(b) **Potential Subedar Majors Orientation Course (PSM) :** Four weeks duration course for 108 students comprising of newly promoted Subedar Majors or Senior Subedars approved for promotion to Subedar Majors. Six courses are conducted annually to train 640 students.

10.45 **The IT Revolution :** In keeping with the IT revolution the functioning of JLA has been automated in a big way. Apart from computers and its peripherals, equipment held by JLA includes state-of-the-art photocopier machine, digital camera, Web camera, animation software, scanners and video camera.

JUNIOR LEADERS ACADEMY, RAMGARH

10.46 Considering the gigantic magnitude of our Army, the requirement of training the Junior Leaders was only partially met with the raising of JLA Bareilly. An interim JLA has therefore, been raised at Ramgarh in Bihar w.e.f. 2001.

10.47 The JLA Ramgarh has been organized on the same lines as JLA Bareilly. This being an interim location, only the existing infrastructure and facilities have been utilized and further improved upon. This institution will also train 3888 students every year and will meet the growing demand of imparting quality training to potential junior leaders of Army.

DEFENCE SERVICES STAFF COLLEGE, WELLINGTON

10.48 The Defence Services Staff College (DSSC) is a premier tri-service training establishment imparting training to middle level officers of the three wings of Indian Armed Forces, friendly foreign countries and various Indian civil services. The alumni of this college have risen to great eminence in the country and abroad.

10.49 The college was established in 1905 in Deolali and has been functioning at Wellington since 1950. With a modest beginning of training 50 officers, the College has on its rolls 430 student officers including 34 officers from 25 friendly foreign countries and six officers from the various Indian civil services. The college conducts a 45 weeks training programme from June to April every year, sub divided into six tutorial periods each of five to nine weeks.

10.50 **Award of M.Sc. (Defence and Strategic Studies) Degree :** The DSSC awards the symbol of psc (passed staff course) on successful completion of training. The DSSC is affiliated to the University of Madras which awards M. Sc. in Defence and Strategic Studies degree to all students who qualify the course. Officers on the faculty of the College, with aptitude for academic research, can register for M Phil degree.

10.51 **Aim :** The aim of the Staff Course is to train selected officers of the three Services in command and staff functions in inter-service and joint service environment as also to impart related education to enable them to perform effectively in command and staff appointments.

10.52 The outstanding facet of training philosophy at the College is the importance given to development of 'Jointmanship' within the services. Nearly 60 percent of the training curriculum is devoted to joint training which facilitates understanding of functioning of the other services by the student officers. DSSC is one of the few such establishments in the world which has such a tri-service character. Many delegations from foreign countries visit the College to acquaint themselves with the training being imparted at this unique institution.

10.53 Training instructions are imparted in national security and strategy, varied dimensions of warfare in multifarious terrains; special operations like airborne, heliborne, maritime and amphibious operations; low intensity conflicts including UN peacekeeping operations; defence management; leadership; military intelligence and administration in war and peace. Lectures by eminent speakers on various aspects of geo-politics, socio-politics, Indian economy, science and technology and international relations are also included in the course curriculum.

HIGH ALTITUDE WARFARE SCHOOL, GULMARG

10.54 The School was set up in December, 1948 as '19 Infantry Division Ski School' by Gen K.S. Thimayya. The School soon gained popularity in skiing and winter warfare training and during winter of 1949-50, it was upgraded to a Command establishment and re-designated as 'Winter Warfare School'. On April 8, 1962, it was raised as Category 'A' Training Establishment and redesignated as 'High Altitude Warfare School' (HAWS).

10.55 Aim of the School is to train selected personnel in all aspects of high altitude (HA), mountain warfare and develop techniques for fighting in such terrain. The School functions as the Army's nodal instructional facility for specialised training and dissemination of approved doctrines in High Altitude, Mountain and Snow Warfare.

10.56 HAWS conducts two series of courses i.e. Mountain Warfare(MW) and Winter Warfare (WW) at Sonmarg and Gulmarg respectively. All courses are combined for officers, JCOs and NCOs. The training period broadly consists of January to April (WW Series) and May to October (MW Series).

COUNTER INSURGENCY & JUNGLE WARFARE SCHOOL, VEIRANGTE

10.57 'Jungle Training School' was established in 1968. But the School in its present form was established on May 01, 1970, as a Category 'A' Establishment and located at Veirangte. It is popularly known as CIJW School. The School motto "Fight the Guerilla like a Guerilla" is unique and symbolic of the CIJW techniques. The School is presently training officers and men in Counter Insurgency & Jungle Warfare (CIJW).

10.58 Charter of duties of the school is to conduct Counter Insurgency Techniques courses and Language Courses in Assamese, Bodo, Nagamese and Manipuri/Tangkhul for Officers, JCO/NCOs; and to conduct Pre-induction Training for all units prior to induction into insurgency areas. The School evolves and reviews tactical doctrine and techniques regularly for operations in Counter Insurgency & Jungle Warfare and keeps abreast of all tactical and technical aspects of insurgency in all parts of the world.

10.59 A number of students from Para Military Forces and friendly foreign countries like Sri Lanka, Nepal, Singapore, Kenya, Iraq and USA also attend the courses conducted by CIJW School. Seven Officers from foreign countries have attended the courses this year. The School has done and continues to do yeoman service in preparing units for operations in Counter Insurgency Areas.

10.60 With the present capacity, the school is training 120 Officers and 460 JCO/NCOs. Besides training, they have also done well in looking after the interests of tribal villages in the vicinities.

INFANTRY SCHOOL, MHOW

10.61 The Infantry School, Mhow is the largest and the oldest Military Training Institution

of the Indian Army. The origin of the institution can be traced back to the year 1885. Infantry School is located at two places. The Weapon Wing and Young Officers Wing are located at Mhow. The Junior Leaders Wing consisting of Commando and Platoon Commanders Wing is located at Belgaum.

10.62 The institution imparts training to the Officers, JCOs and ORs of not only infantry but other arms and services besides Para Military Forces and Civil Police Organisations. A number of friendly foreign countries are making use of the facilities. During the current training year 90 Officers, 160 JCOs/NCOs from friendly foreign countries attended the courses. With this backdrop, the institution is presently training 1195 Officers, 5900 JCOs/NCOs in a year.

10.63 The School is responsible for the following activities:-

(a) developing new tactical doctrines, battle techniques and battle drills pertaining to infantry and introducing them;

(b) continuously studying and keeping abreast with tactical and technical developments in India and abroad;

(c) carrying out trials of weapons, equipment and ammunition pertaining to infantry;

(d) conducting courses of instruction; and

(e) training Army Shooting Team and the National Shooting Team in "Precision Shooting".

10.64 **Courses :** Eleven courses are conducted at Infantry School (including Junior Leaders Wing) viz. Young Officers Course, Ghatak Course, Platoon Weapon Course, Mortar Course, Anti Tank & Guided Missile Course, Platoon Commanders Course, Medium Machine Gun & Automatic Grenade Launcher (J/N) Course, Section Commanders Course, Automatic Data Processing Course, Sniper Course and Battalion Support Weapon Course.

10.65 **Army Marksmanship Unit :** The School also has the Army Marksmanship Unit which has produced a large number of champion shooters at national and international level.

BATTLE SCHOOLS

10.66 Due to escalation of insurgency problem in J&K and in the East, a need was felt to impart pre-induction training to all units being inducted into counter insurgency environment. Capacity of CIJW School was limited. Besides due to peculiar operational situation and administrative problems of movement of units, it was necessary to impart training to units in areas closer to their operation areas. To overcome these problems, the following three Theatre Battle Schools were established:-

(i) Battle School at Kheru for units moving into the Kashmir Valley;

(ii) Battle School at Sarol for units moving into Chamba and adjoining areas near Jammu; and

(iii) Battle School at Thakurbari for units moving into Assam and Meghalaya.

10.67 Pre-induction training in these schools has benefited all the units, as they were able to understand the peculiarities of the insurgency problem in their locality. Besides training for counter insurgency, these schools especially in the Northern Command are training units for their role along the line of control and in high altitude areas. Performance of these schools can be gauged from the favourable results achieved by Army in combating internal insurgency and infiltration along the line of control and International Border.

COLLEGE OF DEFENCE MANAGEMENT

10.68 Realisation of the necessity to set up an institution devoted to imparting modern, scientific management training was felt sometime after the Indo-Pak War of 1965. The size of the Indian Defence Services, their deployment in far flung areas, high cost of equipment, limited resources, socio-economic changes, all necessitated that military commanders be exposed to modern management concepts and techniques to enable them to operate in an effective and optimum manner. Such skills could neither be imparted from within the existing framework of training in the Armed Forces nor could they be borrowed from the civilian management stream. This need felt by the services gave birth to the Institute of Defence Management (IDM) at Secunderabad in June, 1970. The IDM was renamed as the College of Defence Management(CDM) in 1980.

10.69 The College shifted to its new campus in

May, 2001. This 53.7 acre sprawling campus is equipped with modern and state-of-the-art training aids. A well laid out IT center with over 100 computers and an equal number of printers, a three storied library with over 27000 books on management and 25 computer based work stations besides other educational and training support equipment and infrastructure is provided therein.

THE COLLEGE OF MATERIALS MANAGEMENT, JABALPUR

10.70 The college owes its lineage to 'Indian Army Ordnance Corps (IAOC) School of Instruction' established in October, 1925. The School was later re-designated as 'IAOC Training Centre' in 1939. In January, 1950, it became the 'AOC School'. With the changing doctrine of training and the advanced concepts introduced, the AOC School was renamed as the College of Materials Management (CMM) in 1987.

10.71 The College was affiliated to the University of Jabalpur (Rani Durgavati Vishwa Vidyalaya) in 1987 and its proven excellence earned it an autonomous status in 1990. The college is also registered as a 'Government College' with the University Grants Commission. The approval of All India Council of Technical Education (AICTE) was another achievement of the College.

10.72 Structured training is carried out in the under mentioned faculties :-

(a) **Faculty of Higher Ordnance Management (FOHOM):** It imparts learning in Advance Managerial skills and techniques related to Materials, Human Resources, Financial Management and Operational Logistics.

(b) **Faculty of Munitions (FOM) :** This faculty imparts training in design and functioning of Missiles, Armament, Ammunition and Improvised Explosive Devices.

(c) **Faculty of Technical Stores (FOTS):** Under this faculty, personnel are trained in Warehousing Management and Inventory Control of Aviation, Armament, Opto-electronics, Engineering, Telecommunication, Combat Vehicles, Apparel and General Stores Inventory.

(d) **Faculty of Ordnance Logistics Support (FOLS) :** This faculty is dedicated to impart training to young officers on Ordnance Functional Processes and civilian Personnel Management and training of Officers/Junior Commissioned Officers/Other Ranks on Quartermaster Duties.

(e) **Faculty of Computer Technology (FOCT) :** It imparts training in Information Technology.

(f) **Faculty Of Management Studies (FOMS) :** Keeping in view the inherent advantage of decades of experience in the field of management, this college was called upon to commence Management courses for the wards of Army personnel. Thus, a new chapter was written in history of Indian Army, with the establishment of the Faculty Of Management Studies (FOMS) in 1994.

NATIONAL DEFENCE COLLEGE

10.73 The National Defence College (NDC), located at 6, Tees January Marg, New Delhi has been conducting the Course for our senior officers on National Security and Strategic Studies since its inauguration by our first Prime Minister, Pandit Jawahar Lal Nehru, on 27 April, 1960. During the last 42 years, the NDC has established a name for itself worldwide as a center of excellence. The College has provided education and training in a highly specialized and sensitive discipline to a large number of senior defence and civilian officers. Many former students of the College have reached the top of their professions in India and abroad and some have even become heads of their countries.

10.74 The NDC Course on National Security and Strategic Studies is of 47 weeks duration. The aim of this Course is to equip future policy makers with the background necessary to give them a broad understanding of the multifarious economic, political, military, scientific and organizational aspects, involved in the planning of National Strategy. Defence Forces officers of the rank of Brigadier and equivalent and Civilian Central Government Officers of the status of Director and above are nominated for training at the College. Some officers from the Defence PSUs also attend this course.

10.75 The 42nd Course commenced in January 2002 at NDC with a strength of 84 officers of the Army (34), Navy (05), Air Force (10), Civil Services (14) and Friendly Foreign Countries (21).

10.76 The course curriculum consists of Study Capsules, Lectures and Panel Discussions, Field Tours, Research Activities –Thesis Writing, Seminars and Politico – Strategic Gaming Exercises. For the 42nd NDC Course, seven study capsules were conducted . About 186 eminent experts were invited for Lectures and Panel Discussions. Field Tours form an extremely important part of the curriculum. These help in validating the knowledge gained in the classroom by relating it to the ground situation. During the course, six domestic and six foreign tours were undertaken. Apart from it, the Course Members visited the SAARC countries in five separate groups.

10.77 **Research Activity-Thesis Writing :** To enable course members to make an original contribution to the prevailing knowledge on a subject of national or international interest that has bearing on national security, each course member is required to undertake thesis writing work. The theses are evaluated and the best five theses are selected for the award of Payara Lal Gold Medal and Book Prizes.

ARMY AIR DEFENCE COLLEGE, GOPALPUR

10.78 Army Air Defence College (AADC) erstwhile functioned as a wing of School of Artillery, Deolali till October, 1989, when it was moved to Gopalpur as a precursor to bifurcation of Air Defence Artillery from the main branch of Artillery. Located at "Gopalpur-on-Sea", it is a premier Category 'A' training establishment, which trains personnel of Air Defence Artillery, other arms and armed forces personnel of foreign countries in Air Defence related subjects.

10.79 The aim of the Army Air Defence College is:-

(a) To impart technical and tactical training in all aspects of Air Defence Gunnery and radars to Officers, Junior Commissioned Officers and Non-Commissioned Officers.

(b) To evaluate tactical and technical doctrine related to Army Air Defence, conduct trials on Air Defence equipment and produce suitable notes and pamphlets concerning handling of Army Air Defence Weapons.

(c) To act as a centre of excellence for all matters concerning Air Defence Artillery.

10.80 The Army Air Defence College conducts a number of courses of instruction. Some of the important courses are Long Gunnery Staff Course (Officers), Young Officers Course, Electronic Warfare Course, Senior Command Air Defence Course, Long Gunnery Staff Course Junior Commissioned Officers (JCOs)/Non-commissioned Officers (NCOs), Technical Instructors Fire Control Course, Aircraft Recognition Course, Unit Instructors and Crew Based Training and Automated Data Processing Course.

SCHOOL OF ARTILLERY, DEOLALI

10.81 The School of Artillery, located in the sylvan surroundings of the Western Ghats of Maharashtra, is the academic centre for various sub-disciplines of the science and methodology of artillery warfare.

10.82 The charter and functions of the School of Artillery is to impart technical training to officers, JCOs and NCOs of the Regiment of Artillery on artillery weapons and systems including training of pilots for Air Observation Post duties. Besides this, review of doctrines, study and trials of artillery equipment, both Indian and foreign is also carried out.

10.83 The School of Artillery trained 356 Officers and 635 JCOs/NCOs in the year with a view to imbue and develop technical skills and expertise in operating and employing artillery weapon systems. During the year, 36 officers and 35 personnel from 8 foreign countries were also imparted training.

ARMY SERVICE CORPS CENTRE AND COLLEGE, BANGALORE

10.84 The beginning of the Army Service Corps (ASC) alma mater dates back to 1908 when the Supply and Transport Training School was established at Chaklala, now in Pakistan. In 1947 it shifted to Bareilly. In 1999, consequent to the merger of ASC School, Army School of Mechanical Transport (ASMT) and ASC Centre (South), the ASC Centre and College came into existence at Bangalore; thus becoming a premier institution for

imparting training in logistics related facets. ASC College is recognised and affiliated to the Rohilkhand University, Bareilly for award of diplomas/degrees in Logistics and Resource Management to student officers.

ARMY EDUCATION CORPS TRAINING COLLEGE & CENTRE, PACHMARHI

10.85 The history of this institution dates back to World War-I when importance of education as an integral part of troops training was realized. The Army School of Education was established in the year 1920 with its Indian Wing at Belgaum and the British Wing at Wellington (Nilgiris). In 1924, the British Wing also moved to Belgaum. In 1939 Army School of Education moved to Pachmarhi from Belgaum.

10.86 The aim and role of AEC Training College & Centre is detailed as follows:

(a) to function as a category 'A' training establishment for the Indian Army and a category 'B' establishment for AEC personnel under Line Directorate at Army Headquarters and Headquarters Army Training Command;

(b) to function as an Autonomous College of the Barkatullah University, under UGC, conducting Post-Graduate, Graduate, Diploma and Certificate Courses and examinations;

(c) to devise need based educational training courses for the personnel of the Para Military Forces and defence personnel of the friendly foreign countries;

(d) to function as a teachers training institute under NCTE norms;

(e) to create a corpus of resource personnel in the field of education, map reading, foreign languages, computer applications and military music;

(f) to train Military Bands, Pipes and Drums, Bands and Musicians of Army, Air Force, Navy, Para Military Forces and friendly foreign countries at the Military Music Wing as well as create a corpus of music instructors;

(g) to function as a nodal agency for ADP training of minor Corps;

(h) to provide technical training to AEC personnel to develop human resources in the Indian Army; and

(i) to train and provide interpreters for Border Personnel Meetings (BPMs).

MILITARY MUSIC WING, PACHMARHI

10.87 The Military Music Wing (MMW) was raised in October, 1950 . The Wing has not only been prolific with over 200 musical compositions to its credit, but has also excelled in maintaining the standard of Military Music in India through its diverse range of courses designed to take recruit bandsmen, pipers or drummers, from the rudiments of music to a stage of enviable musical proficiency. The MMW has grown extensively from its initial designed capacity of 132 to 264 students, although at times upto a strength of 364 is required to be trained.

Training of Drummers in Military Music Wing

10.88 The musicians and bands of the three Services, Para Military Forces and from friendly foreign countries, have access to the Military Music Wing which runs 10 courses, of which four are designed purely for the Military Band. The most advanced course is the Potential Band Master's Course, run over three years, which besides developing practical skills over all musical instruments of a Military Band, imparts effective training in composing, arranging and conducting, culminating in the award of the 'Licentiate in Military Music'. The students are also taught Indian instruments and by the end of the course are eligible for the Diploma in Hindustani Sangeet.

REMOUNT AND VETERINARY CORPS CENTRE AND SCHOOL, MEERUT

10.89 The Remount and Veterinary Corps (RVC) Centre and School, located in Meerut, is the alma mater of all RVC personnel. The center imparts Basic Military and Technical Training to young veterinary graduates on commission and to various technical tradesmen of the Corps like Dressers, Riders, Furriers, Army Dog Trainers, Laboratory Attendants and other categories to make them proficient in the singular and noble profession of service to mute animals which are used as war machine.

ARMY SCHOOL OF PHYSICAL TRAINING , PUNE

10.90 Army School of Physical Training (ASPT) is a premier institution imparting systematic and comprehensive instruction to selected all ranks of the Army regarding the conduct of Physical Training in units and sub units. It also imparts basic training in Sports & Games with a view to improve standard in the Army and complement physical training through recreation in games and sports. The school conducts a total of 36 physical training and sports coaching courses in a training year which are attended by Officers, JCOs and ORs of the Army, Para Military Forces and from friendly foreign countries like Sri Lanka, Bhutan, Nepal, Ghana, Myanmar, Mauritius & Maldives.

ARMY SPORTS INSTITUTE AND ARMY SPORTS NODES

10.91 To restore national pride in the hearts of our fellow countrymen and to project a winning image of the Army, the Chief of Army Staff has availed of the opportunity to meet the challenge of Olympics 2004, by redefining the Key Result Area for the purpose of sports in the Army.

National Archery Champions under training in Army Sports Institute, Pune

10.92 To realise this aim, in principle approval of the Raksha Mantri was obtained, and an amount of Rs 60 crore has been sanctioned from the Defence Budget. The Army has identified ten sports disciplines, which are its forte, to train and prepare for the Olympics. Accordingly, the Army Sports Institute at Pune and Army Sports Nodes at various places have been conceptualised and established with effect from July 01, 2001. The focus is on individual sports, in which we are likely to perform at par with others. These are:-

Sl. No.	Sports	Sports Institutes/Nodes
(a)	Athletics (Middle and Long Distance Running)	Army Sports Institute, Pune
(b)	Aquatics (Diving)	Army Sports Institute, Pune
(c)	Archery	Army Sports Institute, Pune
(d)	Boxing	Army Sports Institute, Pune
(e)	Weight lifting	Army Sports Institute, Pune
(f)	Shooting	Infantry School, Mhow
(g)	Wrestling	Maratha Light Infantry Regimental Centre, Belgaum
(h)	Equestrian	Remount & Veterinary Corps Centre, Meerut and Army Service Corps (School), Bangalore
(i)	Sailing	Headquarters Maharashtra & Goa Area, Mumbai
(j)	Rowing	College of Metallurgical Engineering, Pune

TRAINING OF FOREIGN ARMY PERSONNEL AT ARMY TRAINING ESTABLISHMENTS

10.93 Army personnel from friendly foreign countries from South East Asia, neighbouring countries, Africa, CAR and also from the developed countries are attending courses of instructions in our Army Training Institutions. The Government provides assistance to the developing and under developed nations under the Indian Technical and Economic Cooperation (ITEC) programme of Ministry of External Affairs. Under this programme, personnel from developing countries get training in service institutions free of cost or at subsidized rates. Developed Western countries also send their officers for training to our institutions on reciprocal basis and on self financing basis by paying cost of training and other related charges to our Government. For the training year 2002-2003, 2350 vacancies were requested by 40 foreign countries. Para Military Forces Organisations have demanded 3600 vacancies during the training year. A large number of countries including China have evinced keen interest in utilising the training expertise of Indian Army. Defence Cooperation has increased significantly, drawing accolades for the professional acumen of the Indian Army.

11

Resettlement And Welfare Of Ex-servicemen

Ex-servicemen Contingent in Republic Day Parade

11.1 In order to maintain a youthful profile of the Armed Forces, approximately 60,000 service personnel are retired/released every year at a comparatively young age. Majority of service personnel at the time of retirement are at an age where they have numerous unfinished domestic responsibilities which necessitate their taking up of a second occupation. As per statistics maintained, a total of **17,47,637** Ex-Servicemen (ESM) and **3,54,597** widows have been registered and reported to be surviving as on **June 30, 2002**. The Ex-Servicemen population is mainly concentrated in the States of Uttar Pradesh, Punjab, Haryana, Maharashtra, Kerala, Tamil Nadu, Rajasthan, and Himachal Pradesh. A Kendriya Sainik Board (KSB) under the Chairmanship of the Raksha Mantri lays down general policies for the welfare of ESM and their dependents, for the administration of welfare funds, and also for coordinating the work of the Sainik Boards in the country. Similarly, at the State level, the Rajya Sainik Boards (RSBs) and at the district level the Zila Sainik Boards (ZSBs) have been established. The Government of India bears 50% of the expenditure incurred on the organisations of RSBs while the remaining expenditure is borne by the respective State Governments. The Directorate General of Resettlement (DGR) under the Ministry of Defence looks after all matters connected with the resettlement and welfare of ESM and their dependants. In case of Indian Ex-Servicemen Welfare Organisations of Nepal (IEWON), Government of India bears 100% expenditure on maintenance.

RESETTLEMENT

11.2 Efforts continue to be made to explore various avenues for employment of Ex-Servicemen. With a view to resettle/re-employ Ex-Servicemen, the Central Government arranges the following:-

(a) Training programme to re-orient retiring Defence personnel towards civil employment;

(b) Reservation of vacancies for providing employment opportunities in government/semi-government/ public sector organisations; and

(c) Schemes for self-employment.

TRAINING PROGRAMMES

11.3 Training for preparing both Ex-Servicemen and retiring service personnel for their resettlement in civil life is one of the major functions entrusted to the Directorate General of Resettlement. The emphasis of the programmes run by the DGR has been to organise employment/self employment oriented training programmes so as to open new resettlement avenues for officers as well as for Other Ranks. A number of new courses and job-oriented training programmes have been included in the training schedule. The training includes inputs on managerial science as well as technology and know-how required in the civil field. Constant endeavour is made to improve the quality of training to enhance the post employment opportunities of defence personnel and to equip them with necessary qualifications and expertise, commensurate with the skill and aptitude of each individual in the desired field of settlement in civil life.

OFFICERS TRAINING

11.4 The Resettlement Training Programmes range from vocational courses of 3 months duration to degree/diploma courses in Business Administration, Personnel Management, Hotel Management and Tourism, Human Resource Training and Development etc. of one to three years' duration. During 2002-03 (upto October), 334 officers have been trained in various disciplines.

JCOs/ORs AND EQUIVALENT TRAINING

11.5 Training Programmes were also undertaken for the retiring as well as retired JCOs/OR and their equivalents from the three services. These programmes included vocational courses like Security Management, Export/ Import Management, Marketing/Sales Management, Travel Agency Management. In an endeavour to further increase their employment potential courses like Computer Hardware Maintenance, Diploma in Medical Laboratory and X-Ray/ECG Technology, Ceramic Handicraft, Electroplating, Machinist and Lens Making, Computer Science and Application, Office Automation, Computer Aided Designing (CAD), Printing Technology and Desk Top Publishing (DTP), Bee-Keeping, Poultry Farming, Crop Production, Dairy and Animal Husbandry, Assistant

Security Officer, Industrial Security and Fire Fighting Courses etc. are being conducted. The Directorate General of Resettlement (DGR) has been conducting more than 400 courses for vocational training. Besides, courses at more than 200 ITIs for pre and post release training, and On the Job Training (OJT) courses at 85 PSUs /Departmental Undertakings along Ex-Servicemen Resettlement Training Schemes are being run.

11.6 The details of the personnel imparted training in various fields during the last six years, till October 2002 are as follows:-

SCHEME	1997-98	1998-99	1999-2000	2000-01	2001-02	Upto October,2002
Officers Training	1150	606	431	387	409	209
PBOR Training	5114	5824	4563	5718	3518	1714
On the Job Training	1228	1419	1437	1452	1363	478
ITI Training	1324	1292	1847	2675	1510	1510
ESM Training	404	333	385	58	421	—

RE-EMPLOYMENT

11.7 The Central and State Governments provide a number of concessions to Ex-Servicemen for their re-employment in Central/State Government posts. These include reservation of vacancies/relaxation in age and educational qualifications, exemption from payment of application/examination fees, priority employment to disabled Ex-Servicemen and dependants of deceased service personnel on compassionate grounds.

RESERVATION FOR EX-SERVICEMEN IN GOVERNMENT JOBS

11.8 The Central Government has reserved 10% of vacancies in Group 'C' posts and 20% in Group 'D' posts for Ex-Servicemen. Central Public Sector Undertakings and Nationalised Banks provide 14.5% reservation in Group 'C' and 24.5% in Group 'D' posts to them. 10% vacancies of Assistant Commandants in Para Military Forces are also reserved for Ex-Servicemen. In addition, most of the State Governments, except for the States of UP, Bihar, J&K, Kerala and Meghalaya, are providing reservations to Ex-Servicemen in the State Government jobs. It has, however, not been possible to have statutory backing to the reservations being provided to them, *inter alia*, due to the overall ceiling of 50% imposed by the Supreme Court and 49.5% reservation already having been provided in the Government jobs for SC/ST/OBC. Therefore, the reservation being provided to Ex-Servicemen is of horizontal nature, which implies that Ex-Servicemen selected against the vacancies reserved for them are subsequently adjusted against the relevant category i.e., SC, ST, OBC or General to which they belong. There is also no carry forward of unfilled reserved vacancies under horizontal vacancies.

SECURITY AGENCIES

11.9 The Directorate General of Resettlement (DGR) registers/sponsors Security Agencies for providing Security Guards to various Public Sector Undertakings and industries in private sector. The scheme offers self employment opportunities to retired Defence Officers and employment opportunity to ex-PBOR. The Department of Public Enterprises (DPE) had issued instructions to the PSUs to get security personnel through DGR sponsored Security Agencies. The scheme has shown good results. All State Governments have also been requested to issue suitable instructions to all concerned under their jurisdiction to obtain security cover through DGR empanelled agencies, thereby furthering the cause of resettling Ex-Servicemen.

PLACEMENT OF JCOs/ORs

11.10 The details of Ex-Servicemen provided

PLACEMENT OF JCOs/ORs						
	1997	**1998**	**1999**	**2000**	**2001**	**2002***
Central Govt	4023	5188	3992	4035	4982	2844
State Govt	4815	2825	2540	2219	2136	560
Private Sector	5424	3304	3068	2766	3221	120
Security Agencies	8873	7140	13810	8717	5650	6798

*Figures for 2002 are provisional.

employment through DGR and Zila Sainik Welfare Offices in the States during the last six years is as given in the above table :

OFFICERS' EMPLOYMENT

11.11 During the year 2002 (upto October, 2002), a total number of 342 officers were registered with the DGR for employment assistance, out of which the names of 231 officers were sponsored for employment.

SCHEMES FOR SELF-EMPLOYMENT

11.12 As it is not feasible to provide Government jobs to all Ex-Servicemen after their retirement from the Armed Forces, Government has formulated several schemes for encouraging and giving financial support by way of loans to ex-servicemen entrepreneurs intending to set up small and medium industries. Important self-employment schemes are SEMFEX-I, SEMFEX-II, National Equity Fund Scheme and SEMFEX-III. Applications for sanction of loans are submitted by Ex-servicemen directly to concerned Zila Sainik Boards in the States. The applications are scrutinised and those who satisfy eligibility criteria and other terms and conditions are recommended for sanction of loan through State Financial Corporations, aided by Small Industries Development Bank of India (SIDBI), Scheduled Commercial Banks, District Central Cooperative Banks, State Land Development Banks & Regional Rural Banks aided by National Bank for Agriculture and Rural Development (NABARD) and the State KVIB/ Banks aided by the Khadi and Village Industries Commission (KVIC).

MANAGEMENT OF CNG STATIONS IN NATIONAL CAPITAL REGION (NCR)

11.13 The scheme for management of CNG stations belonging to Indraprasta Gas Ltd was launched as a pilot project in July, 2001. On success of pilot project, the scheme was extended to other retired officers. As on date, there are 35 retired officers managing 70 CNG stations.

EX-SERVICEMEN COAL TRANSPORT COMPANIES

11.14 Special provision exists for sponsoring ex-Servicemen coal transport companies for the execution of work in coal subsidiaries of the Coal India Limited (CIL). The unemployed retired officers and JCOs registered with DGR are selected to form ex-Servicemen coal transport companies and are sponsored to respective coal subsidiaries for five years, extendable by another two years. Presently, 97 such companies are operating under the various coal subsidiaries of CIL.

WIDOWS TIPPER ATTACHMENT SCHEME

11.15 The widows of defence personnel, who die while in service due to causes attributable to service, can be sponsored by DGR for attaching one tipping truck in their name with an Ex-Servicemen Coal Transport Company. The functioning of these Companies is monitored by DGR.

ALLOTMENT OF OIL PRODUCT AGENCIES TO THE EX-SERVICEMEN/ WIDOWS/DEPENDENTS UNDER DEFENCE QUOTA

11.16 Ministry of Petroleum and Natural Gas have reserved 8% of Oil Product Agencies, i.e. LPG, petrol pumps, kerosene depots etc. for disabled soldiers with disability of 50% or more and attributable to military service, widows and dependants of those who died in war/peace due to causes attributable to military service. DGR

sponsors eligible candidates for selection by the Oil Selection Board constituted by the Ministry of Petroleum & Natural Gas. Final allotment is made by the concerned oil company. Approximately 70-80 'eligibility certificates' are issued every year. In addition to the 8% reservation, Ministry of Petroleum & Natural Gas has announced a Special Scheme for direct allotment of Retail Outlet/LPG distributorship to widows/next of kins (NOK) of service personnel killed in action in Operation Vijay (Kargil).

ALLOTMENT OF ARMY SURPLUS CLASS V-B VEHICLES

11.17 Ex-Servicemen and serving personnel due to retire within six months, can apply for Army Surplus V-B vehicles. The allotment is made by the Army Headquarters through nine vehicle depots. On an average, 500 applications are registered every year under this scheme.

RESERVATION OF CSD AND LOW TECHNOLOGY ITEMS MANUFACTURED BY THE EX-SERVICEMEN ENTREPRENEURS

11.18 The Canteen Stores Department of India (CSDI) has reserved 15% of the 30 selected CSD items and the Ministry of Defence has reserved 10% of the 262 selected items manufactured by the Ex-Servicemen Entrepreneurs under the Defence Purchase Programme for which Ex-Servicemen manufacturing units alone are eligible.

ALLOTMENT OF MOTHER DAIRY/ DMS MILK BOOTHS AND FRUIT & VEGETABLE OUTLETS

11.19 This scheme was launched in consultation with the National Dairy Development Board (NDDB) to provide ready made booths with deep freezers, electronic weighing machines and other accessories costing approximately Rs 8 lakh borne by NDDB. Ex-Servicemen upto the rank of JCO or its equivalent, below the age of 55 years, are eligible for allotment of Mother Dairy Milk Booths and Fruit & Vegetable outlets till such time they attain the age of 60 years. More than 4800 Ex-Servicemen have benefited under the scheme since 1987 on a rotational basis. Based on the success of this scheme, other States have also been approached to provide similar facilities to Ex-Servicemen. Tamil Nadu and Karnataka have already responded with 50% and 100% reservation for allotment of automatic milk vending booths in their States. Rajasthan Government is also considering preferential treatment to Ex-Servicemen in allotment of milk vending booths.

WELFARE

11.20 The Kendriya Sainik Board (KSB) under the chairmanship of Defence Minister also administers various welfare activities operated through Armed Forces Flag Day Fund, which are financed from interest earnings of the fund. The Fund has a corpus of Rs. 102 crores as on date. Financial assistance is provided to institutions such as Paraplegic Homes at Kirkee and Mohali, the Red Cross Society,

St. Dunstan's After Care Organisation for Blind Ex-servicemen

Cheshire Homes, Military Hospitals, St. Dunstan's After Care Organisation and Homes for taking care of old and physically handicapped ESM and their dependents. Financial assistance is also provided to individual ESM and their families who are in a state of penury to meet their specific needs.

FINANCIAL ASSISTANCE FROM RAKSHA MANTRI'S DISCRETIONARY FUND

11.21 A portion of the earnings of Armed Forces Flag Day Fund is set apart as Raksha Mantri's Discretionary Fund and is used to provide financial assistance to poor and needy Ex-Servicemen for various purposes viz. medical treatment, marriage of daughters, repair of houses, education of children. Monthly financial assistance for upto a period of two years is also provided to old and infirm Ex-Servicemen/widow of Ex-Servicemen living in penury.

CONCESSIONS AND FACILITIES

11.22 Under-mentioned concessions and facilities are available to eligible personnel:-

(a) Free Educational Facilities to Children of Defence personnel killed or disabled in action.

(b) 28 Seats in the MBBS, one seat in BDS and two seats in engineering stream at Annamalai University are available through KSB to dependants/wards of certain categories of defence personnel.

(c) 25% seats are reserved for the wards of serving and Ex-Servicemen personnel in Sainik Schools.

(d) States/UTs have made reservation of seats in professional colleges/ITIs/ polytechnics for wards of serving and retired defence personnel.

(e) Two educational grants of Rs 600/- and Rs 300/- p.m. per student are provided to wards of war bereaved, disabled attributable and non attributable peace time casualties, respectively, housed in 35 War Memorial Hostels to enable them to pursue their studies.

(f) **MEDICAL FACILITIES TO EX-SERVICEMEN :-**

(i) Presently, Ex-servicemen, their families and families of deceased Service personnel drawing pension of any kind are entitled to free out patient treatment in 127 Military Hospitals and more than 1000 Medical Inspection(MI) Rooms including 24 exclusively reserved for ex-servicemen. However, local purchase of medicines not available with the Hospitals is not allowed. In-patient treatment is also provided subject to availability of beds. Ex-servicemen who are not availing medical facilities from Military Hospitals may choose to draw Rs. 100/- every month for medical treatment. Ex-Servicemen/dependents are also provided financial assistance from Armed Forces Flag Day Fund and Group Insurance Schemes for treatment of specified serious diseases.

(ii) **Ex-Servicemen Contributory Health Scheme (ECHS):** It has now been decided to introduce a new medical scheme for providing medical care to ex-Servicemen War widows and their dependents on the pattern of Central Government Health Scheme(CGHS). The details of the scheme are as under:-

a. The military facilities existing at 104 military stations will be augmented at a capital cost of Rs. 49 crores and annual recurring expenditure of Rs. 52 crores;

b. Fresh medical facilities in the nature of poly-clinics/ medical inspection rooms will be set up at 123 stations where the population of ex-Servicemen is more than 2,500. This will involve a capital cost of Rs.69 crores and annual recurring cost of Rs.98 crores;

c. The Ex-Servicemen, war widows and their dependents at other stations where ex-Servicemen population is less than 2,500 will be attached to the existing poly-clinics/medical inspection rooms as mentioned in (a) above or with poly-clinics/ medical inspection rooms to be created at 123 stations vide (b) above.

(iii) The ex-Servicemen, war widows and their dependents will also be reimbursed the cost of medicines not provided by the poly-clinics/medical inspection rooms, fee of the specialists to whom they are referred to, the charges of laboratories for pathological or other diagnostic tests and also the cost of hospitalisation.

(iv) The ex-servicemen and war widows will be required to make a contribution at the same rate at which the Central Government pensioners are required to make contribution for availing medical facilities under the

CGHS after retirement. The scheme will be implemented in a phased manner in five years.

(g) **Travel Concession**: The following concessions are available to War Widows/Gallantry Award Winners, which can be availed on production of identity card issued by KSB:-

(i) **Rail Travel Concession**: 75% concessions in rail fare for travel in II Class is available to war widows, including those of IPKF casualties. Besides, recipients and widows of posthumous recipients of Chakra series of gallantry awards alongwith a companion are entitled to free rail pass for travelling in Class I/II AC Sleeper.

(ii) **Air Travel Concession**: Certain categories of personnel are eligible to **75%** concession in fare for air travel in domestic flights of the Indian Airlines. These are:-

(a) Recipients of Gallantry Awards of level I and II viz. PVC, MVC, Ashok Chakra and Kirti Chakra.

(b) Permanently war disabled officers who have been invalided out of service and the dependent members of their families.

(c) War widows of post Independence era.

(h) **Reservation of House Sites/ Houses**: Majority of States have made reservations for serving/ retired Armed Forces personnel in allotment of house sites/ houses.

(i) **Grant for Repair of Houses**: Financial assistance is provided especially to War Widows/ War-disabled for repair of houses on 50% cost sharing basis with State Governments upto an extent of Rs. 10,000.

(j) **Sainik Rest House Facilities** : Over 252 Sainik Rest Houses have been created in the country, which provide transit facilities to Ex-Servicemen and their dependants at nominal rates.

(k) **Cash Award/Annuity/Cash, in lieu of Land for Gallantry/ Non Gallantry Award Winners**: The State/UTs provide Cash Award/ Annuity/Cash in lieu of Land for Gallantry/Non Gallantry Award Winners.

PENSION TO ARMED FORCES PERSONNEL

11.23 The service conditions of Armed Forces Personnel differ greatly from civilians owing to exigencies of service and the need to work in difficult geo-climatic conditions, such as desert in the west, glaciers in the north, rain forests in the east and the high seas in the south, and also involves periods of separation from the family. In the event of hostilities, they are also expected to make the supreme sacrifice of life to maintain the territorial integrity of the country. The Armed Forces are required to maintain a youthful profile at all times for the highest degree of combat efficiency. Hence, they are retired/released at a younger age as compared to civilian employees and are granted pensionary benefits at somewhat liberal scale as compared to their civilian counterparts. The nature of retirement/ release from service determines the admissibility of the type of pension in the case of Armed Forces Personnel. The eligibility conditions, rates etc. of the different types of pensions are detailed in the succeeding paragraphs.

RETIRING/SERVICE PENSION

11.24 Retiring/Service pension, admissible to the Armed Forces Personnel is calculated at 50% of the average reckonable emoluments drawn during the last ten months. In the case of Personnel Below Officers Rank (PBOR), it is calculated with reference to the maximum of the rank, held for 10 months preceding retirement. In the case of retirement/death, Dearness Allowance (DA) admissible on the date of retirement/death shall also be treated as emolument. Retiring pension shall be subject to a minimum of Rs.1275/- per month and maximum of upto 50% of the highest pay, applicable to Armed Forces Personnel. As per formula evolved under

the modified parity, in the case of past pensioners, with effect from January 1, 1996, pension would not be less than 50% of the minimum pay in the revised scale of the pay introduced w.e.f. January 1,1996 for the rank, rank and group (in the case of PBORs) held by the pensioner. While in the case of commissioned officers of the Army, Navy and Air Force, the minimum period of qualifying service (without weightage) required for earning retiring pension is 20 years (15 years in the case of late entrants), in the case of PBOR it is 15 years {20 years in the case of Non-Combatants Enrolled (NCsE)}. However, keeping in view their early retirement, Armed Forces personnel are given the benefit of weightage ranging from 9 years for Captains and below to 3 years for Generals. Personnel Below Officers Rank are given the uniform benefit of 5 years. For calculating gratuity, a uniform weightage of 5 years service is given to all ranks. Armed Forces Personnel are also permitted higher commutation of their pension at 43% for officers and 45% for PBORs as compared to 40% for civilians.

11.25 Army Reservists, who did not opt for grant of pension and have not availed the benefits of Rehabilitation assistance granted by the Government and are not in receipt of any other pension, are sanctioned an ex-gratia payment of Rs. 600/- p.m. plus dearness relief w.e.f November, 1997, provided they had rendered minimum qualifying service to earn pension.

CATEGORISATION OF CASES FOR DETERMINING PENSIONARY BENEFITS

11.26 On the basis of recommendations of the 5th Central Pay Commission, for determining the pensionary benefits for death or disability under different circumstances due to attributable/ aggravated causes, the cases have been broadly divided into 5 categories as indicated below :-

CATEGORY A : Death or disability due to natural causes.

CATEGORY B : Death or disability due to causes attributable or aggravated by military services.

CATEGORY C : Death or disability due to accidents while performing duties.

CATEGORY D : Death or disability due to acts of violence/attacks by terrorists whether or not on duty.

CATEGORY E : Death or disability due to war or war-like situation.

DISABILITY PENSION

11.27 A person, who is released/retired from service, on account of a disease/injury/ wound attributable to or aggravated by military service (Categories B and C), is entitled to disability pension provided the disability assessed by the Medical Board is 20% or more. Disability Pension consists of Service element and Disability element. The Service element is related to the length of service rendered by the individual and the Disability element is paid in the form of compensation for the disablement and depends on the degree of disablement. The amount of service element is equal to the normal retiring/ service pension. With effect from January 1, 1996 the service element subject to a minimum of Rs.1275/- p.m. is also payable when the length of service rendered is less than the minimum pensionable service. Personnel with 100% disability are also paid a Constant Attendant Allowance at the rate of Rs.600/- p.m. on the recommendations of a Medical Board. In all other cases, where the personnel are invalided out of service with a disability, neither attributable to nor aggravated by the military service, invalid pension is granted, if the service, actually rendered is 10 years or more. If the service is less than 10 years, such Service personnel are paid Invalid gratuity depending upon the length of service. Pursuant to the implementation of the 5th Central Pay Commission, relating to disability pension/liberalised pension/war injury pension etc. the rates of disability pension have been revised with effect from January 1, 1996 as under:

(a) On Invalidment

Where an individual is invalided out of service on account of causes attributable to or aggravated by military service, he/she is entitled to disability pension as under :-

(i) **Service element** - Equal to normal retiring/service pension for the length

of service actually rendered plus weightage as admissible. With effect from January 1, 1996, the service element subject to a minimum of Rs.1275/- p.m. is admissible. There is no condition of minimum qualifying service for earning this element.

(ii) **Disability element** - The rates of disability element for 100 % disability for various ranks admissible w.e.f. January 1, 1996 are as under:-

Commissioned Officers	Rs.2600/- per month
Junior Commissioned Officers (JCOs) & equivalents	Rs.1900/- per month
Other Ranks	Rs.1550/- per month

(iii) **Broad banding of disability-** In case of invalidment on or after January 1, 1996, the extent of disability or functional incapacity is determined as under for the purpose of computing disability element :-

Disability less than 50%	-	50%
Between 50 and 75%	-	75%
Between 76 and 100%	-	100%

Where permanent disability is not less than 60%, the disability pension(service element plus disability element) is payable at not less than 60% of the reckonable emoluments last drawn by the individual.

(b) **In case of Retention of Personnel Despite Disability**

Where an individual is retained in service despite disability and retires/is discharged on attaining the age of retirement or on completion of tenure, w.e.f. January 1, 1996 he / she is entitled to disability element at the following rates (for 100 % disability) :-

Commissioned Officers	Rs.2600/- per month
JCOs & equivalents	Rs.1900/- per month
Other Ranks	Rs.1550/- per month

- For disabilities less than 100% but not less than 20%, the above rates are proportionately reduced. No disability element for less than 20% disability is admissible.

- Retiring/service pension or retiring/ service gratuity as admissible is also payable in addition to the disability element from the date of retirement/ discharge.

On the basis of the recommendations of the 5th Central Pay Commission, the procedure regarding acceptance of attributability pertaining to disability and special family pension and assessment of degree of disability has undergone change. As per the revised instructions the procedure of periodical reviews by Re-Survey Medical Board for re-assessment and continuance of disability pension has also been dispensed with. In injury cases, the percentage of disability as recommended by Invaliding/ Release medical board and as approved by the next higher medical authority is treated as final unless the individual himself requests for a review. Likewise in cases of diseases of permanent nature, the assessment of degree of disability as recommended by Invaliding Medical Board (IMB)/ Release Medical Board (RMB) and as adjudicated by Medical Adviser (Pensions) [MA(P)] in case of PBOR and Service Headquarters in respect of Officers is treated as final unless the individual himself requests for a review. In case of disabilities which are not of a permanent nature, there will be only one review which will be final and for life unless the individual himself asks for a review.

(c) **Lumpsum compensation in lieu of disability element :** If an individual is found to have a disability which is assessed at 20% or more for life but is retained in service despite such disability, he/she is paid a compensation in lump sum (in lieu of disability element) equal to the capitalised value of disability element on the basis of disability actually assessed. In cases of casualties occurring on or after January 1, 1996 the rates for disability element effective from January 1, 1996 are applicable for calculating the capitalised value. Once a compensation has been paid in lieu of the disability element, there is no further entitlement to the disability element for the same disability.

WAR INJURY PENSION

11.28 War Injury Pension is sanctioned to an individual, who sustains injury/disability in war or war like operations(Category E) and are invalided out of service. War Injury Pension consists of service element and war injury element. Service element is calculated equal to retiring/service pension to which

he/she would have been entitled on the basis of his/her pay on the date of invalidment but counting service upto the date on which he/she would have retired in that rank in normal course including weightage as admissible. War Injury Element is payable equal to reckonable emoluments last drawn for 100% disablement. However, in no case, the aggregate of service element and war injury element will exceed last pay drawn. Pursuant to the implementation of the recommendations of the 5th Central Pay Commission relating to disability pension/liberalised pension/war injury pension etc. the rates of disability element in respect of war injury are taken as double the amount as mentioned above at para 11.27(a) (ii). The extent of disability or functional incapacity for the purpose of computing war injury element in the cases of invalidment is determined as in para 11.27(a) (iii).

11.29 With effect from January 1, 1996, Armed Forces Personnel sustaining disability due to acts of violence/attack by terrorists, anti social elements , bomb blasts in public places or transport, indiscriminate shooting incidents etc. (Category-D) are entitled to the same pensionary benefits (i.e. service element and retirement gratuity) as admissible to war injury cases on invalidment/retirement/discharge including lumpsum compensation in lieu of disability, as mentioned above, except that on invalidment they would be entitled to disability element instead of war injury element.

FAMILY PENSION

11.30 **ORDINARY FAMILY PENSION:** Families of Armed Forces Personnel who die during service or after retirement with pension, are granted family pension at a uniform rate of 30% of the reckonable emoluments. The amount of minimum family pension, which, earlier was Rs.375/- per month, has been raised to Rs.1275/- per month, with effect from January 1, 1996 on the basis of the recommendation of the 5th Central Pay Commission. As per orders issued with regard to modified parity, past family pensioners are entitled to get at least 30 % of the minimum of revised pay scale which came into force w.e.f. January 1, 1996 for the rank and group, last held by the pensioners/deceased individuals. If the deceased personnel had rendered 7 years or more service, the family is given family pension at enhanced rate for the first 7 years or upto the time, the deceased would have reached the age of 67 years, whichever is earlier. The amount of enhanced family pension will, however, not be more than 50% of the emoluments or the retiring pension, if the death takes place after retirement but before 67 years of age.

11.31 With effect from January 1, 1996 Ordinary Family Pension is admissible also to (i) the parents who were wholly dependent on the Armed Forces Personnel when he/she was alive, provided the deceased had left behind neither a widow nor a child and (ii)widowed/divorced daughter till she attains the age of 25 years or upto the date of her remarriage whichever is earlier. The income criteria, in respect of parents and widowed /divorced daughter, is that their earning is not more than Rs. 2550/- per month. Pensionary benefits to the eligible Next of Kin (NoKs), as defined above were made applicable from January 1, 1998 and as such, all past cases are also to be considered on merits for grant of family pension from January 1, 1998.

11.32 With effect from July 27, 2001, family pension admissible under the Employees Pension Scheme, 1995 and the Family Pension Scheme, 1971 has been allowed in addition to the family pension admissible to the Armed Forces Personnel under the relevant Pension Regulation.

SPECIAL FAMILY PENSION

11.33 If the death of a service personnel has occurred on account of causes attributable to or aggravated by Service (Categories B and C) , the family is paid Special Family Pension. There is no condition of minimum service on the date of death for grant of Special Family Pension. In the case of Commissioned Officers, Special Family Pension is payable to the widow. The families of Short Service Commissioned Officers and Emergency Commissioned Officers are also entitled to Special Family Pension. In the case of PBORs the rules provide for nominating anyone from the eligible members of the family (except dependant brothers/sisters) for the first life award and for transfer of the same in full to the widow regardless of her financial position in the event of death of parents where they were nominated as original awardees.

11.34 With effect from January 1, 1996, Special Family Pension is calculated at the uniform rate of 60% of reckonable emoluments

drawn by the deceased, subject to a minimum of Rs.2,550/-p.m. irrespective of whether widow has children or not. There is no maximum ceiling on Special Family Pension. In case the children become beneficiary, the Special Family Pension is payable at the same rate to the senior most eligible child till he/she attains the age of 25 years or upto the date of his/her marriage whichever is earlier. Thereafter, Special Family Pension passes on to the next eligible child. Widowed/divorced daughters upto the age of 25 years or marriage whichever is earlier are also eligible for the purpose of Special Family Pension. In case the eligible child is physically or mentally handicapped and unable to earn a livelihood, Special Family Pension is admissible for life. In the absence of wife and children, dependent pension at the prescribed rates is admissible to the parents of the deceased. Widows who got remarried on or after January 1, 1996 are also eligible for Special Family Pension subject to certain conditions.

LIBERALISED FAMILY PENSION

11.35 In the event of death of Armed Forces Personnel [including Short Service Commissioned Officers (SSCOs) & Emergency Commissioned Officers (ECOs)] in war or war like operations, counter insurgency operations or in an encounter with or in an incident involving armed hostilities, terrorists/extremists, anti-social elements etc.(Categories D and E), their families are granted liberalised family pension equal to the reckonable emoluments last drawn by the deceased personnel at the time of their death. Pension at this rate is payable to the widow in the case of officers and to the nominated heir in the case of PBOR until death or disqualification. If the personnel is not survived by widow but is survived by child/children only, all children together are eligible to Liberalised Family Pension (LFP) at the rate equal to 60% reckonable emoluments last drawn by the deceased. Liberalised Family Pension is payable to the senior most eligible child till he/she attains the age of 25 years or upto the date of his/her marriage whichever is earlier and thereafter the LFP passes on to the next eligible child. Widowed/divorced daughters upto the age of 25 years or marriage whichever is earlier are also eligible for the purpose of LFP. In case the eligible child is physically or mentally handicapped and unable to earn a livelihood, LFP is admissible for life. No children allowance is payable in addition to Liberalised pension.

11.36 On re-marriage of widow, both in the case of Commissioned Officers as also in the case of PBOR in whose case LFP is sanctioned as first life award to widow, full liberalised family pension would continue to the widow if she continues to support children after re-marriage or has no children. If however, the widow does not support the children after re-marriage, Special Family Pension at the rate of 60% will pass on to the children and Ordinary Family Pension at the rate of 30% to widow. In the absence of wife and children, dependent pension (Liberalised) at the prescribed rates is admissible to the parents of the deceased without reference to their pecuniary circumstances.

EX-GRATIA AWARD IN THE EVENT OF DEATH WHILE PERFORMING MILITARY DUTY

11.37 In pursuance of the recommendations of the 5th Central Pay Commission, in addition to Special Family Pension/ Liberalised Family Pension, Ex-gratia payment is granted to the family of a deceased service personnel in the event of death occurring on or after August 1, 1997 as under:-

(a)	Death occurring due to accidents in the course of performance of duties	Rs.5.00 Lakhs.
(b)	Death occurring in the course of performance of duties attributable to acts of violence by terrorists, anti-social elements etc.	Rs.5.00 Lakhs
(c)	Death occurring during (i) border skirmishes and (ii) action against militants, terrorists, extremists etc.	Rs.7.50 Lakhs
(d)	Death occurring during enemy action in international war or such like engagements which are specifically notified by the Government.	(i) Rs. 7.50 Lakhs w.e.f. August 1, 1997 (ii) Rs 10.00 Lakhs w.e.f. May 1,1999

REVISION OF DISABILITY PENSION / SPECIAL FAMILY PENSION/ LIBERALISED FAMILY PENSION/WAR INJURY PENSION ETC. IN RESPECT OF PRE 1996 ARMED FORCES PENSIONERS

11.38 The necessary orders for regulation/ consolidation w.e.f. January 1, 1996 of pension/family pension of all pre January 1, 1996 pensioners/family pensioners were issued. Further, in pursuance of the 5th Central Pay Commission's recommendations relating to modified parity in pension, on the basis of orders issued in respect of civilians by the nodal department i.e., Department of Pension and Pensioners Welfare, necessary orders have been issued by the Government for revision of Disability Pension/Special Family Pension/Liberalized Family Pension/ War Injury Pension etc. in respect of pre – January 1, 1996 Armed Forces Pensioners. While for the widow who were in receipt of Liberalized Family Pension (LFP), irrespective of the date of award, the consolidated pension shall be not less than the reckonable emoluments calculated on the minimum pay in the revised scale of pay introduced w.e.f. January 1, 1996 of the rank, rank and group (in the case of PBORs) held by the deceased personnel at the time of death, for the special family pensioners, the consolidated pension shall not be less than 60 % of the minimum pay in the revised scale of pay introduced w.e.f. January 1, 1996 of the rank, rank and group (in the case of PBORs) held by the deceased personnel at the time of death, subject to a minimum of Rs. 2550/-p.m. The rates of Disability Pension, War Injury Pension (except invalidment cases), Constant Attendant Allowance as applicable to post January 1, 1996 pensioners have also been extended to pre January 1, 1996 pensioners in receipt of Disability Pension, War Injury Pension, Constant Attendant Allowance, etc. w.e.f. January 1, 1996.

DELEGATION OF POWERS TO SERVICE HEADQUARTERS

11.39 Government has delegated administrative powers to Service Headquarters w.e.f. 14.8.2001 on certain pension matters mainly regarding division of family pension, initial award of special family pension/ex-gratia/ disability pension in respect of officers, first appeal cases, time bar sanction for filing appeals beyond 12 months, grant of pension in dismissal from service cases, implementation of judgements delivered by various courts, etc.

11.40 The number of Defence Pensioners is estimated to be about 20.45 lakh. Approximately, 55,000 service personnel retire every year. Pension to Defence Pensioners is disbursed through 35,000 branches of Public Sector Banks, 600 Treasuries, 62 Defence Pension Disbursing Offices and 5 PAOs, scattered all over India. The annual expenditure on Defence pensions, during last six years, has been as follows:-

Year	Pension Disbursed (Rs. Crore)
1997-98	4947.42
1998-99	7270.28
1999-2000	11024.65
2000-2001	10538.93
2001-2002	10487.92
2002-2003 (RE)	10092.07
2003-04 (BE)	11000.00

12

Cooperation Between The Armed Forces And Civil Authorities

Flood in Assam — Rescue Operations by Army in Morigaon District

12.1 Besides ensuring inviolability of the borders of our country, the Armed Forces are also mandated to assist the civil authorities for maintenance of law and order and/ or essential services as well as for rescue and relief operations during natural calamities. Besides providing actual relief, the Armed Forces continue to maintain regular liaison with the civil authorities to refine contingency planning and ensure timely response. The details of assistance provided by the Armed Forces during the period are outlined in the succeeding paragraphs.

ARMY

MAINTENANCE OF LAW AND ORDER

12.2 **Operation AMAN (Gujarat) :** Consequent to the torching of Sabarmati Express at Godhra on February 27, 2002, the situation in the towns of Ahmedabad, Vadodara, Godhra and Rajkot became very tense. Most of these cities were put under curfew. Army aid was requisitioned on February 28, 2002. Accordingly, one Infantry Division of troops were airlifted from their operational location to Gujarat for maintenance of law and order under code name 'Operation AMAN'.

MILITARY CIVIC ACTION PROGRAMME

12.3 **Operation SADBHAVANA :** The aim of undertaking Operation Sadbhavana in Jammu & Kashmir by the Army is to ease the feeling of disaffection which may occur amongst the local inhabitants as a consequence of Army's counter proxy war operations which sometimes inadvertently lead to collateral damage to life and property involving civilians. This also helps in starting and sustaining development activities in remote and inaccessible areas where the civil administration is unable to operate because of the prevailing security/proxy war situation. A number of Engineer units in Eastern and Northern Command were employed in aid to civil authority under Operation Sadhbhavana. Some of the important tasks carried out by the Engineer Regiments include:-

(a) Construction/up-gradations of schools.

(b) Setting up of water supply schemes/ establishment of water points.

(c) Provision of electricity to villages.

(d) Establishment of computer training schools.

(e) Construction of footbridges.

(f) Setting up of fair price shops, Subscriber Trunk Dialing booths and libraries.

12.4 **Military Civic Action Projects in the North East :** An important ingredient of the Army's counter insurgency strategy has been to win the hearts and minds of the local populace, to wean them away from the terrorists and assist the civil administration in ensuring that the fruits of development reach the grassroots. These efforts of the Army have been widely appreciated. Some of the major civic action programmes undertaken by the Army are as under: -

(a) Renovation of school buildings.

(b) Establishment of computer training centres and science laboratories.

(c) Excursion for school children to places of historical importance in India.

(d) Organising adventure sports for the locals.

(e) Construction of ancillaries.

(f) Implementing drinking water schemes.

(g) Construction of bridges.

(h) Employment generating schemes such as apprentice cadres, vocational training, handloom & weaving and establishment of piggery.

(i) Organising medical camps in remote areas, running nursing courses for women and distributing medicines.

(j) Organising veterinary camps in remote areas.

(k) Organising pre-recruitment training for the youth.

RELIEF AND RESCUE OPERATIONS

12.5 **Floods in Bihar :** Perennial floods in different parts of Bihar cause havoc and destruction of life and material every year. In July –August, 2002, Army provided prompt assistance in Madhubani, Gopalganj, Samastipur, Darbhanga and Khagaria districts of Bihar for flood relief.

Five Army columns were deployed in rescue and relief operations from July 25 to August 18, 2002. 3980 marooned civilians were evacuated, 6716 persons were provided medical aid, besides 837 quintals of ration and 46463 food packets were distributed.

12.6 **Floods in Assam :** Incessant rains caused floods in Assam ravaging Morigaon, Dhubri, Kamrup and Goalpara districts. Five Army columns were deployed from July 23 to August 15, 2002. 139 quintals of ration and 1000 food packets were distributed and 2530 personnel were provided medical aid.

12.7 **Floods in Manipur :** Due to incessant rains in Manipur in August 2002, Army assistance was requisitioned in Lilong and Nahrup areas of Imphal district, which were badly affected. Troops of 17 Assam Rifles carried out rescue and relief operations from August 14 – 20, 2002. A large number of affected persons were evacuated to safer places, food packets and medical items were distributed and costly stores/documents were also shifted to safer places.

OTHER TYPES OF ASSISTANCE

12.8 Apart from assistance mentioned above, the Army also provided aid on various other occasions. Highlights of such assistance are enumerated below:-

(a) **Train Accident in Bihar :** Consequent to the New Delhi - Rajdhani Express getting derailed on a bridge near Rafiganj Railway Station on September 9, 2002, Army assistance was requested by District Magistrate Gaya. Two Army columns with five medical teams commenced rescue and relief operations. A total of 70 passengers were rescued and 50 injured persons were provided first aid. Besides the above, 113 recruits of Army Service Corps Centre (North) Gaya were also kept ready for blood donation for an emergent situation.

(b) **Miscellaneous Tasks :** Other tasks on which the Army engineers have been employed in aid to civil authorities include maintenance of essential services during the strike by UPSEB, Obra and Anpara thermal power station in Sonbhadra District, Mumbai Port Trust, and Water Supply Staff at Chandigarh.

NAVY

12.9 **Disaster Management Capsule Course**: A capsule course on Disaster Management was conducted by the Nuclear Biological and Chemical Damage Control School from April 29 to May 1, 2002. A total of 19 participants representing various organisations underwent the course. The course included introduction to disaster management, various types of hazards, civil defence in nuclear aftermath, structural protection in heat, blast and radiation, decontamination, development and damage assessment, disaster preparation and mitigation vulnerability and risk assessment.

12.10 **Medical Camp at Lonavala**: A medical camp was set up at Lonavala where specialists of Naval Hospital Kasturi examined 450 patients of all age groups. Health camps were also conducted by INS Rajali and Chilka in surrounding villages to provide free medical assistance to the residents.

12.11 **Rescue of Capsized Boat**: Consequent to a request received from the Orissa State Administration on August 31, 2002 to assist in the rescue operation of a capsized boat in river Balatarini near Jajpur town with 60-70 people onboard, the Naval Base at Chilka provided immediate assistance to the civil authorities. The Naval divers were able to recover seven bodies of deceased passengers.

12.12 **Assistance to Civil Authorities**: INS Shivaji located at Lonavala provided fire fighting assistance to civil administration on four occasions from March 2002 to May 2002. The unit provided invaluable assistance for evacuation of civilian casualities who had fallen off from a cliff in Khandala on September 22, 2002. One helicopter belonging to Raymond company crashed in undulating forest terrain off Peth Shahpur. A rescue team from INS Shivaji and Kasturi rendered assistance at the crash site.

12.13 **Apprehending of Pirates**: INS Kirpan, a corvette, was on a routine deployment when she noticed that MV Albert Ekka was being boarded unlawfully by pirates who were fleeing from the ship in their fishing boats. All pirates were brought onboard and subsequently handed over to the civil police.

12.14 **Submarine Museum**: With a view to motivating the youths taking up career with the Services, a submarine museum at Visakhapatnam was inaugurated on February 27, 2001 and handed over to Andhra Pradesh State Government (Visakhapatnam Urban Development Authority) on August 9, 2002.

AIR FORCE

12.15 **Disaster Relief :** Indian Air Force undertook flood relief operations in Bihar and Maharashtra. A total of 250 tons of load and relief material and 137 passengers were airlifted from Sarsawa, Delhi and Patna.

12.16 **Casualty Evacuation :** Casualty evacuation was undertaken in the northern sector (for Amarnath piligrims) as well as in the eastern sector (for para-military personnel). A total of 572 persons were airlifted. This included four foreign nationals from inaccessible high mountainous region.

12.17 **Miscellaneous :** A total of 4664 personnel were airlifted for election duties in Jammu and Kashmir. In addition, a large number of media personnel were also airlifted to forward areas in J&K. After the Akshardham terrorist incident, 2272 personnel and about 75 tons of load were airlifted to Ahmedabad. IAF provided airlift to 220 NSG personnel from Delhi to Bangalore in September 2002. One Mi-26 helicopter successfully lifted a small jet transport aircraft, which had crash-landed near Gaggal, Kangra, HP. The aircraft was under slung from the crash site to Chandigarh. This operation was highly appreciated by the indenting agency.

In Aid Of Civil Power

13

National Cadet Corps

NCC cadets at Republic Day Parade

13.1 The National Cadet Corps (NCC) has its genesis in the 'University Corps' which started as far back as in 1917 and has completed eighty-five years of its existence on November 24, 2002. After independence, the NCC in its present form came into existence in 1948 by an Act of Parliament and hence has completed fifty-four years. The NCC which had a modest strength of 1.6 lakhs in 1948 now stands at approximately 13 lakhs. These cadets are enrolled from 6985 schools and 5159 colleges spread across the country and are controlled by 773 NCC units.

13.2 The motto of NCC is **"Unity & Discipline" -** unity of the nation and self-discipline. The other important concept that the NCC strives to develop amongst the cadets is selfless service to the Nation.

13.3 The NCC strives to provide the youth opportunities to develop in an all-round fashion with a sense of commitment, dedication, selfless service, adventure and moral values under one umbrella. The most important aspect of the NCC is that the opportunities are provided to young people across the country from all strata and large numbers are given a chance to attend various activities.

TRAINING OF CADETS

13.4 **Training Camps :** Camp training is an important part of NCC curricula. The camps help in developing camaraderie, teamwork, dignity of labour, self-confidence and the most important aspects of Unity and Discipline. The various types of camps conducted are as listed below :-

(a) **Annual Training Camps (ATC) :** 678 camps were organised and 3,26,475 cadets attended during the first half of the training year 2002-2003.

(b) **National Integration Camp :** Approximately 69 National Integration Camps (NIC) were scheduled with a total participation of 50,000 cadets. The Hon'ble Raksha Mantri directed that these camps be conducted in remote areas as a special feature to inculcate Unity and Nationalism in the remote areas of the country. As per these directions, three National Integration Camps were conducted at Leh, one each year with effect from 1999. In addition, special NICs were scheduled/ conducted at the following places:-

(i) **NIC Ahmedabad :** A special NIC was conducted at Ahmedabad from June 17 to 28, 2002 with the aim of providing a healing touch to the tense situation that prevailed in Gujarat after communal riots. A total of 550 cadets from all parts of the country participated in this NIC.

(ii) **NIC Srinagar :** After a gap of several years, a national level camp was conducted in the valley from August 01 to 12, 2002. Hon'ble Raksha Mantri, Raksha Rajya Mantri and Chief Minister J&K visited the camp and interacted with the cadets.

(iii) **NIC Missamari :** A special NIC in the North East was conducted at Missamari (Assam) from November 15 to 27, 2002 with the participation of 200 cadets from the North East Region and 600 cadets from the rest of India.

(iv) **NIC Nagrota (Jammu) :** A special NIC was held at Nagrota (Jammu) from November 17 to 28, 2002. 400 Cadets from all over India participated in the camp.

(v) **NIC Port Blair :** A special NIC was held at Port Blair in the Andaman & Nicobar Islands from February 17 to 28, 2003 with the participation of 130 cadets including 80 cadets from the mainland.

(c) **Vayu Sainik Camp (VSC) :** Once in a year the Vayu Sainik Camp is organised for a period of 12 days. 419 Senior Division (SD) cadets and 180 Senior Wing (SW) cadets attended the camp at AF station Jalahalli (Bangalore) from October 21 to November 01, 2002 this year.

(d) **Nau Sainik Camp (NSC) :** This is also organised once a year for 12 days. 400 Senior Division cadets and 160 Senior Wing cadets attended the camp. It was conducted at Vishakhapatnam from November 08 to 19, 2002.

(e) **Centrally Organised Camps :** 6,982

cadets attend the Centrally Organised Camps every year.

(f) **All India Thal Sainik Camp for Boys :** The camp attended by 640 cadets was conducted at New Delhi from September 17 to 28, 2002.

(g) **All India Thal Sainik Camp for Girls :** The camp was conducted at New Delhi from September 30 to October 11, 2002 in which 640 cadets participated.

(h) **Republic Day Camp – 2003 :** Republic Day Camp – 2003 was conducted from January 01 to 29, 2003 at Delhi. The Camp was attended by 1800 cadets from all over India. Inter-directorate competitions connected with institutional training, cultural competitions and national integration awareness presentations are conducted during the month long Camp. A host of dignitaries visited the Camp to witness the activities and to encourage the cadets. The Camp was inaugurated by the Vice-President of India on January 08, 2003. As a regular feature, the Prime Minister Rally was held on January 27, 2003 during the Camp. The Camp culminated with tea for selected cadets at the Rashtrapati Bhavan.

13.5 **Attachment Training :** NCC cadets are sent on brief attachment with various Service Units/ships for 'on ground familiarization'. Attachment training conducted this year are as follows: -

(a) 1,000 girl cadets were attached with various Military Hospitals this year.

(b) 121 cadets were attached to Indian Military Academy, Dehradun and 34 girls with Officers Training Academy, Chennai for two weeks .

(c) 38 SD cadets and 12 SW cadets were attached with Air Force Academy in Dundigal (AP) from October 18 to 30, 2002.

(d) 25 cadets were attached with Naval Academy in Goa in January, 2002.

(e) 90 cadets were attached to Western Naval Command and 60 with Southern Naval Command ships for 20 days during May/June, 2002.

(f) 125 cadets from Tamil Nadu Directorate were attached with INS Shivaji for eight days and with Naval Dockyard Vizag for four days in May-June, 2002.

(g) 96 cadets were attached with INS Chilka for NCC Regatta in January, 2002.

13.6 **Gliding & Microlite Flying :** Gliding facilities are provided at 34 Air Sqns. The NCC Air Sqns carried out 3883 launches and 285 hours of Microlite flying during the first half of the year. 39 Zen Air and 06 'X' Air Microlite aircraft have been inducted into NCC to enhance the overall aviation awareness of the Air Wing Cadets.

13.7 **Sea Training :** In addition to sea training, the Navy takes 16 cadets on their ships calling on foreign ports. The Coast Guard also takes 12 cadets on foreign cruise and 12 cadets for Sea sortie of one week duration off Kochi every year. In addition, 65 cadets are attached with Ships of Eastern Naval Command and 80 cadets with ships of Western Naval Command for seven to ten days every year.

13.8 **Adventure Training :** Adventure activities are organised to develop special qualities of courage, leadership, teamwork, spirit of adventure and sportsmanship among the cadets.

(a) **Mountaineering Courses :** 178 vacancies for Basic and Advance mountaineering courses were allotted for cadets during the current year.

(b) **Adventure Courses :** Every year, the NCC sponsors cadets of Junior Division/Wing at Himalayan Mountaineering Institute, Darjeeling and Nehru Institute of Mountaineering, Uttarkashi for adventure courses for 53 boy and 30 girl cadets and necessary vacancies were allotted for both boys and girls.

(c) **Mountaineering Expeditions :** Every year one boys' and one girls' expedition, containing 20 cadets each, are undertaken. Boys scaled Bandarpunch Peak (21851 ft) and girls Rudugaira Peak (19091 ft) this year. So far the record by girls expedition is climbing a height of 23,360 ft, which is 1,015 ft higher than what the boys ever climbed.

(d) **Cycle and Motor Cycle Expeditions:** These were organised both at the national and state levels.

(e) **Trekking Expeditions :** A total of 10 All India Treks (7 for boy and 3 for girl cadets) are conducted every year with 1,000 cadets per trek.

(f) **Para Sailing :** 546 Para sails have been sanctioned by the Government to be issued at the scale of one para-sail per Group HQ per year for six years with effect from 1999 onwards. Regular launches are organised by the Directorates. 8348 cadets were trained in parasailing upto June, 2002.

(g) **Para Jump :** Every year 20 boy and 20 girl cadets are trained at Para Training School, Agra. The Course was conducted from November 05 to 24, 2002.

(h) **Slithering :** 10 Senior Division and 10 Senior Wing cadets were trained in slithering from helicopters.

(i) **Scuba Diving :** 35 cadets from Maharashtra/Andhra Pradesh Directorate underwent scuba diving training and also participated in competitions. In addition 10 cadets from Kerala Directorate did scuba at Lakshadweep Island.

(j) **Desert Camel Safari :** Desert Camel Safari, involving 20 NCC cadets and five cadets from Vietnam, was conducted from November 08 to 18, 2002 at Jaisalmer, Rajasthan.

13.9 The following cruises were undertaken:-

(a) **Coast Guard Cruise :** Six Naval SD cadets from Kochi to Seychelles and back (October 01 to 17, 2002) .

(b) **Naval Cruise :** Eight Naval SD cadets from Kochi to Kuwait, Baharin & back (October 06 to 31, 2002).

YOUTH EXCHANGE PROGRAMME

13.10 NCC has a Youth Exchange Programme on reciprocal basis with UK, Singapore, Nepal, Bangladesh, Sri Lanka, Vietnam, Bhutan, Russia and on non-reciprocal basis with Maldives and Trinidad & Tobago. Over 130 cadets are exposed to these programmes. For the first time, this year our cadets travelled to Russia and Vietnam under the Youth Exchange Programme. Efforts are on to include more friendly countries.

13.11 The following visits are scheduled/were undertaken during the year as part of Youth Exchange Programme :-

(a) visit by DGNCC and Addl DGNCC (A) to Russia from June 25 to 29, 2002 to finalise the modalities of starting a Youth Exchange Programme with Russia;

(b) visit of one officer and four cadets each of Air Wing and Naval Wing to Singapore from June 01 to 15, 2002;

(c) visit of one officer and twelve cadets to UK from July 16 to 31, 2002;

(d) visit of one officer and twenty cadets to Vietnam from September 03 to 22, 2002;

(e) visit of two officers and ten cadets to Russia from September 23 to October 02, 2002 for the first time;

(f) visit of two cadets to Sri Lanka from October 14 to 22, 2002;

(g) visit of two officers and twelve cadets to Bhutan during November, 2002;

(h) visit of two officers and eight cadets to Singapore to participate in Camp Pinnacle during December, 2002;

(i) visit of one officer and two cadets to Nepal in February, 2003 to participate in Nepalese NCC Camp and Army Day Parade; and

(j) visit of one officer and twelve cadets to Bangladesh in March, 2003.

COMMUNITY DEVELOPMENT

13.12 The purpose of organising these activities is to make our young people conscious and sensitive to the needs of their fellow countrymen as also to contribute meaningfully to the enrichment of community life. This important aspect has been periodically reviewed to incorporate the changing requirements of society. In this sphere, apart from traditional blood donation, tree plantation, anti-dowry pledge and anti polio drives, NCC has included AIDS awareness programmes, anti corruption and vigilance awareness and anti leprosy drives in right earnest. Moreover, newer methods like cycle expeditions having different sectors of travel and conveying different messages and themes have been introduced. Always at the forefront, the contribution of NCC cadets in providing relief such as in the Gujarat earthquake, the Orissa cyclone, the Gujarat communal violence and in the rail accident in Bihar has been appreciated by all. As part of a cadet's growth process, the

NCC takes up a large number of community development programmes as follows:-

Assistance by NCC Cadets in Relief Oprations

(a) **Blood Donation :** 1,65,693 cadets have donated 1,97,41,242 c.c. of blood so far this year;

(b) **Tree Plantation :** 8,52,680 saplings have been planted this year, out of which 8,01,454 have survived;

(c) **Adult Education :** 31,28,442 cadets participated in this campaign wherein 4,45,716 adults were educated;

(d) **AIDS Awareness Programme :** The NCC has taken up the AIDS Awareness Programme in a big way in conjunction with the UNAIDS, NACO and DGAFMS;

(e) **Anti Corruption & Awareness Campaign;** and

(f) **Other Programmes :** Besides the above, 3,87,196 cadets participated in anti-leprosy and anti-dowry campaigns and pledged to donate eyes. Cadets also visit Cheshire Homes regularly.

PERSONNEL

13.13 **Operation Parakram :** 449 Army officers and 32 Air officers posted in various units of NCC were moved on attachment (OP Parakram). NCC contributed a major part of officers' strength for augmentation in OP Parakram.

13.14 **Whole Time Lady Officers (WTLOs) :** Whole Time Lady Officers in the rank of Lieutenant were appointed in the NCC after a gap of 17 years. Total of 19 WTLOs commenced pre-commission training of six months in NCC Officers Training Academy, Gwalior on July 22, 2002.

LOGISTICS

13.15 New .22 Rifles have been imported to improve the shooting skills of cadets. More Microlite Aircraft are being inducted for providing air experience and induction of motorized gliders is under consideration. Equipment for White Water Rafting and surfing boards are being inducted to give boost to water borne activities.

SPORTS

13.16 NCC cadets participated in the following activities conducted at the national level: -

(a) **All India GV Mavlankar Shooting Championship :** The 12th All India GV Mavlankar Shooting Championship was conducted at Coimbatore in Tamil Nadu from August 24 to September 08, 2002. NCC team won three silver and one Bronze in various events in this competition.

(b) **Subroto Cup :** North East Region team participated in the Sub Junior event of Subroto Cup held from November 20 to December 18, 2002.

(c) **Jawahar Lal Nehru Hockey Tournament :** Three teams from NCC participated for the first time in the Tournament which were held from October 11 to November 01, 2002. The girls' team from Karnataka reached the quarter finals. The Karnataka boys team emerged as runners-up in this tournament.

(d) **National Shooting Championship :** Five cadets of NCC participated in National Shooting Championship held at Bangalore from November 11 to 22, 2002.

(e) **Commonwealth Games :** Anjali Vedpathak, an ex-cadet, who picked up shooting in the NCC, has done the Nation proud by winning four gold medals in the Commonwealth Games.

CADET WELFARE SOCIETY

13.17 The Cadet Welfare Society was established in 1985 with a view to provide financial relief or assistance to cadets. Subsequently, aims of the Society were enlarged to provide for the institution of such other

schemes as are beneficial to cadets. The Society gives financial assistance/relief to NCC cadets who either sustain injury or death during NCC activities.

13.18 Besides above, the Society gives 500 scholarships of Rs.5,000/- each to cadets who excel in studies. It also gives awards to one best and one second best cadet in each category i.e. SD/SW/JD/JW per group amounting to Rs.3,000/- and Rs.2,000/- respectively. It now caters for sports & adventure activities also which cannot be funded from Public Funds.

13.19. The National Cadet Corps has come a long way from its modest beginning in 1948 as is evident from the achievements of 2002. Today the National Cadet Corps, armed with the motto of "Unity and Discipline", is steadily marching forward to "groom tomorrow's leaders".

Raksha Mantri at NCC Day Celebrations

14

General

Dare Devils Team at Republic Day Parade

14.1 The Ministry of Defence encourages and promotes both academic and adventure activities through autonomous institutions which are provided regular financial assistance. These institutions are :-

(i) The Institute for Defence Studies and Analyses, New Delhi;

(ii) Mountaineering Institutes at Darjeeling and Uttarkashi; and

(iii) The Jawahar Institute of Mountaineering and Winter Sports (JIM) at Aru, Kashmir

14.2 The important activities of these institutions during the period under review are enumerated in the succeeding paragraphs.

INSTITUTE FOR DEFENCE STUDIES AND ANALYSES (IDSA)

14.3 The Institute for Defence Studies and Analyses was established in November, 1965 to initiate studies and research on problems of national security and the impact of defence measures on economic, political and social developments. Over the years, the Institute has evolved as a premier research institution, carrying out policy-related authoritative studies on national and international security issues. The institute is a registered body under the Registration of Societies Act III of 1860 (Punjab Amendment Act, 1957) as amended from time to time and is governed by an Executive Council elected by the members of the Institute. The Institute is accessible to political leaders, research scholars, the media, civil and defence service officers and others who have an interest in problems of national security.

14.4 **Activities :** The 4th annual Asian Security conference on the theme "Asian Security Strategies in an Era of Uncertainty" was held in March 2002. This followed the earlier three in the series and like them was attended by foreign participants composed of policy makers and opinion shapers from Asian countries and major powers. The international participation was of a high level and encouraging. The 5th Asian Security Conference was held in New Delhi in January 2003. The theme for the Conference was "Asian Security and China in 2000-2010". The Conference was attended by scholars from 35 countries and 45 papers were presented.

14.5 Starting January, 2002, the Institute's journal 'Strategic Analysis' has become a quarterly issue. Besides this, IDSA also brings out the 'Strategic Digest' which is a monthly compendium of information from open sources which focuses on weapons of mass destruction issues, military doctrines, arms transfers and related technology developments. It also includes important speeches, declarations and agreements.

14.6 During the year, the Institute organized a number of Round Table Discussions with visiting scholars, diplomats and foreign delegations/teams.

14.7 **Training Programmes :** Besides research activity, the Institute also conducts training programmes and imparts training to Government officers from the Indian Administrative Service, Indian Foreign Service, the Armed Forces and the Para-Military Forces. Faculty members were invited as guest speakers at various training establishments and Universities around the country.

14.8 **Research Orientation :** On the basis of their research projects and areas of interest, the research faculty has been grouped into ten 'Clusters'. Some of the important activities of the Clusters are to apply collective and focused attention to the subject/area; attempt joint articles/research activities; ensure internal 'refereeing' and assistance to other researchers within the Cluster; and mentoring of junior colleagues. The Clusters meet once every week and members of other Clusters are free to join the proceedings. Currently, the Military Cluster's updates on the ongoing war on terrorism are attended by most of the research faculty.

14.9 **Information Resources :** The Institute has an excellent information resource base in the fields of national security, defence strategy, international relations, terrorism, conflict and peace studies and related areas. The library has a collection of over 45,000 books and a number of CD-ROM databases in these fields. In addition, a number of current journals both in print form as well as electronic/online versions are subscribed to.

14.10 **Information Services :** In an effort to disseminate the details of articles, news items and reports published in the current journal received in the library of the Institute, a monthly current information

service called "Current Journal Contents" has been started. This monthly bulletin provides the tables of contents of about 70 important journals. This bulletin is distributed to the researchers and external members of the Institute on request. Copies of full articles are supplied on request at nominal charges to the external members. This bulletin has been received very well by the readers.

14.11 **Institute's Website :** The Institute maintains a website at **www.idsa-India. org.** Various new activities, as well as progress on the ongoing activities are presented on the website. The complete text of the Institute's journal "Strategic Analyses" is also available on the website. The website was accessed by about 40,000 users during the year.

MOUNTAINEERING INSTITUTES

14.12 The Ministry of Defence administers jointly with the concerned State Governments three Mountaineering Institutes namely Himalayan Mountaineering Institute (HMI), Darjeeling in West Bengal, Nehru Institute of Mountaineering (NIM), Uttarkashi in Uttranchal and Jawahar Institute of Mountaineering & Winter Sports (JIM), Aru with temporary HQ at Batote in J&K. These Institutes are run as private Registered Societies and have been conferred the status of autonomous bodies. Raksha Mantri is the President of these Institutes. The Chief Minister of the respective State is the Vice-President of the Institute. These Institutes are governed by separate Executive Councils consisting of members elected by the General Bodies, nominees from amongst donors and/or persons who are likely to promote the cause of the Institute and representatives of Central and State Governments. A representative each of the Ministry of Defence and State Government acts as Secretary of the Institute.

14.13 The HMI, Darjeeling was founded in November 1954 by the then Prime Minister Pandit Jawaharlal Nehru to commemorate the historical ascent of Mount Everest by Late Tenzing Norgay along with Sir Edmund Hillary on May 29, 1953. With the establishment of this Institute, an impetus to mountaineering as a sport was provided in India. To give further boost to mountaineering and to inculcate the spirit of adventure in youth, the NIM, Uttarkashi was set up in October 1965 and the JIM at Aru in J&K in October 1983. Due to disturbances in the valley, students were reluctant to come to Aru for training. Accordingly, it was decided to shift the Institute temporarily to Batote on the Jammu side of Banihal in August 1990. However, in view of certain adverse reports regarding law & order, regular training courses conducted by the Institute were temporarily suspended from April 1996. The Institute is now conducting some courses on ad-hoc basis.

14.14 The broad objectives of the Mountaineering Institutes are:-

(a) to impart theoretical and practical training in mountaineering and rock climbing techniques;

(b) to awaken interest in and love for mountains and exploration; and

(c) to encourage and provide training in Winter Sports

14.15 The Institutes conduct Basic and Advance Mountaineering Courses, Method of Instruction Course (MOI), Search & Rescue Course (S&R) and Adventure Courses. The syllabi, duration, age limit of participants and grading system for various types of courses are almost uniform at all the Institutes. During the lean period, the Institutes detail their Instructors to conduct rock-climbing courses at the request of Mountaineering Clubs/Organisations around the country. The Instructors also join various expeditions.

14.16 Trainees for these courses come from all parts of the country and include Army, Air Force, Navy, ITBP and BSF Personnel, NCC Cadets and private students. Foreigners are also now permitted to join the courses. The Institutes conducted the following courses during the year upto December, 2002 :-

Institute	Basic	Advance	Adventure	MOI	S&R
HMI	05	02	08	01	-
NIM	06	03	03	01	01
JIM	03	02	03 +10*	02	-

* Short Adventure Courses

NIM also conducted a special course for ONGC and a course for Liaison Officers for IMF, New Delhi.

14.17 The number of students trained in these courses are as under:-

Institute (HMI/NIM)	Basic	Advance	Adventure	MOI	S&R
Men	538	104	357	15	21
Women	125	33	165	09	02

JIM has trained a total number of 1480 boys and 983 girls in various ad hoc training courses conducted by it during the year.

14.18 The Institutes at Darjeeling and Uttarkashi have separate stores of mountaineering equipment for loan to the Indian Mountaineering Expeditions on nominal hire charges.

14.19 The construction of the Museum project at HMI Darjeeling is at an advance stage and is expected to be completed shortly. HMI Darjeeling is planning an expedition to Mount Everest from North Ridge (Tibet) side during April – May, 2003 to commemorate the Golden Jubilee of the first successful ascent of Mount Everest in 1953. The expedition is being led by the Principal of HMI.

CEREMONIALS, HONOURS & AWARDS

14.20 Ministry of Defence organises national functions like the Republic Day Parade, the Beating Retreat Ceremony, Martyrs' Day Function and the Independence Day Celebration. Defence Investiture Ceremonies for presentation of Gallantry and Distinguished Service Awards at Rashtrapati Bhawan are also organized by the Ministry in association with the President's Secretariat. The Ceremonial functions organized during 2002-2003 are detailed in the following paragraphs.

INDEPENDENCE DAY 15TH AUGUST, 2002

14.21 On 15th August, 2002, the Prime Minister after inspection of Guard of Honour presented by the three Services and the Delhi Police, unfurled the National Flag on the ramparts of the Red Fort, to the accompaniment of the National Anthem played by the Services Band. A 21 gun salute was also presented on this occasion. This was followed by the Prime Minister's Address to the Nation. The function began with the choir singing of patriotic songs by school children in different Indian languages and concluded with the singing of the National Anthem by the children and the NCC Cadets from schools of Delhi and release of balloons.

14.22 The following gallantry awards were announced on the Independence Day 2002:-

Ashoka Chakra	01	(Posthumous)
Kirti Chakra	03	(02 Posthumous)
Shaurya Chakra	33	(10 Posthumous)
Bar to Sena Medal (G)	04	
Sena Medal(G)	221	(35 Posthumous)
Nao Sena Medal (G)	07	
Vayu Sena Medal (G)	05	
Mention-in-Despatches	04	

DEFENCE INVESTITURE CEREMONIES, 2002

14.23 The Defence Investiture Ceremony – 2002 was held at Rashtrapati Bhawan on October 29 and November 2, 2002 and the following awards announced on the Independence Day 2001 and Republic Day – 2002 were presented by the President to the recipients.

GALLANTRY AWARDS

Kirti Chakra	11 (8 Posthumous)
Vir Chakra	3
Bar to Shaurya Chakra	1
Shaura Chakra	76 (22 Posthumous)
Total	91

DISTINGUISHED SERVICE AWARDS

Param Vishisht Seva Medal	21
Bar to Ati Vishisht Seva Medal	02
Ati Vishisht Seva Medal	45
Total	68

14.24 Yudh Seva Medal, Bar to Vishisht Seva Medal, Vishisht Seva Medal, Bar to Sena Medal, Sena Medals, Nao Sena Medals and Vayu Sena Medals were presented by the respective Chiefs of Staff and Senior Commanders at separate Investiture Ceremonies.

AMAR JAWAN CEREMONY, 2003

14.25 The Prime Minister placed wreath at the Amar Jawan Memorial, under the arch of

the India Gate on January 26, 2003 to pay Homage to the memory of those who sacrificed their lives in safeguarding the freedom of the nation.

REPUBLIC DAY PARADE 2003

14.26 In a brief investiture ceremony at Rajpath, the President presented 2 Ashoka Chakra Awards posthumously to the next-of-kins (NOKs) of the martyrs. After the Investiture Ceremony, the President took the salute at the Parade on January 26, 2003. His Excellency Mr. Seyed Mohammad Khatami, President of Islamic Republic of Iran was the Chief Guest. Army's mounted column of 61 cavalry, mechanized columns like T-90, MBT Arjun, Prithvi Missile, Advanced Light Helicopter Dhruva etc. and contingents of Para Military Forces, Delhi Police, Home Guards and NCC were part of the parade. Mi-17 Helicopter with rocket pods and front guns, Mi-35 Helicopter, Indra-II PC Radar etc., were part of the Air Force Vehicular Columns and Pinaka MBR, Bridge Layer Tank T-72, Brahmos & Agni–I Missiles, UAV Nishant (un-manned aircraft) were part of DRDO Equipment Columns. 21 national bravery award winning children on elephants, 29 tableaux and 10 cultural items were other attractions of the parade. The tableaux and the children's items reflected the cultural diversity of the nation and also presented a glimpse of the progress made by the country in different fields. The Motor cycle display by Army Signal Corps and 'Fly-Past' by Indian Air Force were the grand finale to the parade.

HONOURS & AWARDS

14.27 The following gallantry and distinguished service awards were announced on the Republic Day, 2003:

Ashoka Chakra	1 (1 Posthumous)
Kirti Chakra	3 (1 Posthumous)
Bar to Shaurya Chakra	1
Shaurya Chakra	21 (7 Posthumous)
ParamVishisht Seva Medal	28
Bar to Ati Vishisht Seva Medal	5
Ati Vishisht Seva Medal	42
Yudh Seva Medal	11
Bar to Vishisht Seva Medal	5
Vishisht Seva Medal	118 (1 Posthumous)
Bar to Sena Medal (Gallantry)	5
Sena Medal/Nao Sena Medal/Vayu Sena Medal (Gallantry)	180 (20 Posthumous)
Bar to Sena Medal, Nao Sena Medal, Vayu Sena Medal (Devotion to Duty)	3
Sena Medal/Nao Sena Medal/Vayu Sena Medal (Devotion to Duty)	71

BEATING RETREAT CEREMONY, 2003

14.28 The Beating Retreat Ceremony organized at Vijay Chowk on January 29, 2003 brought the curtain down on the Republic Day festivities. Bands of the three Services participated in this Ceremony. The conclusion of the ceremony coincided with illumination of the Rashtrapati Bhawan, North Block, South Block and Parliament House.

MARTYR'S DAY CEREMONY, 2003

14.29 On January 30, 2003, the President placed wreath at Mahatma Gandhi's Samadhi at Rajghat. Floral tributes were also paid by the Prime Minister and some of his Cabinet Colleagues. This was followed by observance of two minutes' silence at 1100 hours as a mark of respect to the memory of the Father of the Nation.

DEFENCE INVESTITURE CEREMONIES, 2003

14.30 The Defence Investiture Ceremony-2003 was held in Rashtrapati Bhawan on 11th and 26th March, 2003 when the following awards announced on the Independence Day, 2002 and Republic Day, 2003 were presented by the President to the recipients.

GALLANTRY AWARDS

Kirti Chakra	6 (3 Posthumous)
Bar to Shaurya Chakra	1
Shaurya Chakra	54 (17 Posthumous)
Total	**61**

DISTINGUISHED SERVICE AWARDS

Param Vishisht Seva Medal	28
Bar to Ati Vishisht Seva Medal	05
Ati Vishisht Seva Medal	42
Total	**75**

OFFICIAL LANGUAGE DIVISION

14.31 Official Language Division of the Ministry of Defence is the nodal Agency to implement the Official Language Policy of the Government in the Ministry, its Subordinate Offices, Defence Undertakings etc. Implementation of orders/ instructions regarding use of Hindi in official work is monitored by the Official Language Division through various channels, such as quarterly progress reports, annual evaluation reports, quarterly meetings of departmental Official Language Implementation Committees, Hindi Salahkar Samities and inspections of the offices located all over the country. The other main functions of this Division are :-

(i) to translate the material received from various offices, divisions and sections of the Ministry;

(ii) to impart training to staff mainly in Hindi, Hindi stenography and Hindi typing through the Hindi Teaching Scheme of the Ministry of Home Affairs; and

(iii) to propagate and promote the use of Hindi in official work by organizing Hindi workshops, seminars, sammelans etc. and by encouraging various incentive schemes introduced in the Ministry.

14.32 Like previous years, Official Language Division fixed certain targets for itself, such as the organization of Hindi Workshop, inspection of different sections of the Ministry, nomination of 56 officials for training in Hindi, Hindi Stenography and Hindi Typing courses; organization of 4 meetings each of the two Official Language Implementation Committees etc. All these targets have been fully achieved. Work relating to selection of best in-house journals published by various defence organizations during the year for awarding cash prizes etc. is in progress.

14.33 The Official Language Division remained engaged in translation work throughout the year. The material received for such translation included general orders, notifications, resolutions, cabinet notes, administrative and other reports, parliament questions etc. Besides, material relating to PAC matters, audit paras, Consultative Committee meeting, Standing Committee, Annual Report, papers to be laid in the Parliament, VIP references, Republic Day, Independence Day and the investiture ceremony was also translated into Hindi during the year.

14.34 In accordance with the targets fixed for imparting training to the staff in Hindi, Hindi Stenography and Hindi Typing, efforts were made to nominate maximum number of officials in these courses. During the year, out of 41 officials nominated for Hindi classes, 19 were for Hindi (Prabodh, Praveen and Pragya), 12 for Hindi stenography and 10 for Hindi Typing.

14.35 In order to encourage more and more staff to work in Hindi, two Hindi workshops were organized till November, 2002, in which 33 officials participated. The purpose of these workshops was to motivate the officials to use Hindi in their official work. For this, the participants were provided practice exercises in the respective subjects and were also apprised of the provisions of the Official Language Act and Rules made thereunder to facilitate them to work in Hindi with more confidence. The subordinate offices, Inter-Service Organisations and Public Sector Undertakings under the Ministry of Defence were also advised to organize such Hindi workshops in their respective offices to encourage their staff to use Hindi in their official work. Officers of Official Language Division assisted them in organizing Hindi workshops and provided them necessary guidance in this regard.

14.36 **Monitoring :** The overall monitoring regarding the progressive use of Hindi in the Ministry of Defence Secretariat, the three Services Headquarters, Inter-Service Organisations and Defence Undertakings is done by two separate Departmental Official Language Implementation Committees, which meet regularly after every three months. These Committees review progress made in the subordinate offices for implementing the Official Language Policy of the Union more effectively. The Committee of Parliament on Official Language visited various

Defence Organisations located all over the country including Delhi, Faridabad, Coimbatore, Jodhpur, Hyderabad, Mumbai etc. for conducting Official Language inspections.

14.37 **Hindi Pakhwara :** A Hindi Pakhwara was observed during September 1-14, 2002 in the Ministry as well as in its subordinate offices and Defence Undertakings. The message issued on this occasion by the Home Minister, Raksha Mantri and Cabinet Secretary were circulated among all officers and staff of the Ministry as also among three Services Headquarters and various Defence Organisations spread all over the country. The officers and staff were motivated to do their official work in Hindi. To achieve this end, various competitions were organized during the fortnight in which 224 officials participated and out of which, 107 officials were selected for award of prizes amounting to Rs. 43,700/-. The Pakhwara was followed, in the later part of the year, by Prize Distribution Function, Hindi Workshops, Official Language Inspections, Personal Contact Programmes, meetings of Official Language Implementation Committees etc.

14.38 **Salahkar Samities :** There are two Hindi Salahkar Samities in the Ministry of Defence – one for the Department of Defence and Department of Defence Research & Development and the other for the Department of Defence Production & Supplies. The meetings of these Committees are organized from time to time.

DEFENCE COOPERATION WITH FOREIGN COUNTRIES

14.39 Strengthening of defence cooperation with friendly countries is an important objective and component of our overall foreign and defence policies. The threat posed by global and cross-border terrorism, and the consequent changes that have taken place in the international and regional political and strategic environment, have brought about a greater convergence of security perceptions and prompted closer defence-related contacts, exchanges and cooperation with a widening group of countries.

14.40 A snapshot view of India's bilateral defence relations as they evolved in 2002-03 is indicated in the succeeding paragraphs.

14.41 Defence relations with India's immediate neighbours have already been covered in the context of Chapter-I on 'Security Environment'. A brief synopsis of defence, military and security-related exchanges during the year is summarized below.

14.42 With China, attempts to improve the bilateral relationship in the political, economic and defence-related spheres amongst others, continued. Defence exchanges with China which had resumed after the visit of former PM Rajiv Gandhi in 1988, were suspended after India's nuclear tests in May, 1998. They resumed thereafter with a visit by an Indian naval ship to Shanghai in September 2000. In 2002, China and India exchanged two military delegations each. Indian officers also participated in the National Security and Military Command Course at the NDU, Beijing.

14.43 With regard to India's eastern neighbours, the Chief of Army Staff of India visited Nepal in May 2002 and Bhutan in September 2002. The Chief of Army Staff of Nepal visited India in December 2002. These visits affirmed the traditional bonds of friendship and goodwill between India and the two close neighbours and India's commitment to help Nepal in maintaining its internal security. The Chief of Air Staff of Bangladesh visited India in March 2003 to promote goodwill between the two armed forces. A defence delegation from India visited Myanmar in September 2002 to explore fresh areas of cooperation between India and Myanmar.

14.44 The Chief of Air Staff of India visited Sri Lanka in February 2003. The visit helped both sides review mutual areas of concern in the strategic and security environment of both countries. Possible new initiatives for defence cooperation were also discussed.

14.45 The Minister of State for Defence and National Security of Maldives visited India in December 2002. India's ongoing defence cooperation with Maldives in matters related to security and defence training, as well as defence equipment was reviewed formally. Potential areas for defence cooperation such as hydrographic surveys were also discussed.

14.46 The Central Asian Republics are important nations in India's extended strategic neighbourhood. Developments in the

region have a direct bearing on our security interests. India shares deep-rooted historical and cultural ties with these societies and is engaged in an endeavour to further develop them. India was amongst the first to establish diplomatic relations in all the Central Asian States.

14.47 Raksha Mantri visited Tajikistan in April 2002 during the course of which India and Tajikistan signed a Defence Cooperation Agreement. The Deputy Defence Minister of Tajikistan visited India in December 2002. Ongoing defence cooperation activities relating to training, defence supplies and industry were reviewed and advanced during the visit.

14.48 India and Uzbekistan share similar security concerns and offer good potential for defence cooperation. The Indian Chief of Air Staff visited Uzbekistan in September 2002. This was followed up by a visit by Raksha Mantri in February 2003, the first by an Indian Defence Minister to Uzbekistan, cementing an ongoing mutually beneficial relationship and identifying future areas of cooperation in the area of security and defence for follow up.

14.49 In view of its advanced defence industry, the prospects for cooperation with Kazakhstan in the sphere of defence industry and technology are also high. A Defence Cooperation Agreement, signed with Kazakhstan in June 2002 during the Prime Minister's visit to Kazakhstan, is expected to give a fillip to such cooperation between the two countries.

14.50 The Persian Gulf and West Asian region represent a vital part of India's strategic neighbourhood, especially in terms of India's energy security. The region also has a large expatriate Indian population. India has, therefore, a strong national interest in peace and stability in this region.

14.51 India shares a historically unique relationship with Oman that extends to a desire on both sides for a deeper defence relationship. In the past, some of Oman's need for medical personnel for the armed forces were fulfilled by Indian armed forces medical staff. Oman has also been inviting Indian officers as observers at its joint military exercises with other nations. Raksha Mantri visited Oman in October, 2002 and held discussions on defence cooperation issues and other matters of mutual security interest.

14.52 The defence relationship between India and Israel has been growing steadily. The first meeting of the Joint India-Israel Working Group on Defence Cooperation formed to institutionalize such cooperation, was held in Israel in September, 2002.

14.53 The President of Iran was the Chief Guest at India's Republic Day celebrations on 26th January, 2003. The President's delegation to India included the Minister of Defence of Iran. Possibilities of bilateral defence cooperation were discussed during this visit. The Indian Naval Chief also made a goodwill visit to Iran in January, 2003.

14.54 As part of India's 'Look East' foreign policy, defence cooperation forms an important component of our relations with countries of South East Asia. Its strategic location, and challenges posed by instability and terrorism in the region, make it an area of cooperative security interest for India. India's increasing engagement with the ASEAN countries has also witnessed an upsurge in cooperation in the defence sector. Mutual complementarities are being explored in such relations with many countries of this region such as Singapore, Laos, Vietnam, Thailand, Malaysia, Indonesia and Philippines.

14.55 Raksha Mantri participated in the Asian Security Conference in June 2002 in Singapore organized by International Institute of Strategic Studies (UK), which was also attended by the Defence Ministers and senior defence officials of the US, UK, Japan, Australia, New Zealand, Singapore, Indonesia, Malaysia and Philippines amongst others. India and Singapore also evinced strong mutual interest in raising their level of defence cooperation. The 10th India-Singapore joint naval exercise was held in Kochi in March 2003. The Singapore Navy Chief of Staff also visited India during the occasion.

14.56 An Agreement on defence cooperation between India and Laos was signed during the visit of Prime Minister to Laos in November 2002. The Agreement provides the institutional framework for future bilateral defence cooperation. The Lao Minister of National Defence visited India in January 2003 to enhance defence ties between India and Laos primarily in the area of military training for the Lao defence services.

14.57 India and Malaysia have a long-standing mechanism to discuss and explore possibilities for defence cooperation. The 4th meeting of Malaysia-India Defence Committee was held in New Delhi from September 12-13, 2002. The Committee discussed possibilities of cooperation in defence production and maintenance, training and sharing of information on common defence equipment amongst other things.

14.58 During the visit of the Secretary for National Defence of Philippines to India at the Defence Expo last February, both countries affirmed their desire to increase defence cooperation setting the momentum for further exchanges. The Philippines Chief of Army visited India in August 2002. Defence-related contacts with the countries of the ASEAN continued including a hydrographic survey with in Indonesian waters, goodwill visits by Indian naval ships at Indonesian, Philippines and Thai ports.

14.59 The East Asia/Pacific region has not featured very prominently in the bilateral defence cooperation matrix of India. However, the year 2002-03 witnessed increased contact with countries in this region such as Japan, Republic of Korea, Australia and New Zealand.

14.60 A common interest of India and Japan in ensuring the safety and security of sea-lanes in the Indian Ocean especially in relation to piracy and transnational crimes has led to greater interaction between their respective Navies and Coast Guard organizations. Raksha Mantri visited Japan in July 2002 and held wide-ranging discussions in areas of mutual strategic interest with the Defence Minister of Japan. The Chief of Air Force of Japan visited India in December, 2002. The two have also been interacting closely in the context of the ARF. These and other contacts have raised the level of familiarity with, and goodwill for, each other in the security and defence spheres.

14.61 India and Australia resumed their defence and security-related dialogue and contacts in 2001. Raksha Mantri met the Australian Defence Minister during the Asia Security Conference at Singapore in June 2002. The Defence Secretary of Australia visited India in August 2002. The Indian Chief of Naval Staff visited Australia in November 2002. Defence representatives participated in the Second Session of the India-Australia Strategic Dialogue held in Canberra, March 2003. These exchanges help to provide a better appreciation of each other's security concerns and identify possible areas of cooperation.

14.62 Russia has a historically close defence relationship with India. Both at the political and defence level, India's relationship with Russia is characterized by continuity, trust and mutual understanding. A significantly large proportion of Army, Navy and Air Force platforms are of Soviet/Russian origin. Many new acquisitions are being planned from Russia.

14.63 Raksha Mantri visited Russia in April 2002. During the visit, wide-ranging discussions were held with the Russian leadership regarding ongoing defence cooperation issues. The Chief of Naval Staff also visited Russia in August 2002, to discuss and progress navy-related issues.

14.64 The Third Meeting of the Indo-Russian Inter-Governmental Commission on Military-Technical Cooperation led by Raksha Mantri, was held in Moscow from January 15-17, 2003 in which ongoing and future defence cooperation activities were reviewed and discussed. Protocols were also signed at various levels between the Indian and the Russian side covering these issues.

14.65 The close military ties of some of the countries in Central and East Europe with the erstwhile Soviet Union, and their new partnerships, offer significant opportunities for defence cooperation. India has been actively engaged on defence matters in this region with Ukraine, Belarus, Poland, Bulgaria and the Czech Republic, amongst others.

14.66 Ukraine has a sizable defence industry establishment with many areas of interest to the Indian Armed Forces. The Chief of Air Force visited Ukraine in September 2002. The Ukraine President, along with the Ukraine Defence Minister, visited India in October 2002. Raksha Mantri held discussions with the Ukraine Defence Minister on enhancing ties between the two defence establishments.

14.67 A defence delegation from Belarus accompanied the Belarus Prime Minister during his official visit to India in September 2002 and held discussions with

Raksha Mantri on prospective areas of bilateral defence cooperation.

14.68 Similarly, there is a good scope for defence cooperation between India and Poland. A defence delegation led by the Minister of State for National Defence accompanied the Prime Minister of Poland who visited India in February 2003. An agreement on cooperation in the field of defence was signed between India and Poland during the visit.

14.69 India has an active strategic dialogue with its principal interlocutors in Western Europe and also a mutually beneficial defence relationship covering a widening range of activities including training exchanges, joint exercises and defence procurement, production and R&D. The Ninth Round of the Indo-French Strategic Dialogue held on January 6, 2003 in New Delhi discussed issues of mutual concern including defence cooperation. The Fifth Round of the Indo-French High Committee on Defence held in Paris in November 2002 focused on an in-depth review of bilateral cooperation and steps to further deepen and diversify cooperation in the defence area. The visit of the French Prime Minister Mr. Jean Pierre Raffarin to India on February 6-7, 2003 and his presence at the 'Aero India 2003' is indicative of the value attached by both countries to cooperation in the field of defence. Four joint collaboration agreements between French and Indian defence industries were signed during the occasion. A joint naval exercise, 'Varuna' was conducted off Goa in May 2002 witnessed by the French Navy Chief and a major joint air exercise 'Garuda' was conducted at Gwalior in February 2003 at which the French Chief of Air Staff was also present.

14.70 The year saw a continued intensification of defence cooperation with the United Kingdom. UK Defence Secretary Mr. Geoff Hoon, visited India in July 2002 and held wide-ranging discussions with Raksha Mantri, External Affairs Minister and National Security Advisor. At the official level, interaction has centered around the bilateral Defence Consultative Group (DCG), which meets annually. The DCG identified several areas for joint initiatives. Other exchanges during the year include the visit of the Joint Chief of Integrated Defence Staff to UK in April, 2002, and the visit of the UK Minister for Defence Procurement in February 2003 to attend the Aero India, 2003.

14.71 Raksha Mantri visited Italy from September 18-22, 2002. The Italian Defence Minister Mr. Antonio Martino paid a return visit to India from February 2-5, 2003. A Defence Cooperation Agreement intended to step up defence cooperation was signed. Institutional contacts with Italy at the service level through the Joint Defence Committee, last held in June 2002, have been regular. Chief of Army Staff General S. Padmanabhan visited Italy and France in October-November 2002.

14.72 The year also witnessed an impetus to defence contacts with Germany. The German Air Force Chief, Gerhard Back, visited India in October 2002, the first by a German Service Chief since 1992. The second round of bilateral military staff talks was held in Berlin in August 2002.

14.73 United States-India defence ties have been warming up over the last few years after a hiatus in mid-1998. Such cooperation received a significant boost in 2002-03 manifested in the large number of high level visits that took place on both sides. The US Chairman, Joint Chief of Staff visited India in February, 2002. The Indian Chief of Army Staff visited the US in April, 2002, the Chief of Air Staff in June, 2002 and the Chief of Naval Staff in September, 2002. The US Army Chief visited India in February, 2003.

14.74 The 4th Indo-US Defence Policy Group meeting was held in May, 2002. Many significant initiatives were taken during this meeting. These included plans for joint military exercises including joint patrolling of high density sea lanes, combating terrorism, weapons and equipment supplies from the US, environmental security, defence technology cooperation, humanitarian relief and disaster response, search and rescue activities, cyber- security, etc. Joint air exercises with the US were conducted at Agra in May and October, 2002. Airborne exercises consisting of Indian Army and Air Force units and US ARPAC units were held in Alaska in October, 2002. The 4th Indo-US bilateral naval exercises conducted off Kochi in September-October 2002. As a follow up to the May 2002 DPG meeting, the Executive Steering Groups of the Air Force, Army and Navy of both countries met in November 2002, December 2002, and January 2003 respectively and chalked out a large number of mutual action plans that were ratified at the February 2003 meeting of the

Military Cooperation Group of both countries.

14.75 The continent of Africa has many countries with which India has had deep historical and political bonds, including those linked to India's stance against colonialism and apartheid and India's role in the Non-Aligned Movement. Many of these countries in this region have had close defence training interaction with Indian military training establishments. There are also opportunities for sourcing defence equipment from some countries and supplying equipment to others.

14.76 Among the African nations, South Africa is a country with which India has significant defence ties. This country has emerged as an important supplier of defence equipment. Defence cooperation between the two countries has been substantial and continues to grow steadily. The third India-South Africa Defence Committee meeting was held in South Africa in November, 2002. Security perceptions were exchanged and opportunities for sourcing equipment, co-production, training etc. advanced. The Chief of Naval Staff visited South Africa in February 2003, followed by the visit of the Chief of the South African Army to India strengthening the bonds of defence cooperation between Indian and South African armed forces.

Indo-US Joint Exercise

14.77 The Republic of Mauritius is strategically located in the Indian Ocean. India and Mauritius have been cooperating in defence-related activities, such as supply of defence equipment by India, technical support for Mauritius naval vessels, Coast Guard related cooperation, training activities, etc. The Mauritius Prime Minister's visit to India in January 2003 included a specific visit to the Western Naval Command. The Indian Chief of Naval Staff visited Mauritius in February 2003. A number of on-going defence cooperation issues were reviewed during the visit.

14.78 As would be evident from the above, during the year 2002-03 the India's defence cooperation engagement with the countries of the world increased very significantly. The growth of defence cooperation with partners was driven by strategic, security, political and commercial considerations. They are also reflective of a perception by many nations of India as a force for peace, moderation and stability in the region and beyond.

15

Activities And Achievements Of Vigilance Units

15.1 The Vigilance Division in the Ministry of Defence deals with vigilance cases involving Group 'A' Civilian officers working in the Ministry of Defence. For administrative convenience, the vigilance work in respect of the Department of Defence and the Defence Research & Development Organisation is being looked after by one Chief Vigilance Officer and in respect of the Department of Defence Production and Supplies by another Chief Vigilance Officer. The Vigilance Division looks after all vigilance matters and provides link between the Ministry/ Department and the Central Vigilance Commission (CVC). The Vigilance Division is responsible for regular and surprise inspection of sensitive spots, review and streamlining of procedure and initiating other measures for combating corruption. The complaints received through the Prime Minister's Office and Raksha Mantri's Complaint Box are also being dealt by the Vigilance Division.

REDRESSAL OF PUBLIC GRIEVANCES

15.2 The public grievances pertaining to the Ministry of Defence as a whole are received by the Vigilance Division of the Ministry of Defence through the Department of Administrative Reforms and Public Grievances. These grievances are also received from the petitioners directly. All these grievances are reviewed on a fortnightly basis regularly. The names of vigilance officers of various subordinate organizations of Ministry of Defence have been put on MOD Website.

OBSERVANCE OF VIGILANCE AWARENESS WEEK

15.3 In accordance with the directives issued by the CVC, Vigilance Week commencing from October 31, 2002 to November 6, 2002 was observed in the Ministry, Defence Public Sector Undertakings, Attached and Subordinate Offices as per the following programmes :

(a) Pledge

All employees including officers took a pledge administered by the Defence Secretary in the South Block. Messages received from Chief Vigilance Commissioner and Vigilance Commissioner were read out after the pledge.

(b) Banners and Posters

In order to sensitize the officials and the public to vigilance, banners and posters were displayed at prime locations.

(c) Programmes on Vigilance Awareness

Programmes on vigilance awareness were conducted in all offices under the control of the Ministry of Defence and prominent personalities addressed the gathering at various locations.

(d) Essay/Slogan Writing on Anti-corruption

Competitions were organized during the week through essays and slogans on vigilance and anti-corruption. Similar competitions were organized in some of the schools and colleges run by the Defence Public Sector Undertakings and Defence departments.

(e) Prizes

The Vigilance Awareness Programme concluded with the distribution of prizes to the winners.

16

Empowerment & Welfare Of Women

Lady Cadets Passing Out from Officers Training Academy, Chennai

16.1 The role of women in Defence has been increasing steadily. Already there was presence of women in Defence Production Units, Defence Research & Development Laboratories and also as Doctors & Nursing Officers in Armed Forces. With induction of women in various non-combatant arms of Armed Forces like logistics, judicial etc., a larger role is envisaged for women in Defence.

16.2 Women Special Entry Scheme(WSES) has been introduced for women to join as officers in non-combatant arms of the Armed Forces. WSES has also been extended to widows of Service officers killed in action. Eligible women are recruited as officers on Short Service Commission basis in various branches of Army, Navy and Air Force.

16.3 Women are playing important role in Defence Research & Development. Qualified women scientists and technical officers and staff are actively involved in various research projects. A number of senior women scientists are heading important research Divisions in the various Defence Laboratories/Establishments.

Woman Officer in Training

16.4 A separate forum of Women in Public Sector (WIPS) has been established in Defence Public Sector Undetakings under the ageis of Standing Conference of Public Enterprises (SCOPE) to assist the DPSUs in harnessing the full potential of women employees, to play a catalytic role in improving the status of women in and around DPSUs. DPSUs have provided certain facilities to working women, such as crèches for the children of working women, lunch and rest rooms for them and grievances cells for the welfare of working women. Besides this, mechanism has been set up to check sexual harassment of working women in production units.

16.5 Creation of opportunities for women is not enough for their optimal participation in Defence. It is also important that conducive work environment and appropriate working conditions are provided to them. Though the service conditions of the Armed Forces are different, Ministry of Defence has taken several steps in this regard. The manpower/ human resource development policies followed in the Ministry of Defence make no distinction/ discrimination on the grounds of sex.

16.6 The guidelines of Hon'ble Supreme Court to prevent sexual harassment at workplace for working women to perform their duties honourably and without fear, are being implemented in the Armed Forces, Inter Service Organisations, Defence Public Sector Undertakings and Defence Laboratories/Establishments.

16.7 In pursuance of these directions, 'Complaints Committees' have been constituted at the Headquarters as well as at Units levels for redressal of complaints received from women employees and to review matters relating to safeguard of women. The provisions of various rules and regulations have been amended on the lines of the guidelines laid down by the Supreme Court.

16.8 The guidelines of National Commission for Women (NCW) are also being implemented and the Women Cell of Ministry of Defence, with assistance of 23 Nodal Women Cells spread all over the country, is functioning effectively. The Women Cells look into specific grievances of women employees.

16.9 Every effort is made to ensure that appropriate working conditions are provided for women. Major DPSUs/ Laboratories have provision for crèches and restrooms for the women employees. In the DPSUs transport facility is also available to women employees residing within five kms of their work place.

Woman Officer at Work

Map Reading

16.10 Lecture programmes on topics like legal rights, psychology of working women, family counseling, art of living and stress management are arranged through the forum of Women In Public Sector (WIPS). Representation of women in various forums like Trade Unions, Consumer Co-operative Societies, House Building Societies, Committees of Sports, Canteen etc. has also increased considerably to take up matters pertaining to development of the women employees and associated activities.

16.11 Ministry of Defence has some special pension schemes for the widows of Service personnel through which the widows of the Armed Forces personnel died in war/ war like operations/ counter insurgency operations/ in incidents involving armed hostilities or on account of causes attributable to or aggravated by service, are granted Liberalised Family Pension/ Ordinary Family Pension/ Special Family Pension even after remarriage, subject to certain conditions.

APPENDIX-I

MATTERS DEALT WITH BY THE DEPARTMENTS OF THE MINISTRY OF DEFENCE

A. DEPARTMENT OF DEFENCE

1. Defence of India and every part thereof including preparation for defence and all such acts as may be conducive in times of war to its prosecution and after its termination to effective demobilization.
2. The Armed Forces of the Union, namely, the Army, the Navy, the Air Force.
3. Integrated Headquarters of the Ministry of Defence comprising Army Headquarters, Naval Headquarters, Air Headquarters and Defence Staff Headquarters.
4. The Reserves of the Army, Navy and Air Force.
5. Territorial Army.
6. The National Cadet Corps.
7. Works relating to Army, Navy, Air Force and Ordnance Factories.
8. Remounts, Veterinary and Farms Organisation.
9. Canteen Stores Department (India).
10. Civilian Services paid from Defence Estimaters.
11. Hydrographic Surveys and preparation of navigational charts.
12. Formation of Cantonments, delimitation/ excision of Cantonment areas, local self-government in such areas, the constitution and powers within such areas of Cantonment Boards and authorities and the regulation of house accommodation (including the control of rents) in such areas.
13. Acquisition, requisitioning, custody and relinquishment of land and property for defence purposes. Eviction of unauthorized occupants from defence land and property.
14. Matters relating to ex-Servicemen including pensioners.
15. Defence Accounts Department.
16. Administration of :-
    (i) the Pension Regulations for the Army, 1961 (Parts I and II);
    (ii) the Pension Regulations for the Air Force, 1961 (Parts I and II);
    (iii) the Navy (Pension) Regulations, 1964; and
    (iv) the Entitlement Rules to Casualty Pensionary Awards to the Armed Forces Personnel, 1982.
17. Purchase of foodstuffs for military requirements and their disposal excluding those entrusted to Ministry of food and Civil Supplies (Department of Food).
18. All matters relating to Coast Guard Organisation, including :-
    (i) Surveillance of maritime zones against oil spills;
    (ii) Combating oil spills in various maritime zones, except in the waters of ports and within 500 metres of off-shore exploration and production platforms, coastal refineries and associated facilities such as Single Buoy Mooring (SBM), Crude Oil Terminal (COT) and pipelines;
    (iii) Central; Coordinating Agency for Combating of Oil Pollution in the coastal and marine environment of various maritime zones;
    (iv) Implementation of National Contingency Plan for oil spill disaster; and
    (v) Undertaking oil spill prevention and control, inspection of ships and offshore platforms in the country, except within the limits of ports as empowered by the Merchant Shipping Act, 1958.
19. Matters relating to diving and related activities in the country.
20. The following inter-Service Organisations function under the Ministry of Defence:
    (i) Military Engineer Services.

(ii) Armed Forces Medical Services.

(iii) Directorate General of Defence Estates.

(iv) Office of the Chief Administrative Officer.

(v) Directorate of Public Relations.

(vi) Army Purchase Organisation.

(vii) Services Sports Control Board.

(viii) Armed Sports Control Board.

(ix) Armed Forces Films and Photo Division.

(x) School of Foreign Languages.

(xi) History Division.

(xii) National Defence College.

(xiii) College of Defence Management.

(xiv) Ministry of Defence Library.

B. DEPARTMENT OF DEFENCE PRODUCTION & SUPPLIES

1. Ordnance Factory Board and Ordnance Factories.
2. Hindustan Aeronautics Limited (HAL).
3. Bharat Electronics Limited(BEL)
4. Mazgon docks Limited (MDL).
5. Garden Reach Shipbuilders & Engineers Limited(GRSE).
6. Goa Shipyard Limited(GSL)
7. Bharat Dynamics Limited(BDL)
8. Mishra Dhatu Nigam Limited(MIDHANI)
9. Bharat Earth Movers Limited (BEML).
10. Directorate General of Quality Assurance (DGQA) including Directorate of Technical Development & Production (Air).
11. Standardisation of defence equipments and stores including Directorate of Standardisation.
12. Development of aeronautics industry and Co-ordination among users other than those concerned with the department of Civil Aviation and the Department of Space.
13. Indigenisation, development and production of items required for defence purposes.
14. Procurement exclusive to the defence services.
15. Defence exports and international Cooperation in defence production.

C. DEPARTMENT OF DEFENCE RESEARCH & DEVELOPMENT

1. Apprising, assessing and advising Raksha Mantri on the influence on National Security of Emerging developments in Sciences and Technology.
2. Rendering advice to Raksha Mantri and to the three services and inter-services and inter-Services Organizations on all scientific aspects of weapons; weapon platforms; military operations; surveillance; support and logistics, in all likely theatres of conflict.
3. To function, with the concurrence of the Ministry of External Affairs, as the nodal co-ordinating agency of the Ministry of Defence on all matters relating to instruments of Accord with foreign Government relating to the acquisition of technologies whose export to India is the subject of national security related controls of foreign Governments.
4. Formulation and execution of programmes of scientific research and design, development, test and evaluation, in fields of relevance to national security.
5. Direction and administration of agencies, laboratories, establishments, ranges, facilities; programmes and projects of the Department.
6. Aeronautical Development Agency.
7. All matters relating to certification of the design air worthiness of military aircraft, their equipment and stores.
8. All matters relating to the protection and transfer of technology generated by the activities of the Department.
9. Scientific analysis support and participation in acquisition and evaluation proceedings of all weapons systems and related technologies proposed to be acquired by the Ministry of Defence.
10. To render advice on the technological and intellectual property aspects of the import of technology by production units and enterprises manufacturing, or proposing to manufacture, equipment and stores for the Armed Services.
11. To deal with reference made under section 35 of the Patents Act, 1970 (39 of 1970).
12. Financial & other material assistance to individuals, institutions and bodies

corporate, for study and for the training of manpower on aspects of Science and Technology that bear on national security.

13. In consultation with the Ministry of External Affairs, international relations in matters connected with the role of Science and Technology in national security including:-

(i) matters relating to relations with Research Organizations of other countries and with Inter-Governmental agencies, particularly those which concern themselves, *inter alia*, with the scientific and technological aspects of national security.

(ii) arrangement with Universities, educational and research-oriented institutions or bodies corporate abroad to provide for foreign scholarships and the training of Indian scientists and technologies under the administrative control of the Department.

14. Execution of works and purchase of lands debitable to the budget of the Department.

15. All matters relating to personnel under the control of the Department.

16. Acquisition of all types of stores, equipment and services debitable to the budget of the Department.

17. Financial sanctions relating to the Department.

18. Any other activity assigned to, accepted by, the Department through understandings or arrangements with any other Ministry, Department Agency of the Government of India whose activities have a bearing on the scientific and technological aspect of national security.

D. DEFENCE (FINANCE) DIVISION

1. To examine all Defence matters having a financial bearing.

2. To render financial advice to the various functionaries of Ministry of Defence and the Service Headquarters.

3. To act as integrated finance Division of Ministry of Defence.

4. To assist in the formulation and implementation of all Scheme/proposals involving expenditure.

5. To assist in the formulation and implementation of Defence Plans.

6. To prepare Defence budget and other estimates for the Defence Services and to monitor the progress of the Schemes against the budget.

7. To exercise post-budget vigilance to ensure that there are neither considerable shortfalls in expenditure nor unforeseen excesses.

8. To advise heads of branches of the Armed Forces Headquarters in the discharge of their financial responsibility.

9. To function as the accounting authority for Defence Services.

10. To prepare the Appropriation Accounts for the Defence Services.

11. To discharge the responsibility for payments and internal audit of Defence expenditure through the Controller General Defence Accounts.

APPENDIX-II

MINISTERS, CHIEFS OF STAFF AND SECRETARIES
WHO WERE IN POSITION FROM APRIL 1, 2002 ONWARDS

RAKSHA MANTRI

Shri George Fernandes — **From October 15, 2001 onwards**

RAKSHA RAJYA MANTRI

Shri UV Krishnam Raju — **From July 23, 2001 to July 1, 2002**
Shri Chaman Lal Gupta — **From July 1, 2002 onwards**

RAKSHA UTPADAN RAJYA MANTRI

Shri Harin Pathak — **From October 15, 2001 to January 29, 2003**
Prof. O. Rajagopal — **From January 29, 2003 onwards**

Defence Secretary
Shri Yogendra Narain
From October 20, 2000 to June 30, 2002

Shri Subir Dutta
From June 30, 2002 onwards

Secretary Defence Production and Supplies
Shri Subir Dutta
From December 1, 2000 to June 30, 2002

Shri P.M. Nair
From July 1, 2002 to July 24, 2002

Shri A.M. Nimbalkar
From August 1, 2002 to September 30, 2002

Shri N.S. Sisodia
From October 1, 2002 onwards

Secretary DR&D and Scientific Advisor to Raksha Mantri
Dr. V.K. Atre
From December 29, 1999 onwards

Secretary (Defence Finance)
Shri M. Kumaraswami
From March 1, 2002 to July 31, 2002

Shri Biswajit Banerjee
From August 1, 2002 onwards

Chief of Army Staff
General S. Padmanabhan,
PVSM, AVSM, VSM, ADC
From September 30, 2000 to December 31, 2002

General N.C. Vij,
PVSM, UYSM, AVSM, ADC
From December 31, 2002 onwards

Chief of Naval Staff
Admiral Madhvendra Singh,
PVSM, AVSM, ADC
From December 31, 2001 onwards

Chief of Air Staff
Air Chief Marshal S. Krishnaswamy,
PVSM, AVSM, VM and Bar, ADC
From December 31, 2001 onwards

Troops in Desert