



ANNUAL REPORT  
2000-2001

1.1 In the emerging global environment, India has adopted a more comprehensive approach to security encompassing economic strength, internal cohesion and technological progress. However, given the security challenges confronting the country, India will need to maintain a desired level of military strength and preparedness to deter any aggression and to enable India to contribute positively to the promotion of peace and stability in the region.

### NATIONAL SECURITY OBJECTIVE

1.2 India's national security objectives are served by:

- defending the country's borders as defined by law and enshrined in the Constitution; and protecting the lives and property of its citizens against terrorism and insurgencies.
- Maintaining a credible minimum deterrent against the use or the threat of use of weapons of mass destruction against India. The determination of the profile of this deterrent, including accurate and refined delivery systems, is a sovereign responsibility.
- Securing the country against restrictions on the transfer of material, equipment and technologies that have a bearing on India's security, particularly its defence preparedness. This involves a greater emphasis on indigenous research, development and production to meet the nation's requirements.

- Promoting further co-operation and understanding with neighbouring countries and implementing mutually agreed confidence-building measures.
- Working with countries of the Non Aligned Movement (NAM) to address key challenges before the international community and engaging in co-operative security initiatives such as the ASEAN Regional Forum (ARF).
- Pursuing security and strategic dialogue with major powers and key partners; and
- Following a consistent and principled policy on disarmament and international security issues based on the principles of supreme national interest, universality, non-discrimination and equal security for all.

### SALIENT FEATURES OF SECURITY ENVIRONMENT

- 1.3 India's parameters of security clearly extend well beyond the confines of its conventional geographical land borders. Given its size, location, trade links and extensive Exclusive Economic Zone (EEZ), India's security environment extends from the Persian Gulf in the west to across the Straits of Malacca in the east, and from the Central Asian Republics in the north to the equator in the south. Our links with most nations in this region are traditional and civilisational, supported by centuries of maritime trade and migration of people.
- 1.4 Our land frontiers exceed 15000 kms. India shares land borders with seven countries.



*"TALLY HO" - Tank following the Infantry during an exercise.*

India's peninsular shape provides her a vast coastline of 7600 km. It has a large number of far flung island territories, and an Exclusive Economic Zone of over two million square kilometers. The island territories in the East are 1300 km away from our mainland, and are virtually adjacent to our South East Asian neighbours. We share our maritime boundary with five neighbours. The seas surrounding India are likely to see the presence of extra-regional forces, at least until the oil lasts.

- 1.5 This region has strategic and tactical missiles and a sophisticated nuclear dimension. It is witnessing, an unprecedented proliferation of small arms and narcotics trafficking, which in turn, threatens the stability of states and societies.

### OUR NEIGHBOURS

- 1.6 Within the sub-continent, India's national security interests are closely linked to her immediate neighbours namely Bangladesh, Bhutan, China, Maldives, Myanmar, Nepal, Pakistan and Sri Lanka. Her relations with

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Nepal, Bhutan, Bangladesh, Sri Lanka and Maldives are stable and based upon friendship and understanding.

1.7 Regular interactions and exchanges at different levels with Bangladesh, Bhutan, Sri Lanka, Maldives, Nepal and Myanmar have succeeded in extending and deepening the broad-based relationships that exist in diverse areas. Government's focus has been on enhancing mutually beneficial linkages in the economic and infrastructural fields, promoting mutual trust and cooperation in key areas such as security, including the growing threat of terrorism and religious extremism in the region and border management; and facilitating people-to-people contact through programmes for human resource development, cultural exchanges and travel.

1.8 The ISI has been trying to exploit some areas of Nepal and Bangladesh for launching subversive activities in different parts of India, particularly in the North East and J&K. This is a cause of serious concern.

#### **BANGLADESH**

1.9 There was high-level interaction in areas including water resources, trade and defence. International dialogue on key issues relating to border management and security-related matters included Home Secretary-level talks in April 2000, Director General-level meetings between the Border Security Force (BSF) and the Bangladesh Rifles (BDR) in April 2000 and March-April 2001 (in New Delhi) and October 2000 (in Dhaka) and the meeting of the Joint Working Group from respective Home Ministries in New Delhi from February 15-17, 2001.

1.10 As part of the regular interaction between the Armed Forces of India and Bangladesh, the Chief of Army Staff, Gen VP Malik paid an official visit to Bangladesh in May 2000. The first India-Bangladesh Army Joint River Rafting Expedition was held in April 2000 on the Teesta and Brahmaputra (Jamuna in Bangladesh).

#### **CHINA**

1.11 Our largest neighbour China is working towards the goal of achieving super power status in the new millennium. Today China occupies approximately 38,000 sq kms of Indian Territory. In addition, under the so called Sino-Pak boundary agreement Pakistan has illegally ceded 5,180 sq km of our territory to China in POK. China also claims approximately 90,000 sq kms in Arunachal Pradesh. It is rapidly modernising its Armed Forces and is building political and military bridges with a large number of countries in our neighbourhood. Every major Indian city is within reach of Chinese missiles and it is reported that this capability is being further augmented to include Submarine Launched Ballistic Missiles (SLBMs). The asymmetry in terms of nuclear forces is strongly in favour of China which additionally has helped Pakistan to build missile and nuclear capability.

1.12 China is currently preoccupied with domestic development, and developments relating to Taiwan and the South China seas. As these problems are unlikely to be settled in the next few years, China's priority vis-à-vis India will be not necessarily to resolve, but keep differences within manageable limits. Both coun-

tries are presently actively engaged in pursuing economic liberalisation. A number of Confidence Building Measures (CBMs) have been initiated and these are bearing fruit incrementally. A number of high level visits have been exchanged. The Indian President visited China in May-June 2000 and this was followed by the visit of Mr. Li Peng in January 2001. These have improved bilateral relations and enhanced mutual understanding. However, Mr Li Peng has himself admitted that there is not sufficient mutual trust and understanding between India and China.

1.13 China is a declared nuclear power with a wide range of military capabilities. India and China have an unresolved boundary. Although the border areas have remained largely peaceful, from time to time, on account of differences of perception of the Line of Actual Control (LAC), situations have arisen on the ground that could have been avoided had the LAC clarification been completed. The two sides have reiterated their commitment to adhere to the provisions of the 1993 and 1996 Agreements. Both sides have agreed to seek a reasonable and mutually acceptable solution of the boundary question through peaceful dialogue and through established mechanisms like the Joint Working Group and the Expert Group. In the eighth meeting of the Expert Group, both sides exchanged maps of the LAC, as perceived by them respectively, in the Middle Sector of the India-China boundary.

#### **PAKISTAN**

1.14 Pakistan continued with its hostile ap-

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proaches and policies towards India. The most obvious manifestation of this is the step-up in its sponsorship of cross-border terrorism in Jammu & Kashmir and other parts of India. Simultaneously, Pakistan also continued with its shrill campaign of anti-India propaganda.

1.15 The escalation in levels of Pakistan's sponsorship of cross border terrorism was clearly indicated by the qualitative improvements in weapons, communication equipment and training that was made available to all the major Pakistan based terrorist groups such as the Jaish-e-Muhammed, Lashkar-e-Tayyaba and Harkat ul Mujahideen. The objective has been to enhance the capabilities of these groups to directly confront Indian security forces and well-protected targets. Pakistan army troops stationed on the Indo-Pakistan border also continued to provide logistic support to these groups for infiltration into India.

1.16 Efforts to sabotage peace and normalcy in Jammu & Kashmir also continued unabated. In July 2000, a unilateral cease-fire offer by the leadership of the Hizbul Mujahideen was sabotaged by stepping up the levels of violence in Jammu & Kashmir, which included the massacre of civilians on 1<sup>st</sup> and 2<sup>nd</sup> August 2000, and through intense political pressure on the group's Pakistan-based leadership. There are clear indications that Pakistan is once again seeking to sabotage the unilateral peace initiative announced by the Prime Minister on 19<sup>th</sup> November 2000 under which security forces have been instructed not to initiate combat operations against militants in Jammu & Kashmir. The

Prime Minister's unilateral peace initiative, and its subsequent three extension on 20<sup>th</sup> December 2000, 23<sup>rd</sup> January and 22<sup>nd</sup> February 2001, was widely welcomed by the people. Terrorist groups, known to have close links with Pakistan's intelligence agencies, have however, escalated the violence through attacks that included the massacre of Sikh Minorities in Jammu & Kashmir, an aborted assassination attempt against the Chief Minister of Jammu and Kashmir and threats against the office of the Prime Minister of India.

1.17 In December 2000, Pakistan announced a policy of "maximum restraint" among the Line of Control (LoC) and as part of this also announced the withdrawal of some of its troops stationed along the LoC. Following these announcements firing along the India Pakistan border has come down substantially. However, these measures are clearly self-serving in nature and do not address India's concerns related to Pakistan's continued sponsorship of cross border terrorism.

#### **INDIA PAKISTAN RELATIONS**

1.18 As the initiator of dialogue, India consistently reiterated its commitment to resume the Composite Dialogue which seeks to build trust and confidence, establish a stable structure of cooperation and address all outstanding issues with Pakistan. A conducive environment is an obvious requirement for a meaningful dialogue. However, as Pakistan stepped up both its sponsorship of cross border terrorism and hostile propaganda against India, it was clear that it was not interested in fostering such an environment.

1.19 Nonetheless, functional level contacts between the Governments of India and Pakistan, as well as people to people contacts between the two countries have continued. Diplomatic missions of both India and Pakistan continue to function. Director Generals of Military Operations (DGMOs) of both armies maintain weekly telephonic contacts. Officials from the BSF and Pak Rangers meet regularly for border management. Train and bus services continue as scheduled, and fishermen who inadvertently stray into each other's territorial waters are released from time to time. On the people to people front, exchanges between academics, journalists and other opinion makers, as well as visits by religious pilgrims continue to take place.

#### **NEPAL**

1.20 India has historically enjoyed close ties of friendship and cooperation with Nepal. These bonds are manifest in the free movement of people and goods across the open border, extensive people to people contacts and mutually beneficial cooperation in diverse fields.

1.21 Frequent high-level interactions have provided both direction and momentum to our friendship with Nepal. The visit of Hon'ble G.P. Koirala, Prime Minister of Nepal to India in July-August, 2000, was an important landmark in our bilateral relations. Both countries are committed to accelerate economic cooperation for the improvement in the quality of life of their people.

1.22 A recent development of concern is the in-

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creasing intensity and spread of Maoist violence within Nepal. The use of Nepalese territory by external vested interests inimical to the friendly relations between India and Nepal has also engaged the attention of the two Governments. The two countries have reiterated their determination to work closely to fight the scourge of terrorism and renewed their commitment not to allow their respective territories to be used for activities directed against or prejudicial to the security of the other.

#### MALDIVES

- 1.23 India-Maldives relations continue to be close and problem-free. Exchange of high level visits during 2000-2001 added further impetus to development of relations. The State visit of President Maumoon Abdul Gayoom of Maldives in August 2000 contributed to strengthening the existing ties between the two countries. Raksha Mantri visited Maldives from January 9-12, 2001. He held discussions with the Maldives MOS of Defence and National Security, Major General Abdul Sattar Anbaree. He also called on President Gayoom, Foreign Minister Fathulla Jameel and visited several defence establishments. Chief of Naval Staff, Admiral Sushil Kumar visited Maldives in March, 2000. The Maldivian MOS for Defence and National Security visited India from November 19-23, 2000. These visits reinforced the existing cooperation in defence related areas including Indian assistance for training and human resource development.
- 1.24 The 5<sup>th</sup> India-Maldives Joint Coast Exercise-

Dosti series – were conducted in the Maldives from October 8-12, 2000. These exercises were found to be professionally useful and were deeply appreciated by both sides.

#### BHUTAN

- 1.25 Bilateral relations between India and Bhutan are characterized by mutual trust, understanding respect and close friendship. The mutually beneficial economic cooperation between the two countries has been steadily growing and provides a firm foundation to the expanding bilateral relationship.
- 1.26 The visit of the Foreign Minister of Bhutan to India from April 17-26, 2000, the subsequent visits of Shri Lalit Mansingh, Foreign Secretary of India to Bhutan from March 7-9, 2000, and again from October 19-21, 2000 and the visit of Chief of the Army Staff, General V.P.Malik from April 27-29 2000 have further strengthened the close ties of friendship and cooperation between the two countries.
- 1.27 There are continuing consultations between the two Governments at various levels to address the problems on account of the presence of ULFA/BODO militants in Southern Bhutan. The Bhutanese Government continues to show concern for this problem and the 78<sup>th</sup> session of the National Assembly of Bhutan in July 2000 reiterated the decisions taken in 77<sup>th</sup> session and passed a resolution authorizing the Royal Government to launch military operations against ULFA/BODO militants, in case ongoing peaceful dialogue with them failed to achieve the objectives.

#### MYANMAR

- 1.28 India's policy of constructive engagement with Myanmar is focused on broad-basing the areas of cooperation and restoring the tradition of high-level bilateral exchanges between the two countries. Interaction at the technical and official levels continued.
- 1.29 At the invitation of the Vice President, Gen. Maung Aye, Vice Chairman of the State Peace and Development Council led a high-level delegation consisting of the Deputy Prime Minister and seven Ministers to India for a seven-day visit from November 14-21, 2000. Gen. Maung Aye called on the President and had discussions with the Vice President, Prime Minister, Minister of External Affairs, Home Minister, MOS for Commerce and Industry and the Leader of the Opposition in the Lok Sabha. The discussions were wide-ranging and covered economic cooperation, trade, cross-border projects and activities, international terrorism, drug trafficking, cooperation in the field of culture, human resource development, science and technology and regional cooperation within the framework of BIMST-EC (of which both countries are members) and the India-ASEAN Dialogue partnership. The two sides agreed to take steps to ensure peace and tranquility along the India-Myanmar border.
- 1.30 Shri Jaswant Singh, Minister of External Affairs visited Myanmar from February 13-15, 2001. The visit continued the tradition of personal contacts between the leaders of two friendly neighbours. The highlight of the visit

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was the inauguration of the Tamu-Kalemyo-Kalewa highway starting from the India-Myanmar border in Manipur. The road provides a cross-border link between the two countries and is expected to promote economic development, cross-border trade and tourism in the region.

- 1.31 The Chief of Army Staff, Gen. V.P. Malik paid a visit to Myanmar from July 3-6, 2000, at the invitation of Gen. Maung Aye, Vice Chairman, State Peace and Development Council and C-in-C of the Myanmar Army. The Chief of Naval Staff, Admiral Sushil Kumar visited Myanmar from January 16-19, 2001.
- 1.32 The Myanmar Home Minister, U Tin Hlaing visited India from November 2-8, 2000. He held discussions with the Union Home Minister, EAM and Raksha Mantri on a range of bilateral issues including cooperation in the areas of border management.
- 1.33 Regular institutional dialogue on border management-related matters was maintained. The 7<sup>th</sup> National Level Meeting was held in Myanmar from August 28-30, 2000; the Indian delegation for the meeting was led by the Home Secretary. Other meetings were also held as part of the institutional dialogue between the drug control authorities and local military co

#### **SRI LANKA**

- 1.34 India's multi-faceted relations with Sri Lanka saw particularly intense engagement in the political, economic and cultural fields. India consistently reiterated its commitment to the unity, sovereignty and territorial in-

tegrity of Sri Lanka; to the restoration of lasting peace in Sri Lanka and to a peaceful, political process being the only means of achieving a lasting peace, through a negotiated settlement, which would meet the aspirations of all elements of Sri Lankan society.

- 1.35 Continuing the practice of maintaining high level contact between the two Governments, the President of Sri Lanka, Mrs. Chandrika Kumaratunga visited India from February 22-25, 2001. Her talks with the President, Prime Minister and Minister of External Affairs covered bilateral, regional and international issues and were reflective of the high priority attached by both countries to the maintenance of close and friendly relations based on mutual trust and understanding. The Sri Lanka President apprised the Indian leadership of recent developments in the attempt to establish peace in Sri Lanka.
- 1.36 On June 11-12, 2000, Shri Jaswant Singh, Minister of External Affairs had visited Sri Lanka for an exchange of views with the Sri Lankan President and the Foreign Minister on the evolving situation in Sri Lanka, regarding which Government had expressed concern in identical statements made in both Houses on May 4, 2000.
- 1.37 Vice Admiral HCAC Tissera, Command of the Sri Lankan Navy visited India from November 2-9, 2000 and Chief of Air Staff Air Chief Marshal A.Y. Tipnis paid a goodwill visit to Sri Lanka from May 11-14, 2000.

#### **AFGHANISTAN**

- 1.38 India has fundamental geo-political stakes in

the unfolding events in Afghanistan, which are detrimental to its long-term security interests in the region. Any fundamentalist regime in Afghanistan such as the Taliban, could be an insidious threat to our secularism, as well as a potentially destabilising factor in Kashmir.

- 1.39 The continuing conflict in Afghanistan and its consequences continued to affect peace and stability in our region. The Taliban and Pakistan remain committed to have a military solution to the Afghan conflict. An important aspect of military operations in Afghanistan last year was the qualitative and quantitative increase in Pakistani military assistance to the Taliban.
- 1.40 The adoption of the UN Security Council Resolution 1333 in December 2000 clearly reflected that the international community recognises the seriousness of the threat posed by the Taliban to regional peace and stability. The efforts to restore peace and normalcy in Afghanistan, both by the UN and through other initiatives were sabotaged by Taliban's obstinate commitment to a military solution of the Afghan conflict.

#### **MARITIME DIMENSIONS IN THE INDIAN OCEAN**

- 1.41 A review of global and regional trends is indicative of the fact that maritime matters are slated to play an increasingly important and critical role in India's future. Nations with a vision have already diverted substantial energies and resources towards building up of their assets in the form of coastal facilities,

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the merchant marine, ports, harbours, and mining infrastructure. Indeed, India is also moving in this direction.

- 1.42 As regards trade, some 300 ships traverse the Indian Ocean every day and on an average, 40 super tankers pass through the nine-degree channel daily. Annually, an estimated US \$ 260 billion worth of oil passes through the Straits of Hormuz, and Straits of Malacca.
- 1.43 India sits astride these major commercial routes and energy life-lines. The A&N Islands dominate the approaches to the Malacca Straits whilst the Lakshadweep Group lies across the nine degree channel; and the Persian Gulf is only 600 miles from our shores. By virtue of our geography, we are in a position to greatly influence the secure movement of shipping along the Sea Line of Communication in the Indian Ocean Region.

#### **JAPAN**

- 1.44 Japan is gradually redefining its political, economic and security role in the Asia Pacific region, whilst retaining its well established commitment to the US-Japan alliance. The Indo-Japanese relationship has undergone substantial improvement during the last one year and Tokyo appreciates our security concerns better than ever before. Further, different issues of mutual interest were discussed during the visit of the Raksha Mantri to Japan in January 2000. This has helped to forge a better understanding of each other's views on a number of bilateral, regional and international issues.

#### **WEST ASIA**

- 1.45 The Gulf countries, West Asian and North African regions represent part of India's extended neighbourhood. India enjoys multifaceted relations with the countries of the region. This region will remain the primary source of India's energy needs for the foreseeable future. The region would also continue to host a substantial Indian community that contributes to the economic well being of the region. India has also maintained an interest in the progress of the peace process in the Middle East that have a bearing on regional security. Therefore, India has a strategic interest in peace and stability in the region along with the need to keep shipping lanes open and secure.

#### **IRAN**

- 1.46 Iran is witnessing change while adhering to the basic tenets of the Islamic Resolution. Its foreign policy is showing greater dexterity; it is opening up to Europe and is simultaneously not neglecting links with the Arab and Islamic fraternity. The upward trend in oil prices augurs well for Iran. The process of gradual and measured change is likely to continue. Developments in Afghanistan are impacting on Pakistan and Iran. Relations with India are substantially moving forward.

#### **CENTRAL ASIAN REPUBLICS (CARS)**

- 1.47 Central Asia is a part of India's extended neighbourhood and developments in the region have a direct bearing on our security interests. Apart from deep-rooted historical and cultural ties, our societies are also based

on the foundation of secularism. There is thus a common interest in combating the spread of terrorism, religious fundamentalism and drug trafficking emanating from neighbouring Afghanistan. There is intense competition to harness and develop the energy resources of Central Asia. Countries which are in a position to provide transit routes for energy pipelines and trade have the possibility to increase their profile in the region, including in the shaping and evolution of regional associations and groupings, most of which have security dimensions. India has had historic cultural ties with the Central Asian Republics, and it is our endeavour to further develop them.

- 1.48 Due to its strategic proximity to the Middle East and South Asia, Central Asia has emerged as a distinct geopolitical entity, stimulating global attention and interest. The region has vast untapped potential of oil, gas and strategic minerals. Engagement of the Central Asian Republics is thus an essential component of our security. The continued successes of the Taliban in Afghanistan is giving rise to fundamentalist forces in this region. Further success of the Taliban, is likely to affect Indian strategic interest in the Central Asian Republics.

#### **SOUTH EAST ASIA AND ASEAN**

- 1.49 India's relations with South East Asian countries and countries in the South Pacific region have made considerable progress in recent years as a result of our 'Look East' Policy. Recent high level visits from the region to India have included visits of Heads of State/

Heads of Government from Vietnam, Singapore, Indonesia, Australia and Cambodia. From our side the President has visited Singapore while the Prime Minister has visited Indonesia and Vietnam. There have also been Ministerial level visits in both directions. As a full dialogue partner of the ASEAN and a member of the ASEAN Regional Forum (ARF) India has engaged the ASEAN countries more closely than in the past with efforts to promote regional and international security. The essential mutuality of interest between India and ASEAN countries has been reflected in the deliberations of the several conferences and workshops that have been held under the ARF process. India expects to continue to make a constructive contribution to this process and to benefit from this interaction by keeping close bilateral relations with each of the ASEAN countries. The security situation in some countries of the region viz. Indonesia, Philippines, Fiji, Solomon Islands and Papua New Guinea has worsened in the last few years. The developments flowing from religious and ethnic fundamentalism pose a threat to the democracies in Indonesia and the Philippines and are a matter of concern to us.

1.50 The growing strength of China and uncertainty over the future role of the US in South East Asia had resulted in a regional arms race. Territorial disputes in the South China Sea have the potential to cause military engagements in the Spratly and Paracel Islands. External sources of energy and raw materials will continue to be important to sustain the economics of the Asia-Pacific region. The

Japanese economy in particular is highly dependent on free and assured passage of its oil along the long shipping lanes. Drugs and small arms proliferation is likely to assume greater importance particularly with increasing incidents of sea piracy, both in South China Seas and in the Indian Ocean. Worsening of the security environment in South East Asia could affect regional stability, and will directly impinge on our interests.

- 1.51 India has been actively participating in various Confidence Building Measures at the ASEAN Regional Forum. This co-operation has led to exchange of views on various topical problems that the region is facing. Important ones are: -
- (a) Prevention of transnational crimes like Sea Piracy, small arms proliferation, trans-border migration and smuggling of narcotics and drugs.
  - (b) Humanitarian assistance, disaster management, and civil-military co-operation in peace support operations.
  - (c) Participation in workshops on 'Preventive Diplomacy', Asia-Pacific Security and Maritime Co-operation.

#### RUSSIA

1.52 India's relations with the Russian Federation are characterized by continuity, trust and mutual understanding. These were further consolidated and elevated to a Strategic Partnership during the historic visit to India by the President of the Russian Federation, H.E. Mr. Vladimir Putin, from October 2-5, 2000. During the visit, 17 bilateral docu-

ments including the Declaration on Strategic Partnership between India and the Russian Federation were signed. President Putin reiterated Russia's unqualified support for India's candidature for permanent membership of the UN Security Council. He also appreciated the measures taken by India in combating terrorism in Jammu & Kashmir. Russia welcomed India's voluntary moratorium on nuclear testing and appreciated the Indian Government's efforts to develop a broad national consensus on the issue of the Comprehensive Nuclear Test Ban Treaty.

- 1.53 President Putin's 4-day visit to India (October 2-6, 2000) reaffirmed the strategic partnership between the two countries and opened up further possibilities of cooperation in diverse fields including Military and nuclear cooperation. President Putin came out in support of India's position on Jammu & Kashmir and pledged to cooperate with India in its fight against terrorism.
- 1.54 The then Secretary of the Security Council of the Russian Federation, H.E. Mr. Sergei Ivanov, paid an official visit to India from April 26-28, 2000. During the visit, a protocol on cooperation between the National Security Councils of India and the Security Council of the Russian Federation was signed. Indo-Russian Joint Cooperation Groups on International and Regional Security and on International Terrorism have been set up as per this protocol. Meetings of these Coordination Groups were held in Moscow from February 19-21, 2001.
- 1.55 In line with the decision taken during the

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visit of President Putin to India, an Indo-Russian Joint Working Group (JWG) on Afghanisation has been set up. The first meeting of this JWG was held in New Delhi on November 20-21, 2000.

#### UNITED STATES OF AMERICA

- 1.56 There was a significant increase in bilateral dialogue and cooperation between India and USA in the year 2000. President Clinton visited India in March 2000 and the Prime Minister paid a reciprocal visit to the United States in September. The two leaders outlined a vision of closer and qualitatively new relationship between the two countries in Delhi and reaffirmed it in Washington, and established an architecture of wide ranging institutional dialogue, as a means to pursue the relationship.
- 1.57 The two sides have assessed positively the ongoing dialogue on security and non-proliferation issues and have agreed to continue it to further narrow differences in this area. India has reiterated its constructive approach on security matters, based on its vital security interests, and that India will continue to be guided by its security perceptions in defining its security requirements. As part of the efforts to increase mutual understanding and cooperation on security issues, the two sides have also established a bilateral Asian Security Dialogue, a Joint Working Group on Counter-terrorism, a Joint Working Group on UN Peacekeeping Operations and have also agreed to set up a bilateral framework for dialogue on Afghanistan.
- 1.58 India has a continuing interest in improving

bilateral defence cooperation with USA based on mutual respect, mutual benefit, equality and understanding. Although there has been limited resumption of contacts between high level military officials and participation in training courses and seminars since May 1998, the institutional framework for cooperation that had evolved over the years remains suspended by the USA.

#### INDIA'S NUCLEAR POLICY, DISARMAMENT AND INTERNATIONAL SECURITY

- 1.59 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. This sets the country apart from other nuclear weapon States, which reject global nuclear disarmament proposals because they refuse to visualise their security without nuclear weapons. As a nuclear weapon State, India is even more conscious of its responsibility in this regard and, as in the past, initiatives in pursuit of global nuclear disarmament continue to be taken by India both individually and collectively. The steps that were announced after the tests, and the initiatives that India has taken, strengthen this continued commitment. India has also unambiguously indicated its support to the establishment of an *Ad-hoc* Committee in the Conference on Disarmament in Geneva to negotiate a phased programme

for global nuclear disarmament. India remains committed to co-operating with like-minded States to attain this goal.

- 1.60 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.
- 1.61 India continues to maintain its opposition to the NPT as a discriminatory and flawed treaty. Its indefinite extension has merely reinforced these discriminatory aspects with a majority of the States being unable to persuade the original five nuclear weapon States to commit themselves to nuclear disarmament. The indefinite extension of the NPT has sought to legitimise the possession of nuclear weapons in the hands of these five nuclear weapon States. The Sixth NPT Review Conference took place in New York from April 24 to May 19, 2000. India has rejected the Conference's statements and prescriptions calling for a roll-back of its nuclear weapons programme. The understanding by the five nuclear weapon Parties to the NPT to pursue nuclear disarmament has also not so far been matched by any concrete actions.
- 1.62 India has maintained that lasting non-proliferation can only be achieved through disarmament. In the wake of India's nuclear tests, concerns have been expressed about transfer of these weapons or related know-

- how to other countries. India has an effective system of export controls and shall make it more stringent where necessary, including by expanding negative lists of equipment and technology to make them more effective in the context of a nuclear India. This was done in the EXIM policy announced on April 1, 2000. However, India's participation in various export control regimes would only be on the basis of equality.
- 1.63 After concluding the series of tests on May 11 and 13 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. 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, and is in the process of building a national consensus on signing the CTBT .
- 1.64 India supports efforts for negotiations on a universal, non-discriminatory and verifiable fissile material cut-off treaty that would prohibit the future production of fissile material for weapons purposes. This has been articulated by India in the UN through concrete proposals like the Action Plan which it presented in 1988. India also co-sponsored a UNGA resolution (48/75L) in 1993, which called for early commencement of negotiations for the prohibition of fissile material production for nuclear weapons or other nuclear explosive devices. India believes that this is an integral part of the nuclear disarmament process. It would also go a long way in arresting the problem of illegal transfers of nuclear material.
- 1.65 India's nuclear doctrine is based on maintaining a minimum credible deterrent and a no-first-use policy as opposed to nuclear war fighting doctrines or postures of launch on warning. It is, therefore, natural for India to take initiatives that aim to reduce the threat of breakout of nuclear war. Since 1998, India has regularly tabled a resolution at the UN to address the problem posed by the hair trigger alert level of nuclear weapons. This resolution has been approved by the UN General Assembly every year, in addition to the other traditional disarmament initiatives taken by India at the UN, in particular the resolution on a draft Convention to ban the use or threat of use of nuclear weapons.
- 1.66 India consistently maintains that arms control treaties need to be implemented fully, in letter and spirit to maintain stability. Unilateral actions ignoring existing treaties may reduce the prospects for further nuclear disarmament and erode the non-proliferation constraints. A combination of de-alerting, diplomacy and disarmament is a better response than ballistic missile defence systems to the concerns posed by missile proliferation. De-alerting measures would reduce risks associated with accidental or unauthorised launches, appropriate political and diplomatic measures that could address concerns related to some ballistic missile programmes, and an accelerated nuclear disarmament process that would reduce the reliance on these weapons and eventually lead to their abolition.
- 1.67 As an original Party to the Chemical Weapons Convention, India remains committed to discharging, fully and faithfully, its obligations under the Convention. The destruction schedule prescribed by the Convention is being fully met. India believes that all Parties to the Convention should ensure that they fulfil the obligations they have assumed under the Convention. In this context, the continued existence of *ad hoc*, export control regimes is contrary to the international legal commitments that States have undertaken to abide by under the Convention.
- 1.68 India has ratified the Amended Protocol -II of the Convention on Certain Conventional Weapons, which restricts the use of anti-personnel landmines, and the new Protocol -IV which prohibits the use of blinding laser weapons. India is fully committed to the eventual elimination of anti-personnel landmines (APLs) and achievement of the objective of a non-discriminatory and universal ban on APLs, while addressing the legitimate defence requirements of the States. Aware of the humanitarian crisis arising from the unrestrained transfers and indiscriminate use of APLs, India remains committed to its existing moratorium on transfers of APLs. India has also been contributing to several UN de-mining efforts since the Congo peace-keeping operations in 1962.
- 1.69 India is committed to strengthening the norm of transparency in conventional arma-

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ments in general, and greater participation in the UN Register of Conventional Arms, in particular. India has been submitting its reports to the Register annually since 1994. The issue of proliferation of and illicit trafficking in small arms has moved up the agenda of the international community on disarmament issues. India is aware of this problem and remains committed to participate actively in the international search for effective solutions, including the Firearms Protocol being negotiated in Vienna and the forthcoming International Conference in July 2001 to discuss the issue of illicit trade in small arms and light weapons in all its aspects. Indian experts are participating in the current work of UN panels on both these subjects.

- 1.70 India is fully committed to maintaining peace and stability with its neighbours through a continuous process of confidence building and substantive dialogue to expand the scope of bilateral interactions. CBMs or other means of formalising restraint have to be tailor-made to specific situations and have to be multi-dimensional, encompassing political, military, economic and cultural aspects. India's approach to confidence building has unilateral, bilateral and regional aspects. Examples of unilateral restraint practised by India include a defensive orientation of its defence policy and force postures; strict control over defence budgets; and, in the nuclear field, 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. Bilateral formalisation of restraint has taken place both in the India-Pakistan as well as the India-China contexts.

- 1.71 At the Asia-Pacific, level, India is an active participant in the regional security dialogue of the ASEAN Regional Forum, which has been focussing on building confidence and trust and has before it a basket of proposals on CBMs for future consideration. India sees the ARF as an experiment for fashioning a new pluralistic, cooperative security order in tune with the diversity of the Asia-Pacific region, and in consonance with the transition away from a world characterised by poles built around military alliances. India's participation in the ARF demonstrates its increasing engagement in the Asia-Pacific region, both in politico-security and economic spheres, and of its commitment to the objective of sustaining regional peace and stability.
- 1.72 India also actively participates in the meetings of the Conference on Interaction and Confidence Building Measures in Asia (CICA) - an initiative taken by Kazakhstan. The Declaration of Principles guiding relations among CICA Member States signed in 1999 reaffirms the objective of promoting better relations among Asian States, while calling for a comprehensive, non-discriminatory and balanced approach towards international security. It also reiterates the Member States' determination to promote international and regional cooperation to counter and eradicate all forms of terrorism.

## ECONOMIC SECURITY

- 1.74 The bulk of India's oil imports come from the Gulf. To safeguard the exploration and exploitation of resources in our EEZ, as also our maritime assets and infrastructure, it is necessary to have a credible ocean capability of the Navy to meet our legitimate security needs.

## ENERGY SECURITY

- 1.75 India's entire developmental process rests on the availability of energy resources, and therefore, energy availability and affordability is absolutely vital to the country. Ninety per cent of our oil comes either from off-shore oil fields, or is transported over the sea from abroad.
- Mutually beneficial arrangements with India's eastern neighbours as well as Nepal for long term energy exploitation and sharing.
  - Protection of the energy infrastructure within the country from disruption by terrorists and militants.
  - Energy co-operation and sharing arrangements only with countries whose actions do not undermine India's security and which have demonstrated a willingness to co-operate meaningfully with India.
  - International transit of energy destined for India through stable, secure and friendly countries where there is no danger of disruption of supplies by state and non-state actors for political ends.
  - Focussed investments in maritime and naval assets to ensure adequate reach and endurance.
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## ORGANISATION AND FUNCTIONS OF THE DEFENCE MINISTRY



*"TUNGUSKA" AIR DEFENCE SYSTEM  
On display at Rajpath, during Republic Day Parade, 2001*

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## HISTORICAL BACKGROUND

- 2.1 A Military Department was created in the Supreme 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 passed in other Departments. The Military Department also maintained a list of Army personnel. Although headed by a separate Secretary to the Government from 1776 onwards, it continued to function as a branch of the Public Department for many years.
- 2.2 The Charter Act of 1833 brought about a number of changes in its administrative set-up under the East India Company. The Secretariat was reorganised in four Departments, including a Military Department, each headed by a Secretary to the Government. The Military Accounts Departments of Bengal, Bombay and Madras Presidencies were merged with the Military Department in 1864. The Army, however, continued to function as the Presidency Armies till April 1895, when they 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 were responsible for military affairs in the Council, 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 renamed as the Army Department after 1909 and was redesignated as the Defence Department in 1938. The Defence Department became the Ministry of Defence under a Cabinet Minister in 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 vested 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 respectively. 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 Government of India is responsible for ensuring the defence of India in all its aspects. The Supreme Command of the Armed Forces vests in the President. The responsibility for national defence rests with the Cabinet. This responsibility is discharged through the Ministry of Defence, which provides the policy framework and wherewithal to the Armed Forces to discharge their responsibilities in the context of the defence of the country. The Raksha Mantri (Defence Minister) is the head of the Ministry of Defence.

## DEPARTMENTS

- 2.6 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 with 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



*Armed Forces Lady Officers with Prime Minister on Women's Day at PM's House*

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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 is tasked with exercising financial control over proposals involving expenditure from the Defence Budget, and with the responsibility for internal audit and accounting of defence expenditure. In the latter tasks, he is assisted by the Controller General of Defence Accounts (CGDA).

### 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, the Financial Adviser, 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 secu-

urity. The Raksha Mantri also chairs monthly meetings of the Defence Minister's Committee with the Secretaries in the Defence Ministry, the Financial Adviser and the Chiefs of Staff of the three Services to review and take coordinated decisions on various key programmes and issues.

- 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 Defence 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 and 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.

- 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 Financial Advisers who held positions from April 01, 2000 is given in Appendix II.

### PLANNING FOR DEFENCE

- 2.13 The defence policy accommodates continuing changes in the strategic setting whilst ensuring that the Armed Forces deployed are well-equipped, properly manned and supported to allow them to undertake operations effectively. It is equally necessary to ensure that they are capable of responding to future challenges. The force structure is designed to provide a robust response in the existing strategic environment while remaining prepared and sufficiently responsive to further developments in the future.

- 2.14 Systematic planning for effective implementation of the Defence Strategy and the security policy is the essence of planning for defence. The strategic and technological environment assessment based on the harmonised perception of experts from all the concerned Ministries and Departments forms

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the basis for evolving the strategy. Planning for defence is a multi-disciplinary exercise involving, inter alia, an assessment and understanding of the trends in the international security environment, foreign policy, economic and international relations and the internal security environment.

- 2.15 The Directorate General of Defence Planning Staff (DPS), an Inter-Service organisation, provides inputs to the Chiefs of Staff Committee (COSC) on matters pertaining to Defence Planning. The DG DPS is designed to be a multi-disciplinary group with representation from the three Services, Defence Finance, the Ministry of External Affairs and the Defence Research and Development Organisation (DRDO). The organisation deals with major issues pertaining to strategic defence planning such as threat assessments/analysis and possible

responses to these threats, recommends balanced force structures to achieve military aims and conceptualises and evolves Defence Plans.

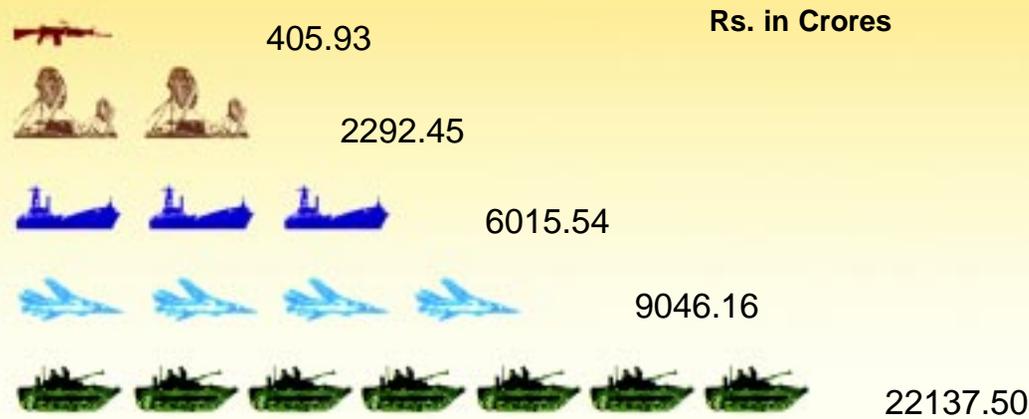
- 2.16 The Directorate is currently carrying out a comprehensive "Strategic and Technological Environment Assessment" to meet the changing geo-political situation and the rapid technological developments that will impinge on the national security in the first two decades of the 21<sup>st</sup> Century.
- 2.17 To promote international and regional Defence Co-operation, the DG DPS is actively involved in forging Defence Bilateral Agreements in the vital areas of military to military co-operation and training with a number of countries, including USA, UK, France, Russia and South Africa. The DG DPS represents the Indian Armed Forces at the

ASEAN Regional Forum, a multi-lateral forum, to articulate India's security environment and defence policies. The Directorate also undertakes briefings of foreign defence and diplomatic delegations on matters connected with Indian security.

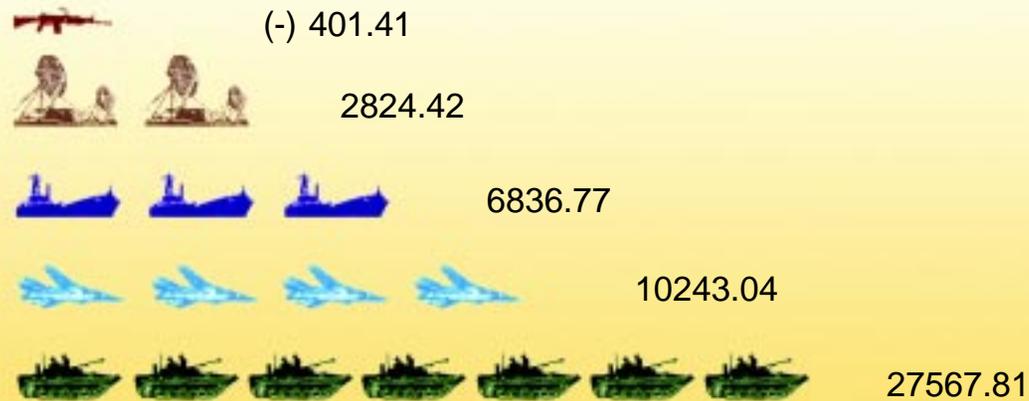
#### **DEFENCE EXPENDITURE**

- 2.18 The outlay on Defence, assessed either as a percentage of the total Central Government expenditure or of the Gross Domestic Product, given India's size and security concerns, continues to be one of the lowest amongst neighbouring countries. The two charts in this chapter represent Service/Department-wise break-up of Defence expenditure for the years 1998-99, 1999-2000, 2000-2001 (RE) and 2001-2002 (BE) and Service/Department-wise expenditure as a percentage of total Defence expenditure.

## Service / Department-wise Break-up of Defence Expenditure



**1998-99 39897.58**



**1999-2000 47070.63**

Service/Department-wise  
Expenditure as a % of  
Total Defence

DDP&S (-) 0.83%

R&D 5.66%

NAVY 14.74%

AIR FORCE 20.00%

ARMY 59.77%



DDP&S



R&D



NAVY



AIR FORCE

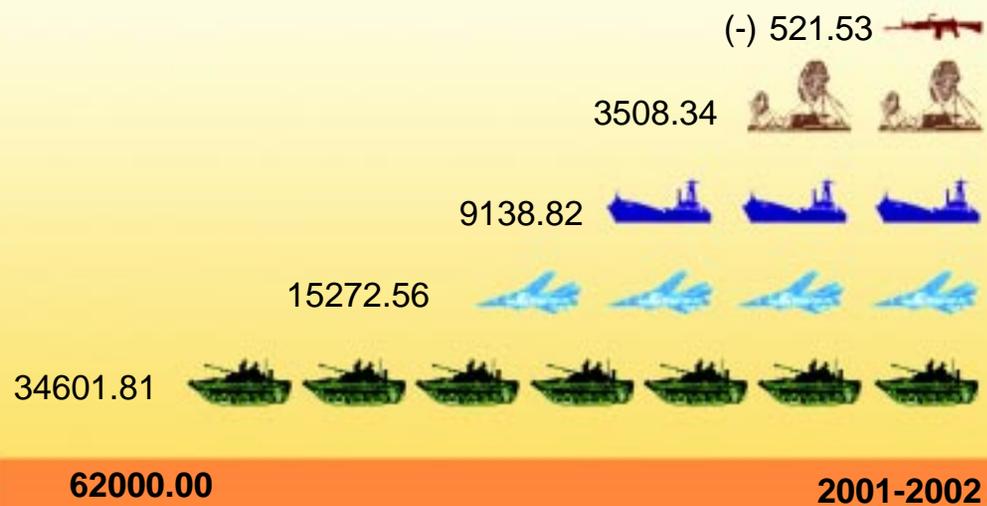
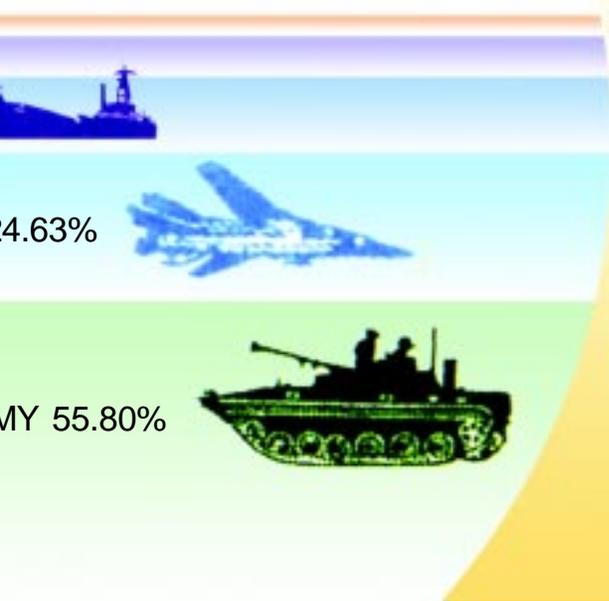


ARMY



TOTAL

Department-wise  
percentage of  
Expenditure



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# 3

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INDIAN ARMY



*MBT- (Main Battle Tank) Arjun on Display at Rajpath during Republic Day Parade, 2001*

3.1 While safeguarding the territorial integrity of the nation against external aggression is the primary responsibility of the Indian Armed Forces. They are very often tasked to assist the civil authorities in internal security duties as well as rescue and relief operations. The enormity of their task can be gauged from the complex geo-political and geo-strategic environment that has been described in Chapter 1. Coupled with this, the country's long borders encompassing different geographical and climatic conditions ranging from desert terrain in the west to snow-covered mountains in the north and thick mountainous rain fed forests in the east set out the role that the Indian Army has to play to effectively meet the challenges to national security. In addition to undertaking these multifarious tasks, the Indian Army has initiated a series of Civic Action Programmes that aim not only at reconstructing the assets that have got destroyed due to terrorist/insurgency-related activities, but also at psychological healing of the affected populace.

#### MODERNISATION OF WEAPON SYSTEMS AND EQUIPMENT FOR THE INDIAN ARMY

3.2. The modernisation of the Army is a continuous process based on expected budgetary allocations. All weapon systems are outdated at a point of time and are required to be replaced subsequently after completion of its useful life. In a large Army such as ours, it is not possible to replace every item in a short period of time.

3.3 Some of the important modernization

schemes that have been finalised post Kargil are as under:-

- (i) Weapons such as Anti Material Rifles, Multi Shot Grenade Launchers, Automatic Grenade Launchers, Under Barrel Grenade Launchers and Sniper Rifles have been procured to improve the fire power of infantry battalions.
- (ii) Night vision devices based on thermal Imaging have been procured to provide long range observation capabilities during night time.
- (iii) Battle Field Surveillance radars of both medium and short range have been contracted to improve surveillance capacity.
- (iv) All Terrain Vehicles to improve our logistic capability in heavy snow conditions.
- (v) Krasnopol terminally guided ammunition for 155 mm guns for engaging targets with pin point accuracy.
- (vi) Long Range Recce and observation system.
- (vii) High altitude UAVs.
- (viii) T-90 Tank to increase the capabilities of Armoured Regiments.

3.4 During the year, the Army successfully accomplished all the allotted tasks even under the most difficult and trying conditions - not only within the country but also abroad in different UN Missions. The relevant details in this regard are briefly described in the succeeding paras.

#### COUNTER INSURGENCY OPERATIONS JAMMU AND KASHMIR

3.5 The internal security situation in Jammu and Kashmir is, in effect, the consequence of a proxy war undertaken by Pakistan and the ISI as a 'Low Cost Option, for bleeding India by a thousand cuts'. There has been no let-up in the Pak-sponsored subversive activities in J&K; in fact, certain new trends have appeared during the year like the Fidayeen or suicide attacks on the posts and camps of the Security Forces. However, after the initial spate of such attacks in the first few months, a lack of motivation was discernible amongst the lower cadres as reflected in a deceleration in these desperate attempts. The latter half of the year, however, witnessed continuous escalation in the intensity of operations, with the number of terrorists killed in any one month ranging from 124 to 194. During September and October 2000, 368



*"RED DEVILS ON DARE DEVIL MISSION"  
Paratroops going through final check before embarking the Aircraft.*

terrorists were eliminated by the Army, the highest for any corresponding period in the past ten years. Recent communication intercepts and the larger number of terrorist surrenders in October 2000 also give an indication of the effect of the Army's action on the morale of the terrorists. However, regular exchange of fire continued on the Line of Control till the unilateral suspension of operations by India in end November 2000, coinciding with the holy month of Ramzan. The Indian Government's initiative in announcing 'non-initiation of combat operations' for the month of Ramzan and subsequently extending the period into the New Year, first upto January 26, 2001 and then by another month, has been well received by the people of Jammu and Kashmir. But the reaction of terrorist tanzems, mainly those based in Pakistan, has been negative, leading to a marked escalation in terrorist initiated violence and increased casualties among civilians during this period.

3.6 Though the Government continued to take all steps for maintaining peace and law and order in Jammu and Kashmir, there has overall, been an escalation in the intensity of terrorist activities in the State. The announcement of a cease-fire by the Hizbul Mujahideen (HM) on July 25, 2000 proved illusory as the organization revoked it abruptly on August 8, 2000. The weeks following the revocation of cease-fire were marked by a qualitative enhancement in violent incidents with extensive use of improvised explosive devices and a spurt in stand-off attacks on camps/bases of the Security Forces. That the announcement and subse-

quent revocation of cease-fire, resulted in a rift in the cadres operating south of the Pir Panjal Ranges is apparent. The Hizbul Mujahideen in this area is now in a state of disarray.

3.7 The Pak-sponsored terrorist outfits have been selectively carrying out high publicity actions to project Jammu and Kashmir as a major flash point and causing migration of sections of the minority community from the State. The massacre of innocent civilians, including the Sikhs in Chattisingpura, Amarnath pilgrims and the brick-kiln labourers initially in the Valley and subsequently in selected villages south of the Pir Panjal Ranges, is part of the deliberate design of these terrorist groups.

3.8 During the year, there were 906 terrorist-initiated incidents. With 126 reported incidents in December 2000, it was the worst period of the current year. Areas to the north and south of the Pir Panjal Ranges remained equally volatile, indicating terrorist design of geographical proliferation into the entire State of Jammu and Kashmir. Kupwara and Punch – Rajouri continued to witness very intense counter proxy war operations.

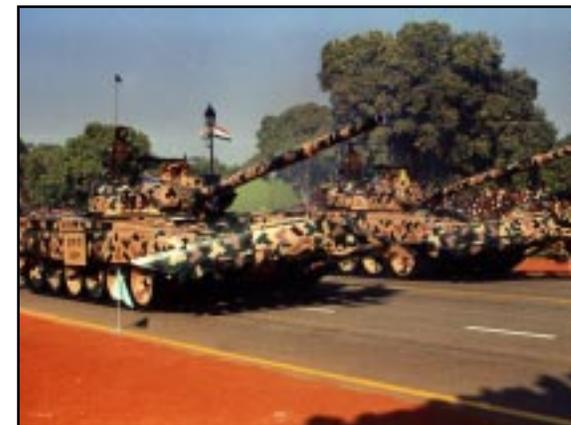
3.9 The security forces successfully foiled a large number of infiltration attempts during 2000. As against 68 such attempts foiled in 1999, 165 infiltration attempts were foiled in 2000 by the Security Forces, both on the Line of Control and the International Border. The unique feature of the infiltration attempts this year was that the International Border sector was activated by Pakistan prior to such attempts.

3.10 Relentless and intensive operations by the Security Forces have resulted in a total of 1432 terrorists killed, 274 apprehended and 76 surrendering.

#### NORTH EAST

3.11 The over four decades old insurgency in the North East continues to simmer while retaining its low-key posture. Protracted operations by the Security Forces have resulted in the United Liberation Front of Assam (ULFA) and National Democratic Front of Bodoland (NDFB) being holed up in camps in South Bhutan, and bringing the National Socialists Council of Nagaland (Issac-Muivah) [NSCN I-M] and the Border Liberation Tiger Force (BLTF) to the negotiating table, besides increasing the pressure on the valley-based insurgent groups in Manipur.

3.12 While the cease-fire with the National Socialist Council of Nagaland (Issac -Muivah) in place since August 1, 1997, is holding



*EMP (Engineer Mine Plough)- Fitted on T-92 Tank on display at Rajpath, during RD Parade. 2001*

out satisfactorily, the NSCN (I-M) has of late stepped up its demand for extension of the cease-fire outside Nagaland. As regards National Socialist Council of Nagaland (Khaplang) [NSCN-K], 'suspension of operations arrangement', which is in place since November 15, 1998, has been extended by six months with effect from October 16, 2000.

3.13 Even though Meitei insurgency in Manipur continues to simmer in the Valley Districts, the ongoing cease-fire with NSCN (I-M) in Nagaland has kept the Hill Districts of Manipur relatively dormant. The People's Liberation Army (PLA) raided the police station at Jiribam on October 20, 2000 and took away 36 weapons. On November 21, 2000, the UNLF targeted a column of 17 Para Field Regiment and 21 Para SF. In this incident, three jawans were injured and five jawans were killed. Law and order problems were also created by other terrorist outfits in Manipur.

3.14 The overall situation in Tripura continued to create major law and order problems during the year. However, the operations launched by the Security Forces compelled the National Liberation Front of Tripura (NLFT) and the All Tripura Tiger Force (ATTF) to stay in their shelters beyond the International Border. United Bengali Liberation Front (UBLF) has also been active in the recent past in targeting tribals and has the potential of vitiating the security environment.

3.15 Besides keeping both the United Liberation Front of Assam (ULFA) and the National



*"ICE FOOTBALL" - Jawans enjoying while clearing Advance Landing Ground (ALG) somewhere in Northern Sector*

Democratic Front of Bodoland (NDFB) trapped in their camps in South Bhutan, sustained military operations have resulted in near marginalisation of the terrorists in the State of Assam. The large number of surrenders, totalling 2543, along with 673 weapons, since July 1998 substantiates this assessment. However, in a bid to show that their writ still runs in the State, terrorist groups continue to strike soft targets and indulge in sabotage activities. The ULFA has of late started targeting non-Assamese, possibly with the aim of disproving the claim of the State Government that ULFA is on the run and terrorising locals to regain its dwindling support. The NDFB has, in the recent past, targeted moderate Bodo leaders involved in the peace process and, of late, has also been engaging the Central Police Organisations/State Police Forces. The group

has also struck against Bhutanese nationals transiting through Assam and, since December 20, 2000, has killed 13 and injured 17 of them. 'Suspension of operations arrangement' effected between the Government of India and the Border Liberation Tiger Force (BLTF), has been continuing satisfactorily since March 15, 2000.

### **CIVIC ACTION PROGRAMMES.**

3.16 The role of Civic Action Programmes is vital in winning the hearts and minds of the populace in insurgency affected areas. Despite the havoc caused by terrorists, both in Jammu and Kashmir and the North Eastern States, the Army and the Rashtriya Rifles have maintained the tempo in rebuilding whatever is laid waste by the terrorists, besides taking up new construction works for the benefit of the locals. These includes:-

- (a) Reconstruction of bridges.
- (b) Opening and adoption of schools
- (c) Holding medical camps.
- (d) Providing telephones.
- (e) Water supply schemes.
- (f) Community development centres.
- (g) Provision of electricity.
- (h) Sanitation schemes.
- (i) Vocational training centres.

### **EMPLOYMENT OF RASHTRIYA RIFLES IN COUNTER INSURGENCY OPERATIONS**

3.17 The formations and units of the Rashtriya Rifles are fully determined to fight out the proxy war that has been unleashed in Jammu and Kashmir. The performance of the Ri-



*Bridge being constructed by UN force at Pendembu, Sierra Leone on the way*

fles in their assigned role has been very commendable. During the year, a large number of militants have been eliminated in the State, though many gallant officers and men of the Rashtriya Rifles had to make the supreme sacrifice, to achieve the goal. They have also played an excellent role in winning the hearts and minds of the local people and projecting the humane face of the Army by undertaking a number of goodwill missions. These missions include running of schools, community centres and "Sadbhavana" projects. There has been overwhelming response from the people to such programmes which have also generated tremendous goodwill for the Rashtriya Rifles.

#### **TERRITORIAL ARMY AND COUNTER INSURGENCY OPERATIONS**

- 3.18 The Territorial Army continues to have an authorized strength of about 41,000 all ranks comprising 25 Infantry Battalions and 26 Departmental Units. The posted strength of the Territorial Army is 34, 246 at present. The infantry units of the Territorial Army were inducted for Operation Rakshak in Jammu and Kashmir and for counter insurgency operations in the Eastern Sector on guard/escort duties during this year also. The Territorial Army has celebrated its 51<sup>st</sup> Raising Day on October 9, 2000. Recently, in the wake of earthquake in Gujarat, three Territorial Army Units of Oil Sector have successfully performed their assigned tasks.

#### **EXCURSIONS.**

- 3.19 The Army has conducted guided tours for young children from the States of Jammu and

Kashmir and Manipur which included visits to historical sites all over the country. Such excursions have not only provided the children of these States an opportunity to see new places but have also helped them understand the country and its people in a wider perspective. These trips have been widely welcomed on all sides.

#### **UNITED NATIONS PEACEKEEPING OPERATIONS**

- 3.20 Peacekeeping Operations under the aegis of the United Nations have grown in relevance and importance. India has been in the forefront of this endeavour of the United Nations and continues to make significant contribution to their efforts. By February 2000, India had emerged as the single largest troop contributing nation in deployment of troops in the missions of the United Nations Peacekeeping Operations (UNPKOs).
- 3.21 The professionalism and dedication of the Indian soldiers, and the quality and performance of the Indian units deployed on such missions, have established a benchmark in the field of peacekeeping. India continues to be the world's largest contributor of troops to the United Nations Peacekeeping Operations today. The following details would show the involvement of the Indian Army in Peacekeeping Operations in Lebanon, Sierra Leone, Democratic Republic of Congo, Kuwait and Ethiopia during the year 2000.
- (a) **Lebanon :**  
One Indian Infantry Battalion Group, comprising approximately 620 personnel, continues to participate in the UN Mission in Lebanon (UNIFIL).

- (b) **Sierra Leone:**
- (i) India has contributed substantially to the United Nations Assistance Mission in Sierra Leone (UNAMSIL) for establishment of peace. The overall Indian contribution to this mission was 3,100 troops. Consequent to our decision to de-induct our units from this mission, the last of our troops are scheduled to return to India by mid-February 2001.
- (ii) Operation KHUKRI was launched under the overall direction of Maj Gen VK Jetley, UYSM, Force Commander United Nations Assistance Mission in Sierra Leone (UNAMSIL) on July 15, 2000, to rescue the UN troops taken hostage by the RUF. The meticulously planned operation demonstrated the operational skills of the Indian Army to both the warring factions in Sierra Leone, as also to the international community. The operation was highly acclaimed throughout the world for its professional planning and execution.
- (c) **Democratic Republic of Congo:**  
Eleven military observers from India form part of the UN mission in the Democratic Republic of Congo.
- (d) **Kuwait:** India has been contributing troops to the UN Mission in Kuwait/Iraq (UNIKOM) since 1991. At present, seven military observers from India form part of UNIKOM.
- (e) **Ethiopia/Eritria:** Pending deployment of an infantry battalion group, a Force

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Reserve Company and an Engineer Construction Company early next year, four staff officers already stand deployed in the Mission area.

#### **ENVIRONMENT PROTECTION: RESTORATION OF HARIKE WETLAND**

- 3.22 Harike Lake, spreading over an area of 41 sq. kms at the confluence of Satluj and Beas Rivers, is one of the largest fresh water riverine and lacustrine wetlands, recognised by the Ramsar Convention. The lake provides refuge to invaluable biological diversity including some endangered species. In February 2000, the wetland was dwindling with 70% of open water area heavily infested with deadly weed hyacinth, resulting in decline of resident and migratory birds. To overcome this ecological crisis, the Government of Punjab approached HQ Western Command to ameliorate the situation. The project which was entrusted to Golden Arrow Division of Vajra Corps and inaugurated on August 6, 2000, was executed in a systematic and scientific manner to ensure maximum output with minimum resources. Almost 70% of the hyacinth affected area, against the initial target of 12% which was agreed upon between the Government of Punjab and the Army at the commencement of the Project, was cleared.

#### **BIODIVERSITY RESEARCH**

- 3.23 Army formations have taken an active part in research on avian and land fauna. Studies on large mammals and black-necked cranes in the remote region of Ladakh have been successfully completed. The WWF India,

Wildlife Research Institute and the DRDO, besides the Army, were integrated into various zoological research programmes.

#### **ECO-DEVELOPMENT OF FIELD FIRING RANGES**

- 3.24 The field firing ranges are located in all kinds of eco-systems in various geographical habitats of India. Steps have been taken to regenerate the biotic life in the ranges in keeping with the biotic life available in the traditional local habitat. These projects are in the initial stages in most ranges, and positive results are expected as the programmes get underway.

#### **RAISING ECOLOGICAL TASK FORCE FOR DELHI**

- 3.25 An Eco Task Force, 32 Infantry Battalion (TA) (Rajput) was raised at New Delhi on October 9, 2000 which will be effective by April 2001. This would facilitate conservation and regeneration of the Delhi Ridge.

#### **ADVENTURE AND SPORTS**

- 3.26 A joint Indo-Bangladesh Army Rafting Expedition was planned from India to Bangladesh. The expedition from Mankha in Sikkim to Balashighat in Bangladesh, covered a distance of 371 Kms over the rivers Teesta and Jamuna from April 1 to 13, 2000. Army personnel from India and Bangladesh displayed exemplary courage, team work, camaraderie, and leadership qualities, which enabled them to successfully complete the expedition without any untoward incident. The expedition was a milestone in building

friendship between the two armies and the two countries.

#### **ANTARCTIC EXPEDITION**

- 3.27 Army logistic support contingent comprising two officers, two JCOs and nine Other Ranks was provided to the Department of Ocean Development. While the contingent of the 19<sup>th</sup> Antarctic Expedition is presently stationed there, the contingent for the 20<sup>th</sup> Antarctic Expedition also arrived at Antarctica on January 12, 2001. The army has been involved in this venture from the 2<sup>nd</sup> Antarctic Expedition that was launched in 1982. Tasks undertaken by the contingent are construction, repair and maintenance of permanent stations, running of life support systems and overland transportation of men and material on the Continent.
- 3.28 India has so far launched 20 scientific expeditions to Antarctica since 1981. The Corps of Engineers has played a major role in India's exploration of this frozen continent. Their major contribution includes construction of the first station Dakshin Gangotri, construction of India's first permanent station, Maitri, and providing winter and summer station maintenance crews and opening up routes of maintenance.

#### **MOUNTAINEERING EXPEDITION**

- 3.29 An Indian Army Mountaineering Expedition has successfully scaled the highest peaks of the remote Rupshu region of Eastern Ladakh. The peaks of Chhamser Kangri (6622 meters) and Lungser Kangri (6660 meters), were conquered on July 1 and 5, 2000, respec-

tively. These peaks overlook the famous Tso-Morari lake, which is one of the biggest lakes of Ladakh. A unique feature of the expedition was environmental cleaning of the Tso-Morari lake, undertaken by the team members. The lake's shores were cleared of the litter left by previous expeditions. The litter was carefully collected and carted back to Leh.

#### SQUASH CHAMPIONSHIP

- 3.30 Maj. R.S. Brar of AOC represented India in Squash Championship in Hong Kong in July 2000.

#### ATHLETICS

- 3.31 Nb Sub Anil Kumar of Madras Engineering Group and Centre won gold medals in 100 m and 200 m race by breaking national records in both the events. He clocked 10.21 sec in 100m, breaking his own previous record of 10.33 sec, and clocked 20.73 sec in 200 m, breaking the earlier 40 year old national record of 21.06 sec held by Milkha Singh. He was also a member of the Indian contingent to the Sydney Olympics.

#### ROWING.

- 3.32 For the first time in the history of Indian Rowing, Nb Sub Kasem Khan and Nb Sub Inderpal Singh represented India in the Sydney Olympics in the Coxless Pair Event. Sub Jagjit Singh has been given Arjuna Award for the year 1999 for his outstanding achievements in national and international rowing.

#### OLYMPICS

- 3.33 The following Army personnel were selected to participate in the Sydney Olympics 2000:-

- (a) Nb Sub Gurcharan Singh SRC Boxing
- (b) Nb Sub Kasem Khan BEG (K) Rowing
- (c) Nb Sub Inderpal Singh BEG (R) Rowing

#### NATIONAL AWARDS

- 3.34 The President presented the following serving and retired Army personnel with the prestigious Dronacharya and Arjuna Awards at the Rashtrapati Bhawan on August 29, 2000:

- (a) Nb Sub Gurcharan Singh SRC Arjuna Award (Boxing)
- (b) Nb Jagjit Singh BEG (K) Arjuna Award (Rowing)
- (c) Lt Col (Retd) Haripal Kaushik SRC Arjuna Award (Hockey)
- (d) Hony Capt Hawa Singh (Posthumous) Guards Dronacharya Award (Boxing)

#### EDUCATION AND WELFARE

- 3.35 **Army Institute of Information Technology:** As part of the speedy modernisation measures, the Army is setting up an advanced IT Centre near Hyderabad, called the Army Institute of Information Technology (AIIT), to train officers in information management as

also information warfare. Its foundation stone was laid by the Chief Minister of Andhra Pradesh on January 24, 2000.

#### 3.41 **Army College of Education (ACE):**

The Army College of Education at Pachmarhi has started imparting training in B.Ed. to dependents of Army Personnel. The first course began in July 2000. The course is recognised by the National Council for Teacher Education (NCTE).

- 3.36 **Education Through NET:** The Army Welfare Education Society (AWES) has launched two distance coaching schemes through the internet in collaboration with E-Gurucool.com. The schemes are designed to prepare the students of AWES to run schools for competitive examinations. Coaching includes concepts, assignments, chat with experts and career counselling.

- 3.37 **National Equity Fund:** With the cooperation and assistance of Small Industries Development Bank of India, the Directorate General Resettlement has launched a new National Equity Fund (NEF) scheme to provide gainful self-employment opportunities to ex-servicemen, war widows, widows of ex-servicemen and disabled service personnel.

- 3.38 **Manufacture of Artificial Limbs:** An Army Base Workshop has undertaken manufacture of modern artificial limbs for paraplegic battle casualties. These have been designed by the DEBEL, Bangalore, using composite materials. These aids will ensure that the handicapped soldiers are not deprived of getting modern artificial limbs.

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# 4

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INDIAN NAVY



*The Commander-in-Chief flanked by the Chief of Naval Staff and FOC INC WEST*

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*“A Man of War is my best Ambassador”*

OLIVER CROMWELL

4.1 Oliver Cromwell’s prophetic words are as relevant today as they were in the 16<sup>th</sup> century and are epitomized in the Navy’s theme for the year, namely, “Building Bridges of Friendship”. A Navy is an instrument of foreign policy by virtue of its ability to transcend conventional land boundaries. The period under review has witnessed an unprecedented increase in naval cooperation with other countries in areas such as training, operations and shipbuilding in furtherance of this role. The hosting of International Fleet Review – 2001 at Mumbai from February 17 to 21, 2001 in which ships and delegations from over 25 countries participated, reflects the growing relevance of the Indian Navy. The Navy’s mature response and ability to influence events in its region of interest has been acknowledged the world over, and the role of the Indian Navy in “Operation Vijay” in 1999 provided a clear glimpse of its professionalism and competence.

4.2 The year 2000-01 was significant for the Navy in several other ways, particularly the commissioning of IN ships Aditya and Brahmaputra, both built at Garden Reach Shipbuilders & Engineers Ltd., Kolkata, which underlined our indigenous shipbuilding capability, as also the commissioning of Sindhushastra that added a new dimension to our submarine force with the Tube Launched Missile capability. The visit of IN ships to Shanghai and exercises with PLA Navy was an important Confidence

Building Measure and signalled a significant breakthrough in Sino-Indian relations, sending positive signals to other countries in the region. Regular tactical fleet exercises to maintain peak combat capability, action for preserving the marine environment, assisting the civil power in times of distress and effective policing of our territorial waters continue to be the important missions of the Navy and these were discharged with efficiency and promptness.

### MAJOR OPERATIONS AND EXERCISES

4.3 **Operation Jalnikas:** Operation JALNIKAS was initiated in May 2000 in the face of an imminent crisis prompted by the rapid advance of the LTTE in Jaffna. Eastern Naval Command was tasked to be ready at short notice for evacuation of personnel from the Jaffna peninsula. Ships of the Eastern Fleet were brought to a prepared state on a war footing and necessary planning for hiring of Ships Taken up from Trade (STUFT) was set into motion. Innovative modifications to enhance firepower of ships in a Low Intensity Conflict (LIC) scenario were also undertaken within 24 hours. Although the operation did not have to be launched, the steps taken provided an insight into strategies/measures that would need to be adopted to counter a maritime LIC and undertake humanitarian missions. Two additional detachments at Vembar and Kulasekerapatnam were established for the duration of the operation.

4.4 **Operation Rakshak:** Marine Commandos

of the Navy are now part of the security forces in J&K for Operation Rakshak. Lt Varun Singh and LME VS Rawat were awarded Shaurya Chakra for a daring operation undertaken by them in May 2000.

4.5 **Anti Poaching / Infiltration Operations:** Anti-poaching and anti-infiltration operations in the Andaman & Nicobar Islands have continued, and in the last 18 months 457 Dongies have been captured and 78 camps have been destroyed in joint operations with the Coast Guards, Army and Police.

4.6 **Operation Tasha:** As part of the patrolling of the Tamil Nadu Coast to counter the activities of terrorist groups which include gun running, narcotics smuggling, terrorist acts and influx of refugees, close vigil by ships and aircraft continued to be maintained by the Indian Navy and the entire area was kept under surveillance.

4.7 **Operation Swan:** Operation SWAN, was initiated after the serial bomb blasts in Mumbai in 1993 to enhance coastal security on the West Coast, in collaboration with the Coast Guard, Police and Customs. A total of nine naval detachments continue to function along the coast for effective monitoring.

4.8 **Forward Deployment:** Ships were tasked for Forward Deployment off Okha from April to early May 2000. During these deployments, they were asked to carry out surveillance in the area, demonstrate naval presence in / off the Gulf of Kutch and in the vicinity of the International Boundary

Line (IBL) and provide deterrence against landing of contraband goods along the Saurashtra Coast.

- 4.9 **Exercises:** The Navy carried out its annual tactical exercises on both the coasts including an amphibious exercise to test its combat preparedness. In addition, regular fleet exercises were conducted alongwith the participation of the Army, Air Force and Coast Guard. Summerex was conducted on the East Coast, Springex on the West Coast and Amphex in the island territories.

#### JOINT EXERCISES WITH FOREIGN NAVIES AND GOODWILL VISITS

- 4.10 **Eastern Fleet's Visit to Thailand and Malaysia:** IN Ships Rana and Khukri visited



*INS Viraat*

Bangkok and Port Kelang in April 2000. On leaving Bangkok harbour, the ships carried out PASSEX with a Thai Naval Corvette.

- 4.11 **Goodwill Visit to South East Asia and China:** IN Ships Delhi, Aditya, Rajput, Kora, Kuthar and Sindhuvir undertook a Goodwill Visit to South East Asia in October 2000. They visited Shanghai, Pusan, Sasebo and Jakarta, in separate groups. The IN Ship Rajput visited Ho Chi Minh City while Sindhuvir visited Singapore. The visiting ships carried out PASSEX (Passing Exercises) with the PLA Navy, Japanese Maritime Self Defence Force (JMSDF), Royal Singapore Navy (RSN) ships and ships of Indonesian Navy.

4.12 **Visits by Training Squadron Ships:** Two ships of the Training Squadron, INS Tir and Krishna, visited Dubai and Kuwait in April 2000. Another goodwill visit to Jeddah and Seychelles was made by Tir and Krishna in September/October 2000. These visits were very beneficial to the young officers embarked on board. The ships carried out a Search and Rescue exercise with the Seychelles Coast Guard.

4.13 **Visit of INS Mysore to New York:** INS Mysore



*SUMMEREX 2000 - A Rajput Class Destroyer and a Khukri Class Corvette at sea*

made a goodwill visit to Egypt, Spain, USA, UK, Portugal, Germany and France and took part in the International Navies Review at New York in July 2000. The ship's visit was welcomed in all the ports and showcased Indian Navy's professionalism as well as the country's techno-commercial development.

- 4.14 **Visit of INS Sharda to Maldives:** INS Sharda visited Male in May 2000.

#### COOPERATION WITH FOREIGN COUNTRIES

- 4.15 **Visits of Foreign Naval Ships:** The following foreign naval ships visited Indian ports:-
- Malaysian Naval Ships MNS KD Laksamana Muhammad Amin and KD Laksamana Tan Pumah.
  - Thai Naval ship TNS HTMS LAT Ya.

- (c) French Naval ships Foch, Duquesne, Tourville, Verne, Var and Nivose.
- (d) Japanese Maritime Self Defence Force ships Kashmi and Yungiri.
- (e) Royal Navy Ships Sutherland and New Castle.
- (f) Turkish Naval ship TCG Turgutries.

**COMMISSIONING OF SHIPS ESTABLISHMENTS**

- 4.16 **INS Aditya:** INS Aditya, a fleet tanker built at Garden Reach Shipbuilders and Engineers Ltd. (GRSE), was commissioned on April 3, 2000 at Visakhapatnam by Shri Harin Pathak, the then Raksha Utpadan Rajya Mantri.
- 4.17 **INS Trinkat:** The first Fast Attack Craft of the class built by GRSE was commissioned at Visakhapatnam on September 28, 2000 by Shri IP Gupta, Lt Governor of the Andman & Nicobar Islands. The ship has been based at Port Blair, thus enhancing our surveillance and reaction capabilities in the A&N Islands.
- 4.18 **INS Brahmaputra:** INS Brahmaputra, the first of the Project 17 ships was commissioned by the Hon'ble Raksha Mantri Shri George Fernandes at GRSE, Kolkata on April 14, 2000.
- 4.19 **INS Eksila:** The erstwhile Marine Gas Turbine Overhaul Centre (MGTOC) was formally commissioned as an establishment and named INS Eksila by HE Mrs Fatima Beevi, Governor of Tamil Nadu.

- 4.20 **INS Sindhusashtra:** The tenth 877 EKM submarine INS Sindhusashtra was commissioned at St. Petersburg, Russia, on July 19, 2000 by Admiral Sushil Kumar PVSM, UYSM, AVSM, NM, ADC Chief of the Naval Staff. The submarine is fitted with the state-of-art Tube Launched Anti Ship Missile System and other high technology equipment.

**AID TO CIVIL ADMINISTRATION AND WELFARE ACTIVITIES**

- 4.21 **Rescue of Shri MN Bhakta, ex-MP:** Shri MN Bhakta, an ex-MP, was held hostage by Sri Lankan Tamils at Katchall Island in early June, 2000. The Navy was tasked with his safe rescue. Operation SAHAYTA was launched by FORTAN and the ex-MP was successfully rescued.
- 4.22 **Maintenance of Essential Services:** Personnel from the Navy manned MV Swaraj Deep and MV Nancowry of the A&N Administration from June 11 to August 4, 2000 when their crew went on strike. Thus the lifeline with the mainland was sustained and essential services maintained. This helped resolve the strike.
- 4.23 **Medical Camp at Lakshadweep & Minicoy Islands:** A medical camp was conducted in November 2000 in the Lakshadweep & Minicoy Islands. A similar camp last year had been a major success with almost 600 islanders receiving immediate treatment and medical care thereafter.
- 4.24 **Supply of Potable Water to Pipavav:** On the request of the local administration, INS

Shakti visited Pipavav port on May 28, 2000 to offload 1000 barrels of potable water as drought relief.

**TRAINING**

- 4.25 **Training of Foreigners in India:** Foreign naval personnel are being trained in IN training establishments under various schemes, namely, International Training and Economic Cooperation (ITEC), Special Aid Scheme and Self Financing Schemes (SFS). The number of trainees with the Indian Navy todate are as follows:-

<u>S.No.</u>	<u>Country</u>	<u>Officers</u>	<u>Sailors</u>
<b><u>ITEC</u></b>			
(a)	Bangladesh	08	-
(b)	Malaysia	05	-
(c)	Mauritius	04	-
(d)	Seychelles	-	03
(e)	Indonesia	02	-
(f)	Ghana	05	05
(g)	Kenya	01	-
(h)	Myanmar	04	-
<b><u>Special Aid</u></b>			
(j)	Maldives	07	10
(k)	Sri Lanka	42	65
<b><u>SFS</u></b>			
(l)	UAE	03	-
(m)	Nigeria	07	-
(n)	Oman	01	-
	<b>Total</b>	<b>89</b>	<b>83</b>

4.26 **Visits by Foreign Delegations to Indian Naval Training Establishments:** There has been an increase in the visits of foreign delegations to IN training establishments. Such visits enable the Navy to show our training facilities and result in a larger number of foreign trainees. Delegations from the following countries visited our training establishments this year:-

- |     |           |                |
|-----|-----------|----------------|
| (a) | Vietnam   | May 2000       |
| (b) | Kuwait    | September 2000 |
| (c) | Sri Lanka | October 2000   |

#### INFRASTRUCTURE DEVELOPMENT

4.27 **Armament Repairs Facility (ARF):** The following ARFs were commissioned during the period under review:-

- (a) ARF for medium level repairs of Veer class missile corvettes, Karwar class minesweepers and Sindhughosh class submarines has been set up at Naval Dockyard, Visakhapatnam.
- (b) A similar ARF has been set up at Naval Dockyard, Mumbai for Veer class missile corvettes, Abhay class ASW ships and Karwar class minesweepers.

#### MAINTENANCE

4.28 **Modernisation:** Modernisation of the aircraft carrier INS Viraat is progressing on schedule at Naval Dockyard, Mumbai. This is the largest such programme undertaken by the Navy for modernisation. The modernisation of INS Ranjit is also in progress at Naval Dockyard, Visakhapatnam.

#### ADVENTURE AND SPORTS

4.29 **Motorcycle Expedition (Mumbai - Kargil - Mumbai):** A team of three officers and four sailors undertook a motorcycle expedition from Mumbai to Kargil and back to pay homage to the Kargil martyrs and spread the message of peace and solidarity. Enroute, the team received 6000 messages and greeting cards from the public which were handed over to our troops. The team left Mumbai on July 6, 2000, hoisted the tri-colour atop Sands Post, reached Delhi on July 27, 2000 and returned to Mumbai on August 2, 2000.

#### PERSONNEL

4.30 **Prime Minister's Shram Awards for 1999 to Naval Civilian Workers:** The Navy has taken several initiatives for motivating the civilian workforce, constituting about 50% of the Naval strength, to achieve optimum productivity levels. Various measures like training activities, participative management, increased transparency in the system and sorting out administrative problems were adopted. These measures have paid rich dividends. The following Naval civilian workers were selected for the PM's Shram Awards for 1999 for the first time:

- (a) Shri MS Joseph, Hsk I - Shram Bhaskar
- (b) Shri R Ashokan, Hsk II - Shram Bhaskar
- (c) Shri G Raj Rao, Hsk II - Shram Shri

#### INDIGENISATION OF EQUIPMENT

4.31 **Underwater Telephone:** An Underwater Telephone is being productionised by M/s Keltron, based on an indigenous design developed by the Naval Physical and Oceanographic Laboratory (NPOL). These sets will be installed on all major IN ships in a phased manner.

4.32 **Sonar HUMSA:** HUMSA is an advanced hull-mounted sonar developed by Naval Physical and Oceanographic Laboratory and is being productionised by Bharat Electronics, Bangalore. It is being produced in two variants - High Frequency (HF) and Low Frequency (LF). This set is being fitted on the existing as well as the new IN ships including the Talwar class frigates under construction in Russia.

4.33 **Super Rapid Gun Mount (SRGM 76/62):** The SRGM is being produced by BHEL, Hardwar under Transfer of Technology (TOT) with M/s Oto Melera, Italy.

4.34 **Fire Control System (FCS) 'SHIKARI':** Two 'Shikari' FCS produced by M/s Bharat Electronics Ltd, Bangalore, have been fitted on board Brahmaputra.

#### INFORMATION TECHNOLOGY

4.35 **Five Year Computerisation Plan (2000-2005):** A Five Year Computerisation Plan aiming at overall computerisation of the Navy by about 2005 has been formulated.

4.36 **Naval Enterprise Wide Network (NEWN):** The Navy is implementing an Enterprise

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Wide Network which will connect 22 Naval locations around the country. The Intranet would be based on frame-relay network on WAN and Ethernet on LAN with voice and data facilities. The NEWN will form the backbone over which the naval signal system SANCHAR and other major systems

like Integrated Logistics Management System (ILMS), ILMS (Air), Weapon Equipment Depot, Naval Armament Depot etc would ride. For this purpose, a X 400 based Automatic Message Switching System Software is also being developed.

4.37 **Health Care System:** A major project of computerisation of INHS Asvini is underway along with its modernization, which is likely to be completed by June 2001. After this project is completed, it would be implemented in all other naval hospitals.

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# 5

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INDIAN AIR FORCE



*SU-30 Aircraft on patrol*

5.1 Ranging from Air Defence of the nation to providing reconnaissance, battle field air strikes and counter air operations during hostilities, the responsibilities of the IAF are multifarious. It also shoulders the peacetime responsibilities like aiding the civil authorities during natural calamities and moving of personnel to maintain law and order. It also meets the requirements of the troops guarding our border outposts in the high ranges of the Himalayas, the deserts of Rajasthan and the inaccessible regions of the North – East. The ‘Operation Safed Sagar’ of 1999 in which the IAF played a decisive role in dislodging the enemy from the daunting and difficult heights of Kargil, provides ample testimony of the predominant role that Air Power will play in any future conflict. The continuously changing strategic and technological environment as a consequence of the revolution in military affairs sweeping the world, and the importance of information exploitation and denial, is nowhere felt more intensely than in Military Aviation.

5.2 In keeping with the challenges of the future in view of and the necessity for optimal utilization of the scarce natural resources, the IAF has embarked upon a course of modernization both through new inductions of aircraft systems and force multipliers and updates of old workhorses and weapon systems like the MiG-21, MiG-27, AN-32, so as to keep pace with the emerging technologies and enhance the fleet life. To ensure most optimal level of training to IAF pilots, the Advanced Jet Trainer is also being acquired in the near future. During the year under review, new weapons were inducted to

achieve a higher state of operational preparedness and emphasis was laid on training in new tasks. These have resulted in heightened operational preparedness and skill levels which will be tried in various operational level exercises. The induction of new equipment such as 40 Mi-17-V-I in the near future and the progress in the SU-30 MK-I and MiG-21 Bis upgrade programmes would further enhance IAF’s operational capabilities.



*“Where Eagles Dare”- AN-32 transport Aircraft on logistics supply mission at an Advance Air Base*

#### AIRCRAFT

5.3 **Canberra Aircraft Record:** Capable of Bombing, Photo Reconnaissance, Electronic Warfare and Target Towing, ‘Canberra’ broke the record of ‘Dakota’ this year when it completed 43 years with the IAF to become its oldest aircraft ever. The HAL has also revived its overhaul line.

#### FIGHTERS

5.4 **Su-30 :** The Su-30 aircraft on IAF strength have been maintained successfully and op-

erationally exploited. Successful local/indigenous repair of prematurely withdrawn Aero engines has helped in saving substantial foreign exchange. Further, within the limited resources of the Air Force, an intermediate repair facility has been set up.

5.5 **Su- 30 MK-I :** Keeping in view the swift progress achieved in the development of Su-30 MK-I and successful integration of all avionics to be fitted on it, delivery of upgraded Su-30 MK-I is expected to commence by the end of 2001.

5.6 **Licensed Manufacture of Su-30 MK-1 :** An Inter Governmental Agreement on licensed manufacture of Su-30 MK-1 was signed in October 2000 during the visit of the President of the Russian Federation, Mr. Putin. Accordingly, the licensed manufacture of Su-30 MK-I aircraft by HAL, Nasik, has been approved by the Government and a contract for manufacturing these aircraft has been concluded with the Russian authorities.

5.7 **Additional Mirage – 2000 :** Deliveries of 10 Mirage-2000 aircraft have been contracted by the Government for meeting the operational requirements of the Air Force and are likely to commence shortly.

5.8 **Calendar Life Extension of MiG-25 :** The calendar life of the entire MiG-25 fleet expires in 2000-2001. While the foreign vendors had quoted exorbitant costs for suitable changes, a preliminary study carried out by the Maintenance Command, IAF, for its life extension with indigenous effort is showing positive results.

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5.9 **MiG-27 Upgrade :** The MiG - 27 ground attack aircraft was inducted into the IAF in 1985. In 1997, it was decided to upgrade the avionics and other systems to convert it in to a formidable weapon platform capable of ground attack by day and night. The development of prototypes is underway at HAL, Nasik Division and modification of the aircraft is likely to be completed in 2005.

5.10 **Modification MiG-23/27 for Electronic Warfare:** The complete fleet of MiG - 27 and some MiG - 23 aircraft are planned to be suitably modified with facilities for Electronic Warfare during 2001.

5.11 **Jaguar Upgrade:** The Jaguar is a dedicated ground attack aircraft of British origin. The Navigation and Weapon Aiming Sub System of the Jaguar has become outdated and needs to be updated. The upgrade consists of replacing/integrating Head Up Display, auto pilot, digital map generator, Ring Laser Gyro (RLG) based on Inertial Global Positioning System (INGPS), mission computer etc. A new Electronic Warfare (EW) suite has been envisaged for meeting the upgradation requirements of the Jaguar aircraft.

5.12 **MiG - 21 :** Due to delay in the production of Light Combat Aircraft (LCA) and acquisition of Advanced Jet Trainer (AJT), MiG-21 aircraft inducted in the IAF during 1963 still continue to be deployed for operation/ training. The shortage of R-11 engines, which are used on MiG-21 variants, was posing a serious problem. IAF has commenced modification of Type 96 MiG-21

fleet with R-13 engines. The spare engines are proposed to be used for continuation of Type 77 fleet for another 5 years, by which time the AJT is expected to be available in full strength. An upgrade programme for the MiG-21, which includes advanced avionics, Electronic Warfare Systems and integration of new weapons and is on the anvil is scheduled to be completed by 2004.

#### TRAINER AIRCRAFT

5.13 **Advanced Jet Trainer (AJT) :** Negotiations with M/s BAE Systems for acquisition of the Hawk aircraft are presently in progress.

#### TRANSPORT AIRCRAFT

5.14 **Dornier :** HAL had been carrying out major servicing (1200/2400 line, 3600 hrs) of Dornier aircraft. This year, the task has been entrusted to a unit of the IAF which has already completed the task on one aircraft.

#### HELICOPTERS

5.15 **Mi-35 Upgrade :** The Mi-35 helicopter is being upgraded to enhance its capability for night operations. The upgrade consists of the incorporation of 'Night Vision Goggles' (NVG), compatible lighting, advanced avionics systems such as "Forward Looking Infra Red (FLIR)", TV Camera, Laser Range Finder, Helmet Mounted Display (day and night) and Doppler Interfaced Global Positioning Navigation System (GPS). The project has reached an advanced stage. Flight demonstration trials have been conducted and fleet modification is expected to commence soon.

5.16 **Mi-17 V-1 :** The IAF is in the process of acquiring Mi - 17 heavy lift helicopters for strengthening its support in the Siachen and other mountain zones. The first batch of the latest Mi - 17 V - 1 multirole helicopters has started arriving. The new helicopters will have better avionics, all weather radar, Global Positioning System and more payload capability. These helicopters will augment the existing fleet to meet the higher commitments in the Siachen Glacier Zone.

5.17 **Advanced Light Helicopters:** The IAF intends to procure Advanced Light Helicopters (ALH) as utility helicopters from HAL to replace Chetak. The ALH flight test programme is in an advanced phase, with over 1200 hours having been logged on the four ALH prototypes. The HAL has obtained Government clearance for Limited Series Production (LSP) which would be provisionally certified for the conduct of operational trials by the three Services. The IAF would receive its LSP helicopters in March 2001.

5.18 **Induction of Microlights :** To combat bird strikes at IAF airfields, Streak Shadow Microlights manufactured by CFM LTD, UK, are being inducted in a phased manner. The Microlights will be used for survey of bird activity in local flying, airfield and extended low flying tactical areas, as well as for communications.

5.19 **Induction of Motor Gliders :** The National Defence Academy at Khadakvasla, Pune, flies gliders for training Air Force cadets. As wooden gliders and winches are no longer available, motorgliders have been pro-



*OSA-AK-M Air Defence Missile on display at Rajpath during Republic Day Parade- 2001*

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cured. This is expected to improve the quality of training as well as provide an exposure on powered flying to the Air Force cadets at NDA. Motor Gliders (Super Dimona) have been acquired from Austria.

### PILOT-LESS TARGET AIRCRAFT

- 5.20 **Lakshya Induction :** Pilotless Target Aircraft (PTA) Lakshya, developed by DRDO (ADE Bangalore), was procured by IAF for realistic target simulation for Aircraft and Guided Weapon Systems. Successful launches were done at Intermediate Test Range, Chandipur, Orissa on November 2, 2000. Lakshya is a surface/ship launched high sub – sonic aerial target system. It is designed for training land or ship based crew and Air Defence pilots in weapon engagement. The PTA will shortly be in service.

### FORCE MULTIPLIERS

- 5.21 **In – Flight Refueller / Flight Refuelling Aircraft:** IAF had mooted a proposal for the purchase of IL-78 as an In - Flight refuelling aircraft to fulfill the long felt need for this force multiplier. The aircraft selected is IL-78, manufactured in Uzbekistan. The aircraft will be fitted with state-of-the-art refuelling pods and avionics. The contract for aircraft delivery is likely to be finalised in the current financial year.
- 5.22 **Unmanned Air Vehicles:** Unmanned Air Vehicles (UAV) are being used all over the world nowadays for surveillance and limited combat roles. With miniaturised electronics,

it has become possible to develop small and light sensors, which can be carried on small size UAVs. Their small size along with their capacity to loiter for very long duration makes the UAV especially suitable for multiple tasks. The UAV systems contain all the elements necessary to achieve the relevant mission, either as standalone system or as an integral part of a total intelligence and weapon delivery system. A contract for an UAV system has been signed and delivery of the UAVs is likely to be completed in 2001.

- 5.23 **Laser Designator Pods:** The ability to deliver the required firepower at the designated time and place is the most decisive factor which determines the outcome of any air operation. Due to non-availability of airborne night vision and designation devices, enemy operations have increasingly been taking recourse to the cover of darkness, with the armour breakout planned mainly at night, in order that they could advance unhindered from the air. The use of Laser Designator Pods (LDP) with thermal imagery has opened up an entirely new range of possibilities for exploiting the cover of darkness to the advantage of strike aircraft, enabling round-the-clock air operations. Some Pods have already been received and are now operational on Jaguar and Mirage fleets. Following their effectiveness in the Kargil conflict, it is now proposed to integrate similar Pods with the MiG-27 and Su-30 fleets as well.

- 5.24 **Night Vision Goggles for Mi-17 and Chee-**

**tah:** To enhance the capability for special heliborne operations at night, IAF is in the process of modifying the Mi-17s and Cheetahs for flying with Night Vision Goggles (NVG).

### AIR DEFENCE AND GROUND ENVIRONMENT SYSTEM

- 5.25 In order to keep pace with the advancement of technology and also to replace the obsolete equipment, digitisation for original analog communication system is in progress. Indigenously developed INDRA - II radar have been inducted in the Air Force. By March 31, 2001, a few more such radars are likely to be inducted.

### GROUND WEAPONS

- 5.26 It is proposed to continue using 'Pechora' Surface-to-Air Missile (SAM) missile system till 2015. To enhance operational capability and overcome spare crunch, it has been decided to upgrade the existing equipment by digitising.

### SURVEILLANCE AND WARNING

- 5.27 In order to enhance IAF's surveillance capability from the current levels, a long-term acquisition plan to attain an integrated multi-sensor surveillance capability at an affordable and credible level, over selected sectors, is considered most critical. The plan to attain a composite and comprehensive enhanced surveillance capability includes acquisition of the following: -

- (a) Airborne Warning And Control System (AWACS)
- (b) Aerostat based surveillance systems
- (c) Low level transportable radars (LLTRs)
- (d) Integrated air command and control systems (IACCS)

5.28 In addition to the above, the IAF has a plan to procure lightweight radars, having the capability to detect objects flying even at low-level, for deployment in the mountainous terrain.

5.29 **Airborne Warning and Control Systems:** The IAF plans to acquire Airborne Warning and Control Systems aircraft equipped with state-of-the-art active-aperture phased-array radars. Two alternative platforms have been identified to install the radar system. In the first alternative, the radar would be mounted on a new modified IL-76 aircraft; in the second, conformal



*"GAJRAJ WITH WINGS"- IL76- transport Aircraft ready to take off, in Advance Air Base*

arrays would be mounted on the body (fuselage sides) of a new Airbus A-321 aircraft.

5.30 **Aerostat Surveillance Systems:** Aerostat surveillance system is a balloon based radar lofted to a great height, providing round the clock air defence coverage by down linking the data to a ground station. A few aerostat based surveillance systems are required to provide gap-free low - level radar coverage in selected sectors. It is proposed to procure some systems initially, with an option of additional systems to be procured subsequently.

#### GROUND RADARS

5.31 **Low Level Transportable Radars:** An urgent requirement for positioning three low-level lightweight ground radars in hilly sectors has been accepted. Three radars namely, EDR-140 of Daimler Chrysler, Germany, ELM 2106 of ELTA, Israel and PAGE of SIGNAAL, Holland, have been short-listed for site-evaluation.

5.32 **Repair of Air Defence Radars (ST-68):** Medium repair line for ST-68 Radar has been established at an Air Force Base Repair Depot. The first radar has passed out, while two more are being progressed.

#### COMMUNICATION AND NAVIGATION AIDS

5.33 **TAC Vehicle :** The project for Radio Vehicles with HF communication sets (MHM 30) for Tactical Air Centres (TAC) was taken up and adequate number of vehicles produced and handed over to operational units.

5.34 **Twin Channel Radio Relay :** Units have already collected containerised vehicles housing Twin Channel Radio Relay Equipment from M/s ECIL for link up of radars. A few more vehicles are under containerisation. All the vehicles are expected in mid 2001.

5.35 **ICS/FAX Modem :** Repair facilities for Integrated Cypher System (ICS) Cards is now available at an Air Force Repair Depot.

5.36 **Multi Channel Radio Relay :** Indigenous one Ton vehicles housing Multi Channel Radio Relays needed for transportable radar units are being procured from Tatas.

#### AIR MAINTENANCE MATERIAL TRANSPORT

5.37 The planned/achieved tonnage of Air Maintenance Material transported for the years 1999-2000 and 2000-2001 is as under:

Year	Fixed Wing Aircraft (Tonnes)		Helicopters (Tonnes)	
	Planned	Achieved Dec 2000	Planned	Achieved Dec 2000
1999- 2000	22563	26064	16883	15395
2000- 2001	24969	14892	13631	9025

#### INFORMATION TECHNOLOGY/ WARFARE

5.38 **Data Management :** The IAF is working on a philosophy of "Data Warehousing" of information. Standardised software using the

same data fields would be used at the Field Command and Air HQ, for access by all users. The query formats would be tailor-made to the requirement of the user. With the existing connectivity between the users, the operational information could be updated online. The IAF is working with IIT Kanpur for the development of an algorithm for the encryption system. The 128-bit algorithm once approved would be used for bulk encryption as well as for online encryption. The IAF is planning to interact with IIT Kanpur and other IT centres, in order to keep abreast with the latest technology and develop effective Information Warfare weapons.

- 5.39 **Systems / Space Applications :** There has been extensive interaction between the IAF, DRDO and ISRO on Space Based Electronic Intelligence.



*"TOUCH THE SKY WITH GLORY"  
"Surya Kiran" - Making the Tri-Colour in the Sky*

- 5.40 **Electronic Warfare:** Steps were taken to enhance the Electronic Warfare (EW) capability by training, developing Electronic Counter Measure (ECM) tactics and equipping our aircraft fleet with state-of-the-art capability. Aircraft are being suitably modified to this end. The EW range is being extensively used for developing ECM tactics and for EW training.

#### FLIGHT SAFETY

- 5.41 **Prevention of Bird Hits on Aircraft :** An Inter-Ministerial Joint Sub-Committee (IMJSC) has been formed to ensure reduction in the aircraft accidents as a result of bird hits. Projects to ensure prevention of slaughtering the animals in open, which attracts birds, are being progressed by the Ministry of Agriculture.
- 5.42 **Study on Human Error:** An extensive study has been carried out by a panel of experts to identify the areas of concern to reduce aircraft accidents resulting from human error, both on the part of the aircrew and the servicing personnel. The recommendations of this study have been approved by the CAS and are under implementation.
- 5.43 **Interaction with Foreign Air Forces :** A major initiative has been taken by the IAF to increase interaction with foreign Air Forces so as to benefit from their experience and knowledge in reducing aircraft accidents. A French AF team visited India this year.
- 5.44 **Institute of Flight Safety :** The training facilities at the Institute of Flight Safety are also being utilised by the other arms of the Defence Services for training their person-

nel. There is a plan to admit civilian pilots and foreign pilots to the training programmes. A training workshop for the Flight, Maintenance and Administration safety officers was conducted at AF Station, Hindon, during the year under review.

#### INDIGENISATION

- 5.45 In pursuance of the national aim of self-reliance, the IAF has collaborated with Confederation of Indian Industry (CII) to forge synergetic relationship with industry on a long-term basis. The indigenisation drive of the IAF, being pursued through the Base Repair Depots, has greatly benefited from the continuous interactions with the CII. In the recent past, two expositions-cum-seminars were held at Ahmedabad and New Delhi in association with CII, to attract medium and small-scale entrepreneurs for establishing indigenous sources of supply and also assist the Base Repair Depots (BRDs) in their developmental activities for import substitution of spares. As on date, over 1100 vendors have been registered with various BRDs and the figure is likely to grow further. The number of items indigenised has also gone up from about 1800 in 1995-96 to 36000 in 1999- 2000.

#### TRAINING

- 5.46 **Armament Technicians :** Regular courses of one week and four weeks duration have been started at the Armament Training School. Ten such courses have been conducted in which personnel from field units were given a chance to improve their skills.

5.47 **New Training Pattern - Pechora System :** Deputation of technical officers on training for maintenance of Surface to Air Missile (Pechora System) resulted in non-availability of officers for at least nine months in their parent units. As a consequence, adequate expertise for maintaining and sustaining the fleet was not available. With a view to overcome this difficulty, a modified training pattern, reducing the length of training period has been evolved. Cross training in these specialties will ensure availability of requisite manpower.

#### PROMOTION OF HINDI IN IAF: 2000-2001

5.48 The IAF took adequate steps for promotion of Hindi as an official language.

5.49 **Hindi Workshops :** To overcome the hesitation of the staff to work in Hindi, a workshop was organised during 2000. Three such workshops are planned for the year 2001.

5.50 **Hindi Fortnight (September 14-28, 2000) :** On September 18, 2000, prizes were awarded by Air Officer in-Charge Personnel, to all those who attained positions in various Hindi competitions. This year's Hindi Fortnight saw an increased number of participants. Competitions were also held at Command and Unit levels with enthusiasm. Shields were presented to winners. Competitions in noting and drafting in Hindi were also organised.

5.51 **Hindi Instructions:** Certificates and cash awards were presented to the staff who took part in the Hindi typing/shorthand instructions. A few personnel were taught type writ-

ing, shorthand and computer operations in Hindi. Hindi examinations were held at 21 centers of Indian Air Force for imparting Hindi training.

#### 5.52 **Translation work :**

- (a) Orders and instructions of Air HQ were issued in bilingual form.
- (b) Fourteen instructional manuals of Air Headquarters were translated into Hindi.
- (c) Four personnel qualified as Hindi Translators.

#### TRAINING OF IAF PERSONNEL ABROAD

5.53 Details of reciprocal programmes with friendly foreign countries are as follows:

(a) **France :** Qualified Flying Instructor (QFI) exchange programme and helicopter / transport pilots exchange programme are under consideration of the two Air Forces. A training delegation from the French Air Force, comprising 85 cadets and 15 Staff officers, visited the Air Force Academy in July 2000.

(b) **USA :** One Indian QFI is in USA and one US QFI is in India under the QFI exchange programme. At present, the following IAF officers are undergoing one - year course of instruction in USA since June 2000:

- (i) Group Captain D Kukreja at the National Defence University at Washington DC for International Fellows Programme.

(ii) Group Captain AS Karnik at Montgomery, Alabama; for Air War College Course.

(iii) Squadron Leader KB Karumbaya at Montgomery, Alabama; for Air Command and Staff College Course.

(c) **United Kingdom :** Presently, three IAF Officers are undergoing RCDS, UK Advance Command and Staff Course and Aircraft Accident and Investigation Courses. Deputation of one IAF officer for Advanced Command and Staff College Course during the year 2000-2001 has been approved. Exchanges approved for the year 2000-2001 are: -

(i) Three officers from each country to DSSC/JS Command and Staff Course.

(ii) One officer from each country to NDC/Royal College of Defence Studies.

(d) **Russia :** A general agreement has been signed between the Government of India and the Department of International Military Cooperation of the Russian Federation for reciprocal training programmes.

5.54 **Training of Foreign Students in IAF Training Establishments :** Foreign students are availing training facilities in IAF training establishments. Projections of all friendly countries are received each year. The facilities extended in IAF establishments are detailed below:

- (a) **Sri Lanka** : Training of Sri Lankan Air Force personnel is undertaken at IAF training establishments under the 'Special Aid to Sri Lanka' and under self-financing schemes.
- (b) **Other Countries** : Officers and airmen from Bangladesh, Ghana, Indonesia, Malaysia, Myanmar, Nigeria and Zambia are undergoing training at various training establishments in India. In addition the Ministry of External Affairs has offered slots to Namibia, Kenya and Uganda. The requirements of Cambodia, Nepal and Tanzania are presently under consideration.

#### RECRUITMENT

- 5.55 There are 13 selection centres spread all over India and they make necessary arrangement for the conduct of selection test and final enrolment. After inviting applications through advertisement in national and regional dailies and through the mass media, a written test on All India basis is held and an All India Merit List drawn up for the purpose of recruitment. Enrolment is done in order of merit. Allocation of trade is made on the basis of Trade Allocation Test. The number of candidates recruited from April 1 to September 30, 2000 is as follows: -

MTD (drivers)	Non- Tech.	Tech.		Edn. Inst.	Total
		Inter.	Matric.		
53	241	58	245	14	611

#### DISCHARGE

- 5.56 **Diploma/Trade Certificate/Apprenticeship on Discharge** : To enhance rehabilitation avenues and for resettlement in civil life, it has been decided to issue trade equivalent Diploma/National Trade Certificate/ National Apprenticeship Certificate to Airmen on discharge.

#### CEREMONIAL FUNCTIONS

- 5.57 **Kargil Diwas** : Air Force Fighters flew past the India Gate during the wreath laying ceremony by the President on the Kargil Diwas celebrated on July 26, 2000. The invisible fourth, in the three aircraft 'Missing Man' formation, depicted the sacrifice made by those brave soldiers who were no more in our midst. The aircraft armaments displayed during the Defence Exhibition included fighter aircraft, namely, MiG-21, Mirage, Jaguar and Mig-27; Helicopters, namely, Mi-17, Mi-8, and Cheetah; Armament Trailers; ancillary equipment; and a P -18 Radar.

- 5.58 **Colour Presentation** : The President of India presented Colours to Air Force Administrative College and Presidential Standard to 35 Sqn on October 24, 2000 at Air Force Station, Bareilly. A Photo Exhibition was organized depicting the pictorial history of both the recipient units. The President also released a First Day Cover to commemorate the historic occasion.

- 5.59 **Honours and Awards** : The following awards were conferred by the President of India during the period under report :

Rank	Name	Award
Squadron Leader	Santosh Kumar Ebenezer	Shaurya Chakra
Squadron Leader	Prashant Eknath Patange	Vayu Sena Medal (Gallantry)
Flight Lieutenant	Rajat Saha	Vayu Sena Medal (Gallantry)
Corporal	Pawan Kumar Gupta	Jeevan Raksha Padak

- 5.60 **Grant of Honorary Commission/Promotions**: The total number of Honorary Commission/Promotion to Hon. Flt Lts granted on August 15, 2000 and on January 26, 2001 are as follows:-

	15 Aug 2000	26 Jan 2001
(i) Hon. Commission to the rank of Fg Offr	108	222
(ii) Hon. Fg Offrs promoted to Hon. Flt Lt	21	56

#### MEDICAL

- 5.61 **AIDS Control Programme** : A strategy to implement this National programme has been devised and Information, Education and Communication(IEC) nodes have been set up to facilitate AIDS control. A study revealed that the incidence of HIV is lowest in the Air Force.
- 5.62 **Waste Management Project** : Command Hospital, Air Force Bangalore (CHAFFB) was chosen by the World Health Organisation

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for Hospital Waste Management Project. The project module developed at CHAFB will be replicated in other hospitals of Armed Forces and health care institutions of the country.

#### **WELFARE INFORMATION TO PERSONNEL**

- 5.63 **Touch Screen** : The first of its kind, a touch screen query processing cell, providing valuable information and services to the Air Force personnel was set up at Air Force Central Accounts Office on March 24, 2000 and has been duplicated at Vayu Bhavan. The touch screen information kiosk provides information on Pay, Allowances, Provident Fund, Income Tax, and Retirement Benefits to all IAF personnel.
- 5.64 **Group Insurance Society** : Air Force Group Insurance Society (AFGIS) provides insurance, loans and other related services to Air Force personnel, serving as well as retired, and the widows of the deceased Air Force personnel. The society has a membership of more than 3 lakh individuals (serving, retired Air Force personnel and widows of deceased personnel). All the activities of the society are computerised to provide efficient,

prompt and effective services to the members of the Society. In its silver jubilee year, AFGIS has taken one more step in the direction of improving the services to its members by installing automated on-line interactive touch screen query system with voice assistance.

#### **FAMILY ASSISTANCE SCHEME**

- 5.65 Family assistance scheme under the aegis of IAF Benevolent Association provided long term financial security to 5013 bereaved families and disbursed Rs 7 crores towards rehabilitation grant during 1999-2000. Welfare loan at affordable rates of interest were provided to IAF personnel for improvement in quality of life. Educational scholarships were awarded to the wards of 1384 Air Force personnel and Rs 42,84,500 were disbursed during 1999-2000. Interest-free advance to meet expenditure on specialised medical treatment was provided to 240 personnel and Rs 189.31 lakhs were disbursed as loan for this purpose. New schemes for house building, conveyance and computers advance for retired personnel has been introduced from June 1, 2000 under Retired Pensioners Investment Scheme.

#### **SPORTS AND ADVENTURE**

- 5.66 The Indian Air Force - Sri Lankan Air Force Weightlifting Meet 2000 was held at AF Chandigarh on October 22-23, 2000. Weightlifters from Sri Lankan Air Force and Indian Air Force competed in this meet to promote goodwill and friendly relations between the two countries. The IAF lifters won in all the weight categories.
- 5.67 The Air Force added new dimensions to aerospots with the introduction of Tandem Skydiving, Paragliding, Paramotors, X- Air Microlight Flying and Skydiving from Microlights. Two officers are now competent to carry out Tandem Skydiving with passengers and novices.
- 5.68 **First Couple to Skydive** : Two Helicopter Pilots of the Air force, Sqn Ldr Vasant Raj and Flt Lt (Mrs) Bhavna became the first husband and wife combination to do skydiving together during the passing out parade of the 98<sup>th</sup> NDA course on May 30, 2000.
- 5.69 **'Sky Dive' at the South Pole** : Flt Lt Kamal Oberh para-jumped at the South Pole on January 1, 2000, becoming the first Indian to do so. With this, the IAF personnel have successfully para-jumped over both the poles.

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# 6

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COAST GUARD



*CG & Eastern Fleet Ships During Operation Jal Nikas*

6.1 The Coast Guard was set up as an Armed Force of the Union in 1978 on the recommendations of the Rustamji Committee for preservation and protection of our Exclusive Economic Zone (EEZ). It keeps India's EEZ, measuring over 2.02 million sq. kms., under regular surveillance in order to prevent poaching/smuggling and other illegal activities. In addition, the Coast Guard's charter of duties includes pollution control at sea, search and rescue and protection of the marine environment.

### ORGANISATION

6.2 The command and control of the Coast Guard is exercised by the Director General from the Coast Guard Headquarters 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 Air Enclaves at Goa, Mumbai, Calcutta and Port Blair.

### FORCE LEVEL

6.3 From a small beginning in 1978, the Coast Guard has made a rapid progress in developing its force levels with regular induction of ships and aircraft. Presently, the Coast Guard has a force level of 36 ships, 23 interceptor boats/crafts (IB/IC) and 34 aircraft. One Hovercraft has been inducted into the

service this year. Coast Guard ship Sarang and two Chetak helicopters were inducted this year.

### OPERATIONS

6.4 In addition to the normal peacetime role of the Coast Guard comprising surveillance and patrol in EEZ, specific operations are also being undertaken to counter the threat of insurgency, as per details given below:-

(a) **Operation Tasha** : Consequent to the withdrawal of the Indian Peace Keeping Force (IPKF) from Sri Lanka, protection of the Tamil Nadu Coast against infiltration of militants was entrusted to the Navy and the Coast Guard. Since then, one Coast Guard ship ex-Chennai and one IB/IC ex-Mandapam remain on continuous patrol in the Palk Strait. Also, a Dornier aircraft ex-Chennai carries out air surveillance in Palk Strait and Gulf of Mannar.



*An Indian Coast Guard Aircraft ensuring safe coast*

(b) **Operation Swan**: In 1993, consequent to the Mumbai serial bomb blasts, large scale smuggling of arms and explosives was reported from sea routes adjoining the Maharashtra and Gujarat coasts. To counter this, Operation Swan was launched in co-ordination with the Navy in April 1993 for patrolling sensitive areas off the West Coast. These operations appear to have contained the situation to a large extent.

(c) **Operation Nakabandi** : With increased hostilities in Sri Lanka, the influx of Tamil refugees has started again. Local fishermen were reported to be smuggling diesel and other explosive making material to aid Liberation Tigers of Tamil Elam (LTTE). Operation Nakabandi was launched on August 13, 1996 to check the influx of refugees and to curb the clandestine activities in Palk Bay and Gulf of Mannar.

(d) **Indo-Maldivian Joint Exercise DOSTI-V**: An Indo-Maldivian Joint Exercise titled Dosti-V was conducted at/off Male from October 8 to 12, 2000. Coast Guard ships Samar (with helicopter embarked on board) and Amrit Kaur and one Dornier aircraft took part in the exercise with two Maldivian Coast Guard ships. Various exercises were demonstrated on law enforcement, Global Maritime Distress Safety System, Search and

Rescue, oil pollution response etc., for Male Coast Guard personnel. The Indian team also interacted on these topics with the Maldivian Coast Guard personnel.

#### ANTI-SMUGGLING AND SEARCH AND RESCUE (SAR) OPERATIONS

6.5 The details of anti-smuggling, search and rescue and other operations are given below :-

- (a) **Anti-Smuggling Operations:** Coast Guard ships and aircraft carried out routine anti-smuggling patrol and apprehended contraband worth Rs.28.13 lakhs till October 2000.
- (b) **Search and Rescue Operations (SAR):** During the period April to October 2000, Coast Guard ships and aircraft undertook 46 SAR missions and were instrumental in saving 71 lives at sea after receipt of distress messages from the International Maritime Co-ordination Centre (INMCC) in Bangalore. This has strengthened the SAR responses in the Indian Ocean under the new Global Maritime Distress Safety System (GMDSS) operation.

#### ANTI-PIRACY OPERATIONS

6.6 (a) **Operation Gloria:** A merchant vessel MV Gloria Kopp with suspicious identity and suspected involvement in drug trafficking, was boarded by the Coast Guard on December 23, 1999 off Pondicherry in a sea-air coordinated operation. The vessel registered in Panama with 24 Ukrainian crew was



*Indian Coast Guard Vessels at highseas*

found with documents naming it as Kobe Queen-I and Greek ownership, carrying 15000 tonnes of finished steel products. The master committed suicide on December 24, 1999. The body of the master and the vessel was brought to Chennai for further investigation by the Coast Guard, Police, Customs, DRI, IB and NCB. A case was registered in the Madras High Court. The Custom authorities initiated action to unload the cargo for thorough rummaging of the vessel which was completed on August 12, 2000. The vessel continues to remain under Coast Guard supervision at Chennai Port.

(b) **Hijacking of MV Med Star:** Coast Guard Region (West), Mumbai, received a message from Chairman, Kandla Port Trust, at about 11.30 hrs on June 9, 2000 about hijacking of MV Med Star, registered at Kings Town, by 14 stowaways. The 14 stowaways consisting of 10 Iranians and 4 Iraqis had boarded the vessel at Port Bandar Abbas.

The Iranians claimed to have a bomb with them and threatened to blow the ship if their instructions were not followed. The ship, after loading 312 MT of granite at Bandar Abbas, was scheduled to arrive at Kandla Port on June 11, 2000. It had a crew of 20 on board consisting of 18 Philippines and 2 Croatians. The vessel was intercepted by Coast Guard ships and Dornier aircraft at about 0230 hours on June 12, 2000 approximately 70 NM to West Okha. The negotiations between stowaways and the owners resulted in bringing the vessel to Mumbai port. Subsequently, the master confirmed that the stowaways were not in possession of any bomb. MV Med Star, under Coast Guard escort, arrived at outer anchorage off Mumbai at about 1930 hours on June 13, 2000 and remained under their surveillance throughout. A joint investigation team comprising representatives from Coast Guard, Navy, Customs, CBI and IB interrogated the stowaways. Representative from P&I Club, Bremen, Germany also negotiated with the stowaways. The Iranian stowaways were issued travel documents by Iranian Embassy to travel by air and left on June 23, 2000. The vessel sailed from Mumbai on June 24, 2000 with 4 Iraqi stowaways for Bandar Abbas via Kandla.

#### OTHER OPERATIONS

6.7 (a) **Security of Offshore Installations:** Coast Guard ships and aircraft are deployed for patrolling the oil rigs on a regular basis. The Director General of Coast Guard is the Chairman of the Offshore Security Coordination Committee which discusses the ques-

tion of security and disaster management of oil rigs once every quarter.

- (b) **Anti-Poaching Activity:** During the current year, Coast Guard ships on patrol in the Indian EEZ apprehended a total number of 62 fishing trawlers with 632 crew engaged in illegal fishing without valid documents. Since inception, the Coast Guard has apprehended 708 foreign fishing vessels with 7404 crew. Regular patrolling by the Coast Guard in the Indian EEZ has acted as a deterrent to poachers.

#### **WORKSHOP ON ANTI-PIRACY**

- 6.8 A Workshop on anti-piracy was conducted by the Coast Guard from October 18 to 20, 2000, at Mumbai and was attended by delegates from 17 member countries of the ASEAN Regional Forum (ARF). The workshop deliberated on the issues relating to strengthening of mutual cooperation and coordination to prevent and suppress piracy and armed robbery against ships at sea. The ARF workshop is the first ever international event conducted by the Coast Guard in India. This has heightened the image of the Coast Guard and done the country proud. The 'Day at Sea' in which 9 ships, 4 IBs, 3 Dorniers and 3 Chetak helicopters participated, clearly displayed to all visiting foreign delegates the capabilities of the Indian Coast Guard.

#### **INTERNATIONAL COOPERATION**

- 6.9 The Coast Guard ship Sarang towed the Mauritian Coast Guard vessel 'Vigilant',

from Port Louis to Mumbai for repairs at the Naval Dockyard, Mumbai.

#### **ASSISTANCE IN DISTRESS**

- 6.10 During the period under review, Coast Guard ships and aircraft assisted 23 fishing boats and 10 merchant ships in distress at sea.

#### **SECURITY**

- 6.11 During the period under review, Coast Guard ships and aircraft were deployed to provide seaward security to various dignitaries including the President of India and the Prime Minister of India. Coast Guard ships and aircraft also provide security for National Data buoys positioned in the Arabian Sea and the Bay of Bengal by the Department of Ocean Development for collection and monitoring of Oceanographic Data.

#### **MANPOWER PLANNING, RECRUITMENT AND TRAINING**

- 6.12 Basic training of Coast Guard personnel is conducted at Naval Training establishments. Since April 2000, the Coast Guard has recruited 9 Officers, 20 Yantriks and 105 Naviks. For the period from November 01, 2000 to March 31, 2001, induction of 14 Officers, 100 Naviks and 15 Yantriks is planned. Coast Guard personnel are deputed for reputed specialised courses like Staff Course at DSSC Wellington, CDM Secunderabad and the Naval Staff College in the USA. Besides these, for the last four years, Coast Guard pilots are being trained

in the courses of Basic Flying, Air Traffic Controller and Qualified Flying Instructor alongwith the pilots of Indian Air Force.

#### **ENVIRONMENTAL PROTECTION AND POLLUTION RESPONSE**

- 6.13 The Coast Guard is the competent national authority for protection of the maritime environment of India under the National Oil Spill Disaster Contingency Plan. So far, the Coast Guard has undertaken 36 oil spill operations. During the current year, Coast Guard ships and aircraft carried out pollution response operation of MV River Prince off Fort Aguada (Goa) during September 8-13, 2000.

#### **COMMUNITY INTERACTION**

- 6.14 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, rules of the road etc. In addition, certain sports programmes, such as volley ball or tug of war and inter-village sports are also 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 Mangalore and Paradip. Coast Guard ships have adopted an Island each in the Lakshadweep Island Group and when the ship is in the adopted area, the doctor conducts an OPD for a few hours.

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# 7

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## DEFENCE PRODUCTION AND SUPPLIES



*"ROTTER VERSES PROPELLER"  
Indigenous (ALH) Advance Light Aircraft & HPT-32 on display during Aero India Show, at Bangalore*

7.1 The Department of Defence Production was set up in 1962 in the aftermath of the Chinese aggression to create an indigenous defence production base which is self-reliant and self-sufficient. 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 from time to time and they have been modernised selectively, keeping in mind the emerging requirements of the Armed Forces. Presently, 39 Ordnance Factories and 8 Defence Public Sector Undertakings (DPSUs) are engaged in the task of manufacture of equipment and stores for Defence Services. One more Ordnance Factory is planned to be set up at Nalanda, Bihar. Capacities of the civil sector are also utilised for defence requirements. The DPSUs are:-

- 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 Ship Builders and Engineers Limited (GRSE)
- vii) Bharat Dynamics Limited (BDL)
- viii) Mishra Dhatu Nigam Limited (MIDHANI)

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

7.4 These defence production units have become increasingly self-reliant. Additional capacities have been created and new items have been productionised. These include the Main Battle Tank Arjun, the Advanced Light Helicopter (ALH) and a range of 155 mm anti-tank 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 Total Sales	Defence Public Sector Undertakings Total Sales Grand Total	
1998-99	4012.00	5536.10	9548.10
1999-2000	5460.00	5454.00	10914.00
2000-2001 (Targets)	6313.00	8260.07	14573.07
Achievements (upto Oct. 2000)	1909.00	2505.13	4414.13

7.6 The Defence Public Sector Undertakings and Ordnance Factories have exported items worth Rs.120.84 crore upto October 31, 2000 as against the target of Rs. 205.22 crore for the year 2000-2001.

### SUPPLIES WING

7.7 The guiding philosophy of the Indian defence industry policy has been to acquire self-reliance in defence materials. To achieve this objective, our endeavour has been to indigenise, wherever it is technologically feasible and economically viable. In view of long gestation period and fluctuating demand for defence equipment and stores, it was decided that the lead role in this field has to be taken primarily by the public sector. The private sector has also been involved, mostly as sub-contractor to Defence PSUs and Ordnance Factories for raw materials, semi-finished products, components and sub-systems.

7.8 The Supplies Wing has been continuing its efforts to locate and develop broad-based indigenous supply sources both in the public and the civil sectors for complicated and intricate equipments. Being the nodal agency for evolving purchase policies for the Ministry of Defence, policy decisions have been taken to ensure timely procurement of items through indigenous sources and also to develop more than one source. Certain codes of T-72 Tank and BMP-II have been transferred to OFB to avoid production hold-ups. A three-tier monitoring mechanism has been set up in the Ministry as under :

(a) **Apex Body:** This body meets once in a year and consists of captains of industry and Government functionaries and is the highest policy making body in respect of indigenisation. Development Commissioner for Small Scale Industries is also its member. During the year, two meetings of the Apex Body were held and as per the decision taken therein, the Draft Policy Statement on Defence Industry Policy is under preparation.

(b) **Central Technical Committee:** A Central Technical Committee (CTC) under the chairmanship of Secretary (Defence Production and Supplies) supervises the work of the Technical Committees. The indigenous sources are developed after following a laid down procurement procedure. The Technical Committees function as an integral part of the DGQA and the DGAQA in the case of aeronautical items.

(c) **Functional Groups:** There are three Functional Groups in three different disciplines. They normally meet once in a year and the industry is also represented in these meetings along with the Technical Committees and others concerned in order to forge a working relationship in Government's interface with the industry.

7.9 The institutional framework for carrying out the tasks of import substitution is available in the form of eight Technical Committees (TCs) which provide technical advice to the Supplies Wing to achieve these objectives. Each committee is headed by a Technical Officer of the rank of Major General/Briga-

dier or an 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 capabilities. After identifying items for indigenisation, keeping in view the commercial viability and strategic needs, these Committees ensure timely supply of defence equipment / stores under overall guidance of the Supplies Wing.

7.10 In order to encourage 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 the inputs of defence equipment and stores are duly recognised by the Supplies Wing and deserving units are presented with suitable awards. To help the civil sector to familiarise itself with the requirements of Armed Forces, permanent sample rooms are maintained in the four metropolitan cities. For ensuring enhanced and meaningful interaction, conferences are held from time to time with civil industry. During the year 1999-2000, 16 Exhibitions-cum-Vendor Awareness Programmes with DGQA participation were held at various locations throughout the country.

7.11 In so far as the task of ab-initio development of defence supplies is concerned, the value of the developmental defence supply orders placed on the private sector has risen from approximately Rs.60 crore per annum during the early eighties to around Rs.200 crore

per annum in recent years. During the year 1999-2000, a record was made by placement of orders worth Rs.278.58 crore for ab-initio development.

7.12 **Achievements :** The Supplies Wing deals with the items which require ab-initio development. The following table gives details of items ordered and their value for three years:-

Year	No of items Systems/Sub- Systems Ordered	Value Rs. in crore)
1998-99	3335	199.25
1999-2000	2839	278.58
2000-2001 (upto 31.10.2000)	739	39.80

#### ORDNANCE FACTORIES

7.13 The Ordnance Factories Board plays a key role in attaining self-sufficiency and self-reliance for defence preparedness of the country. The importance of the Ordnance Factories has been proved in the past as well as during the 'Operation Vijay'. The Ordnance Factories Organisation consists of 40 factories, (of which one is in the project stage) some of which are the oldest industrial establishments in the country. The first Ordnance Factory was established in 1801 at Cossipore, near Kolkata. By 1947, the number of Ordnance Factories had grown to 16. Their growth has been particularly rapid after independence. They play a vital role in equipping the armed forces as well as

para-military forces with weapons, ammunitions, tanks, infantry combat vehicles, transport vehicles, clothing, general stores and other equipment. These factories are geographically spread over the country. There are ten Ordnance Factories in Maharashtra, eight in Uttar Pradesh, six each in Madhya Pradesh and Tamil Nadu, four in West Bengal, two in the newly carved out Uttranchal and one each in Andhra Pradesh, Orissa and the Union Territory of Chandigarh. One factory is being set up at Nalanda, Bihar. The 16 pre-Independence Ordnance Factories had to contend with an inadequate civil industrial infrastructure. Hence, they had to produce, besides finished stores, basic input and intermediate materials as well. The 23 post-independence factories are linked to the developed industrial base for supply of raw material, component and semi-finished inputs.

7.14 The Ordnance Factories have evolved into a strategic and dedicated production base for lethal and non-lethal defence stores. Investments on their infrastructure stem from national security and strategic needs.

7.15 **Ordnance Factories Organisation** : The Ordnance Factories Organisation is headed by the Directorate General Ordnance Factories (DGOF). In 1979, a Board was established at Kolkata as per the recommendations of the Rajyadhaksa Committee. The Director General Ordnance Factories is the Chairman of this Board. He is assisted by 9 other Members, each of the rank of Additional DGOF. The Addl DGOF/ Members

are in charge of 5 operating divisions and 4 staff functions as indicated below:-

**Operating Divisions:**

- i) Ammunition and Explosives(A&E)
- ii) Weapons Vehicles and Equipments (WV&E)
- iii) Materials and Components(M&C)
- iv) Armoured Vehicle (AV);
- v) Ordnance Equipment and Clothing (OEF)

**Staff Functions:**

- i) Finance
- (ii) Personnel
- (iii) Planning and Materials Management
- (iv) Projects and Technical Services

7.16 **Product Technology:** Capacities exist to produce a wide range of arms and ammunitions for the Infantry, Artillery and Armoured Corps of the Army, and for the Navy the Air Force. The factories produce military transport vehicles, infantry combat vehicles, armoured vehicles, optical and opto-electronic instruments, field cables, summer and winter uniforms, tentages, parachutes, miscellaneous leather goods, floats bridges, general stores, civil blasting explosives etc. Facilities also exists for design and manufacture of captive special purpose machine tools for production of arms and ammunition components.

7.17 Besides supply of arms, ammunition and other items to the Armed Forces, the needs of the police and the para military organisations are also catered to. Items are also produced for the Railways, Public Sector Undertakings and other Government Departments and even private bodies.

7.18 The Ordnance Factories have taken up continuous upgradation of products and manufacturing technologies to meet emerging requirements of the defence forces. The futuristic approach marks the establishment of new facilities.

7.19 **Growth:** Ordnance Factories' output for sales has been steadily growing over the years with a record production achievement of Rs. 5460 crore during 1999-2000, representing an increase of more than 36.1% over the sales of Rs. 4012 crore during 1998-99. To keep pace with the developments in arms, ammunition and other equipments, the Ordnance Factories have been continuously updating / upgrading technology with the association of DRDO or through transfer of technology.

7.20 In 2000-2001, the Ordnance Factories are set to achieve production for sales of Rs.6313 crore in accordance with the projected requirements of defence and other indentors. This will represent a growth of 15.6% over the level obtained in 1999-2000 of Rs. 5460 crore.

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

- 
- |  |   |   |
|--|---|---|
| <p>i) All the thirty nine Ordnance Factories have obtained Quality System Certification as per ISO 9000/9002 standards.</p> <p>ii) One modified Medium Mine Proof Vehicle, incorporating the improvement/changes suggested by Indian Army, was made ready by Ordnance Factory Project Medak (OFPM) after thorough trials and was handed over to the Army for users trial. This vehicle, besides being cost effective, is also of superior performance capabilities to combat terrorism and insurgency activities as it can provide maximum safety from ballistic attack of 10 kg. of TNT mine blast.</p> <p>iii) Ordnance Factories have developed Shell 155 mm Extended Range Full Bore (ERFB) to Naschem Technology. The Naschem Shell is made from high tensile steels with intricate machining as compared to Bofors design. The production of these shells, hitherto being imported, has been established.</p> <p>iv) Ordnance Factory Khamaria has successfully developed boiling out and refilling of old TORPEDO WARHEADS for the Navy to solve the crisis of operational requirement.</p> <p>v) Machine Tool Prototype Factory Ambarnath, has successfully designed and manufactured and supplied Sheet Note Counting Machines for Bank Note Press, Devas. These machines</p> | <p>are import substitutes and thus the supply will result in saving foreign exchange.</p> <p>vi) Two employees of Rifle Factory Ishapore have been selected for the prestigious awards of ‘SHRAM BHUSHAN’ and ‘SHRAM VIR’ respectively for the year 2000.</p> | <p>equipment has been positioned at Central Proof Establishment, Itarsi and has been used for proof of propellants of 155 mm Ammunition. The performance has been found satisfactory.</p> <p>ii) Ordnance Factory at Bhandara has developed and productionised Booster and Sustainer Propellant required for Konkurs Missile. Exhaustive proof of the trial batch was conducted at M/s. BDL Hyderabad and found acceptable in all respects.</p> <p>iii) Ammunition Factory at Kirkee has successfully developed new version of short range, medium range and long range Anti Missile counter measures for the Navy, which can be used to counter in-coming missiles. Such type of anti-missile counter measures have been developed in the country for the first time and the Navy has already placed indent for regular supply.</p> <p>iv) Ordnance Factory at Dehu Road has established Igniters, using indigenous materials for Base Bleed Igniters, for 155 mm HE, ERFB (BB) ammunition. The performance has been satisfactory. The range of 155 mm HE Ammunition will increase by 15% by using Base Bleed Igniters.</p> <p>v) Ordnance Equipment Factory at Kanpur has developed Snow Boot, essentially required by Armed Forces at high altitudes in snow bound areas</p> |
|--|---|---|
- 7.22 **Self-Certification In Ordnance Factories:** Quality being of crucial importance, all equipment and sub-systems undergo stringent quality checks. In line with practices prevailing in industry, both within and outside the country, Self-Certification by production units is being introduced in respect of some identified stores and will be progressively expanded.

7.23 **Research And Development Activities:** In-house R&D activities towards Product & Process improvements are attracting a great deal of attention in Ordnance Factories. Techniques of solid modelling and sensitivity analysis have been adopted in meeting the design of services stores. Some of the major achievements in these fields are as follows:-

i) Ordnance Factory at Kanpur had undertaken an in-house R&D Project for 130/155 mm upgunning in 1992 involving design of 155 mm Calibre Ordnance and assembly with the existing 1340mm Field Gun so that the existing Gun becomes capable of firing entire family of 155 mm Calibre Bofors Ammunition. The upgunned
-

up to temperature (-) 40 centigrade. These are light weight snow and water resistant infantry boots.

- 7.24 **Diversification:** Ordnance Factories produce a wide variety of chemicals for commercial use by different industries in the civil sector. They also manufacture a wide range of textiles, leather goods and sporting arms and ammunition for the civil sector.

### MODERNISATION OF ORDNANCE FACTORIES

- 7.25 Government has finalized modernisation plan for all the ordnance factories. The plan encompasses upgradation of technology, augmentation of capacities and replacement of old and obsolete plant and machinery that has outlived its life as well as installation of new plant and machinery with a view to productionise Vehicle, Armament, Ammunition, Equipment and General stores etc of latest technology. The technologies and machines being planned would be flexibility to take wide range of products. For this purpose the investment of Rs.1241 crores is envisaged during the Ninth Plan period and till 1999-2000, a sum of Rs.512 crores has been invested and balance of Rs. 729 crores are planned for investment upto 2002.

### ENERGY CONSERVATION

- 7.26 Energy conservation in Ordnance Factories is a continuing process and conservation measure cover all spheres of activities. Economy in energy consumption is achieved through increased efficiency and utilisation

and technological upgradation. Improvement in utilisation is being pursued to achieve a target restricting energy consumption to 3.69% of value of production in the current year.

### POLLUTION CONTROL

- 7.27 The pollution control activities in the Ordnance Factories have been assigned due importance. The factories are obtaining statutory consent orders from respective State Pollution Control Boards for discharge of liquid effluents and gaseous emissions. They are having Effluent Treatment Plants which are operational. The progress/position in this regard is monitored strictly at OFB. The factories are also submitting annual Environmental Statement to the respective State Pollution Control Board as per the specified format.

### SAFETY

- 7.28 The corporate safety policy was reformed during 1996 to introduce stringent safety standards, safety consciousness and vigilance in the Ordnance Factories. Accident prone and hazardous areas have merited special concern. 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. The use of personnel protective gear and appliances is emphasised.
- 7.29 Accidents are investigated thoroughly and the recommendations made by boards of inquiry

and audit teams are implemented meticulously. Periodic safety audit inspections at different levels(level-I, quarterly by factory's local team; level-II, half yearly by zonal team; and level-III, annually by OFB team) have been introduced. Besides, the Centre for Environmental and Explosives Safety conducts audit inspections of ammunitions and explosives group of factories. Three regional Controllerates of Safety have been set up to enhance the efficacy of safety management. These are situated at Ambajhari(Region-I for 12 factories), Kanpur(Region-II for 11 factories) and Avadi(Region-III for six factories). The remaining 10 factories in the ammunition and explosives group are the direct concern of the Ordnance Factory Board.

### ENVIRONMENTAL POLLUTION

- 7.30 In line with the Government policy to purify the environment by fighting pollution, Ordnance Factory Organisation undertakes afforestation as an ongoing process. Plan for planting new trees in 2000-2001 is 5,92,363 Nos., and 2,58,345 Nos. have been planted upto October 31, 2000.

### PIECE WORK RATE SYSTEM

- 7.31 A new piece work co-relation and incentive scheme has been introduced from March 1, 2000 on a trial basis for a period of two years to provide incentive to workers for continuously increasing the productivity and achieving the increased level of production targets.
- 7.32 **Productivity Bonus:** 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 1999-2000. Consequent on the revision formula, PLB arrears for 22 days for the years 1993-94 to 1998-99 have also been paid.

### COMPUTERISATION IN ORDNANCE FACTORIES

- 7.33 Information Technology (IT) is the major thrust area to provide Management Information for decision support systems at all levels, improve design capabilities, streamline accounting and analysis and reduce paper work.
- 7.34 Computerised Applications have been implemented in the Ordnance Factory Board and 39 Ordnance Factories in the following areas:
- On-line Production Planning and Control (PPC)
  - Pay-roll
  - Personnel Information System
- 7.35 Data Communication through dial-up modem has been set up in all the Ordnance Factories. In 1998-99, a satellite based Wide Area Network (WAN) was established connecting 23 Ordnance Factories and Ordnance Factory Board for Voice Communication. Video Conferencing facility is available at five locations viz. Kolkata, Pune, Kanpur, Chennai and Jabalpur. A turnkey

project for upgrading the existing PPC System to state-of-the-art technology and establishment of Local Area Network (LAN) is nearing completion at all the 39 Ordnance Factories and Ordnance Factory Board. A project for integrating LAN and WAN and development of MIS at Board level is contemplated. An integrated Management Information System (MIS) covering all the activities of OFB and Factories is being finalised. In-house and external training programmes are conducted for employees to keep pace with the state-of-the-art Information Technologies.

### QUALITY MANAGEMENT

- 7.36 In Ordnance factories, quality improvement is an ongoing process and inbuilt in the production system. Implementation of Total Quality Management concepts have been given as a thrust and challenge area for all Ordnance Factories. Stress has been given to reduce the rejection percentage of stores/components where the same is high. Fifteen Ordnance Factories have already got accreditation of their laboratories from the National Accreditation Board for Laboratories (NABL).

### OTHER MEASURES

- 7.37 An Apex Productivity Council has been set up including representatives of the Board, recognised federations, and recognised associations of non-gazetted officers, supervisors and clerical employees. At the unit level, local productivity councils exist with similar

constitution. The Apex Productivity Council meets twice in a year to address productivity related matters and review the functioning of the local productivity councils. The unit level productivity councils meet on a monthly basis to address measures for improving productivity and reducing costs.

### PUBLIC SECTOR UNDERTAKINGS

- 7.38 The value of production, sales, investment and profit of the 8 Defence PSUs are given in Appendices – I to III.

### HINDUSTAN AERONAUTICS LIMITED (HAL)

- 7.39 The Hindustan Aeronautics Limited was established in October 1964 by merging Hindustan Aircraft Limited and Aeronautics



*HPT-32- Trainer Air craft (HAL) on display during Aero India Show at Bangalore*



*Lancer During High Altitude Trials*

<p>India Limited. It is engaged in design, development, manufacture, repair and overhaul of aircraft, helicopters, engines and their accessories. The Company has 12 divisions located in six States. Its registered office is at Bangalore.</p>	<p>Aircraft (LCA), integrated systems and test fly, and realize this aircraft for commercial production.</p>	<p><b>BHARAT ELECTRONICS LIMITED (BEL)</b></p>
<p>7.40 The HAL's major supplies/services are to the IAF, Navy, Army, Coast Guard and the BSF. As a spin-off, transport aircraft and helicopters have been supplied to the Airlines as well as State Governments. The Company has achieved a foot-hold in export in more than 20 countries, having demonstrated its quality and price competitiveness. HAL supports fully the Space Vehicle programme of ISRO. It has also diversified into industrial and marine gas turbine business and software business.</p>	<p>(iv) The Company has initiated the upgradation of Jaguar Navwass and MIG-27 M aircraft.</p> <p>(v) The Company has developed the basic utility version of the Advanced Light Helicopter (ALH) expected to be certified shortly.</p> <p>(vi) On the initiative of HAL's R&amp;D, a Low Cost Attack Helicopter (LANCER) has been under R&amp;D and the successful technology demonstrator, with 7.2 mm gun pod and 68 mm Rocket Pod, Armour protection against ground fire. Orders for 12 Nos. are expected from the Army shortly. Production has already commenced and delivery is planned during 2001.</p>	<p>7.42 The Bharat Electronics Limited, established in 1954 with its corporate office at Bangalore, has nine units in the country. It is engaged in design, development and manufacture of sophisticated state-of-the-art electronics equipments/ components for the use of defence services, para-military organisations and other Governmental users like All India Radio, Doordarshan, Department of Telecommunications, Police Wireless, Meteorological Department, Airport Authority of India etc. RResearch and Development departments were established in BEL from mid 1960s, initially in Bangalore and gradually in all the units of BEL.</p>
<p>7.41 Significant achievements of HAL during the year are:</p> <p>(i) Research &amp; Design activities of the company have been strengthened and re-organised into several discreet and functional Research and Design Centres and co-located with related Production Divisions for synergy.</p> <p>(ii) 3082 items were indigenised during the period April-September, 2000 against Memorandum of Understanding (MoU) annual target of 5345 items. Anticipated foreign exchange savings would be Rs. 1153 lakhs per annum at current price level.</p> <p>(iii) The Company has undertaken the productionisation of Light Combat</p>	<p>(vii) Development of Air Ambulance version of Advanced Light Helicopter has also been undertaken by HAL for casualty evacuation role with facilities to provide medical treatment on board. First flight is planned in 2001.</p> <p>(viii) 91% supplies for Aircraft on Ground Demands were met within 30 days, of which 28% were supplied within 72 hours, as against the norms of 100% supplies within 45 days. 99.5% of supplies for spares against Routine Orders were met within 24 months compared to the norm of 100% supplies within 39 months.</p>	<p>7.43 Because of its intrinsic capability in the component area, BEL is able to manufacture some of the critical components for internal consumption in BEL &amp; DRDO. Apart from this, BEL manufactures and supplies the components on a commercial basis to meet the requirements of different manufacturers of electronic products in the country. The company's turn-over during 1999-2000 was Rs. 1494.14 crore and is anticipated to reach around Rs. 1600 crore during the current year.</p> <p>7.44 Significant achievements of BEL are:-</p> <p>(i) BEL has set up in-house Research &amp; Development Groups in all the Units for each product area. The company has been steadily increasing its resources and investments in R&amp;D activities, which is around 5% of its turn-over.</p>

- (ii) The Company manufactured various items developed by the DRDO such as Hull Mounted Sonar Systems, Low Flying Detection Radar (INDRA-II), Automatic Electronics Switch (AES MK-II), Semi Ruggedised Automatic Exchange (SRAX), Electronic Warfare Systems for Army, Navy and Air Force, Radio Wire Integration Unit (RWI) and Secret Telephone (SECTEL).
- (iii) All the Divisions/Units of BEL have obtained the ISO 9000 accreditation. While a majority of them have got the ISO 9002 certification, a few of the Divisions/Units have obtained the ISO 9001 certification.
- (iv) Over the years, BEL has set up 'state-of-the-art' manufacturing, testing and quality assurance facilities in all its Units and has been periodically updating/modernising them.
- (v) Facilities for carrying out computer controlled automatic testing, climatic environmental tests, Electro Magnetic Interference/Electro Magnetic Compatibility tests etc., have been created in BEL for conducting in-house quality checks.

**BHARAT EARTH MOVERS LIMITED  
(BEML)**

7.45 The Bharat Earth Movers Limited, a public sector undertaking under the administrative control of the Ministry of Defence, was established in May 1964 and commenced operations from January 1965. With the dis-

investment of shares of BEML by Government of India, as of end March 1999, Government holds over 61% of equity shares in the company and is a major shareholder. It has three manufacturing units located at Bangalore, Kolar Gold Fields and Mysore, all in the State of Karnataka.

7.46 All the production units of BEML are fully equipped with the state-of-the-art technology deploying Numerically Controlled machines and other special purpose machines including Welding Robots. A wide range of mining and construction equipment like walking draglines, bulldozers, hydraulic excavators, dump trucks, etc. railway products like rail coaches, AC/DC EMUs, railbus etc.; and defence vehicles/aggregates and diesel engines are being produced in these manufacturing units.

**ACHIEVEMENTS**

- 7.47 (i) All the manufacturing Units of BEML continue to hold accreditation to ISO 9001/9002 certification.
- (ii) The Company's R&D department has successfully developed and launched Railbus, Four Wheel Overhead Equipment Inspection Car and Treasury Van. These products have been inducted into use. R&D has also undertaken several new projects which are in various stages of development.
- (iii) A Women's Cell has been constituted at the Corporate Office of BEML comprising of one woman representative from each unit. It has been en-

trusted the task of looking after the grievances of women employees and making suggestions/recommendations to improve the quality of their life.

- (iv) The 'Best Chief Executive Gold Award', instituted by Indira Gandhi Memorial National Award for Excellence in Indian Industries, was given to Shri MP Sriram, Executive Director (Bangalore Complex).
- (v) The Company has introduced a programme under which educational loan has been extended to the children of SC/ST employees to overcome the financial crisis at the time of school admission.

**MAZAGON DOCK LIMITED (MDL)**

7.48 Mazagon Dock Limited, established in 1960, is a premier shipyard in the country and builds a variety of warships for the Indian Navy and the Coast Guard. Its product range includes submarines, destroyers, frigates, missile boats, corvettes for the Indian Navy and patrol vessels for the Coast Guard. It has also diversified its products for the oil exploration sector through production and installation of wellhead platforms and rendering services for coating/laying sub-sea pipelines.

- 7.49 Significant achievements of the Company during the year are:
- (i) A 1600 cubic meter Hopper Dredger was exported to M/s Sagua, France, in June 2000.

- (ii) A 45 Ton Bollard Pull Tug was delivered to Jawaharlal Nehru Port Trust in April 2000.
- (iii) One destroyer and one corvette have been delivered to the Indian Navy in January 2001.
- (iv) A number of major offshore projects namely CRMP, BHS Cable, LQ Module of BHN, installation of B-121 temporary deck and rehabilitation work on EE-holideck were completed during the year.
- (v) For the year 1999-2000, the Company reached the rating of 'Very Good' in terms of criteria outlined in the Memorandum of Understanding signed by it with the Government.

**GARDEN REACH SHIPBUILDERS AND ENGINEERS LIMITED( GRSE)**

- 7.50 The 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, carriers and oil tankers, patrol vessels, attack craft, high technology ship borne equipment, portable Bailey type steel bridges, turbine pumps for the agricultural sector, marine sewage treatment plants, diesel engines etc.
- 7.51 Significant achievements of the company during the year have been as under:
- (i) One fleet tanker was delivered to the Indian Navy in April 2000.

- (ii) One frigate was delivered to the Indian Navy in April 2000.
- (iii) One fast attack craft was delivered to the Indian Navy in September 2000.
- (iv) One hovercraft was delivered to the Coast Guard in September 2000.
- (v) The rating of 'Very Good' was awarded to the company for its performance based on criteria outlined in the Memorandum of Understanding signed by it with the Government for the year 1999-2000.
- (vi) An export order worth US Dollar 25,000 was received from M/s Navnautik PTE Ltd., Singapore, for preparation of computer numerical controlled plate cutting information based on the technical data provided by M/s. Naunautik PTE Ltd.

**GOA SHIPYARD LIMITED ( GSL)**

- 7.52 The 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 sectors. Its product range includes survey vessels, missile boats, patrol vessels, offshore supply vessels, oil tankers, passenger ferries, tugs, barges etc.
- 7.53 Significant achievements of the company during the year have been as under:
- (i) The Company achieved many of the targets in building ships for the Indian Navy and the Coast Guard.

- (ii) A number of measures were taken for ensuring economy in expenditure.
- (iii) Steps were taken to accelerate the progressive use of Hindi in official transactions.
- (iv) All the instructions issued by the Central Government for protection of environment, filling up of vacancies reserved for SC/ST and persons with disabilities, family welfare and so on were implemented.

**BHARAT DYNAMICS LIMITED (BDL)**

- 7.54 The Bharat Dynamics Limited was established in 1970 for manufacture of Guided Missiles. It is among the few strategic industries that possess the capability to produce advanced Guided Missile Systems. The company has two units, one at Kanchanbagh, Hyderabad, and the other at Bhanur, Medak District. Besides the indigenous Prithvi missile, it produces Milan and Konkurs missiles along with their launchers and other in-house developed products like Flame Launchers, Simulators etc. The company is working hand-in-hand with the DRDO for technology absorption of other missiles under Integrated Missile Development Programme. The company has drawn up a Perspective Plan (1999-2008) to develop new technologies to meet the future requirements of the users.
- 7.55 The company's achievements during the year are as follows:
- (i) It has established Computer Aided Design/Computer Aided Manufac-

- ture Centre which is fully operational. The facility is capable to provide on-line drawings and data transfer between the DRDO and the Company.
- (ii) BDL has launched efforts to enter into export market and has exported goods worth Rs. 36 lakhs in the current year.
  - (iii) The company maintained its growth profile and the targets. Its performance was rated "EXCELLENT" for fourth consecutive year. The Company paid a dividend of 20% for the year 1999-2000.
  - (iv) The Workers' Union of BDL was adjudged as the best union and received the Shram Shakti Award for the year from Hon'ble Chief Minister of Andhra Pradesh.
  - (v) The Milan, Konkurs and Prithvi divisions of the company have ISO-9002 certification.

**MISHRA DHATU NIGAM LIMITED  
(MIDHANI)**

7.56 The Mishra Dhatu Nigam Limited (Midhani), was incorporated as a Public Sector Undertaking in 1973 at Hyderabad for manufacture and supply of special metals and super alloys to serve the strategic needs of the country in Defence, Atomic Energy, Space, Aeronautics, Electronics etc. with a view to attain self-reliance in this sophisticated field. Midhani went into commercial production in July 1983. Today, Midhani manufactures some very complex alloys which only a few advanced countries in the world produce.

7.57 The achievements of the company during the year are as follows:-

- (i) EN-24 steel and Maraging steel bars produced by Midhani performed well as per designer's requirements in AGNI-II flight test.
- (ii) Melting of Russian grade Titanium alloys was taken up against ATVP orders for supply of seamless tubes of various sizes.
- (iii) 300 kg of Molybdenum sintered slabs have been directly rolled (without going through forging) to 6.5x350 and 8x350 mm sizes, cutting down the cost of production.
- (iv) First 50 T supply against bulk order of 1537 T quantity of very special grade stainless steel plates (304L NAG grade and impossible to import) were supplied to the Department of Atomic Energy.
- (v) Production of two components by investment casting for gas turbine engine applications for BHEL was successfully attained.
- (vi) MIDHANI was bestowed with three prestigious Government of India awards, Revenue Department "Samman Patra" award for the year 1998-99 in recognition of outstanding contribution made towards Customs and Central Excise Revenue at the All India Level, and two separate

awards at commissionerate level Andhra Pradesh, one for contribution to Customs Revenue and the other for Central Excise.

- (vii) Midhani has developed high temperature nickel base alloy similar to Inconel 601, used for construction of various equipments for thermal and chemical processing, pollution control and power generation.
- (viii) Midhani has developed large dia bars of Ti-6Al-4V alloy with improved macro structure and ultra sonic inspectability supplied to Kaveri Engine Programme and other customers.
- (ix) Midhani has developed titanium alloy equivalent to the Russian alloy BT-14, used for cryogenic engine components. Ingots produced have been forged to bars and slabs of different sizes and around 5 T of finished product supplied to VSSC.
- (x) Titanium air bottles are required in missiles and space vehicle systems. MIDHANI has developed manufacturing process for making titanium alloy hemispheres through super-plastic forming which is a very advanced technology. Now it is proposed to add specialized TIG welding facility for making the value-added items fully in MIDHANI.

**OTHER ORGANISATIONS IN DEPARTMENT OF DEFENCE PRODUCTION AND SUPPLIES**

**DIRECTORATE GENERAL OF QUALITY ASSURANCE (DGQA)**

7.58 The effectiveness of the Armed Forces depends on reliable and consistent performance of their weapons and equipment. The DGQA is responsible for ensuring high precision and quality in respect of stores for the Army, the Navy (excluding naval armaments) and all command users items for the Air Force. The organisation is structured into seven Technical Directorates looking after eight Technical Committees - each of which is responsible for a distinct range of equipment. These Technical Directorates function in a three tier vertical control structure comprising their respective Controllerates, Field Quality Assurances Establishments and Proof Establishments (for Armament discipline only). The task performed by these three tiers are complimentary and compatible to each other and are integrated to achieve maximum efficiency.

7.59 Main functions of the DGQA are:

- (i) Formulation/control of specifications, drawings, technical literature and documents for defence equipment and stores.
- (ii) Undertaking quality assurance by testing and technical evaluation for service use.

- (iii) Providing all technical data and other basic inputs for standardisation, codification and cataloguing to Directorate of Standardisation.
- (iv) Establishment of sources for procurement.
- (v) Product improvement based on feedback from the end user.
- (vi) Keeping close liaison and maintaining interaction with the civil sector industry from the initial stage of development and productionisation of components and products.

**INSPECTION OF STORES**

7.60 The value of stores inspected and accepted by the Directorate during 1998-99, 1999-2000 and 2000-2001 are as under:

Year	Value (Rs. in crore)	
	Inspected	Accepted
1998-99	8211.47	7377.99
1999-2000	11816.40	10804.22
2000-2001 (upto Sep. 2000)	5297.55	4909.05

7.61 The Directorate has streamlined its procedures to ensure quality while suitably modifying quality assurance procedures. DGQA teams have visited forward areas to provide repair and maintenance.

**DIRECTORATE OF STANDARDISATION**

7.62 Directorate of Standardisation was constituted in 1962 to control item proliferation within Defence Services. Nine standardisation cells have been located at nodal stations to provide a booster to the Standardisation activity. The basic objective of Directorate of Standardisation is to establish commonality in equipment and components among the three Services so that overall inventory of the Defence Services is reduced to 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 and Joint Services Qualitative requirements.
- (ii) Codification and Cataloguing of Defence Inventory and
- (iii) Entry Control.

**ACHIEVEMENTS**

- 7.63 (i) Twelve important documents covering main equipment/ assemblies, sub-assemblies have been published till October 2000.
- (ii) 198 standard documents which have completed 5 years, have been revised upto October 2000.
- (iii) 1354 items were considered for vari-

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ety reduction under 64 Joint Services Rationalised Lists. This quantity was reduced by 146 items, leaving 1208 items, thus bringing 10.75% variety reduction.

### **CODIFICATION AND CATALOGUING**

- 7.64 In continuation of the process of accelerating the pace of codification, 19,32,767 items were codified till October 2000 and 2025 catalogues regarding Main Equipment/sub-assemblies have been published. This has been possible due to upgradation of the Networking system of EDP and on-line data transfer between COD, PSUs and EDP Cell of the Directorate of Standardisation.

### **HARMONISATION OF STANDARDS**

- 7.65 62 standardisation documents were taken up with the Bureau of Standards for harmonization out of which six have been finalised/accepted.

### **NETWORKING AND WEBSITE**

- 7.66 The Directorate of Standardisation has established a Network which connects its nine Cells located at Dehradun, Delhi, Kanpur, Itchapur, Jabalpur, Pune, Hyderabad, Bangalore and Chennai and the remote servers provide connectivity to the AsHSPs, Defence Service Units and the PSUs. Secretary (DP&S) formally launched the Directorate of Standardisation Website on June 26, 2000, the Standardisation Day. This website would enable organisations and industries to access

relevant information regarding equipment and components being inducted in the Defence Services.

- 7.67 An 'Institute of Standards Training' has been established at Pune to impart training to the officers and staff of various Defence organisations and PSUs on Standardisation and Codification. The Institute plans to conduct courses in ISO:9000, Networking, Website, Computer Programming and Environment Management in future.

### **DIRECTORATE OF PLANNING AND CO-ORDINATION**

- 7.68 The Directorate of Planning and Coordination was set up in 1964 as a deemed attached office of the Department of Defence Production and Supplies 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 R&D agencies and the quality assurance organisations thereby facilitating Transfer of Technology (ToT) and 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.

- 7.69 Besides indigenous manufacture of armoured vehicles, some of the major programmes presently being progressed by the Directorate are the setting up of facilities of filling of high calibre ammunition as well as overhaul of Ajeya tanks and their engines, product improvement of artillery guns and limited series production of Main Battle Tank Arjun, and progressing and monitoring of the 40<sup>th</sup> Ordnance Factory, coming up at Rajgir in Nalanda District of Bihar for production of propellant charges for high calibre ammunition.
- 7.70 As India has a large base of Defence Industrial Productions, this Directorate is pursuing with the Ordnance Factory Board and the Defence Public Sector Undertakings the question of exploring and harnessing these capabilities for manufacture of world class products at internationally competitive prices and possibilities of co-production/joint ventures with international leaders, to facilitate induction of new technologies.

## DEFENCE EXHIBITION ORGANISATION

7.71 The Defence Exhibition Organisation (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 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 the India International Trade Fair held in November each year.

7.72 The DEO also assists the Department of Defence Production and Supplies (DDP&S) in vendor awareness and development programmes of the production units in co-operation with Directorate General of Quality Assurance (DGQA).

7.73 By way of export promotion effort, the DEO coordinates the participation of Defence Public Sector Undertakings and Ordnance Factory Board in selected international exhibitions every year. During the current financial year, Defence Public Sector Undertakings, Ordnance Factory Board and Defence Exhibition Organisation took part in

the Africa Aerospace and Defence 2000 at Pretoria, South Africa, from September 5 to 9, 2000 and put up a compact India Pavilion.

## INTERNATIONAL AEROSPACE EXPOSITION – AERO INDIA 2001

7.74 The third International Aerospace Exposition-Aero India 2001, was held from February 7 to 11, 2001 at Air Force Station, Yelahanka, Bangalore. 157 international companies from 18 countries had participated in the show. Austria, Brazil, Belarus and South Africa participated for the first

time. Besides this 72 Indian companies also participated. France, Israel, Italy, Russia and UK put their National Pavilion at the show. 19 foreign aircraft from six countries (UK, Russia, France, Israel, Poland and Ukraine) Su-30, MiG-29K, Skytruck, Falcon, Hawk, An-38, IL-76, Dornier 328 jet and Mi 8 helicopter participated in the show in addition to 37 Indian aircrafts. The Suryakiran team from the Indian Air Force was the highlight of the show. LCA had also flown.

36 Foreign Defence Delegation at the Defence Minister's/ Air Chiefs/Senior Defence Officials levels visited the show.

## Appendix -I

VALUE OF PRODUCTION AND SALES						
Name of PSU	1998-99		1999-2000		2000-2001 (April - Dec' 2000) (Provisional)	
	VOP	Value of Sales	VOP	Value of Sales	VOP	Value of Sales
Hindustan Aeronautics Ltd. (HAL)	2089.03	2047.73	2454.43	2400.88	1108.77	957.01
Bharat Electronics Ltd. (BEL)	1216.99	1199.16	1543.29	1494.14	594.84	419.33
Bharat Earth Movers Ltd. (BEML)	1244.15	1212.62	1293.85	1317.09	582.03	471.46
Mazagon Dock Ltd.(MDL)	1701.69	253.99	1146.47	2262.83	315.09	455.15
Garden Reach Shipbuilders & Engineers Ltd. (GRSE)	425.95	363.52	427.30	680.44	211.78	62.95
Goa Shipyard Ltd. (GSL)	78.65	44.87	86.21	186.09	93.13	11.78
Bharat Dynamic Ltd. (BDL)	355.27	320.84	314.14	324.01	115.93	79.23
Mishra Dhatu Nigam Ltd. (Midhani)	93.82	93.37	111.90	110.48	45.41	48.19
<b>Total</b>	<b>7205.55</b>	<b>5536.10</b>	<b>7377.59</b>	<b>8975.96</b>	<b>3066.98</b>	<b>2505.13</b>

## Appendix- II

## Appendix - III

INVESTMENT						
(Rs. in crore)						
Name of the PSU	1998 - 99		1999 - 2000		2000 - 2001 (Estimated)	
	Equity	Govt. Loans	Equity	Govt. Loans	Equity	Govt. Loans
HAL	120.50	-	120.50	-	120.50	-
BEL	80.00	17.26	80.00	-	80.00	-
BEML	22.50	14.40	22.50	-	22.50	-
MDL	199.20	98.55	199.20	-	199.20	-
GRSE	123.84	7.36	123.84	-	123.84	3.68
GSL	19.40	0.20	19.40	0.20	19.40	-
BDL	115.00	-	115.00	-	115.00	-
MIDHANI	137.34	-	134.37	-	137.34	-
<b>TOTAL</b>	<b>817.78</b>	<b>137.77</b>	<b>814.81</b>	<b>0.20</b>	<b>817.78</b>	<b>3.68</b>

PROFIT AFTER TAX		
(Rs. in crore)		
Name of the	1998-99	1999-2000
HAL	177.74	368.26
BEL	53.63	107.93
BEML	0.62	14.60
MDL	16.23	13.07
GRSE	42.57	21.22
GSL	1.94	2.35
BDL	62.27	80.76
MIDHANI	2.18	2.14
<b>TOTAL</b>	<b>357.18</b>	<b>610.33</b>

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# 7

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## DEFENCE PRODUCTION AND SUPPLIES



*"ROTTER VERSES PROPELLER"  
Indigenous (ALH) Advance Light Aircraft & HPT-32 on display during Aero India Show, at Bangalore*

7.1 The Department of Defence Production was set up in 1962 in the aftermath of the Chinese aggression to create an indigenous defence production base which is self-reliant and self-sufficient. 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 from time to time and they have been modernised selectively, keeping in mind the emerging requirements of the Armed Forces. Presently, 39 Ordnance Factories and 8 Defence Public Sector Undertakings (DPSUs) are engaged in the task of manufacture of equipment and stores for Defence Services. One more Ordnance Factory is planned to be set up at Nalanda, Bihar. Capacities of the civil sector are also utilised for defence requirements. The DPSUs are:-

- 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 Ship Builders and Engineers Limited (GRSE)
- vii) Bharat Dynamics Limited(BDL)
- viii) Mishra Dhatu Nigam Limited (MIDHANI)

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

7.4 These defence production units have become increasingly self-reliant. Additional capacities have been created and new items have been productionised. These include the Main Battle Tank Arjun, the Advanced Light Helicopter(ALH) and a range of 155 mm anti-tank 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 Total Sales	Defence Public Sector Undertakings Total Sales Grand Total	
1998-99	4012.00	5536.10	9548.10
1999-2000	5460.00	5454.00	10914.00
2000-2001 (Targets)	6313.00	8260.07	14573.07
Achievements (upto Oct. 2000)	1909.00	2505.13	4414.13

7.6 The Defence Public Sector Undertakings and Ordnance Factories have exported items worth Rs.120.84 crore upto October 31, 2000 as against the target of Rs. 205.22 crore for the year 2000-2001.

### SUPPLIES WING

7.7 The guiding philosophy of the Indian defence industry policy has been to acquire self-reliance in defence materials. To achieve this objective, our endeavour has been to indigenise, wherever it is technologically feasible and economically viable. In view of long gestation period and fluctuating demand for defence equipment and stores, it was decided that the lead role in this field has to be taken primarily by the public sector. The private sector has also been involved, mostly as sub-contractor to Defence PSUs and Ordnance Factories for raw materials, semi-finished products, components and sub-systems.

7.8 The Supplies Wing has been continuing its efforts to locate and develop broad-based indigenous supply sources both in the public and the civil sectors for complicated and intricate equipments. Being the nodal agency for evolving purchase policies for the Ministry of Defence, policy decisions have been taken to ensure timely procurement of items through indigenous sources and also to develop more than one source. Certain codes of T-72 Tank and BMP-II have been transferred to OFB to avoid production hold-ups. A three-tier monitoring mechanism has been set up in the Ministry as under :

(a) **Apex Body:** This body meets once in a year and consists of captains of industry and Government functionaries and is the highest policy making body in respect of indigenisation. Development Commissioner for Small Scale Industries is also its member. During the year, two meetings of the Apex Body were held and as per the decision taken therein, the Draft Policy Statement on Defence Industry Policy is under preparation.

(b) **Central Technical Committee:** A Central Technical Committee (CTC) under the chairmanship of Secretary (Defence Production and Supplies) supervises the work of the Technical Committees. The indigenous sources are developed after following a laid down procurement procedure. The Technical Committees function as an integral part of the DGQA and the DGAQA in the case of aeronautical items.

(c) **Functional Groups:** There are three Functional Groups in three different disciplines. They normally meet once in a year and the industry is also represented in these meetings along with the Technical Committees and others concerned in order to forge a working relationship in Government's interface with the industry.

7.9 The institutional framework for carrying out the tasks of import substitution is available in the form of eight Technical Committees (TCs) which provide technical advice to the Supplies Wing to achieve these objectives. Each committee is headed by a Technical Officer of the rank of Major General/Briga-

dier or an 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 capabilities. After identifying items for indigenisation, keeping in view the commercial viability and strategic needs, these Committees ensure timely supply of defence equipment / stores under overall guidance of the Supplies Wing.

7.10 In order to encourage 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 the inputs of defence equipment and stores are duly recognised by the Supplies Wing and deserving units are presented with suitable awards. To help the civil sector to familiarise itself with the requirements of Armed Forces, permanent sample rooms are maintained in the four metropolitan cities. For ensuring enhanced and meaningful interaction, conferences are held from time to time with civil industry. During the year 1999-2000, 16 Exhibitions-cum-Vendor Awareness Programmes with DGQA participation were held at various locations throughout the country.

7.11 In so far as the task of ab-initio development of defence supplies is concerned, the value of the developmental defence supply orders placed on the private sector has risen from approximately Rs.60 crore per annum during the early eighties to around Rs.200 crore

per annum in recent years. During the year 1999-2000, a record was made by placement of orders worth Rs.278.58 crore for ab-initio development.

7.12 **Achievements :** The Supplies Wing deals with the items which require ab-initio development. The following table gives details of items ordered and their value for three years:-

Year	No of items Systems/Sub- Systems Ordered	Value Rs. in crore)
1998-99	3335	199.25
1999-2000	2839	278.58
2000-2001 (upto 31.10.2000)	739	39.80

#### ORDNANCE FACTORIES

7.13 The Ordnance Factories Board plays a key role in attaining self-sufficiency and self-reliance for defence preparedness of the country. The importance of the Ordnance Factories has been proved in the past as well as during the 'Operation Vijay'. The Ordnance Factories Organisation consists of 40 factories, (of which one is in the project stage) some of which are the oldest industrial establishments in the country. The first Ordnance Factory was established in 1801 at Cossipore, near Kolkata. By 1947, the number of Ordnance Factories had grown to 16. Their growth has been particularly rapid after independence. They play a vital role in equipping the armed forces as well as

para-military forces with weapons, ammunitions, tanks, infantry combat vehicles, transport vehicles, clothing, general stores and other equipment. These factories are geographically spread over the country. There are ten Ordnance Factories in Maharashtra, eight in Uttar Pradesh, six each in Madhya Pradesh and Tamil Nadu, four in West Bengal, two in the newly carved out Uttranchal and one each in Andhra Pradesh, Orissa and the Union Territory of Chandigarh. One factory is being set up at Nalanda, Bihar. The 16 pre-Independence Ordnance Factories had to contend with an inadequate civil industrial infrastructure. Hence, they had to produce, besides finished stores, basic input and intermediate materials as well. The 23 post-independence factories are linked to the developed industrial base for supply of raw material, component and semi-finished inputs.

7.14 The Ordnance Factories have evolved into a strategic and dedicated production base for lethal and non-lethal defence stores. Investments on their infrastructure stem from national security and strategic needs.

7.15 **Ordnance Factories Organisation** : The Ordnance Factories Organisation is headed by the Directorate General Ordnance Factories (DGOF). In 1979, a Board was established at Kolkata as per the recommendations of the Rajyadhaksa Committee. The Director General Ordnance Factories is the Chairman of this Board. He is assisted by 9 other Members, each of the rank of Additional DGOF. The Addl DGOF/ Members

are in charge of 5 operating divisions and 4 staff functions as indicated below:-

**Operating Divisions:**

- i) Ammunition and Explosives(A&E)
- ii) Weapons Vehicles and Equipments (WV&E)
- iii) Materials and Components(M&C)
- iv) Armoured Vehicle (AV);
- v) Ordnance Equipment and Clothing (OEF)

**Staff Functions:**

- i) Finance
- (ii) Personnel
- (iii) Planning and Materials Management
- (iv) Projects and Technical Services

7.16 **Product Technology:** Capacities exist to produce a wide range of arms and ammunitions for the Infantry, Artillery and Armoured Corps of the Army, and for the Navy the Air Force. The factories produce military transport vehicles, infantry combat vehicles, armoured vehicles, optical and opto-electronic instruments, field cables, summer and winter uniforms, tentages, parachutes, miscellaneous leather goods, floats bridges, general stores, civil blasting explosives etc. Facilities also exists for design and manufacture of captive special purpose machine tools for production of arms and ammunition components.

7.17 Besides supply of arms, ammunition and other items to the Armed Forces, the needs of the police and the para military organisations are also catered to. Items are also produced for the Railways, Public Sector Undertakings and other Government Departments and even private bodies.

7.18 The Ordnance Factories have taken up continuous upgradation of products and manufacturing technologies to meet emerging requirements of the defence forces. The futuristic approach marks the establishment of new facilities.

7.19 **Growth:** Ordnance Factories' output for sales has been steadily growing over the years with a record production achievement of Rs. 5460 crore during 1999-2000, representing an increase of more than 36.1% over the sales of Rs. 4012 crore during 1998-99. To keep pace with the developments in arms, ammunition and other equipments, the Ordnance Factories have been continuously updating / upgrading technology with the association of DRDO or through transfer of technology.

7.20 In 2000-2001, the Ordnance Factories are set to achieve production for sales of Rs.6313 crore in accordance with the projected requirements of defence and other indentors. This will represent a growth of 15.6% over the level obtained in 1999-2000 of Rs. 5460 crore.

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

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- |  |   |   |
|--|---|---|
| <p>i) All the thirty nine Ordnance Factories have obtained Quality System Certification as per ISO 9000/9002 standards.</p> <p>ii) One modified Medium Mine Proof Vehicle, incorporating the improvement/changes suggested by Indian Army, was made ready by Ordnance Factory Project Medak (OFPM) after thorough trials and was handed over to the Army for users trial. This vehicle, besides being cost effective, is also of superior performance capabilities to combat terrorism and insurgency activities as it can provide maximum safety from ballistic attack of 10 kg. of TNT mine blast.</p> <p>iii) Ordnance Factories have developed Shell 155 mm Extended Range Full Bore (ERFB) to Naschem Technology. The Naschem Shell is made from high tensile steels with intricate machining as compared to Bofors design. The production of these shells, hitherto being imported, has been established.</p> <p>iv) Ordnance Factory Khamaria has successfully developed boiling out and refilling of old TORPEDO WARHEADS for the Navy to solve the crisis of operational requirement.</p> <p>v) Machine Tool Prototype Factory Ambarnath, has successfully designed and manufactured and supplied Sheet Note Counting Machines for Bank Note Press, Devas. These machines</p> | <p>are import substitutes and thus the supply will result in saving foreign exchange.</p> <p>vi) Two employees of Rifle Factory Ishapore have been selected for the prestigious awards of ‘SHRAM BHUSHAN’ and ‘SHRAM VIR’ respectively for the year 2000.</p> <p>7.22 <b>Self-Certification In Ordnance Factories:</b> Quality being of crucial importance, all equipment and sub-systems undergo stringent quality checks. In line with practices prevailing in industry, both within and outside the country, Self-Certification by production units is being introduced in respect of some identified stores and will be progressively expanded.</p> <p>7.23 <b>Research And Development Activities:</b> In-house R&amp;D activities towards Product &amp; Process improvements are attracting a great deal of attention in Ordnance Factories. Techniques of solid modelling and sensitivity analysis have been adopted in meeting the design of services stores. Some of the major achievements in these fields are as follows:-</p> <p>i) Ordnance Factory at Kanpur had undertaken an in-house R&amp;D Project for 130/155 mm upgunning in 1992 involving design of 155 mm Calibre Ordnance and assembly with the existing 1340mm Field Gun so that the existing Gun becomes capable of firing entire family of 155 mm Calibre Bofors Ammunition. The upgunned</p> | <p>equipment has been positioned at Central Proof Establishment, Itarsi and has been used for proof of propellants of 155 mm Ammunition. The performance has been found satisfactory.</p> <p>ii) Ordnance Factory at Bhandara has developed and productionised Booster and Sustainer Propellant required for Konkurs Missile. Exhaustive proof of the trial batch was conducted at M/s. BDL Hyderabad and found acceptable in all respects.</p> <p>iii) Ammunition Factory at Kirkee has successfully developed new version of short range, medium range and long range Anti Missile counter measures for the Navy, which can be used to counter in-coming missiles. Such type of anti-missile counter measures have been developed in the country for the first time and the Navy has already placed indent for regular supply.</p> <p>iv) Ordnance Factory at Dehu Road has established Ignitors, using indigenous materials for Base Bleed Ignitors, for 155 mm HE, ERFB (BB) ammunition. The performance has been satisfactory. The range of 155 mm HE Ammunition will increase by 15% by using Base Bleed Ignitors.</p> <p>v) Ordnance Equipment Factory at Kanpur has developed Snow Boot, essentially required by Armed Forces at high altitudes in snow bound areas</p> |
|--|---|---|
-

up to temperature (-) 40 centigrade. These are light weight snow and water resistant infantry boots.

- 7.24 **Diversification:** Ordnance Factories produce a wide variety of chemicals for commercial use by different industries in the civil sector. They also manufacture a wide range of textiles, leather goods and sporting arms and ammunition for the civil sector.

### MODERNISATION OF ORDNANCE FACTORIES

- 7.25 Government has finalized modernisation plan for all the ordnance factories. The plan encompasses upgradation of technology, augmentation of capacities and replacement of old and obsolete plant and machinery that has outlived its life as well as installation of new plant and machinery with a view to productionise Vehicle, Armament, Ammunition, Equipment and General stores etc of latest technology. The technologies and machines being planned would be flexibility to take wide range of products. For this purpose the investment of Rs.1241 crores is envisaged during the Ninth Plan period and till 1999-2000, a sum of Rs.512 crores has been invested and balance of Rs. 729 crores are planned for investment upto 2002.

### ENERGY CONSERVATION

- 7.26 Energy conservation in Ordnance Factories is a continuing process and conservation measure cover all spheres of activities. Economy in energy consumption is achieved through increased efficiency and utilisation

and technological upgradation. Improvement in utilisation is being pursued to achieve a target restricting energy consumption to 3.69% of value of production in the current year.

### POLLUTION CONTROL

- 7.27 The pollution control activities in the Ordnance Factories have been assigned due importance. The factories are obtaining statutory consent orders from respective State Pollution Control Boards for discharge of liquid effluents and gaseous emissions. They are having Effluent Treatment Plants which are operational. The progress/position in this regard is monitored strictly at OFB. The factories are also submitting annual Environmental Statement to the respective State Pollution Control Board as per the specified format.

### SAFETY

- 7.28 The corporate safety policy was reformed during 1996 to introduce stringent safety standards, safety consciousness and vigilance in the Ordnance Factories. Accident prone and hazardous areas have merited special concern. 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. The use of personnel protective gear and appliances is emphasised.
- 7.29 Accidents are investigated thoroughly and the recommendations made by boards of inquiry

and audit teams are implemented meticulously. Periodic safety audit inspections at different levels(level-I, quarterly by factory's local team; level-II, half yearly by zonal team; and level-III, annually by OFB team) have been introduced. Besides, the Centre for Environmental and Explosives Safety conducts audit inspections of ammunitions and explosives group of factories. Three regional Controllerates of Safety have been set up to enhance the efficacy of safety management. These are situated at Ambajhari(Region-I for 12 factories), Kanpur(Region-II for 11 factories) and Avadi(Region-III for six factories). The remaining 10 factories in the ammunition and explosives group are the direct concern of the Ordnance Factory Board.

### ENVIRONMENTAL POLLUTION

- 7.30 In line with the Government policy to purify the environment by fighting pollution, Ordnance Factory Organisation undertakes afforestation as an ongoing process. Plan for planting new trees in 2000-2001 is 5,92,363 Nos., and 2,58,345 Nos. have been planted upto October 31, 2000.

### PIECE WORK RATE SYSTEM

- 7.31 A new piece work co-relation and incentive scheme has been introduced from March 1, 2000 on a trial basis for a period of two years to provide incentive to workers for continuously increasing the productivity and achieving the increased level of production targets.
- 7.32 **Productivity Bonus:** 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 1999-2000. Consequent on the revision formula, PLB arrears for 22 days for the years 1993-94 to 1998-99 have also been paid.

### COMPUTERISATION IN ORDNANCE FACTORIES

- 7.33 Information Technology (IT) is the major thrust area to provide Management Information for decision support systems at all levels, improve design capabilities, streamline accounting and analysis and reduce paper work.
- 7.34 Computerised Applications have been implemented in the Ordnance Factory Board and 39 Ordnance Factories in the following areas:
- On-line Production Planning and Control (PPC)
  - Pay-roll
  - Personnel Information System
- 7.35 Data Communication through dial-up modem has been set up in all the Ordnance Factories. In 1998-99, a satellite based Wide Area Network (WAN) was established connecting 23 Ordnance Factories and Ordnance Factory Board for Voice Communication. Video Conferencing facility is available at five locations viz. Kolkata, Pune, Kanpur, Chennai and Jabalpur. A turnkey

project for upgrading the existing PPC System to state-of-the-art technology and establishment of Local Area Network (LAN) is nearing completion at all the 39 Ordnance Factories and Ordnance Factory Board. A project for integrating LAN and WAN and development of MIS at Board level is contemplated. An integrated Management Information System (MIS) covering all the activities of OFB and Factories is being finalised. In-house and external training programmes are conducted for employees to keep pace with the state-of-the-art Information Technologies.

### QUALITY MANAGEMENT

- 7.36 In Ordnance factories, quality improvement is an ongoing process and inbuilt in the production system. Implementation of Total Quality Management concepts have been given as a thrust and challenge area for all Ordnance Factories. Stress has been given to reduce the rejection percentage of stores/components where the same is high. Fifteen Ordnance Factories have already got accreditation of their laboratories from the National Accreditation Board for Laboratories (NABL).

### OTHER MEASURES

- 7.37 An Apex Productivity Council has been set up including representatives of the Board, recognised federations, and recognised associations of non-gazetted officers, supervisors and clerical employees. At the unit level, local productivity councils exist with similar

constitution. The Apex Productivity Council meets twice in a year to address productivity related matters and review the functioning of the local productivity councils. The unit level productivity councils meet on a monthly basis to address measures for improving productivity and reducing costs.

### PUBLIC SECTOR UNDERTAKINGS

- 7.38 The value of production, sales, investment and profit of the 8 Defence PSUs are given in Appendices – I to III.

### HINDUSTAN AERONAUTICS LIMITED (HAL)

- 7.39 The Hindustan Aeronautics Limited was established in October 1964 by merging Hindustan Aircraft Limited and Aeronautics



*HPT-32- Trainer Air craft (HAL) on display during Aero India Show at Bangalore*



*Lancer During High Altitude Trials*

<p>India Limited. It is engaged in design, development, manufacture, repair and overhaul of aircraft, helicopters, engines and their accessories. The Company has 12 divisions located in six States. Its registered office is at Bangalore.</p>	<p>Aircraft (LCA), integrated systems and test fly, and realize this aircraft for commercial production.</p>	<p><b>BHARAT ELECTRONICS LIMITED (BEL)</b></p>
<p>7.40 The HAL's major supplies/services are to the IAF, Navy, Army, Coast Guard and the BSF. As a spin-off, transport aircraft and helicopters have been supplied to the Airlines as well as State Governments. The Company has achieved a foot-hold in export in more than 20 countries, having demonstrated its quality and price competitiveness. HAL supports fully the Space Vehicle programme of ISRO. It has also diversified into industrial and marine gas turbine business and software business.</p>	<p>(iv) The Company has initiated the upgradation of Jaguar Navwass and MIG-27 M aircraft.</p> <p>(v) The Company has developed the basic utility version of the Advanced Light Helicopter (ALH) expected to be certified shortly.</p> <p>(vi) On the initiative of HAL's R&amp;D, a Low Cost Attack Helicopter (LANCER) has been under R&amp;D and the successful technology demonstrator, with 7.2 mm gun pod and 68 mm Rocket Pod, Armour protection against ground fire. Orders for 12 Nos. are expected from the Army shortly. Production has already commenced and delivery is planned during 2001.</p>	<p>7.42 The Bharat Electronics Limited, established in 1954 with its corporate office at Bangalore, has nine units in the country. It is engaged in design, development and manufacture of sophisticated state-of-the-art electronics equipments/ components for the use of defence services, para-military organisations and other Governmental users like All India Radio, Doordarshan, Department of Telecommunications, Police Wireless, Meteorological Department, Airport Authority of India etc. RResearch and Development departments were established in BEL from mid 1960s, initially in Bangalore and gradually in all the units of BEL.</p>
<p>7.41 Significant achievements of HAL during the year are:</p> <p>(i) Research &amp; Design activities of the company have been strengthened and re-organised into several discreet and functional Research and Design Centres and co-located with related Production Divisions for synergy.</p> <p>(ii) 3082 items were indigenised during the period April-September, 2000 against Memorandum of Understanding (MoU) annual target of 5345 items. Anticipated foreign exchange savings would be Rs. 1153 lakhs per annum at current price level.</p> <p>(iii) The Company has undertaken the productionisation of Light Combat</p>	<p>(vii) Development of Air Ambulance version of Advanced Light Helicopter has also been undertaken by HAL for casualty evacuation role with facilities to provide medical treatment on board. First flight is planned in 2001.</p> <p>(viii) 91% supplies for Aircraft on Ground Demands were met within 30 days, of which 28% were supplied within 72 hours, as against the norms of 100% supplies within 45 days. 99.5% of supplies for spares against Routine Orders were met within 24 months compared to the norm of 100% supplies within 39 months.</p>	<p>7.43 Because of its intrinsic capability in the component area, BEL is able to manufacture some of the critical components for internal consumption in BEL &amp; DRDO. Apart from this, BEL manufactures and supplies the components on a commercial basis to meet the requirements of different manufacturers of electronic products in the country. The company's turn-over during 1999-2000 was Rs. 1494.14 crore and is anticipated to reach around Rs. 1600 crore during the current year.</p> <p>7.44 Significant achievements of BEL are:-</p> <p>(i) BEL has set up in-house Research &amp; Development Groups in all the Units for each product area. The company has been steadily increasing its resources and investments in R&amp;D activities, which is around 5% of its turn-over.</p>

- (ii) The Company manufactured various items developed by the DRDO such as Hull Mounted Sonar Systems, Low Flying Detection Radar (INDRA-II), Automatic Electronics Switch (AES MK-II), Semi Ruggedised Automatic Exchange (SRAX), Electronic Warfare Systems for Army, Navy and Air Force, Radio Wire Integration Unit (RWI) and Secret Telephone (SECTEL).
- (iii) All the Divisions/Units of BEL have obtained the ISO 9000 accreditation. While a majority of them have got the ISO 9002 certification, a few of the Divisions/Units have obtained the ISO 9001 certification.
- (iv) Over the years, BEL has set up 'state-of-the-art' manufacturing, testing and quality assurance facilities in all its Units and has been periodically updating/modernising them.
- (v) Facilities for carrying out computer controlled automatic testing, climatic environmental tests, Electro Magnetic Interference/Electro Magnetic Compatibility tests etc., have been created in BEL for conducting in-house quality checks.

**BHARAT EARTH MOVERS LIMITED  
(BEML)**

7.45 The Bharat Earth Movers Limited, a public sector undertaking under the administrative control of the Ministry of Defence, was established in May 1964 and commenced operations from January 1965. With the dis-

investment of shares of BEML by Government of India, as of end March 1999, Government holds over 61% of equity shares in the company and is a major shareholder. It has three manufacturing units located at Bangalore, Kolar Gold Fields and Mysore, all in the State of Karnataka.

7.46 All the production units of BEML are fully equipped with the state-of-the-art technology deploying Numerically Controlled machines and other special purpose machines including Welding Robots. A wide range of mining and construction equipment like walking draglines, bulldozers, hydraulic excavators, dump trucks, etc. railway products like rail coaches, AC/DC EMUs, railbus etc.; and defence vehicles/aggregates and diesel engines are being produced in these manufacturing units.

**ACHIEVEMENTS**

- 7.47 (i) All the manufacturing Units of BEML continue to hold accreditation to ISO 9001/9002 certification.
- (ii) The Company's R&D department has successfully developed and launched Railbus, Four Wheel Overhead Equipment Inspection Car and Treasury Van. These products have been inducted into use. R&D has also undertaken several new projects which are in various stages of development.
- (iii) A Women's Cell has been constituted at the Corporate Office of BEML comprising of one woman representative from each unit. It has been en-

trusted the task of looking after the grievances of women employees and making suggestions/recommendations to improve the quality of their life.

- (iv) The 'Best Chief Executive Gold Award', instituted by Indira Gandhi Memorial National Award for Excellence in Indian Industries, was given to Shri MP Sriram, Executive Director (Bangalore Complex).
- (v) The Company has introduced a programme under which educational loan has been extended to the children of SC/ST employees to overcome the financial crisis at the time of school admission.

**MAZAGON DOCK LIMITED (MDL)**

7.48 Mazagon Dock Limited, established in 1960, is a premier shipyard in the country and builds a variety of warships for the Indian Navy and the Coast Guard. Its product range includes submarines, destroyers, frigates, missile boats, corvettes for the Indian Navy and patrol vessels for the Coast Guard. It has also diversified its products for the oil exploration sector through production and installation of wellhead platforms and rendering services for coating/laying sub-sea pipelines.

- 7.49 Significant achievements of the Company during the year are:
- (i) A 1600 cubic meter Hopper Dredger was exported to M/s Sagua, France, in June 2000.

- (ii) A 45 Ton Bollard Pull Tug was delivered to Jawaharlal Nehru Port Trust in April 2000.
- (iii) One destroyer and one corvette have been delivered to the Indian Navy in January 2001.
- (iv) A number of major offshore projects namely CRMP, BHS Cable, LQ Module of BHN, installation of B-121 temporary deck and rehabilitation work on EE-holideck were completed during the year.
- (v) For the year 1999-2000, the Company reached the rating of 'Very Good' in terms of criteria outlined in the Memorandum of Understanding signed by it with the Government.

**GARDEN REACH SHIPBUILDERS AND ENGINEERS LIMITED( GRSE)**

- 7.50 The 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, carriers and oil tankers, patrol vessels, attack craft, high technology ship borne equipment, portable Bailey type steel bridges, turbine pumps for the agricultural sector, marine sewage treatment plants, diesel engines etc.
- 7.51 Significant achievements of the company during the year have been as under:
- (i) One fleet tanker was delivered to the Indian Navy in April 2000.

- (ii) One frigate was delivered to the Indian Navy in April 2000.
- (iii) One fast attack craft was delivered to the Indian Navy in September 2000.
- (iv) One hovercraft was delivered to the Coast Guard in September 2000.
- (v) The rating of 'Very Good' was awarded to the company for its performance based on criteria outlined in the Memorandum of Understanding signed by it with the Government for the year 1999-2000.
- (vi) An export order worth US Dollar 25,000 was received from M/s Navnautik PTE Ltd., Singapore, for preparation of computer numerical controlled plate cutting information based on the technical data provided by M/s. Naunautik PTE Ltd.

**GOA SHIPYARD LIMITED ( GSL)**

- 7.52 The 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 sectors. Its product range includes survey vessels, missile boats, patrol vessels, offshore supply vessels, oil tankers, passenger ferries, tugs, barges etc.
- 7.53 Significant achievements of the company during the year have been as under:
- (i) The Company achieved many of the targets in building ships for the Indian Navy and the Coast Guard.

- (ii) A number of measures were taken for ensuring economy in expenditure.
- (iii) Steps were taken to accelerate the progressive use of Hindi in official transactions.
- (iv) All the instructions issued by the Central Government for protection of environment, filling up of vacancies reserved for SC/ST and persons with disabilities, family welfare and so on were implemented.

**BHARAT DYNAMICS LIMITED (BDL)**

- 7.54 The Bharat Dynamics Limited was established in 1970 for manufacture of Guided Missiles. It is among the few strategic industries that possess the capability to produce advanced Guided Missile Systems. The company has two units, one at Kanchanbagh, Hyderabad, and the other at Bhanur, Medak District. Besides the indigenous Prithvi missile, it produces Milan and Konkurs missiles along with their launchers and other in-house developed products like Flame Launchers, Simulators etc. The company is working hand-in-hand with the DRDO for technology absorption of other missiles under Integrated Missile Development Programme. The company has drawn up a Perspective Plan (1999-2008) to develop new technologies to meet the future requirements of the users.
- 7.55 The company's achievements during the year are as follows:
- (i) It has established Computer Aided Design/Computer Aided Manufac-

- ture Centre which is fully operational. The facility is capable to provide on-line drawings and data transfer between the DRDO and the Company.
- (ii) BDL has launched efforts to enter into export market and has exported goods worth Rs. 36 lakhs in the current year.
  - (iii) The company maintained its growth profile and the targets. Its performance was rated "EXCELLENT" for fourth consecutive year. The Company paid a dividend of 20% for the year 1999-2000.
  - (iv) The Workers' Union of BDL was adjudged as the best union and received the Shram Shakti Award for the year from Hon'ble Chief Minister of Andhra Pradesh.
  - (v) The Milan, Konkurs and Prithvi divisions of the company have ISO-9002 certification.

**MISHRA DHATU NIGAM LIMITED  
(MIDHANI)**

7.56 The Mishra Dhatu Nigam Limited (Midhani), was incorporated as a Public Sector Undertaking in 1973 at Hyderabad for manufacture and supply of special metals and super alloys to serve the strategic needs of the country in Defence, Atomic Energy, Space, Aeronautics, Electronics etc. with a view to attain self-reliance in this sophisticated field. Midhani went into commercial production in July 1983. Today, Midhani manufactures some very complex alloys which only a few advanced countries in the world produce.

7.57 The achievements of the company during the year are as follows:-

- (i) EN-24 steel and Maraging steel bars produced by Midhani performed well as per designer's requirements in AGNI-II flight test.
- (ii) Melting of Russian grade Titanium alloys was taken up against ATVP orders for supply of seamless tubes of various sizes.
- (iii) 300 kg of Molybdenum sintered slabs have been directly rolled (without going through forging) to 6.5x350 and 8x350 mm sizes, cutting down the cost of production.
- (iv) First 50 T supply against bulk order of 1537 T quantity of very special grade stainless steel plates (304L NAG grade and impossible to import) were supplied to the Department of Atomic Energy.
- (v) Production of two components by investment casting for gas turbine engine applications for BHEL was successfully attained.
- (vi) MIDHANI was bestowed with three prestigious Government of India awards, Revenue Department "Samman Patra" award for the year 1998-99 in recognition of outstanding contribution made towards Customs and Central Excise Revenue at the All India Level, and two separate

awards at commissionerate level Andhra Pradesh, one for contribution to Customs Revenue and the other for Central Excise.

- (vii) Midhani has developed high temperature nickel base alloy similar to Inconel 601, used for construction of various equipments for thermal and chemical processing, pollution control and power generation.
- (viii) Midhani has developed large dia bars of Ti-6Al-4V alloy with improved macro structure and ultra sonic inspectability supplied to Kaveri Engine Programme and other customers.
- (ix) Midhani has developed titanium alloy equivalent to the Russian alloy BT-14, used for cryogenic engine components. Ingots produced have been forged to bars and slabs of different sizes and around 5 T of finished product supplied to VSSC.
- (x) Titanium air bottles are required in missiles and space vehicle systems. MIDHANI has developed manufacturing process for making titanium alloy hemispheres through super-plastic forming which is a very advanced technology. Now it is proposed to add specialized TIG welding facility for making the value-added items fully in MIDHANI.

**OTHER ORGANISATIONS IN DEPARTMENT OF DEFENCE PRODUCTION AND SUPPLIES**

**DIRECTORATE GENERAL OF QUALITY ASSURANCE (DGQA)**

7.58 The effectiveness of the Armed Forces depends on reliable and consistent performance of their weapons and equipment. The DGQA is responsible for ensuring high precision and quality in respect of stores for the Army, the Navy (excluding naval armaments) and all command users items for the Air Force. The organisation is structured into seven Technical Directorates looking after eight Technical Committees - each of which is responsible for a distinct range of equipment. These Technical Directorates function in a three tier vertical control structure comprising their respective Controllerates, Field Quality Assurances Establishments and Proof Establishments (for Armament discipline only). The task performed by these three tiers are complimentary and compatible to each other and are integrated to achieve maximum efficiency.

7.59 Main functions of the DGQA are:

- (i) Formulation/control of specifications, drawings, technical literature and documents for defence equipment and stores.
- (ii) Undertaking quality assurance by testing and technical evaluation for service use.

- (iii) Providing all technical data and other basic inputs for standardisation, codification and cataloguing to Directorate of Standardisation.
- (iv) Establishment of sources for procurement.
- (v) Product improvement based on feedback from the end user.
- (vi) Keeping close liaison and maintaining interaction with the civil sector industry from the initial stage of development and productionisation of components and products.

**INSPECTION OF STORES**

7.60 The value of stores inspected and accepted by the Directorate during 1998-99, 1999-2000 and 2000-2001 are as under:

Year	Value (Rs. in crore)	
	Inspected	Accepted
1998-99	8211.47	7377.99
1999-2000	11816.40	10804.22
2000-2001 (upto Sep. 2000)	5297.55	4909.05

7.61 The Directorate has streamlined its procedures to ensure quality while suitably modifying quality assurance procedures. DGQA teams have visited forward areas to provide repair and maintenance.

**DIRECTORATE OF STANDARDISATION**

7.62 Directorate of Standardisation was constituted in 1962 to control item proliferation within Defence Services. Nine standardisation cells have been located at nodal stations to provide a booster to the Standardisation activity. The basic objective of Directorate of Standardisation is to establish commonality in equipment and components among the three Services so that overall inventory of the Defence Services is reduced to 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 and Joint Services Qualitative requirements.
- (ii) Codification and Cataloguing of Defence Inventory and
- (iii) Entry Control.

**ACHIEVEMENTS**

- 7.63 (i) Twelve important documents covering main equipment/ assemblies, sub-assemblies have been published till October 2000.
- (ii) 198 standard documents which have completed 5 years, have been revised upto October 2000.
- (iii) 1354 items were considered for vari-

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ety reduction under 64 Joint Services Rationalised Lists. This quantity was reduced by 146 items, leaving 1208 items, thus bringing 10.75% variety reduction.

### **CODIFICATION AND CATALOGUING**

- 7.64 In continuation of the process of accelerating the pace of codification, 19,32,767 items were codified till October 2000 and 2025 catalogues regarding Main Equipment/sub-assemblies have been published. This has been possible due to upgradation of the Networking system of EDP and on-line data transfer between COD, PSUs and EDP Cell of the Directorate of Standardisation.

### **HARMONISATION OF STANDARDS**

- 7.65 62 standardisation documents were taken up with the Bureau of Standards for harmonization out of which six have been finalised/accepted.

### **NETWORKING AND WEBSITE**

- 7.66 The Directorate of Standardisation has established a Network which connects its nine Cells located at Dehradun, Delhi, Kanpur, Itchapur, Jabalpur, Pune, Hyderabad, Bangalore and Chennai and the remote servers provide connectivity to the AsHSPs, Defence Service Units and the PSUs. Secretary (DP&S) formally launched the Directorate of Standardisation Website on June 26, 2000, the Standardisation Day. This website would enable organisations and industries to access

relevant information regarding equipment and components being inducted in the Defence Services.

- 7.67 An 'Institute of Standards Training' has been established at Pune to impart training to the officers and staff of various Defence organisations and PSUs on Standardisation and Codification. The Institute plans to conduct courses in ISO:9000, Networking, Website, Computer Programming and Environment Management in future.

### **DIRECTORATE OF PLANNING AND CO-ORDINATION**

- 7.68 The Directorate of Planning and Coordination was set up in 1964 as a deemed attached office of the Department of Defence Production and Supplies 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 R&D agencies and the quality assurance organisations thereby facilitating Transfer of Technology (ToT) and 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.

- 7.69 Besides indigenous manufacture of armoured vehicles, some of the major programmes presently being progressed by the Directorate are the setting up of facilities of filling of high calibre ammunition as well as overhaul of Ajeya tanks and their engines, product improvement of artillery guns and limited series production of Main Battle Tank Arjun, and progressing and monitoring of the 40<sup>th</sup> Ordnance Factory, coming up at Rajgir in Nalanda District of Bihar for production of propellant charges for high calibre ammunition.
- 7.70 As India has a large base of Defence Industrial Productions, this Directorate is pursuing with the Ordnance Factory Board and the Defence Public Sector Undertakings the question of exploring and harnessing these capabilities for manufacture of world class products at internationally competitive prices and possibilities of co-production/joint ventures with international leaders, to facilitate induction of new technologies.

## DEFENCE EXHIBITION ORGANISATION

7.71 The Defence Exhibition Organisation (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 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 the India International Trade Fair held in November each year.

7.72 The DEO also assists the Department of Defence Production and Supplies (DDP&S) in vendor awareness and development programmes of the production units in co-operation with Directorate General of Quality Assurance (DGQA).

7.73 By way of export promotion effort, the DEO coordinates the participation of Defence Public Sector Undertakings and Ordnance Factory Board in selected international exhibitions every year. During the current financial year, Defence Public Sector Undertakings, Ordnance Factory Board and Defence Exhibition Organisation took part in

the Africa Aerospace and Defence 2000 at Pretoria, South Africa, from September 5 to 9, 2000 and put up a compact India Pavilion.

## INTERNATIONAL AEROSPACE EXPOSITION – AERO INDIA 2001

7.74 The third International Aerospace Exposition-Aero India 2001, was held from February 7 to 11, 2001 at Air Force Station, Yelahanka, Bangalore. 157 international companies from 18 countries had participated in the show. Austria, Brazil, Belarus and South Africa participated for the first

time. Besides this 72 Indian companies also participated. France, Israel, Italy, Russia and UK put their National Pavilion at the show. 19 foreign aircraft from six countries (UK, Russia, France, Israel, Poland and Ukraine) Su-30, MiG-29K, Skytruck, Falcon, Hawk, An-38, IL-76, Dornier 328 jet and Mi 8 helicopter participated in the show in addition to 37 Indian aircrafts. The Suryakiran team from the Indian Air Force was the highlight of the show. LCA had also flown.

36 Foreign Defence Delegation at the Defence Minister's/ Air Chiefs/Senior Defence Officials levels visited the show.

## Appendix -I

VALUE OF PRODUCTION AND SALES						
Name of PSU	1998-99		1999-2000		2000-2001 (April - Dec' 2000) (Provisional)	
	VOP	Value of Sales	VOP	Value of Sales	VOP	Value of Sales
Hindustan Aeronautics Ltd. (HAL)	2089.03	2047.73	2454.43	2400.88	1108.77	957.01
Bharat Electronics Ltd. (BEL)	1216.99	1199.16	1543.29	1494.14	594.84	419.33
Bharat Earth Movers Ltd. (BEML)	1244.15	1212.62	1293.85	1317.09	582.03	471.46
Mazagon Dock Ltd.(MDL)	1701.69	253.99	1146.47	2262.83	315.09	455.15
Garden Reach Shipbuilders & Engineers Ltd. (GRSE)	425.95	363.52	427.30	680.44	211.78	62.95
Goa Shipyard Ltd. (GSL)	78.65	44.87	86.21	186.09	93.13	11.78
Bharat Dynamic Ltd. (BDL)	355.27	320.84	314.14	324.01	115.93	79.23
Mishra Dhatu Nigam Ltd. (Midhani)	93.82	93.37	111.90	110.48	45.41	48.19
<b>Total</b>	<b>7205.55</b>	<b>5536.10</b>	<b>7377.59</b>	<b>8975.96</b>	<b>3066.98</b>	<b>2505.13</b>

## Appendix- II

## Appendix - III

INVESTMENT						
(Rs. in crore)						
Name of the PSU	1998 - 99		1999 - 2000		2000 - 2001 (Estimated)	
	Equity	Govt. Loans	Equity	Govt. Loans	Equity	Govt. Loans
HAL	120.50	-	120.50	-	120.50	-
BEL	80.00	17.26	80.00	-	80.00	-
BEML	22.50	14.40	22.50	-	22.50	-
MDL	199.20	98.55	199.20	-	199.20	-
GRSE	123.84	7.36	123.84	-	123.84	3.68
GSL	19.40	0.20	19.40	0.20	19.40	-
BDL	115.00	-	115.00	-	115.00	-
MIDHANI	137.34	-	134.37	-	137.34	-
<b>TOTAL</b>	<b>817.78</b>	<b>137.77</b>	<b>814.81</b>	<b>0.20</b>	<b>817.78</b>	<b>3.68</b>

PROFIT AFTER TAX		
(Rs. in crore)		
Name of the	1998-99	1999-2000
HAL	177.74	368.26
BEL	53.63	107.93
BEML	0.62	14.60
MDL	16.23	13.07
GRSE	42.57	21.22
GSL	1.94	2.35
BDL	62.27	80.76
MIDHANI	2.18	2.14
<b>TOTAL</b>	<b>357.18</b>	<b>610.33</b>

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## DEFENCE RESEARCH AND DEVELOPMENT



*Third Generation Anti Tank Missile- Nag in flight*

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## HISTORICAL BACKGROUND

- 8.1 The Defence Research and Development Organisation (DRDO) was formed in 1958 by amalgamating the then existing Defence Science Organisation (DSO) and the Technical Development Establishments (TDEs). A separate Department of Defence Research and Development was formed in 1980 to improve administrative efficiency in the sanction and management of complex high technology projects for design, development and production of state-of-the-art weapon systems, equipment, platforms and sensors, undertaken by DRDO. In addition to DRDO, the Department also administers and funds a society, Aeronautical Development Agency (ADA), engaged in the development of Light Combat Aircraft (LCA).

## MISSION

- 8.2 The Department of Defence Research and Development 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 also functions as Secretary, Department of Defence Research & Development and Director General, Research and Development.

## PROGRAMMES AND PROJECTS

- 8.3 The Department undertakes programmes/projects either in response to the expressed requirements of the Armed Forces for design

and development of a major weapon system (staff projects) or for competence build-up in emerging technologies that may be required for systems to be developed in future (technology development projects). These programmes/projects are undertaken in wide ranging disciplines, such as, aeronautics, armaments, missiles, combat engineering, advanced computing, electronics, life sciences, advanced materials and composites and naval R&D. The Department also supports extramural research on defence related problems in academic institutions and other national R&D laboratories, through grants-in-aid projects, which are approved and monitored by various R&D boards.

## PROGRAMME EXECUTION

- 8.4 The programmes/projects undertaken by the Department are executed through a network of 49 defence 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. The programmes/projects are executed by a workforce of about 30,000 including more than 6000 scientists and engineers, supported by a budget of the order of Rs 3000 crore and with adequate delegation of financial and administrative powers to programme/project leaders.
- 8.5 The programmes/projects are executed in close partnership with the Services, defence

public sector undertakings, academic institutions, national research laboratories and private enterprises, to harness optimally the best available national resources and expertise. 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

- 8.6 There are institutionalised programme/project monitoring and review mechanisms in the Department. At the apex level, Defence Research and Development Council under the Chairmanship of Raksha Mantri with the three Service Chiefs as members, carries out periodic review and provides directions for policy and planning. There is an in-house apex level body called 'DRDO Council', chaired by the Scientific Adviser to Raksha Mantri, to review the 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 the 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.



*Avalanche Control Structures installed at an avalanche site on NH-1A (Jammu-Srinagar Highway)*

## DRDO DEVELOPED ITEMS LED TO PRODUCTION

- 8.7 The limited series production of Pilotless Target Aircraft (PTA) - Lakshya, a reusable aerial target system, remotely operated from ground to provide training to gun and missile crew and to air defence pilots is in progress for all the three Services. The first batch of Lakshya has already been delivered to the Air Force and inducted. The balance quantity is expected to be delivered during the year.
- 8.8 Bulk production of illuminating ammunition having improved luminosity and duration for 105 mm field gun, has been established. The illuminating ammunition plays an important role during night warfare, both in offensive and defensive operations, for locating the targets.
- 8.9 After extensive user trials, including the recently held armour trials, an indent for manufacture of 124 Nos. of the Main Battle Tank (MBT) Arjun, has already been placed by the Army on the Ordnance Factory Board. The state-of-the-art 155 mm Self Propelled Gun, a variant of MBT Arjun, developed by integrating South African T-6 turret with MBT Arjun derivative chassis, has been recommended for introduction into service by the trial team.
- 8.10 Bulk production clearance for production of Data Concentrator has been given. Limited series production order for ACCCS (Artillery Combat Command and Control System) has already been placed and the production model is under testing and getting ready for field evaluation. Production order

for integrated laser-cum-night vision gap measuring device has been placed by the users.

- 8.11 The intelligent sea mine, processor based ground mine and processor based moored mine, have been cleared for productionisation. These mines can be actuated by acoustic, magnetic and pressure signatures. These sophisticated mines have capability of identifying enemy targets and are activated at a predetermined distance. To enable the Navy to carry out training on mine operation, an exercise version of these mines has also been developed and evaluated successfully.
- 8.12 The improved Immersed Current Cathodic Protection (ICCP) system for protection of hull of surface ships of the Navy has been successfully tried out and cleared for production. This system has extended life of 10 years.
- 8.13 Two sets of containerised Operation Theatre Complex on Wheels and container based ward, for providing immediate medical treatment and emergency operation on war casu-



*Processor Based Ground Mine*

alties in the forward areas, are planned to be delivered to the Army during the year.

- 8.14 A light weight small capacity bridge, using fibre reinforced plastic composite material, developed to overcome the crevasses crossing problems faced by the troops at glacier regions, has been recommended for introduction into service with minor modifications. The bridge has modular construction and takes approximately two hours for launching by six persons.
- 8.15 Bulk production of various NBC protection systems such as, Integrated Field Shelter, small and large Respirator, Leak Tester, Integrated Hood Mask has been initiated.

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

- 8.16 The first Technology Demonstrator (TD1) Light Combat Aircraft (LCA) was flight tested for the first time on January 4, 2001. Subsequently, several flights of the aircraft have been successfully undertaken. Earlier, a major milestone was achieved by successfully conducting High Speed Taxi Trials on the aircraft. Prior to these trials, integration tests on all the on-board state-of-the-art systems had been completed. These systems had also been tested for Electromagnetic Interference/Electromagnetic Compatibility, by conducting 714 tests.
- 8.17 The second LCA Technology Demonstrator aircraft TD2 is in the final stage of system integration tests. After completion of these tests, structural coupling tests will be conducted and the first flight of TD2 is ex-

- pected during the second quarter of 2001. Fuselage coupling of the third aircraft, LCA Prototype Vehicle (PV1), has been completed and the aircraft is undergoing equipping. The fourth aircraft LCA PV2 is in 'parts fabrication' stage. In addition to these four aircraft, approval to build three more prototypes PV3, PV4 and PV5 (LCA Trainer) was accorded by the Government during this year. The programme has been delayed primarily due to technological complexities and lately due to sanctions imposed by the advanced countries.
- 8.18 Under the Kaveri programme for development of engine for the LCA, six prototypes (C1, C2, K1, K2, K3 and K4) have undergone extensive ground testing for a total of about 1000 hours so far. The first flight standard engine (K4) developed vibration problems which have been successfully addressed to, and the engine is now performing quite well. The Kaveri core has been successfully tested at high altitude test facilities of Central Institute of Aviation Motors (CIAM), Moscow. Further tests on engine and components are progressing. The official altitude tests and flying test bed trials are planned around the end 2001 and would continue upto first quarter of 2002. After completion of design work on marinised Kaveri engine, development work (Phase-I) has commenced.
- 8.19 The second flight test of long range surface-to-surface missile Agni-II, was conducted on 17 Jan 2001 in its final operational configuration. Agni-II is a two stage missile using solid propulsion system, having a range of about 2000 km with a payload of one ton and is launched from a rail mobile launcher. The flight test results indicated that mission objectives were met satisfactorily.
- 8.20 Three guided flights of short range surface-to-air missile Trishul (naval version) were conducted in May 2000, against simulated target Chukar, and in an anti-sea-skimmer role, from INS Dronacharya. Three flight trials of Trishul (Army version) were conducted against aero-model and Lakshya targets, using Trishul Combat Vehicle (TCV) - II.
- 8.21 Three flight trials of Akash, medium range surface-to-air missile, were conducted in July and September 2000. During these trials, communication system between battery controlled centre (BCC) and Akash self propelled launcher (ASPL) has been successfully evaluated.
- 8.22 Two guided flights of Nag, third generation anti-tank guided missile, were conducted in July 2000, with a day version seeker in top attack and fire and forget mode. During the last flight, a target at a range of 4.18 km was hit in top attack mode, achieving a technological breakthrough with the potential of developing the first missile in the world to achieve fire and forget and top attack capability at this range. Performance of tandem shaped warhead has been successfully demonstrated and performance of Nag Missile Sighting System (NAMITIS) was proved during limited field trials. Re-powering of Nag Missile Carrier (NAMICA-I) has been done.
- 8.23 Demonstration launch of surface-to-surface missile Dhanush (naval version of Prithvi) was conducted from a moving ship in April 2000. One test each of Prithvi submunition warhead test vehicle (WHTV) for incendiary, bomblet and runway denial penetration system were conducted successfully. One flight trial of Prithvi (Air Force version) was undertaken in June 2000.
- 8.24 Under Electronic Warfare (EW) programme 'Samyukta' for the Army, the Core System Demonstration (CSD) of communication segment is in the final stages. Out of five EW systems envisaged under 'Sangraha' programme for the Navy, one system has been fully flight tested on two airborne platforms and another system has been installed on-board surface platform. The other systems are in advance stages of development and integration.
- 8.25 All design work for the technology demonstrator of Futuristic Infantry Combat Vehicle (ICV) Abhay, under development for replacement of BMP-II vehicles, has been completed. Fabrication of hull and turret for the first mild steel prototype is under progress.
- 8.26 The first airborne sonar MIHIR has successfully completed all aspects of user evaluation except the active track function.
- 8.27 Sea evaluation of the light weight torpedo, Advanced Experimental Torpedo (AET), which can be launched from ship and helicopter for anti-submarine warfare, has been completed. Five Designed & Engineered models of AET, under fabrication by Bharat Dynamics Limited (BDL), Hyderabad, will be subjected to further trials, after which it will enter production phase.

8.28 A Material and Transducers Simulated Test (MATS) facility has been created to undertake static and dynamic measurement on material and transducers at different sea conditions of temperature and pressures simulating ocean depths. This is the only facility of its kind in the Asia Pacific region and one of the very few in the entire world.

8.29 A wargaming software package at infantry division level, Sangram, has been developed and is undergoing rigorous testing at the user premises.

#### TECHNOLOGY DEVELOPMENT/ INNOVATION

8.30 A new light weight shoulder fired 84 mm Rocket Launcher, which provides anti-tank capability to the infantry, has been developed, reducing the weapon weight from 16.5 kg to 10.5 kg. The barrel has been made of 'hoop over winding' of carbon-epoxy composite over thin rifled steel liner. The technology of a composite gun barrel has been developed for the first time in the country.

8.31 Technology for manufacture of low vulnerability ammunition (LOVA) gun propellant, based on cellulose acetate and fine RDX as main ingredients, has been developed indigenously. In addition, composite modified double base (CMDB) propellant incorporating new energetic plasticisers replacing conventional inert plasticiser, has been developed in order to achieve superior performance with improved specific impulse, to meet the futuristic challenges.

8.32 A new technique, called explosive welding/cladding technique, having great potential

in industrial scale manufacture of heat exchangers, has been established and evaluated.

8.33 The 0.5 micron monolithic microwave integrated circuit (MMIC) technology has been developed and implemented at gallium arsenide enabling technology centre (GAETEC). GAETEC has produced and delivered MMIC amplifier modules, operating in diverse frequency bands, for use in various defence systems.

8.34 The hottest chilli variety in the world so far, was thought to be 'Red Savina Habanero' from Mexico, having pungency of 5,77,000 Scoville Heat Units (SHU). DRDO scientists have discovered that a chilli variety grown in Tezpur in Assam is having one and half times more pungency (8,55,000 SHU) than the Mexican variety. The extract of chilli known as 'oleoresin', being a natural product, is more environmental friendly than synthetic analogues. This has potential for use as a riot control agent and for personal defence.

8.35 The usefulness of breathing Carbogen - a gas mixture of 95% oxygen and 5% carbon-di-oxide - in preventing the loss of hearing as a result of noise, has been demonstrated. Carbogen can be used for prevention of noise induced hearing loss, in all kinds of noisy environments where it is not possible to control the noise by other means.

8.36 High pressure compressor discs of titanium alloy for the Adour engine were manufactured for the first time in the country, achieving a significant milestone in self-reliance in the area of critical aeronautical components.

8.37 The extraction of titanium metal from its ore,

already proven at 3 ton per batch level in the pilot plant facility, continued with trouble-free batch operation during this year. The product consistently met the international specifications. Only five countries in the world manufacture titanium commercially.

8.38 Hydro-gel, as water retaining polymer for agriculture use, has been developed. The parameters of 500 gm to 1 kg batch are under optimisation.

8.39 During the year, 45 patent applications were filed in India, covering inventions/innovations made by DRDO laboratories/ establishments in the fields of materials, engineering, electronics, food technologies, biomedical science etc. One application was filed for copyright registration. Two applications were filed in India and five in other countries for registration of designs. Ten Indian patents were granted and 19 patent applications were accepted for grant of patents.

#### BASIC RESEARCH

8.40 To provide thrust to basic research, 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 funding of grants-in-aid projects. The AR&DB is currently funding 140 projects at about 25 institutes. The ARMREB has sanctioned 22 projects costing Rs 2.70 Crore in the fields of high en-

ergy materials, sensors, ballistics and other armament related fields. Under the NRB, presently 28 projects are being pursued by the academic institutions in five technology areas. Under LSRB, 18 research projects are being pursued at 9 institutes covering areas in biological and bio-medical sciences, psychology, physiology, bio-engineering, specialised high altitude agriculture, food science and technology etc.

### SUPPORT TO SERVICES

- 8.41 The indigenous brake parachute for SU-30 aircraft has been successfully developed and five such parachutes have been delivered to the Air Force against their first indent.
- 8.42 Six types of life saving power cartridges have been developed, produced and supplied to the Air Force.
- 8.43 Various types of vehicles were tested for their suitability for the Army. These include Maruti Gypsy King MP-1 with multi point fuel injection system; LPT 713/32 4x4 t and 1210 SD/36 4x4 fitted with cummin engines; Armada Grand 4x4; and Tata Sumo 4x4.
- 8.44 Consequent to wide acceptance of meals-ready-to-eat (MRE) ration among the troops, an order has been placed for supply of 50,000 MRE rations, out of which 30,000 rations have already been supplied.
- 8.45 The efforts of DRDO at Partapur, in the Nubra valley of Ladakh region, have resulted in monthly supply of 10,000 litres of milk, 2,500 kg of fresh vegetables and 250 kg of chicken to the Siachen Brigade.
- 8.46 A number of Defence personnel who suffered facial injuries during 'OP VIJAY' were rehabilitated, using the devices developed by DRDO at Srinagar, Udhampur and Delhi. The cost of the kit having bone plates and screws is approximately one-sixth of the imported devices.
- 8.47 The below-knee artificial limbs, developed by DRDO and produced by 515 Army Base Workshop, Bangalore, have been fitted on amputees by the Artificial Limb Centre (ALC), Pune.
- 8.48 A two phase selection system, developed by DRDO, has been introduced at the Service Selection Boards and Air Force Selection Boards. The new system reduces the workload on the assessors and allows them to spend more time and effort on a candidate in the second stage of selection, thereby bringing more objectivity in the system.
- 8.49 A new airmen selection software has been developed and handed over to the Air Force and has been implemented for selection and trade allocation of IAF personnel at eight centres all over the country.
- 8.50 Avalanche forecast warnings were issued with good accuracy for the areas of J&K including Siachen, Kargil and Mushkoh valley. Three new state-of-the-art automatic weather stations (AWS) were installed in J&K (including Siachen), HP and UP and certain existing stations damaged in adverse weather conditions were made functional. With this, all the 18 Automatic Weather Stations are fully functional in the Western and Central Himalayas. The data received from the AWS are being used in developing avalanche forecast models and in improving the avalanche forecast accuracy.

8.51 Avalanche control and wind drift structures were installed on one of the avalanche control sites on the Jammu-Srinagar highway. Controlled release of avalanches with the help of explosives by using the device known as Avdhav Visphotak Vahan was extensively used on national highway, resulting in total elimination of major avalanches on south and north portal of Jawahar Tunnel. The efficacy of this technique has been demonstrated to the troops, who have been also trained to use the technique during movement through avalanche prone areas.

- 8.52 Selection, characterisation and analysis of landslides of National Highway-31 A and North Sikkim Highway has been done and terrain information has been provided to Border Roads Organisation, to keep these strategic highways open throughout the year.
- 8.53 25 Nos. of NBC suit Mk-II, having disruptive printed flame retardant and water repellent cotton top layer, have been fabricated and sent for trials. These are reusable and can be decontaminated.

### SOCIETAL MISSIONS AND SERVICES

- 8.54 DRDO rendered services to restore agro-animal activities and eco-system in super cyclone ravaged Chaluni gaon Panchyat, Orissa. The farmers were provided high yielding seeds and fertilisers alongwith improved technology for vegetable and paddy cultivation. To improve animal health, a total of 3954 animals were examined/ treated and 1350 animals were vaccinated for foot and mouth disease. In addition, one lakh fingerlings of adapted species of fishes were provided for revival of pond fishery.

- 8.55 Sustainable development of Sil village in Kanalichhina block of Pithoragarh district has been carried out by DRDO by way of tree plantation, construction of water harvesting structures and demonstration cultivation of wheat, paddy and soyabean.
- 8.56 To assess the post - traumatic stress disorder cases in the super cyclone affected Orissa, services of psychologists, psychiatrists and medical specialists were rendered by DRDO team. The DRDO team provided the much needed immediate psychiatric medication and individual and group counselling to the affected population.
- 8.57 DRDO developed an innovative technique for fabrication of FRP (fibre reinforced plastic) railway sleepers for the railways. The technology transfer document has been issued to the Research Design and Standards Organisation (RDSO) of the Indian Railways.
- 8.58 A number of hyperbaric chambers have been developed to treat the Army troops deployed at altitudes above 4000m, suffering from High Altitude Pulmonary Oedema (HAPO) or to treat decompression sickness prevalent among divers. One such two bedded chamber has been commissioned for civil application at Indraprastha Apollo Hospital, New Delhi, for carrying out hyperbaric oxygen therapy.

#### **ENVIRONMENTAL PROTECTION AND AFFORESTATION MEASURES**

- 8.59 During the year, 32000 trees were planted at various locations of the DRDO in different terrains. In addition, 46000 shrubs and

18.57 acre of ground cover was provided to make a total of approximately 12.32 lakh trees, till date.

#### **QUALITY IMPROVEMENT INITIATIVE**

- 8.60 Four DRDO laboratories received ISO-9001 Certification and one lab has been accorded accreditation by National Accreditation Board for Testing and Calibration Laboratories (NABL). So far, 11 DRDO laboratories have been certified for ISO-9001 and 3 laboratories have been accredited by NABL.

#### **DRDO - INDUSTRY INTERACTION**

- 8.61 Eight DRDO laboratories were opened to the industry during the last year. A very simple, cheap and easy to use method for assessment of contamination in drinking water, based on the detection of hydrogen sulphide producing organisms, developed by a DRDO laboratory, is under marketing by a private firm. In addition, several technologies have been transferred to private industry such as of Scara Robot, used for assembly jobs, and articulated robot, used for material handling, welding, spray painting etc. In the field of material science, the technologies transferred include : Boropak - chemical mixture to impart surface hardness and reduce wear and tear of ferrous and some non-ferrous metals; non spark tools from copper titanium alloy; gigly saw for use by orthopaedic surgeons; rust converter for protection of ferrous metals against corrosion, moisture resistant corrugated fibre board box as an alternative to timber for packing and

glacier tents for protection in sub-zero temperatures.

#### **HUMAN RESOURCE DEVELOPMENT**

- 8.62 Under Research and Training Scheme, a total of 197 personnel, including officers from the three Services and other organizations, were selected to undergo ME/ M. Tech courses in various disciplines at IITs and other National Institutions. This is in addition to the candidates sponsored by Directors of the laboratories under the delegated powers. Under the Continuing Education Programme, 140 courses were organised with participation of 3500 personnel. In addition, a number of specialised courses were conducted both by the Institute of Armament Technology and the Institute of Technology Management. A total of 13 courses were conducted for the three Services and 35 courses for DRDO scientists/engineers.

#### **PARTICIPATION IN REPUBLIC DAY PARADE 2001**

- 8.63 Several DRDO developed systems found a place of pride in the Republic Day Parade - 2001. The items displayed included : Main Battle Tank Arjun; Surface-to- Surface Missile Prithvi; Pilotless Target Aircraft Lakshya; Surveillance and Ultra/Very High Frequency (U/VHF) Jamming Vehicle SUJAV; Remotely Controlled Improvised Explosive Device Jamming System SAFARI and a float showing naval system. In addition, support provided by DRDO to the Services in the area of Life Sciences was also displayed.

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## INTER-SERVICE ORGANISATIONS



*Computer Training in the Army*

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) Directorate General Defence Planning Staff
- (viii) Services Sports Control Board
- (ix) Armed Forces Films & Photo Division
- (x) School of Foreign Languages
- (xi) History Division
- (xii) National Defence College
- (xiii) College of Defence Management
- (xiv) Defence Services Staff College
- (xv) Ministry of Defence Library

#### **MILITARY ENGINEER SERVICES**

9.2 The largest construction agency of the country, the Military Engineer Services (MES) provides works cover to 450 stations spread across the country both in peace and forward areas. MES is the premier engineering arm of the Ministry of Defence that provides works services to the three Defence Services and other related departments, such as the Defence Research and Development Organi-

sation, Directorate General of Quality Assurance, Ordnance Factories, Coast Guard, Kendriya Vidyalaya Sangathan, Central and State Government Undertakings. Today, it handles an annual workload of over Rs.3300 crores.

9.3 The MES functions under the overall control of the Engineer-in-Chief, who is the adviser to the Ministry of Defence and the three Services on construction engineering. It is structured to design works which are executed through contracts under the supervision of the officers and staff consisting of both civilians and combatants drawn 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 supervision of works. While the officers cadre has an All India Service liability, the subordinates are restricted to area-based requirements.

9.4 The MES has specialised in a wide spectrum of civil works, ranging from conventional buildings and factories to sophisticated and complex laboratories, marine works, jetties, dockyards, wharves, workshops, slip-ways, 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, cranes, etc. for the Defence Services.

9.5 A few important time-bound projects completed/in progress by the MES during 1999-2000 are - provision of OTM Accommoda-

tion for one Artillery Regiment including Signal Company at Kamptee (Phase-I), provision of Married Accommodation for 60 Majors and 200 Other ranks at Pune under fast track procedure, provision of New Military Hospital Jabalpur Phase I, provision of 32 Married Accommodation for Officers, provision of OTM Accommodation for Field Regiment 1 at Agartala, provision of OTM Accommodation for Infantry Battalion at Lekhapani, Naval Officers Mess, New Delhi. Construction of Rs.63.86 crore (phase-I) project of modernisation of the existing 825 bedded hospital INHS Ashvini, Mumbai, is in full swing. The project to construct Naval Academy at Ezhimala is in an advanced stage of planning. Preliminary work on soil investigation and material survey has since been completed. Conceptual design of Cadet's accommodation, Cadet's mess and external services have been approved by the Project Management Board. Detailed design by the consultants is in progress.

9.6 Besides the above, the MES is presently planning/executing the following prestigious projects:-

- (i) Construction of additional Squadron at National Defence Academy, Khadakwasla, at an estimated cost of Rs.350 lakhs.
- (ii) OTM Accommodation at College of Defence Management, Secunderabad, at a cost of Rs.940 lakhs.
- (iii) Accommodation for 250 Cadets at Officers Training Academy, Chennai, at a cost of Rs.600 lakhs.

- (iv) Gentlemen Cadets Mess for Cadets of Indian Military Academy, Dehradun, at a cost of Rs.487 lakhs.
- (v) Zakir Hussain Mess for Air Force Officers at an estimated cost of Rs.11 crores. It is the only building being built by Military Engineer Services in Lutyen's Bungalow Zone after independence. The architecture is in tune with the surroundings.

9.7 The following have been its thrust areas during the year:-

- (i) **Quality Management:** Total Quality Management has been the buzz word for MES. To improve the quality of works and services being provided by MES, it has launched a drive to obtain ISO-9001 certification. Our premier design and consultancy establishment of Chief Engineer (Design & Consultancy), Pune as well as Chief Engineer Delhi Zone have already obtained the ISO-9001 certificates.
- (ii) **Users Interaction and Satisfaction:** Efforts are being made to secure greater involvement of users in planning and execution of projects. Formation of Project Management Groups consisting of Users, Engineer Executives and Staff authorities is being given importance for quick decision making on functional and technical requirements in the implementation of projects to reduce cost and time over-runs. Progress achieved in this direction is satisfactory.

- (iii) **Automation in MES:** As part of the programme for automation in MES, the MES formations have been provided with adequate number of computers, fax machines, plain paper copiers, electronic typewriters, etc. Action is in hand to replace the outdated models and make up the deficiency in the next two years.

### ARMED FORCES MEDICAL SERVICES

9.8 **Brief Activities of AFMS:** 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 and so are the para military organizations like Assam Rifles, Rashtriya Rifles, Coast Guard as well as DRDO, and Border Road personnel, while posted in the field. AFMS is 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 establishments of AFMS.

9.9 **Infrastructure of AFMS:** The AFMS are the largest and amongst the best organised 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 avail-



*Medical Aid Being Provided to the Civilians Tortured by the Terrorists*

able 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 centres with state-of-the-art equipment and facilities.

9.10 **Medical Research in the Armed Forces:** Armed Forces Medical Research Committee, responsible for research activities in the Armed Forces Medical Services, meets yearly at Armed Forces Medical College, Pune, to discuss and select new research proposals and also to review the progress of on-going projects. 63 on-going projects and 46 new projects, which were approved by the committee during the annual AFMRC meeting held at Pune in the month of February 2000 are funded by DRDO. The Armed Forces Medical Services have highly qualified and competent specialist officers, including super specialists, who are engaged in these research projects.

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## MAJOR ACHIEVEMENTS

9.11 **Modernisation of INHS Asvini:** The INHS Asvini modernisation project is one of the premier projects being undertaken by the Indian Navy. The hospital is being constructed in a phased manner with the Dental block having been completed in December 1998. The OPDs and Nursing blocks are expected to be completed by December 2000.

9.12 **Upgradation/creation of Artificial Limb Sub Centers:** Two ALC sub Centers at Lucknow and Delhi have been upgraded. Further, five ALC Sub-Centers at Lucknow, Delhi Cantt., Bangalore, Chandimandir and 151 Base Hospital, Guwahati, are being established.

### 9.13 ALC Pune

(a) **Modernisation Programme:** Plastic materials like high density polypropylene, polyester and epoxy resin are being used for making artificial limbs. Reinforcing materials like glass fibre polyamide (nylon) and carbon fibre are also being used as a routine for socket. As such, all available indigenous technology in the country is being used at the Centre.

(b) **Carbon Fibre Endoskeletal Lower Limb Prosthesis:** A project has been completed with Defence Bio Engineering and Electromedical Laboratory (DEBEL), Bangalore, for carbon fibre below knee prosthesis. This technology has been transferred to 515 Army Base Workshop, Bangalore, for

mass production, which is already under way. 400 lower limbs have been manufactured and delivered on 31.3.2000.

(c) **Modernisation of Medical Units in Northern Command:** Medical units in Northern Command have been modernised with electromedical equipment, thereby enhancing the diagnostic treatment and surgical capabilities of all the hospitals in Northern Command.

(d) **Progress of Battle Casualties:** All the battle casualties of Operation Vijay were provided with state-of-the-art technology limbs imported from Otto Bock, Germany.

9.14 **Construction of Hospital at Partapur:** The existing hospital at Hunder is planned to be improved/upgraded as a 75 bedded hospital at Partapur.

9.15 **Command Military Dental Centre Eastern Command, Calcutta:** An aesthetically sound new building with need based architectural sensitivity and most hygienic working environment has been raised for CMDC(EC), Calcutta.

9.16 **Recent Health Initiatives-Indian Navy:** A health education booklet, titled "Indian Navy's Commonsense Rules for Well Being", has been distributed to various Ships and Establishments. It covers day to day health problems, their prevention and initial management. A bilingual booklet on AIDS has also been published. Computerised ICD

Book has been developed in-house and forwarded to all Naval hospitals, Command headquarters and sister service headquarters.

## ISSUES OF GENERAL INTEREST

9.17 **Grant of Short Service Commission Through Open Market:** It is proposed to grant Short Service Commission in AMC to 574 qualified candidates.

9.18 **Grant of Permanent Commission to Short Service Commission Officers (Non-Tech):** AMC(NT) SSC Officers, who have completed over 15 years' commissioned service are being considered for grant of Permanent Commission as per existing criteria.

9.19 **Departmental Permanent Commission to Serving Short Service Commissioned Officers:** 49 Short Service Commission Officers have been granted Departmental Permanent Commission from June 2000.

9.20 **Grant of Permanent Commission Through AFMC, Pune:** 27 candidates have been granted Permanent Commission through AFMC, Pune.

9.21 **Advance Course and Study Leave to AMC Officers:** 80 officers from Army have been detailed for Advance Course for Post Graduation at AFMC, Pune, commencing from December 18, 2000 for a duration of 3 years. 36 specialist officers were granted study leave for training in super speciality in various disciplines. New training courses for MNS officers to enhance their capabilities in serving their clientele in a better way have also been approved.

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## ENVIRONMENTAL PROTECTION

- 9.22 **Hospital Waste Management:** After notification of Biomedical Waste (Management and Handling) rules on 20 July 1998, WHO had allocated a few pilot projects on Hospital Waste Management to 11 leading Medical Colleges of the country. One such project was given to the Armed Forces Medical Services, and it was a proud moment for IAF when Command Hospital AF, Bangalore, was chosen by WHO to be the venue for conduct of the project. The present DGMS(Air) was Principal Investigator of the project. This project at CHAIB is the only one to have been accomplished successfully and has been a trend-setter not only for the Armed Forces but also for the country. The module of Hospital Waste Management, developed at CHAIB, is proposed to be replicated in other hospitals of the Armed Forces and Health Care Institutions of the country as well.
- 9.23 **Environmental Hygiene and Sanitation:** Environmental hygiene and sanitation of the bases is monitored on a regular basis to prevent untoward health hazards in the stations. Suitable recommendations are made to improve the standards of water supply, waste disposal and control of pest nuisance.

## DIRECTORATE GENERAL DEFENCE ESTATES

- 9.24 The Directorate General of Defence Estates is the apex body of the Defence Estates Organisation, having its offices in various parts

of the country. Municipal administration of Cantonment towns, management of defence lands both inside and outside cantonments, acquisition/hiring of immovable properties for defence purposes and administration of Urban Land (Ceiling and Regulation) Act 1976, where applicable, are the main functions of the organization.

- 9.25 During the current year, 2584 buildings have been hired by the organization for residential and office accommodation of the Defence Forces. The area of land held on hiring and requisitioned for defence use is 52594 acres and 20366 acres respectively. Out of 17.31 lakh acres of defence land holding, 0.60 lakh acres of land is under management of DGDE.
- 9.26 There are 62 Cantonments in India. These are located in 16 States and the 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 Cantonments Act, 1924. Cantonment Boards comprise elected representatives, besides ex-officio and nominated members. Parity is maintained between elected and official members. The Station Commander is the President of the Cantonment Board. Supervision and control over the working of these bodies is exercised through the General Officer Commanding-in-Chief of the Commands at the intermediate level and by the Central Government through the Director General Defence Estates/Ministry of Defence at the apex

level. The resources of the Cantonment Boards are very limited as the bulk of the property in the Cantonments is Government owned on which no tax can be levied. The Boards, however, receive payment of service charges in respect of Central Government properties in lieu of taxation. The Central Government provides grant-in-aid to a certain extent to balance their Budgets.

## OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER

- 9.27 The office of Chief Administrative Officer (CAO) is responsible for providing civilian manpower and infrastructural support to the Services Headquarters and the Headquarters offices of Inter-Services Organisations (ISOs) under Ministry of Defence. Joint Secretary (Training) also discharges the functions of the Chief Administrative Officer (CAO) and Director (Security). In relation to security, he oversees the work of the Chief Security Officer.
- 9.28 The functions of CAO's Office are 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 Division
  - (vi) Estates and Works Division

- 9.29 The welfare of civilian employees in Service Headquarters and Ministry of Defence is being looked after by this Office. Armed Forces Headquarters/ Inter-Services Organisations Welfare Fund and Defence Civilians Medical Aid Fund (DCMAF) provide financial help to the employees during the hours of acute distress. DCMAF, having all India coverage, provides financial assistance in the cases of TB, cancer, leprosy, burn injuries etc. to its members. Its scope has now been enlarged to include ex-gratia payment of Rs. 50,000/- in case of accidental death of a full service member.
- 9.30 Sports and cultural activities are also given a place of importance. Civilian employees are encouraged to join different sports activities. Every year, the sports persons of this Organisation participate in various competitions at different levels and win prizes for their Organisation.
- 9.31 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) and 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

- 9.32 The Directorate of Public Relations is the nodal agency for providing media support and publicising the activities of the Ministry

of Defence, the three Services and Inter-Services Organisations. With its Headquarters in New Delhi, the Directorate of Public Relations has 24 offices across the country. The Directorate is manned by Indian Information Service Officers, Service Officers and Armed Forces Headquarters' Service Officers.

- 9.33 The Photo Section is an important publicity unit of the Directorate with its eight units attached to the Regional Offices of the Directorate. The section supplied over 7500 photographs to the print media, focussing different defence related events. Its photos issued during Aero India 2001 and International Fleet Review 2001 were widely used in the media.
- 9.34 The Broadcasting Section of the Directorate maintained close liaison with All India Radio and broadcast various entertaining and informative programmes for the Armed Forces. The programme *Sainikon ke liye* prepared by the Directorate was broadcast daily for the benefit of the Armed Forces personnel.
- 9.35 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, Telugu and Urdu. The multi-colour magazine in improved format has been well received.

#### ARMY PURCHASE ORGANISATION

- 9.36 (a) The Army Purchase Organisation

(APO) in the Ministry of Defence is entrusted with the responsibility of the procurement and the timely supply of dry ration items for the consumption of the Defence Forces of Union. APO procures rice and wheat through the Food Corporation of India; Sugar from the Directorate of Sugar; pulses, animal rations, edible oils, vanaspati, tea and milk products from the Central Public Sector Undertakings like the State Trading Corporation and Hindustan Vegetable Oils Corporation Limited, State Public Sector Undertakings like the Madhya Pradesh Export Corporation and Punjab State Civil Supplies Corporation and through the National Cooperative Federations like the National Cooperative Dairy Federation of India Ltd. and the National Dairy Development Board as also through various National/ State Level Cooperative Consumer Federations/Cooperatives. tinned items like vegetables, fruits, jellies and jams, tinned milk, meat and fish products, coffee, egg powder etc., are procured from 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 a cost effective procurement.

- (b) For the year 2000-2001, a budget provision of Rs.716 crores was made for procurement of the above items by this Organisation. This provision has been revised to Rs.686.5 crores in the revised estimates, out of which , upto September 30, 2000, supply orders/ contracts were placed by APO for Rs. 640 crores.

- (c) The quality control of the contracted items is ensured by the Composite Food Laboratories under the charge of the Army Headquarters who, after inspection and acceptance of the tendered commodities, also supervise despatches of the goods to different Supply Depots as per the Despatch Instructions issued by AHQ. Payments for the supplies are made by the Controller of Defence Accounts, after due authentication by the Officer Commanding Composite Food Laboratories.

#### DIRECTORATE GENERAL OF DEFENCE PLANNING STAFF

- 9.37 The Directorate General of Defence Planning Staff (DPS), an Inter-Service Organisation, is a multi-disciplinary group with representation from the three Services, Defence Finance, Ministry of External Affairs and Defence Research and Development Organisation (DRDO) and provides inputs to the Chiefs of Staff Committee (COSC) on matters pertaining to Defence Planning. The Organisation deals with major issues relating to strategic defence planning such as threat assessments/analysis and possible responses to these threats, recommends balanced force structures to achieve military aims, and conceptualises and evolves Defence Plans.
- 9.38 To promote international and regional Defence Co-operation, the DG DPS is actively involved in forging Defence Bilateral Agreements in the vital areas of military to military co-operation and training with a number of countries including USA, UK, France, Russia and South Africa. The DG DPS rep-

resents the Indian Armed Forces at the ASEAN Regional Forum, a multi-lateral forum, to articulate India's security environment and defence policies. The Directorate also undertakes briefings of foreign defence and diplomatic delegations on matters connected with Indian security.

#### SERVICES SPORTS CONTROL BOARD

- 9.39 The Services Sports Control Board (SSCB) is responsible for conducting and coordinating various sports activities of the three Defence Services. SSCB is affiliated to 26 National Sports Federations and it participated in 29 National Championships, including 3 junior sections. A total of four teams (Army Red, Army Green, Navy and Air Force) participate in the 19 Services Championships conducted under the aegis of SSCB. During the year, Army Red were overall champions, winning 15 out of 19 events. The Navy was second, followed by Army Green and Air Force.
- 9.40 During 2000 - 2001, the performance of Services sportsmen at the National and International level was outstanding. In the present day scenario when sportsmen generally perform well only when their efforts are compensated by material benefits, Services sportsmen continued to maintain high morale in the true spirit of sportsmanship.
- 9.41 For the year 1999-2000, Army won the Defence Services Overall Championship Trophy and Naib Subedar Narendra Rana (Boxer) was adjudged as the Best Services Sportsman for award of AVM Jaswant Singh

Trophy. Both trophies were presented on October 18, 2000 during the Combined Commanders' Conference 2000.

- 9.42 Achievements of Services Sportsmen during the period April 1, 2000 to October 30, 2000 are given below:

- (a) **International Events** :46 Services sportsmen were selected to represent the country in various tournaments. The following sportsmen won medals in different events:
- (i) **Training-cum-Competition Boxing** : The tournament was held at Cuba from July 1 to August 8, 2000.
- |                         |        |              |
|-------------------------|--------|--------------|
| Nb.Sub. Gurcharan Singh | 1 Gold | 2 Bronze     |
| CPO N.G. Dingko Singh   | -      | Silver       |
| Hav. J. Fernandez       | -      | 1 Silver     |
|                         |        | and 2 Bronze |
- (ii) **Asia Cup Junior Hockey Championship**:
- |                     |   |        |
|---------------------|---|--------|
| Hav. Paramjit Singh | - | Silver |
|---------------------|---|--------|
- (iii) **President Cup Boxing Championship** : The Championship was held in Indonesia from July 27 to August 3, 2000.
- |                  |   |        |
|------------------|---|--------|
| PO Hardeep Singh | - | Bronze |
|------------------|---|--------|
- (iv) **Second Children of Asia Games (Boxing)** : The event was held in Russia from August 4 to 13, 2000.
- |                        |   |        |
|------------------------|---|--------|
| Rect. Khimanand Belval | - | Silver |
|------------------------|---|--------|
- (v) **Olympic Games 2000** : The Olympic Games were held at Sydney from

September 15 to October 1, 2000. Naib Subedar Gurcharan Singh (Boxer) missed bronze medal even after scoring equal points with his opponent.

- (b) **National Championships** : National Athletic and National Kayaking and Canoeing (Junior & Senior) Championships have been conducted so far. The Services were runners-up in Athletic and Junior Kayaking and Canoeing. They were overall champions in the senior section.

#### ARMED FORCES FILMS AND PHOTO DIVISION

- 9.43 The Armed Forces Films and Photo Division (AFFPD) is responsible to meet the requirements of Service Headquarters and other defence organisations with regard to production, procurement and distribution of training films, production of photographs and art work etc. The Central Defence Film Library of this Division maintains a rare collection of films and photographs of valuable historical background, taken in different operational and occupational theatres of the World War-II. Nearly 350 units/formations/training establishments draw these films for training purposes, presentations and seminars.
- 9.44 During the period under report, twelve films have been completed and twenty seven Defence training films are at various stages of production in AFFPD. During this period, 866 training films/video cassettes have been distributed to various users and 5,211 colour/black & white prints have been made.

& white negatives have been exposed. The Art section has worked on 3,720 pieces of Art work.

- 9.45 The Mobile Cinema Unit of the AFFPD procured/distributed documentary films and news magazines containing information on family welfare and cultural values from Films Division, Ministry of Information & Broadcasting to troops in the forward areas.

#### SCHOOL OF FOREIGN LANGUAGES

- 9.46 The School of Foreign Languages (SFL), under the aegis of the Ministry of Defence, is a unique institute in our country. It is unique in the sense that it has been the pioneer in foreign language teaching in India, having been established way back in 1948. At present, the School is engaged in imparting training in 10 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, etc. The languages taught at the School include Arabic, Bahasa Indonesia, Burmese, Chinese, French, German, Persian, Pushto, Russian, Spanish, Sinhala and Tibetan.

- 9.47 The courses offered by the SFL are:-

- (i) Interpretership Course
- (ii) Certificate of Proficiency Course
- (iii) Advance Diploma (Intensive) Course
- (iv) Short-term Courses/Capsule Course

- 9.48 The Interpretership Course is a full-time one. 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. Furthermore, they are trained in writing and speaking the target languages with utmost fluency. The Interpretership course is need-oriented as it has been designed and formulated solely to meet the specific needs of the Armed Forces. It is a highly specialised course which has no parallel anywhere else in India. Languages of strategic importance such as Sinhala, Bahasa Indonesia, Burmese and Tibetan are taught only at the SFL at such a high level. In fact, in the whole country, the SFL is the only institute where a course in Sinhala is offered.

- 9.49 The Certificate of Proficiency Course is followed by the Advanced Diploma Intensive Course. Both are part-time courses and each is of one year duration. Together, these two courses are equivalent to the 3-year Diploma Courses of the Universities. Short-term courses are purely need-based programmes. They are conducted as and when necessary, especially on request for selected officers and for officers being sent on UN Missions.

- 9.50 The SFL frames the standard and syllabus for the Ministry of External Affairs; National Defence Academy, Pune; Army Education Centre and Training College, Pachmarhi; Cabinet Secretariat and the Ministry of Home Affairs. It conducts their examina-

tions and issues diplomas to the successful candidates. For the IFS probationers, it is obligatory to pass the Advanced Diploma Examination conducted by this Institute.

- 9.51 During an academic year, 4 periodical tests are held in all the courses in order to assess and monitor the progress of each individual student.
- 9.52 The SFL has consistently tried to keep abreast with the latest teaching technology. Teaching languages through computers has been attempted at the SFL for which the latest methods have been acquired.

### HISTORY DIVISION

- 9.53 The Historical Section was created after the end of World War II to prepare the detailed official history of the War with particular reference to the operations conducted by the Armed Forces of undivided India. After partition, it served as the Combined Inter-Services Historical Section (India & Pakistan). The history of the Armed Forces in Second World War (1939-45) was brought out in 24 volumes by the Combined Inter-Services Historical Section (India & Pakistan). It was wound up in 1963.
- 9.54 In the meanwhile, Historical Section (India) was established in 1953 to complete and publish the account of the official history of post independence military operations of the Armed Forces of the Indian Union. The History of Operations in Jammu & Kashmir (1947-48) was its first assignment. Till now, it has brought out 17 volumes. The

Historical Section has now been designated as History Division with effect from April 1, 1992.

- 9.55 The History Division functions as the military archives and reference organisation of the Ministry of Defence and Indian Armed Forces. It also provides expert advice to the Ministry of Defence and Services headquarters on matters relating to heraldry and ceremonials. During the period, over 4600 operational records were received from the Service Headquarters, Units and Formations for custody and permanent retention in the History Division. About 250 Service officers and scholars visited the record room to consult records and books in connection with research assignments pertaining to military history. In addition, this office has provided information relating to military history in respect of over 350 written queries received from the various units and formations, as also scholars from India and overseas.
- 9.56 The Heraldic Cell of the History Division has been assisting the Services Headquarters and the Ministry of Defence by suggesting names for new establishments, designing crests and badges and coining suitable mottoes for units/formations.

### NATIONAL DEFENCE COLLEGE

- 9.57 The National Defence College (NDC) was inaugurated by our first Prime Minister, Pandit Jawahar Lal Nehru, on April 27, 1960. This is the only institution in the country that imparts knowledge on all aspects of national security and strategy. During the last

39 years, the NDC has grown from strength to strength and established a name for itself as a centre of excellence in National Security and Strategic Studies. The college has provided education and training in a highly specialised and sensitive discipline to a large number of senior defence and civilian officers from India and abroad. Many of the former students of the college have reached the very top of their professions in India and abroad.

- 9.58 The NDC conducts the National Security and Strategic Studies Course 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 organisational aspects involved in the planning of National Strategy. Officers of the Defence Forces 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.
- 9.59 The 40<sup>th</sup> NDC Course commenced with effect from January 10, 2000 and 84 officers attended the course as per details given below:-
 

(a)	Army	-	34 officers
(b)	Navy	-	05 officers
(c)	Air Force	-	10 officers
(d)	Civil Service	-	15 officers
(e)	Foreign Officers	-	20 officers
- 9.60 Officers from Myanmar, Oman, Bangladesh,

Indonesia, Ghana, Nigeria, USA, Nepal, Republic of Korea, Sri Lanka, Malaysia, South Africa, Vietnam, UAE, UK and Burkina Faso participated in 40<sup>th</sup> NDC Course.

#### RESEARCH ACTIVITY – THESIS WRITING

9.61 During the NDC Course, each course member is required to undertake thesis writing work. The aim of the individual thesis is to enable course members to make an original contribution to the prevailing knowledge on a subject of a national or international interest that has a bearing on national security. These theses are evaluated and the best five theses are selected for the award of Pyare Lal Gold Medal and Book Prizes.

#### VISITS BY FOREIGN DELEGATIONS

9.62 The following delegations from abroad visited the College during 2000:-

	COUNTRY	DURATION	COMPOSITION
(a)	Nepal	Feb 21, 2000	Tri Sha Te General Prajwalla SJB Rana, Chief of the Army Staff, Royal Nepal Army, accompanied by three officers.
(b)	South Africa	Feb 24, 2000	General S. Nyanda, MMM, Chief of South African National Defence Forces(SANDF), accompanied by three officers.

(c) USA May 8, 2000 Mr Bruce Gregory accompanied by a fourteen member delegation from National War College, USA.

(d) Romania May 11, 2000 HE Mr Sorin Frunzaverde, Minister of Defence of Romania, accompanied by 13 member.

(e) Nigeria July 3, 2000 Rear Admiral GA Shiyanbade, Commandant, National War College, accompanied by a twenty four member delegation from NWC, Nigeria.

(f) China Aug 22, 2000 Lt Gen Tian Shugen, Vice President of the Academy of Military Science, accompanied by seven member Chinese People's Liberation Army Science and Training delegation.

(g) USA Sept 21, 2000 Admiral Dennis C Blair, Commander-in-Chief, US Pacific Command, accompanied by a high level delegation.

(h) UK Oct 13, 2000 Vice Admiral JHS McAnally, CB, LVO, Commandant, accompanied by twelve members of Royal College of Defence Studies.

(j) Bulgaria Oct 31, 2000 HE Mr Boyko Noev, Minister of Defence of Republic of Bulgaria, accompanied by ten members.

#### LIBRARY

9.63 Major improvements have been made in the library facilities at NDC. These include institution of a new user friendly library software, bar-coding and automation of issue/return activities and location of books. Approximately 2000 obsolete books were weeded out from the library its which has vastly improved storage position.

#### COMPUTER FACILITIES

9.64 The NDC provides excellent computer based facilities for the Faculty and Course Members. The basic computer infrastructure consists of a high speed Windows – NT Local Area Network (LAN) and a sophisticated Server wherein 60 computers are integrated into the LAN. In addition, an Internet Network is functional and provides internet access through 20 computers which are connected to a 64 K leased internet connection.

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A CD-ROM Server was integrated to the LAN in the year 1999 for centralized access of CD – Titles and software.

#### **LOCAL AREA NETWORK**

- 9.65 The Local Area Network (LAN) at the NDC integrates latest multimedia computer work stations, printers and peripherals to a sophisticated server. The LAN proved to be a useful tool for sharing of data and centralized access of data. The LAN connectivity was of immense benefit to the Course Officers in preparation of various presentations, papers and theses. The LAN was extensively used by all the course members throughout the period under review.

#### **INTERNET BROWSING ROOM**

- 9.66 A 64 K leased internet connection available at the College provides Internet Access to the Course Members. An internet network of 20 computers is connected to the leased internet connection. This facility was very widely used by the Course Members to download various research and referral material from the Internet and send/receive e-mails.

#### **CD-ROM SERVER**

- 9.67 The CD-ROM Server (with 8 CD Drives) proved to be a useful tool for the Course Members, CD-Titles on demand were placed in the CD-ROM Server for centralized access. Course Members frequently accessed the CDs through the LAN for downloading

relevant material from the CDs placed in this server. The Encarta World Atlas and the Encarta Encyclopedia CDs were accessed to a great extent by the Course Officers.

- 9.68 Constant efforts have been made to provide a wide spectrum of tangible and intangible high quality inputs to the Course Members so as to widen their horizon of knowledge on issues concerning national security and strategy. The feedback received from the Course Members has been exceedingly positive and encouraging.

#### **COLLEGE OF DEFENCE MANAGEMENT**

- 9.69 The Institute of Defence Management, Secunderabad, which was established in June 1970, 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 training programmes conducted by the CDM are the Long Defence Management Course, Senior Defence Management Course, Defence Management Seminar and Assignment Oriented Management Training Programme. The College also undertakes management consultancy studies.

#### **DEFENCE SERVICES STAFF COLLEGE**

- 9.70 The Defence Services Staff College (DSSC) which is one of the oldest military institutions, was established in 1905 in Deolali and has been functioning at Wellington since

1950. The College imparts training to middle level officers of the three Services, besides a few civilian officers and officers from friendly foreign countries. It conducts a 45 week training programme from June to April every year.

- 9.71 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**

- 9.72 The Ministry of Defence Library, a Central Defence Library, provides literature on relevant subjects to officials responsible for planning and policy formulation in the Ministry of Defence, the three Services Headquarters, Inter-Service Organisations and other allied Defence establishments located in Delhi. During the year, the library added 1,230 books, subscribed to 137 journals and 27 newspapers. The library, at present, holds over 50,000 books. It specialises in Defence and related subjects besides catering to the needs of the general reading clientele. Photocopies of 770 articles were circulated to senior officers by way of SDI/RSD Services. The library issues three bulletins periodically on new additions/books and articles from journals/newspapers. The reading material for the library is selected by a Book Selection Sub-Committee constituted by the Ministry of Defence.

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# 10

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RECRUITMENT AND TRAINING



*"Rappelling Down the Steep Cliff"*  
*Jawan on Mountaineering trekking at high altitude area.*

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10.1 The Armed Forces epitomise 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**

10.3 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**

10.4 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.

10.5 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 12<sup>th</sup> 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 BOARDS**

10.6 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**

10.7 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**

10.8 To alleviate the shortage of Technical Officers (Engineering) in the Army, the Govern-

ment have approved the Short Service Commission (Technical) Entry Scheme. This envisages recruitment of qualified technical graduates through the SSBs, to attend the Officers Training Academy (OTA), Madras, after medical tests, for a 10 month 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**

10.9 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**

10.10 Eligible women are recruited as officers on Short Service Commission basis 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

- 10.11 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

- 10.12 Government has approved the creation of a 6,000 strong Support Cadre of Special Commissioned Officers. These posts will be filled up by eligible JCOs and OR. Under this entry, serving JCOs/NCOs/OR in the age group of 30-35 years, with an Army Senior School Certificate Pass (Class XI CBSE Pattern) qualification, will be eligible for Commission after screening/selection through Service Selection Board and a Medical Board. They will undergo a pre-commission training of six months duration. The officers so commissioned will earn promotion upto the rank of Colonel. The rules for substantive promotion and acting promotion will be the same as for regular officers. These officers will be employed in units as sub unit Cadres/QM job/ERE appointments etc. upto the rank of Major. They will retire at the age of

57 years after serving about 20-25 years as officers. The scheme will not only improve the career prospects of the existing JCOs/NCOs/OR but will also help in making up the deficiency of officers in the Army to a considerable extent.

### 10 + 2 TECHNICAL ENTRY SCHEME

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

### RECRUITMENT OF OTHER RANKS

- 10.14 The RMP of a state is reckoned to be 10% of the male population of that state. 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 centres under this Board.

### RECRUITMENT OF JAWANS THROUGH OPEN RECRUITMENT RALLIES

- 10.15 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 dis-

tricts, 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.

### DISPENSATIONS IN EDUCATIONAL STANDARDS FOR RECRUITMENT OF GENERAL DUTY SOLDIERS

- 10.16 For recruitment of General Duty (GD) category soldiers in the Indian Army, the prescribed minimum educational qualification is Matric/ SSC. To facilitate representation in the Army of people from remote, border, hilly and backward areas, certain dispensations in educational qualifications, valid upto March 31, 2001 have been given. These are:
- (a) **DISPENSATION FROM CLASS X TO CLASS VIII**
    - i) **Jammu and Kashmir** : The whole State of J&K (Except Ladakh Region and Samba Tehsil and Kathua District of Jammu Region).
    - ii) **Uttar Pradesh** : All personnel from the border tehsils of Uttarkashi District (Bhatwari Tehsil), Okhimath and Joshimath Tehsils of Chamoli District

- and Didihat, Dharchula and Munsiri Tehsils of Pithoragarh District.
- iii) **Rajasthan** : All personnel from the border districts of Jaisalmer, Barmer and Shergarh, Osian and Phelodi Tehsils of Jodhpur District.
  - iv) **Gujarat** : All personnel from Rapar and Lakhpat Tehsils of Kutch.
  - v) **Sikkim** : All personnel from Sikkim State.
  - vi) **Lakshadweep and Minicoy Group of Islands**: All inhabitants of Lakshadweep and Minicoy Group of Islands.
  - vii) **Andaman and Nicobar Group of Islands** : All inhabitants of Andaman Nicobar Group of Islands.
  - viii) Class/Community-wise dispensations are provided to all Nepalese and Indian domiciled Gorkhas, Kiam-Khanis from Rajasthan, Mahars from Maharashtra, Andhra Pradesh, Madhya Pradesh and Karnataka, and Rawat community from Ajmer, Rajasmad, Bhilwara, Udaipur and Chittor Districts of Rajasthan.
  - ix) All personnel from Assam, Manipur, Mizoram, Nagaland and Tripura (except tribals from these states).
- (b) **DISPENSATION FROM CLASS X TO CLASS V PASS**

All personnel from Arunachal Pradesh, Meghalaya, Lahaul, Spiti and Kinnaur districts of Himachal Pradesh and tribals from all the States.

- (c) Dispensation to be literate in their own language is provided for all personnel from Ladakh Region of Jammu and Kashmir.
- (d) The rules also provide for relaxation in prescribed physical standards in respect of certain specified backward, remote and tribal regions. Relaxation in physical standards is also given to one son and one grandson of serving or retired soldiers and widows of battle casualties. A provision for instant enrolment also exists for one son of battle casualty who dies in war or war like situation during peace time.

#### PUBLICITY FOR RECRUITMENT

10.17 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 Rank 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., which are covered in these newspapers. A composite advertisement on various entries in the Army is also brought out periodically both in English and Hindi. Concerned Zonal Recruitment Offices/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 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 recruiting information is provided to visitors. This is also done in other organized fairs, which are career oriented and meant for students.

## IMAGE PROJECTION CAMPAIGN

10.18 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

10.19 Several features distinguish Human Resource Management in the Defence Sector. The training aims to equip the soldier with necessary inputs to make him not only an efficient fighting man, but also to be well informed on national and international developments. The specialised and rigorous recruitment procedures, the 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 specialised training, and for Other Ranks (ORs). Accordingly, a large number of training institutions in the Defence Sector work in tandem to achieve these objectives.



*Cadets on Sail Training*

## SAINIK SCHOOLS

10.20 Sainik Schools, established as joint ventures of the State and Central Governments in 1961, are functioning with the tangible aim of making officers cadre of the Armed Forces accessible to all sections of the society. At present, 18 Sainik Schools, one each in all major States, are governed by the Sainik Schools Society under the Ministry of Defence.

10.21 The objective of Sainik Schools is to bring public school education within the reach of the common people and to cater to their educational aspirations, not only to prepare them

for entry into the NDA, but also to provide an educational background aimed at all round maturing of their personality. Sainik Schools have been fulfilling this objective to prepare their cadets academically, physically and mentally for entry to NDA over the years for which adequate and varied infrastructure and equipment is provided.

10.22 The success of an academic organisation is measured by assessing the success of its alumni. The Sainik Schools have created a name for themselves by their significant contribution to all the three wings of the Armed Forces. Its alumni have reached upto the General's Cadre in the Armed Forces hi-

erarchy. They also hold several respectable positions in various walks of life in those instances where they have not joined the Armed Forces. In the last 38 years, the Sainik Schools have done yeoman service to the nation in general by providing responsible citizens who have excelled in all walks of life.

10.23 The Sainik Schools have lived up to their reputation by maintaining good academic results over the years. During the year 2000, Class X students of Sainik Schools produced 99.8% successful results and 87% Class XII students in the CBSE Board Examinations. A total number of 108 students joined the National Defence Academy during the year. Besides the NDA, a number of Sainik School students joined the Naval Academy, the Armed Forces Medical College and the Military Academy. As on date, more than 6,000 officers serving in Defence Forces are alumni of the Sainik Schools.

### MILITARY SCHOOLS

10.24 There are five Military Schools in the country at Chail, Dholpur, Belgaum, Bangalore and Ajmer. They admit boys in Class VI, based on an All India Entrance Examination. In Military Schools, 67% vacancies are reserved for the wards of the Other Ranks, 20% for the wards of service officers and 13% for the wards of civilians

10.25 The aim of these schools is to impart quality education to enable the boys to take the All India Secondary School Examination and Senior Secondary Certificate Examination conducted by the CBSE and also to facilitate their entry into the NDA.

### RASHTRIYA INDIAN MILITARY COLLEGE, DEHRADUN

10.26 The Rashtriya Indian Military College (RIMC) was founded on March 13, 1922 with the object of providing the necessary preliminary training for boys of Indian birth or domicile, wishing to become officers in the Armed Forces of India.

10.27 The selection of students in the RIMC is through a written examination-cum-viva voce test conducted through the State Governments. Seats for respective States are reserved on the basis of population. The intake into the RIMC is biennial i.e. in February and in August, and the intake is at Class VIII, of boys in the age group 11 ½ to 13. The college runs classes from 8<sup>th</sup> to 12<sup>th</sup> on 10+2 CBSE pattern. The academic instruction imparted is designed to prepare the students for:-

- (a) Secondary School Examination at the end of Class X conducted by the Army Headquarters and recognized by Central Board of Secondary Education.
- (b) Senior School Certificate Examination at the end of Class XII conducted by the Army Headquarters and recognized by Central Board of Secondary Education.
- (c) UPSC Examination for admission into NDA for which minimum educational qualification in class XII.

### NATIONAL DEFENCE ACADEMY, KHADAKWASLA

10.28 The National Defence Academy (NDA) is a

premier Joint Services institution of the nation for training the young cadets as future officers of the Defence Services with its motto as “SEVA PARMO DHARMA” (Service Before Self). It has a four-fold aim:-

- (a) To enable the cadets to attain requisite educational standard and acquire mental, moral and physical qualities essential to their progressive and continued development as officers of the fighting services.
- (b) To impart such basic service training as will assist in developing their character, initiative, self-confidence and, above all, qualities of leadership.
- (c) To develop their ability to appreciate inter-Service aspect of the Armed Forces.
- (d) To develop in them an interest in extra curricular activities of the out-door type.

10.29 The academic training of the NDA is in tune with the national educational format of 10+2+3. The syllabus of the Academy meets these requirements and 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 after three years of training. After passing out from NDA, the cadets go to their respective Service academies for specialized training before being commissioned in the Armed Forces.

10.30 The NDA also imparts/has imparted train-

ing to cadets from friendly countries like Bhutan, Seychelles, Singapore, Afghanistan, Tanzania, Ghana, Maldives and Palestine. The present strength of NDA is 1857 which includes 67 cadets from Bhutan, nine cadets from Palestine and six cadets from Maldives.

### **INDIAN MILITARY ACADEMY, DEHRADUN**

- 10.31 The Indian Military Academy (IMA) was established in 1932. The Academy is located in between Shivalik and the Himalayan foothills, in the salubrious climate of Dehradun.
- 10.32 The aim of the IMA is to train Gentlemen Cadets (GCs) for commission into the Army. The Academy also has a Wing for training service cadets selected for commission in the Army.
- 10.33 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.

10.34 IMA also imparts training to Gentlemen Cadets from friendly countries like Maldives, Mauritius, Seychelles, Sri Lanka, Nepal, South Africa and Bhutan. In addition to

basic service training and broad academic education, IMA has a number of extra curricular activities which help in developing a well rounded personality and inculcating finer aesthetic qualities.

### **ARMY CADET COLLEGE**

10.35 This is a Wing of IMA which caters to the 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, recognized by the Jawaharlal Nehru University.

### **OFFICERS TRAINING ACADEMY, CHENNAI**

10.36 The Officers Training Academy was established in 1963 as Officers Training School

to meet the increased demand of officers in the Army. It was redesignated as Officers Training Academy (OTA) with effect from January 1, 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, but from 1965 onwards, the Academy started training cadets for Short Service Commission, after which the former commission was dispensed with. 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. The strength of lady cadets from March, 1997



*Cadets Pass out of Air Force Academy*

course has been enhanced to 50 per course i.e. 100 per year.

10.37 The aim of 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) Develop highest qualities of leadership, moral and physical courage and physical fitness.
- (d) Instill high sense of patriotism, devotion to duty, discipline, integrity, loyalty and honour.

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

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

10.39 Against the designed capacity of 500, the OTA is presently training 650 Gentlemen Cadets including 64 lady cadets. The OTA conducts orientation training for selected

service personnel for grant of Permanent Commission (Special List) as Technical and Records Officers.

#### COLLEGE OF COMBAT, MHOW

10.40 The College of Combat was established on April 1, 1971. It is the 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.

10.41 The College imparts training to officers of all Arms and Services at various levels of Command viz. sub unit (Junior Command), unit (Senior Command) and formation (Higher Command). Inter-arms and inter-services aspects are included in the training aimed at enabling the officers to handle mixed groups of various arms and services at levels appropriate to the course. Officers from Para Military Organisations are also allotted vacancies on the Senior Command (13 weeks) and the Junior Command (13 weeks) courses. In addition, officers from friendly foreign countries also attend these courses. The Higher Command Course (45 weeks) is restricted to officers of the Indian Army, the Navy and the Air Force. Besides the above courses, a new four weeks course has commenced in 1996, namely, 'The Formation Commanders Orientation Programme' for Brigadiers approved for the rank of Major General. The aim of the course is to prepare selected potential divisional commanders for command of their formations in field and peace.

#### DEFENCE SERVICES STAFF COLLEGE

10.42 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 Defence Services Staff College 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.

10.43 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.

#### HIGH ALTITUDE WARFARE SCHOOL

10.44 The High Altitude Warfare School (HAWS) in its present form was established in April 1962. The School is commanded by a Brigadier and imparts training in High Altitude Mountain and Winter Warfare to Officers, JCOs and NCOs of the Indian Army and some friendly foreign countries. The following courses are conducted at HAWS:-

- (a) Winter Warfare Basic Course
- (b) Winter Warfare Advance Course
- (c) Mountain Warfare Course
- (d) Mountain Warfare Advance Course

10.45 The HAWS has the distinction of being the only training establishment which has taken

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part, both in 1965 and 1971 wars besides Low Intensity Conflict Operations in J&K. The School contributes significantly towards preparing troops for operations in the Siachen Glacier - the highest battlefield in the world - and other High Altitude Areas. The institution is operationally active. Expert teams were provided for opening four land routes in the Siachen Glacier so that the troops could be kept supplied even when air supply was not possible. A number of mountain rescue teams have been trained so that the units are self-sufficient in dealing with emergency situations.

10.46 With the present capacity, the school trains 100 Officers and 410 JCOs/NCOs every year.

#### **COUNTER INSURGENCY AND JUNGLE WARFARE SCHOOL**

10.47 The Counter Insurgency and Jungle Warfare School (CIJW) in its present form was established on May 01, 1970 as a Category 'A' Establishment and is located at Veirengte. 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 fighting Low Intensity Conflict Operations (LICO).

10.48 The following courses are conducted at the CIJW School :-

- (a) Low Intensity Combat Courses
- (b) Language Courses for JCOs/NCOs in Nagamese, Manipuri and Tangkhul.

10.49 A number of students from Para Military Forces as well as friendly foreign countries such as Iraq, Kenya, Nepal, Singapore, Sri

Lanka and the USA also attend above courses.

10.50 The CIJW school is training 120 Officers, 460 JCOs/NCOs and giving pre-induction training to companies of para military forces. It has also done well in looking after the interests of tribal villages in the close vicinity by establishing a Junior School, which has become very popular and well known.

#### **INFANTRY SCHOOL**

10.51 The Infantry School 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. The present Infantry School owes its origin to a decision taken shortly after Independence to amalgamate the country's various tactical and weapons training institutions into one single School of Instruction at Mhow. Infantry School is located in two places. The Weapons Wing and the Young Officers Wing are located at Mhow while the Junior Leaders Wing is located at Belgaum.

10.52 The School is responsible for:-

- (a) Developing new tactical doctrine battle techniques and battle drills pertaining to infantry and introducing them with the approval of the Army Headquarters.
- (b) Continuous study and keeping abreast of tactical and technical development in India as well as abroad in all matters pertaining to functions of the School.

(c) Carrying out trials of weapons, equipment and ammunition pertaining to Infantry as directed by Army Headquarters.

(d) Conducting courses of instructions.

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

10.53 The institution is training Officers, JCOs and OR not only from the Infantry but also from other Arms and Services and, in addition, Para- Military Forces and Civil Police Organisations. A number of friendly foreign countries are making use of the facilities. The Army Marksmanship Unit at the Infantry School has produced excellent results in shooting competitions at national as well as international levels.

#### **COLLEGE OF DEFENCE MANAGEMENT**

10.54 The Institute of Defence Management, Secunderabad was established in June 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 training programmes conducted by the 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.

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### MILITARY MUSIC

10.55 Training is imparted regularly to military bands at the Military Music Wing of the Army Educational Corps Training College at Pachmarhi. A number of courses, ranging from one year to three years, are being conducted at the Military Music Wing. Vacancies are also allotted to personnel of the Para Military Forces and to the students from friendly countries. The Military Music Wing of AEC Training College at Pachmarhi is the only institute of its kind in Asia.

### ARMY ADVENTURE WING

10.56 The Army Adventure Wing conducts and supports various forms of adventure activities, keeping in view the following:-

- (a) Expose Army personnel to high risk training activities so that they take correct decision under pressure;
- (b) Develop spirit of camaraderie amongst volunteers;
- (c) Develop administrative skills while handling difficult situations;
- (d) Enhance self confidence of team members; and
- (e) Inculcate leadership qualities in Army personnel.

### NATIONAL DEFENCE COLLEGE

10.57 The National Defence College (NDC), inaugurated by our first Prime Minister, Pandit Jawahar Lal Nehru, on April 27, 1960, is the only institution in the country that im-

parts knowledge on all aspects of national security and strategy. During the last 40 years, the NDC has grown from strength to strength and established a name for itself as a center of excellence in National Security and Strategic Studies. The College has provided education and training in a highly specialised and sensitive discipline to a large number of senior defence and civil officers from India and abroad.

10.58 The NDC conducts National Security and Strategic Studies Course 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.

10.59 The 40<sup>th</sup> NDC Course commenced with effect from January 10, 2000 and 84 officers from the Army, the Navy and the Air Force and friendly countries participated in the 40<sup>th</sup> NDC course. 210 experts were invited to speak to the course members of the Course. They provided valuable and diverse inputs for the studies. The course curriculum consists of Study Capsules, Lectures and Panel Discussions, Field Tours, Research Activities – Thesis Writing and Seminars.

10.60 **Foreign Countries Tour** : Visits to major mili-

tary installations and industrial agencies and personal contacts with senior leaders and international leaders abroad contribute to the rich core of the curriculum at the NDC as these are essential tools to successfully continue the leadership into the 21<sup>st</sup> Century. The course members undertook a Foreign Countries Tour from May 22 to June 2, 2000 in six groups as follows:-

- (i) Syria-France
- (ii) Syria-Greece
- (iii) Jordan-Italy
- (iv) Egypt-Italy
- (v) China – Vietnam
- (vi) Philippines - Indonesia

10.61 **SAARC Tour** : The Course members visited the SAARC countries from September 11 to 14, 2000. They could discern the views of important personalities and the desire to strengthen regional cooperation and trends towards greater regional cohesion in areas of mutual benefit involving economic, social and functional cooperation.

10.62 During the NDC Course, each course member is required to undertake thesis writing work. The aim of the individual thesis is to enable course members to make an original contribution to the prevailing knowledge on a subject of national or international interest that has a bearing on national security. Their theses were evaluated and the best five were selected for the award of Pyare Lal Gold Medal and Book Prizes.

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## RESETTLEMENT AND WELFARE OF EX-SERVICEMEN



*Ex-Servicemen participating in parade at Rajpath during Republic Day Parade, 2001*

11.1. In order to maintain a youthful profile of the Armed forces, over 55,000 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 responsibilities which necessitate their taking up of a second occupation. As per statistics maintained, a total of 15,67,390 ex-Servicemen (ESM) and 3,13,654 widows have been registered and reported to be surviving as on June 30, 2000. The ex-Servicemen population is mainly concentrated in the States of Uttar Pradesh (2,71,928) , Punjab (1,91,702), Haryana (1,65,702), Maharashtra (1,43,951), Kerala (1,27,920), Tamil Nadu (1,03,156), Rajasthan (1,00,592) and Himachal Pradesh (78,321). 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 dependents.

#### **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 programmes to re-orient retiring defence personnel towards civil employment.
- (b) Reservation of posts for providing re-employment opportunities in Government/Semi-Government/Public Sector Organisations.
- (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 main 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 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 2000-2001 (upto October), 88 officers have been trained in various disciplines.

#### **JCOS/OR 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 and Tourism and 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 Handicrafts, Electroplating, Machinist and Lens Making, Computer Science and Applications, 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 five years, till October 2000 are as follows:-

SCHEME	1996-97 (Upto October 2000)	1997-98	1998-99	1999-2000	2000-01
Officers Training	1145	1150	606	431	249
PBOR Training	5692	5114	5824	4563	3869
On-the-Job Training	1360	1228	1419	1393	840
ITI Training	1250	1324	1292	1847	4000

#### 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 posts/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 Group 'C' posts and 20% of 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% posts 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 not of vertical nature as in the case of reservation for SC/ST/OBC. It 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.

#### RELAXATION IN AGE

11.9 Ex-Servicemen have been provided age relaxation to the extent of military service plus three years against reserved/unreserved vacancies in Groups 'C' and 'D' posts and also in Groups 'A' and 'B' posts which are filled otherwise than by way of competitive examinations. The age relaxation is restricted to five years in Groups 'A' and 'B' posts which are filled by competitive examinations.

#### RELAXATION IN EDUCATIONAL QUALIFICATIONS.

11.10 Ex-Servicemen have been granted relaxation in prescribed educational qualifications. Army Class I, II and III certificates have been equated to 8<sup>th</sup> class, 6<sup>th</sup> class and 4<sup>th</sup> class respectively in the civil field. For reserved vacancies for which the minimum educational qualification is Matriculation, an ex-Serviceman, who has put in at least 15 years of service and has passed Army Class I or equivalent, is considered eligible. For the reserved jobs, for which the minimum educational qualification is graduation, an ex-Servicemen who has put in at least 15 years of service in the Army and has passed Matriculation or equivalent examination is considered eligible.

#### SECURITY AGENCIES

11.11 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. The Director General Resettlement has also written to Chief Secretaries of all States urging them 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. A case has also been taken up with the Government of Maharashtra to exempt security agencies operating in that state from the Maharashtra Security Guard Regulations of the Employment and Welfare Act, 1981.

#### PLACEMENT OF JCOS/OR

11.12 The details of ex-Servicemen, provided employment through DGR and Zila Sainik Welfare Offices in the States during the last five years is as follows:

PLACEMENT OF JCOS/OR					
	1995	1996	1997	1998	1999
Central Government	5080	5385	4023	5188	3992
State Government	4962	4976	4815	2823	2529
Private Sector	5628	4390	5424	3306	2738
Security Agencies	6150	8821	8873	7140	13810
<b>TOTAL</b>	<b>21820</b>	<b>22672</b>	<b>23135</b>	<b>18457</b>	<b>23069</b>

#### OFFICERS EMPLOYMENT

11.13 During the year 2000 (upto October 2000), a total number of 402 officers were registered with the DGR for employment assistance, out of which names of 188 officers were sponsored for employment assistance.

#### SCHEME FOR SELF EMPLOYMENT

11.14 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 and 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).

#### EX-SERVICEMEN COAL TRANSPORT COMPANIES

11.15 Special provision exists for sponsoring ex-Servicemen coal transport companies for the execution of work in coal subsidiaries of the Coal India Limited. 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. 102 companies of ex-Servicemen employing over 6000 personnel are operating in six different coal subsidiaries of Coal India Limited.

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

11.16 Ministry of Petroleum and Natural Gas have reserved 8% of the Oil Product Agencies i.e. LPG, petrol pumps, kerosene depots etc. for disabled soldiers with disability of 50% and above attributable to military service and 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

**YEAR-WISE BREAKUP OF NUMBER OF CASES CLEARED FOR SETTING UP PRODUCTION UNITS IN VARIOUS SCHEMES, LOAN AMOUNT SANCTIONED AND ACTUAL DISBURSAL OF LOAN**

	Amount in lakh				
SCHEME	1995-96	1996-97	1997-98	1998-99	1999-2000
<b>SEMFEX-I</b>					
(i) No. of cases	31	10	12	12	9
(ii) Amount Sanctioned	25.60	13.75	5.50	15.49	5.63
(iii) Disbursed	24.12	10.41	5.50	14.97	5.61
<b>SEMFEX-II</b>					
(i) No. of cases	571	415	359	468	297
(ii) Amount Sanctioned	448.97	289.16	179.76	379.17	274.51
(iii) Disbursed	355.79	192.87	171.04	266.94	265.98
<b>SEMFEX-III</b>					
(i) No. of cases	66	39	45	13	83
(ii) Amount Sanctioned	52.37	119.39	57.13	27.24	135.54
(iii) Disbursed	32.94	105.47	48.84	25.19	100.79

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 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, 800 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.

**GRANT OF PRICE SUBSIDY TO THE EX-SERVICEMEN'S SMALL SCALE INDUSTRIAL UNITS**

11.19 The ex-Servicemen's manufacturing units, supplying stores to Defence Establishments under Defence Purchase Programme, are eligible for 10% price subsidy of the total value of stores supplied or Rs 50,000/- whichever is less in a financial year for five consecutive years. 39 ex-Servicemen units have been granted over Rs. 60 lakhs under the scheme so far.

**ALLOTMENT OF PARKING SITES IN NEW DELHI**

11.20 The New Delhi Municipal Committee currently has 105 parking lots in the area under their jurisdiction. 50% of these parking lots are allotted to ex-Servicemen on the basis of open limited tenders.

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### **ALLOTMENT OF TYPEWRITERS/ DUPLICATORS**

11.21 Ex- Servicemen are eligible to apply for a maximum of 5 repairable typewriters and one duplicator through DGR. These typewriters and duplicators are allotted by Directorate of Military Records and Forms through Regional Stationery Depots on nominal payment. On an average, 60 applicants including officers and JCOs are allotted these machines every year. As per feedback, these machines are used for setting up typewriting institutions in rural areas.

### **ALLOTMENT OF MOTHER DAIRY/DMS MILK BOOTHS AND FRUIT AND EGETABLE OUTLETS**

11.22 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 and Vegetable outlets till such time they attain the age of 60 years. More than 4500 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**

11.23 The Kendriya Sainik Board (KSB) under the Chairmanship of Raksha Mantri lays down the general policy on the welfare of ex-Servicemen and their dependants, for the administration of Welfare funds and also coordinating the work of the Rajya Sainik Boards (RSBs) and Zila Sainik Boards (ZSBs). The expenditure on the resettlement work in the States is shared by the Central and the State Governments in the ratio of 50:50. The KSB also administers the Armed Forces Flag Day Fund collected on Flag Day through sale of car flags and token flags. Various welfare activities are financed from the interest earnings of the Fund. Financial assistance is provided to institutions such as Paraplegic Homes at Kirkee and Mohali, the Red Cross Society, Cheshire Homes, Military Hospitals, St Dustan's After Care Organisation and the Homes for taking care of old and physically handicapped ex-Servicemen and their dependents. Financial assistance is also provided to individual ex-Servicemen and their families who are in a state of penury to meet their specific needs.

### **FINANCIAL ASSISTANCE FROM RAKSHA MANTRI'S DISCRETIONARY FUND**

11.24 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., medi-

cal 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**

11.25 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 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.

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(f) **Medical Facilities**

(i) Ex-Servicemen, their families and families of deceased service personnel, drawing pension of any kind, are entitled to free out-patient treatment at Military Hospitals. These personnel can also be provided in-patient treatment in Military hospitals subject to certain conditions. In addition to the existing military hospitals, 24 MI Rooms and 12 dental centres have specially been created from the funds provided by the Services and KSB for provisioning medical facilities to ex-Servicemen pensioners and their dependants.

(ii) Ex-Servicemen suffering from serious diseases are given financial assistance of upto 90% (in case of PBOR) and 75% (in case of officers) of the total expenditure for treatment in civil hospitals, in case they cannot raise funds from other sources. These are by-pass surgery, open-heart surgery/valve replacement, pacemaker implant, angiography/angioplasty, kidney/renal transplantation, dialysis, cancer, joint replacement, stroke, prostate surgery and spastic paraplegics. Assistance for dialysis and cancer is restricted to Rs 75,000/- per year.

(iii) The leading hospitals throughout the country have been empanelled from where the ex-Servicemen can get treatment for serious diseases on payment of 25% / 10% of the total expendi-

ture. In case of officers and PBORs respectively, the remaining 75% / 90% is paid directly to the hospitals by the KSB. For the purpose, the ex-Serviceman is required to submit to the hospital a letter issued by KSB in this behalf.

(iv) Ex-Servicemen, not availing medical facilities from military hospitals, due to non-availability of Military Hospitals in the near vicinity, can draw a fixed medical allowance of Rs 100/- every month.

(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 are entitled to free rail pass for travelling in Class I/II AC Sleeper.

(ii) **Travel Concession:** Certain categories of personnel are eligible to 50% concession in fare for air travel in domestic flights of the Indian Airlines. These are:-

(a) Recipients of Gallantry Awards of Class 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 Sates 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**

11.26 The service conditions of Armed Forces personnel differ greatly from civilians owing to exigencies of service and the need to work

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in different geo-climatic conditions, such as deserts in the west, glaciers in the north, rain-forests in the east and the high seas in south is in-built, which obviously, would involve periodic 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 upkeep of 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 pension are enumerated in the succeeding paragraphs.

#### **RETIRING/SERVICE PENSION**

11.27 While in the case of commissioned officers of the Army, Navy and Air Force, the minimum period of qualifying service (without weightage) actually rendered and 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)]. Retiring/Service pension admissible to the Armed Forces personnel is calculated at 50% of the average reckonable emoluments, as in the case of civil pensioners subject to a minimum of Rs.1275/- per month and maximum

of upto 50% of the highest pay applicable to Armed Forces personnel. With effect from 01.01.1996, pension would not be less than 50% of the minimum pay in the revised scale of the pay introduced w.e.f. 01.01.1996 for the rank, rank and group (in the case of PBORs) held by the pensioner. However, keeping in view their early retirement, Armed Forces personnel are given the benefit of added years of service while calculating their qualifying service for pension. The benefit of added years of service ranges from 9 years for Captains and below to 3 years for Generals. Personnel below officers rank are given the benefit of 5 added years of service for determining their qualifying service. In the case of officers, pension is calculated on the basis of the average of pay drawn during the last 10 months of service. In the case of personnel below officers rank, it is calculated with reference to the maximum pay of the rank held for 10 months preceding retirement. For calculating gratuity, a uniform weightage of 5 years added service is given to all ranks. Armed Forces personnel are also permitted higher commutation of their pension as compared to civilians.

#### **DISABILITY PENSION**

11.28 A person who is medically boarded out of service on account of a disease/injury/ wound attributable to or aggravated by military service, is entitled to disability pension, provided the disability assessed by the Medical Board is more than 20%. 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 which depends on the degree of disablement. The amount of service element is equal to the normal retiring/service pension. With effect from 01.01.1996, the service element subject to a minimum of Rs. 1,275/- 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 Attendance Allowance at the rate of Rs.300/- p.m. on the recommendations of a Medical Board. In all other cases, where the personnel are invalidated out of service with a disability neither attributable to nor aggravated by 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 invalidating gratuity depending upon the length of service. The entire disability pension, i.e., disability element, and service element has now been exempted by the Government from income tax. Proposals relating to grant of disability pension at enhanced rates in the context of the Fifth Central Pay Commission's recommendations is under consideration of the Ministry of Defence.

#### **WAR INJURY PENSION**

11.29 War Injury Pension is sanctioned to an individual who sustains injury/disability in war or war like operations. In case of invalidment on account of war injury, war injury pension at the rate of last pay drawn is paid to the individual if the degree of disablement is 100%. Where war disability is less than

100%, the amount of war injury pension is proportionately reduced but the amount of war injury pension payable is not less than 60% of the reckonable emoluments in the case of Commissioned Officers and 80% of the reckonable emoluments in the case of personnel below officer rank in the event of invalidment on this count. War injury pension, at the above rates is also paid in case where disability is assessed at less than 20% on invalidment. Armed Forces personnel who are retained in service despite war injury and retire subsequently are given an option either to draw lump sum compensation in lieu of war injury or to draw war injury pension at the time of subsequent retirement foregoing lump sum compensation. With effect from January 1, 1986 the individual who opts for War Injury Pension on subsequent retirement is eligible for the following benefits:

- (a) **Service Element** –Equal to Service/Retiring pension, depending on the length of qualifying service.
- (b) **Disability Element** - on account of war injury at the following rates(for less than 100% disability ,the amount to be reduced proportionately upto 20%):-

Commissioned Officer	-	Rs.1,500/- p.m.
JCOs and equivalents	-	Rs.1,100/-p.m.
Other Ranks/NCs(E)	-	Rs. 900/- p.m.

11.30 The above rates are applicable for calculation of lump-sum compensation also for

100% disability for life. In case where an individual is invalided out of service and granted war injury pension equal to reckonable emoluments last drawn on proportionate lower pension, commutation of war injury pension at the rate of 43% in the case of Officers and 45% in the case of PBOR, for disability of permanent nature is allowed. Where an individual is retained in service in spite of war injury and retires subsequently, commutation of service element and disability element, on account of war injury, as admissible, is allowed at the above rates, where the disability is of permanent nature.

11.31 As in the case of disability pension, decision with reference to the Fifth Central Pay Commission's recommendation regarding enhancement of the rates of War Injury Pension is yet to be taken and notified.

#### FAMILY PENSION

11.32 **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 subject to a maximum limit of 30% of the highest pay applicable to Armed Forces personnel. The amount of minimum family pension which was Rs. 375/- per month earlier has been raised to Rs. 1,275/- per month with effect from 01.01.1996 on the basis of the recommendations of the Fifth Central Pay Commission. As per orders issued with regard to modified parity, past family pension-

ers are entitled to get at least 30% of the minimum of revised pay scale which came into force w.e.f. 01.01.1996 for the rank and group last held by the pensioners/deceased individuals. If the deceased personnel had rendered 7 years or more service, then the family is given family pension at double the rate of the first 7 years or upto the time when 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.

11.33 With effect from 01.01.1996, Ordinary Family Pension is admissible also to (i) parents who were wholly dependent on 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. 2,550/- per month. Pensionary benefits to the eligible Next of Kin, as defined above, were made applicable from 1.1.1998 and as such, all past cases are also to be considered for grant of family pension from 1.1.1998.

11.34 **Special Family Pension:** If the death of a service personnel is on account of causes attributable to or aggravated by service, the family is paid Special Family Pension as follows:-

Reckonable Emoluments		Rates of Special Family Pension (per month)
(a) In case of widow having children	In all cases	60% of the emoluments, subject to a minimum of Rs.1275/-
(b) In case of widow having no children	1) Not exceeding Rs.1,500/-	50% of reckonable emoluments, subject to a minimum of Rs.1,275/-
	2) Exceeding Rs.1,500/- but not exceeding Rs.3,000/-	40% of reckonable emoluments, subject to a minimum of Rs.1,275/-
	3) Exceeding Rs.3,000/-	30% of reckonable emoluments, subject to a minimum of Rs.1,275/-

11.35 Keeping in view the hardships being faced by the special family pensioners, necessary orders for consolidation of Special Family Pension in pre - 01.01.1996 cases without restriction on the maximum ceiling of Rs. 2500/- have already been issued by the Government. Pending issuance of final orders on the basis of the decisions to be taken on the Fifth Pay Commission's recommendations relating to enhancement of the rates of Special Family Pension, interim orders have been issued on September 22, 1999 by the Government for regulation of Special Family Pension in post 01.01.1996 cases at the existing percentage of Special Family Pension in the new pay scales effective from 01.01.1996 in case of officers and 01.01.1996/ 10.10.1997 in the cases of PBORs. The existing maximum limit of Rs. 2500/- has been revised, as an interim measure, to Rs. 8235/- in the case of widow without children and Rs. 9000/- in the case of widow with children. Further, it has been

provided for in the aforesaid letter that in those cases where the amount of Special Family Pension works out to be less than the Ordinary Family Pension calculated at the enhanced rates as per decision taken on the Fifth Central Pay Commission's recommendations notified by the Government, the latter amount would be authorised as an interim measure. Orders have been issued on March 14, 2000, containing instructions for revision of Special Family Pension in pre-January 1, 1996 cases. As per these instructions, the amount of Special Family Pension would not be less than 30% of the minimum pay in the revised scale, introduced w.e.f. January 1, 1996 for the rank held by the deceased. In all such cases, the Special Family Pension would be revised as soon as Government's decision on the Fifth Central Pay Commission's recommendations relating to grant of Special Family Pension is taken and notified.

11.36 **Liberalised Special Family Pension:** In the event of death of Armed Forces personnel 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., their families are granted liberalised special family pension equal to the last pay drawn by the deceased personnel at the time of his death. Pension at this rate is payable to the widow until her death or disqualification. In case the person is not survived by a widow but is survived by a child/children only, children education allowance is also paid in addition to special family pension at the prescribed rates. In the absence of wife and children, pension at the prescribed rates is admissible to the parents of the deceased.

11.37 The Fifth Pay Commission has recommended some changes with respect to entitlement of the liberalised family pension to the widow/parent/ children of the deceased. The Ministry is considering a proposal for revision with respect to entitlement of the liberalised family pension in consultation with Ministry of Finance.

#### **DEARNESS RELIEF TO RE-EMPLOYED PENSIONERS AND EMPLOYED FAMILY PENSIONERS**

11.38 On the basis of the recommendations of the Fifth Central Pay Commission, orders have been issued by the Department of Pension & PW for payment of Dearness Relief to re-employed pensioners and employed family pensioners. Consequently, orders in respect of Armed Forces pensioners/family pension-

ers were issued on October 6, 1999 extending the benefit to the Armed Forces personnel, who are re-employed in civil posts and their pay is to be fixed, as per civil pay rules. Subsequently, separate orders, in respect of ex-Servicemen re-employed in the Armed Forces, have been issued on August 28, 2000. The payment of Dearness Relief is to be made to all the Armed Forces personnel, who were re-employed, as on July 18, 1997, or were/are re-employed subsequently. These orders become effective from July 18, 1997, subject to fulfilment of prescribed conditions.

**EX-GRATIA AWARD IN THE EVENT OF DEATH WHILE PERFORMING MILITARY DUTY**

11.39 On the basis of the recommendations of the Fifth Central Pay Commission, orders have been issued by the Ministry of Defence on September 22, 1998 for grant, in addition to Special Family Pension/ Liberalised Family Pension, of ex-gratia payment to the family of a deceased service personnel in the event of death occurring on or after 01.08.1997, as under:-

- (a) Death occurring due to accidents in the course of performance of duties - Rs.5.00 Lakh
- (b) Death occurring in the course of performance of duties attributable to acts of violence by terrorists, anti-social elements etc. - Rs.5.00 Lakh
- (c) Death occurring during (i) border skirmishes and (ii) action against militants, terrorists, extremists etc. - Rs.7.50 Lakh
- (d) Death occurring during enemy action in international war or such like engagements which are specifically notified by the MOD - Rs.10.00 Lakh w.e.f. 01.08.1997 w.e.f. 01.05.1999

11.40 Appropriate orders in pursuance of the Fifth Central Pay Commission's pension related recommendations in respect of the Armed Forces personnel have been issued, except for the recommendations relating to disability pension/special family pension/ war injury pension etc. which are under active consid-

eration of the Government. As soon as necessary decisions from the nodal Department, i.e., the Department of Personnel, and the Ministry of Finance become available, orders in respect of Armed Forces personnel would be issued by the Ministry of Defence.

11.41 The number of Defence Pensioners is estimated to be about 19.27 lakh. Approximately, 55000 Service personnel retire every year. Pension to Defence Pensioners is disbursed through 30000 branches of public sector banks, 543 Treasuries, 62 Defence Pension Disbursing Offices and 5 PAOs scattered all over India. The annual expenditure on Defence pensions during the last five years has been as follows:-

Year	Pension Disbursed (Rs.Crore)
1996-97	3683.00
1997-98	4947.42
1998-99	7270.00
1999-2000	11024.65
2000-2001 (BE)	12000.00

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# 12

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## COOPERATION BETWEEN THE ARMED FORCES AND CIVIL AUTHORITIES



*"Angels in Combat Uniform"  
Army troops engaged in rescue mission at Bhuj.*

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## ARMY

- 12.1 The Armed Forces render assistance to Civil Authorities for the maintenance of law and order, essential services, and for organising relief and rescue operations during natural calamities in unforeseen situations, when the resources available with the civil administration are inadequate to handle the situation and the Armed Forces are called upon to do so. The assistance provided by the Armed Forces during this year is outlined in the succeeding paragraphs.

### MAINTENANCE OF LAW AND ORDER.

- 12.2 Four columns of the army were deployed at Bihar Sheriff in Bihar from October 11 to 17, 2000 to carry out flag marches when the law and order situation went out of control of the civil administration owing to communal tension in that area. The Army was also deployed to maintain water supply in Chandigarh on August 29, 2000, after it was intimated by the Government that Municipal Corporation employees and workers of the Union Territory of Chandigarh would be observing a one-day token strike on August 29, 2000 which would have already affected the people in the Union Territory.

### AID TO CIVIL AUTHORITIES IN NATURAL CALAMITIES.

- 12.3 During the period under review, the Army was called upon for assistance by the civil administrations of various State Governments on a number of occasions for rescue and relief operations. Brief details of the aid provided in important places are given in the paragraphs below.

## FLOOD RELIEF IN HIMACHAL PRADESH: OPERATION VARSHA

- 12.4 There were flash floods in Karcham area as a result of a cloud burst at approximately 0100 hours on the night of August 1, 2000. The confluence of River Satluj and River Spiti and areas downstream were the worst affected. Though the entire area from Sumdo in the North to Jhakri in the South was badly affected by the floods, the maximum damage was caused at Karcham. About 150 to 200 persons were reported dead, of which 5 OR, 9 women and 12 children belonged to the Army. 51 mules of the army were also washed away in the floods.
- 12.5 All bridges between Puh and Karcham, including the bridges at Sangam, Shontong, Sholding and Nogli were damaged and rendered unserviceable. A 100-metre road stretch was washed off between Puh and Akpa. National Highway 22 was also breached at a number of places, especially between Wangtu and Karcham, Karcham and Paori and Sumdo and Puh. Several Military Engineer Service's buildings and Nissan huts of the OMP, Mobile Veterinary Hospital and Transport Company were destroyed. Extensive damage, estimated at approximately Rs 100 crores, was caused to the Naptha Jhakri Hydel Project.

## RESCUE AND RELIEF OPERATIONS

- 12.6 Six relief columns were mobilised initially which provided immediate relief and succour to the flood affected people. The columns helped in evacuation of the affected popu-

lace and restoration of roads and bridges. Requisite air effort was provided by the Air Force. Control stations were established at Chandigarh and Shimla to monitor the assistance being provided.

## FLOOD RELIEF OPERATIONS IN ASSAM

- 12.7 The unprecedented floods, caused by incessant rains in lower Assam put the normal routine of the locals out of gear. Faced with nature's unrelenting fury, the civil administration had to call out army troops to evacuate thousands of people who were marooned in lower Assam.
- 12.8 On August 2, 2000, after torrential rains had inundated many areas, the Army was called to help the flood relief efforts in the Districts of Sonitpur, Darrang, Kamrup, Nalbari and Kokrajhar. In the worst affected district of Kamrup, especially the Rangiya Sub Division, the army carried out flood relief activities on a large scale undaunted by the nature's fury. The whole township was caught between the swirling waters of Bharalia River in the West and Puthimari River in the East. Columns of the army, including engineer elements, swung into action rescuing nearly 1,500 stranded people.
- 12.9 In Sonitpur District, Panchmailgaon and surrounding ten villages near Tezpur, were engulfed by the waters of Bhareli River. The Army swung into action and rescued about 700 people, besides distributing relief material and animal fodder.
- 12.10 The waters of Nonai Nala had engulfed vast

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areas, including many villages along its western banks near Duni in Darrang District. Columns of the Army, which were pressed into service, rescued nearly 1,100 people and rendered medical aid to the evacuees lodged in temporary relief shelters set up by the civil administration.

- 12.11 In the Districts of Kokrajhar and Nalbari too, the army rendered yeoman service by rescuing nearly 500 people affected by the flood waters of Saralbhanga and Pagladiya Rivers. From August 2 to 7, 2000, six columns and 14 BAUT teams of the Army were deployed and a total of 3,835 civilians were rescued.

#### **FLOOD RELIEF IN ANDHRA PRADESH: OPERATION SAHAYATA**

- 12.12 On the request from the Commissioner, Relief and Revenue, Andhra Pradesh, Operation SAHAYATA was launched for flood relief and rescue operations by HQ Andhra Sub Area from 0500 hours on August 24, 2000. The following districts were affected by the floods:

- (i) Lingampalli in Ranga Reddy District.
- (ii) Patancheruvu in Medak District.
- (iii) Tulichowki and Balanagar in the outskirts of Hyderabad along the Hyderabad - Mumbai Road.
- (iv) Narayanaguda.

- 12.13 Approximately 200 persons were rescued at Tolichowki and relief operations were conducted in other affected areas.

#### **FLOOD RELIEF IN BENGAL: OPERATION BASANTAR III**

- 12.14 On the request of the Government of West Bengal, rescue and relief operations were undertaken in various flood affected areas. The following areas were the worst affected:-

- (i) Birbhum
- (ii) Murshidabad
- (iii) Nadia
- (iv) Burdwan
- (v) Hooghly
- (vi) Howrah
- (vii) North 24 Paraganas

- 12.15 As per the reports received, a total of 1,078 persons were reported dead and 99 missing due to floods. The rail and road network were severely affected. Railway line between Rampurhat and Nalhati was submerged under the flood waters. Breaches had occurred on NH-34 and other State Highways at several places. Water was flowing 3 to 4 feet above the ground.

- 12.16 Rescue Operations:** A total of 27 officers, 44 Junior Commissioned Officers and 716 Other Ranks were deployed in the rescue and relief operations. While 23,369 civilians were rescued and taken to safer areas, 10,225 were given medical aid.

#### **LAUNCHING OF TWIN BAILEY BRIDGE AT PAGLA CHANDI.**

- 12.17 In the worst hit districts of Murshidabad and Nadia, large areas were inundated by flash

floods from September 18-20, 2000. Villages were wiped out and all civic services collapsed due to damaged roads and bridges.

- 12.18 Reports about large-scale devastation of the road network in Nadia and Murshidabad started coming in on September 20, 2000. It was learnt that the NH-34 was submerged and badly damaged. The bridge over Pagla Chandi River was washed away, and its swollen waters had flooded areas for miles on either bank.

- 12.19 There was an urgent need to bridge the Pagla-Chandi gap. The engineer task force of the Army worked non-stop, day and night, for 40 hours. By 2245 hours on October 4, 2000 the 70 feet Double-Single Bridge at Krishna Nagger end was completed. Thereafter, loaded vehicles were moved on to the RCC bridge for unloading and construction of the 120 feet Triple-Single bridge at the Plassey end. This bridge was launched from the RCC bridge to the far bank on the existing road. The construction of this bridge was completed at 2315 hours on October 5, 2000.

- 12.20 In the first 24 hours after the bridge was opened to traffic, 1,452 trucks and hundreds of pedestrians passed through the bridge. The two Bailey Bridges will stay in site till the State PWD is able to repair the RCC Bridge. Due to the heavy traffic, which is about 23,500 vehicles per day as per the information given by the National Highway authorities, the bridges require daily maintenance and for this purpose a detachment comprising one JCO and 10 OR will con-

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tinue to stay at the site till the bridges are de-launched.

### RELIEF OPERATIONS: GUJARAT EARTHQUAKE

12.21 In the wake of the most devastating earthquake which shook the State of Gujarat on January 26, 2001, the Armed Forces launched the biggest ever relief operations. The Army immediately swung into action. Over 20,000 troops were committed in rescue and relief operations. Surgical and medical teams and mobile hospitals were rushed to the affected areas to provide succor and prevent spreading of epidemics. Prompt medical aid and surgery helped to save many lives.

12.22 The Army provided heavy engineering equipment including dozers, trench digging and lifting equipment, air compressors, generating sets, etc. to clear the debris and rescue people trapped under the rubble. Basic necessities such as, food, water, blankets and tentage were provided to the marooned people. Besides, communications links were restored between Gujarat and the rest of the country.

### NAVY

12.23 **Rescue of Shri MN Bhakta ex-MP:** Shri MN Bhakta, an ex-MP, was held hostage by Sri Lankan Tamils at Katchall Island in early June, 2000. The Navy was tasked with his safe rescue. Operation SAHAYATA was launched by FORTAN and the ex-MP was successfully rescued.

12.24 **Maintenance of Essential Services:** Personnel from the Navy manned the ships MV Swaraj Deep and MV Nancowry of the A&N Administration from June 11 to August 4, 2000 when their crew went on strike. Thus the lifeline with the mainland was sustained and essential services maintained. This helped resolve the strike.

12.25 **Medical Camp at Lakshadweep and Minicoy Islands:** A medical camp was conducted in November 2000 in the Lakshadweep and Minicoy Islands. A similar camp last year had been a major success with almost 600 islanders receiving immediate treatment and medical care thereafter.

12.26 **Supply of Potable Water to Pipavav:** On the request of the local administration, INS Shakti visited Pipavav port on May 28, 2000 to offload 1000 barrels of potable water as drought relief.

### ASSISTANCE IN GUJARAT EARTHQUAKE RELIEF

12.27 The details of assistance provided by the Navy in the Gujarat earthquake relief operations are as under :

(a) Medical treatment and distribution of medicines continue to be provided by Naval Medical Teams in the Hospital Ships at Kandla and Bachao. So far, 115 patients have been treated at the Hospital Ships and 41 patients have been shipped to Naval Hospital at Mumbai, whereas 302 patients (including 44 surgery cases) have been treated at Bachao.

(b) Cooked meals/bread for 500 people were distributed in the remote villages of Kandla, Anjar and Gandhidham. In addition to it, 25 tonnes of ration was supplied to the various State Government Relief Centres/Lions Club/Loacl organisations.

(c) All Naval personnel (including civilians) have donated one day's pay for aid of the earthquake victims.

(d) The Navy has adopted a village Moda of Jamnagar district for rehabilitation.

(e) The Navy has so far supplied a total of 45.8 tonnes of ration, bread, biscuits, medicines and medical equipments from its own resources. The Naval ships have also carried approximately 30 tonnes of cooked food/naval ration, apart from the 200 tonnes of ration from Maharashtra Government, which is being distributed in Jodiya, Anjar, Gandhidham, Kandla and Mandvi.

(f) An IN Dornier is operating between Mumbai and Kandla for providing logistic support. In addition to the 7 ships of Navy/Coast Guard engaged in relief operations, Naval Aircraft/Helicopters have also carried out 41 sorties.

### INDIAN AIR FORCE

12.28 The aerial aid to civil authorities was provided without compromising on the urgent air maintenance and other routine operational tasks assigned to the IAF.

12.29 **Casualty Evacuation:** On the request of the Governments of Jammu & Kashmir, Andhra Pradesh, Arunachal Pradesh and Meghalaya, 1557 casualties were evacuated from these States. A total of 168 sorties amounting to 93:40 hrs. have been flown in this effort.

12.30 **Natural Calamities :** The IAF brought relief to flood victims by evacuating casualties in Andhra Pradesh, Assam, Bihar, Arunachal Pradesh, Meghalaya, UP, Gujarat, Himachal Pradesh and Maharashtra, the details of which are as under:

<b>Flood Relief</b>	<b>Statistics</b>	<b>States</b>
Flying Hrs	762 : 30	
Sorties	954	Bihar, Andhra Pradesh
Load	1044 tonnes	Assam, Arunachal - Pradesh, UP, Gujarat,
Passengers	5700	Himachal Pradesh,
Boat	15	Maharashtra
OBM	04	

12.31 **Flood Relief Operation in Assam :** Three hundred and sixty persons, marooned in Kapou Chapori in Assam were rescued on August 19, 2000 by IAF Mi-17 helicopters.

12.32 **Flood Relief Operation in Hyderabad:** In August 2000, helicopters located at Hyderabad area flew to bring in relief to those marooned in Hyderabad, Bhadrachalam and Warangal. 150 people were rescued to safety on August, 24, 2000 alone. A large amount of relief material was transported. Food packets, clothes and medicines were dropped. On many occasions, winching operations had to be resorted to due to non-availability of landing space.

12.33 **Flood Relief Operation in West Bengal :** IAF undertook flood relief operations in West Bengal from September 19 to 24, 2000 in the affected areas of Murshidabad, Malda and Burdwan Districts of West Bengal. More than 1500 marooned passengers of a passenger train fought for survival when the rail-

way tracks were washed off in flash floods. IAF Mi-8 and Mi-17 Helicopters undertook rescue operations and dropped 13000 packets of food in the six days in dawn to dusk operations and saved the lives of many people.

12.34 Soon after the news of the devastation caused by the earthquake, the Indian Air Force pressed its aircraft and men in relief activity. Till February 7, 2001, the Air Force has made 909 sorties carrying relief materials, equipment, medical teams, food items, medical supplies and stores, tentage etc. from various parts of the country. The total tonnage of load so far carried by IAF is over 4529 tonnes. 700 people have been evacuated.

12.35 **Air Traffic Control :** In order to overcome the threat of disruption of air traffic services by civil ATC officers, a total of 30 ATC officers have proceeded on deputation to AAI for a period of two years with effect from September 4, 2000.

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# 13

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## NATIONAL CADET CORPS (NCC)



*"Jham, Khali, Ek, Do"- NCC Girls Cadets at their drills*

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## GENERAL

- 13.1 The National Cadet Corps, the distinguished youth organization of the country, is in its fifty second year and has achieved many a milestones since its inception. It was established under an Act of Parliament in 1948. The National Cadet Corps imparts a sense of unity and discipline among the youth of the country.
- 13.2 The NCC today is functioning in 7,109 schools and 4,881 colleges which includes 125 Navodaya and 141 Kendriya Vidyalayas and its authorised cadet strength has grown to approximately 11.94 lakh cadets. The wing-wise distribution of the authorized cadet strength is as under :-

(a) Army Wing	9,10,500
(b) Air Wing	65,200
(c) Naval Wing	63,550
(d) Girls (All Wings)	1,54,947
<b>Total:</b>	<b>11,94,197</b>

The Government has decided to raise the strength of NCC further by one lakh with an emphasis on distant States – Jammu & Kashmir and the States of North East Region.

- 13.3 The organisation strives to provide the youth of this country opportunities to develop in all spheres with a sense of commitment, dedication, self-discipline, adventure and moral

values under one umbrella. The most important aspects of the NCC are that opportunities are provided to young people across the country from all States, and large numbers are given a chance to attend various activities.

## TRAINING OF STAFF

- 13.4 (a) **Refresher Course for Associate Officers :** A total of 13 courses have been planned to be conducted at Officers Training School (OTS), Kamptee during the training year 2000-2001. 935 officers are expected to undergo training at these courses. 7 Courses involving 505 officers have already been completed on schedule. The remaining courses will be completed as per schedule by March 2001.
- (b) **Refresher Course for Permanent Instructional Staff:** 2,490 Permanent Instructional Staff (both JCOs and NCOs) are scheduled to undergo refresher training during the current year 2000-2001. 20 courses have been planned for them. 11 courses have already been conducted and the remaining will be conducted as planned.
- (c) **Pre-Commission Courses :** These courses are run for newly commissioned Associate NCC Officers (ANOs). A total of 475 ANOs are scheduled to undergo training spread over 5 courses. 250 officers have already completed their training.

- (d) **Civil Defence Course :** The Civil Defence Management Course held from January 10-25, 2000 at National Civil Defence College (NCDC), Nagpur was attended by six ANOs. Civil Defence Instructors Course Serial 143 was held from October 30 to December 15, 2000 at NCDC, Nagpur. 13 vacancies were allotted to NCC Directorates against their demand.

## TRAINING OF CADETS

- 13.5 **Camp Training :** Various training camps conducted during the Training Year 2000-2001 were:
- (a) **Annual Training Camps:** 410 Annual Training Camps were organised and 210,000 cadets attended these camps during the first half of the training year 2000-2001.
- (b) **National Integration Camps:** These are attended by cadets from across the country. This year, 67 camps have been planned at different places in which 50,000 cadets are likely to participate. In addition, two National Integration Camps (NIC) were organised in remote areas of the country. One of these was organised at Leh (J&K) from July 17 to August 01, 2000 while the other was organised at Gachham (near Bomdila) in Arunachal Pradesh from October 22 to November 02, 2000. The Raksha



*NCC cadets undertaking flood relief operations in Andhra Pradesh*

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Mantri visited the NIC at Gachham which was attended by 384 cadets and 16 Associate NCC Officers (ANOs). These camps were highly appreciated by the local population. An NIC has been planned at Port Blair in which 80 cadets from the mainland and 50 from the Islands will participate.

- (c) **Vayu Sainik Camps (VSC):** Once in a year, a combined Annual Training Camp is organised for a period of 12 days. 562 Senior Division cadets and 320 Senior Wing cadets attended the camp at Air Force station, Jalahali (Bangalore). This year, the camp was conducted from October 11-22, 2000.
- (d) **Nau Sainik Camp:** This is also organised once a year for a period of 12 days. 400 Senior Division cadets and 160 Senior Wing cadets attend the camp. This year, it was conducted at Vishakhapatnam from November 10-21, 2000.
- (e) **Centrally Organised Camps :** 3,760 cadets attended the Centrally Organised Camps at various places during the first half of the training year.

**13.6 Attachment Training:** The NCC cadets derive first hand experience of immense value by attachment to the Armed Forces units. During the year, attachments were as under:-

- (a) 4,650 cadets were attached to the Army, Navy and Air Force units for

14-28 days. Due to disturbed conditions and preoccupation of formations, attachment was effected.

- (b) 128 cadets were attached to the Indian Military Academy, Dehradun and 16 girls with Officers Training Academy, Chennai, for two weeks.
- (c) 25 Air Wing (Senior Division) cadets were attached to AFA, Dundigal from November 06-18, 2000.
- (d) 25 Naval Wing cadets were attached to National Academy, Goa in January/February.
- (e) 464 girl cadets were attached with various Military Hospitals upto October 31, 2000.

**13.7 Gliding and Flying :** Gliding facilities are provided at 34 Air Squadrons. The NCC Air Squadrons carried out 8,075 launches during the first half of the year. Power flying is done on Pushpak/Cessana aircraft in thirteen selected flying clubs. The NCC Air Squadrons have carried out a total of 40:10 hours of power flying during the first six months of the year. Additional Microlight aircraft are being inducted to enhance the overall aviation awareness of the Air Wing cadets.

**13.8 Sea Training :** NCC cadets of the Naval Wing during their sea training and attachment to the Naval Units are imparted intensive training in Naval subjects like Navigation Communication, Gunnery, Seamanship, Damage Control and Ship Safety, First

Aid and Ship Husbandry. 70 cadets were attached with ships of Western Naval Command for technical training. In addition, 150 cadets were attached for sea training and twelve cadets sailed on board ships of the training squadron on goodwill visits in two batches, the first to Kuwait and Dubai in March-April 2000 and the second to Saudi Arabia and Seychelles in September-October 2000.

### 13.9 Adventure Training :

- (a) **Mountaineering Courses :** Basic and Advance Mountaineering Courses are conducted at regular intervals at HIM Darjeeling, NIM Uttarkashi and MAS Manali. 142 vacancies on above courses were allotted for cadets.
- (b) **Adventure Courses :** Every year the NCC sponsors 75 boys and 40 girl cadets of Junior Division/Wing for the adventure courses at HMI Darjeeling, and NIM Uttarkashi.
- (c) **Mountaineering Expedition :** Since 1970, NCC has conducted 46 mountaineering expeditions, of which 25 were for boys and 21 for girls. This year, the boys expedition team successfully climbed Manali Peak (5669m) in July and the girls team climbed Ladakhi Peak (5342 m) in Western Himalayas in September 2000.
- (d) **Cycle and Motor Cycle Expeditions :** These were organised both at the national and state levels.

- (e) **Para Sailing** : 546 Parasails have been sanctioned by the Government to be issued at the scale of one parasail per Group Headquarter per year for 6 years. Regular launches are organised by the Directorates. 49,248 cadets were trained in parasailing till June 2000.
- (f) **Para Jump** : Every year 20 boy cadets and 20 girl cadets of NCC are trained at Para Training School, Agra.
- (g) **Slithering** : 10 Senior Division and 10 Senior Wings cadets were trained in slithering to participate in the demonstration during the PM's Rally in the year 2000.

#### YOUTH EXCHANGE PROGRAMME

13.10 The following Youth Exchange Programmes were planned and successfully executed during the period under review:-

- (a) **Singapore** : One officer and 4 NCC cadets(2 girls and 2 boys) of Air Wing attended the NCC Air Wing Programme at Singapore from June 03-17, 2000. In addition, one officer and 4 NCC cadets(2 boys and 2 girls) participated in Naval Programme of Singapore during the same period.
- (b) **United Kingdom** : A team of eight NCC cadets(4 boys and 4 girls) visited United Kingdom from July 28 to August 05, 2000 to attend the Air Training Camp of Air Cadets Corps of the United Kingdom.
- (c) **Sri Lanka** : A team of two NCC cadets (one boy and one girl) visited to

Sri Lanka from September 26 to October 06, 2000.

- (d) **Nepal** : One officer and four cadets went to Nepal in February 2001 to participate in Army Day Camp of Royal Nepalese Army.
- (e) **Bangladesh** : One officer and twelve NCC cadets (six boys and six girls) went to Bangladesh in December 2000 to participate in their Victory Day celebrations.

#### COMMUNITY DEVELOPMENT

13.11 The NCC undertakes community development activities with the aim of imbuing amongst cadets dignity of labour, importance of self help, need of protecting the environment and assisting the weaker sections of the society in their upliftment. This includes anti-dowry drive, anti-leprosy campaign, tree plantation, assistance to old age homes and blind schools, repairing of village wells and village tracks, road construction, disaster relief, blood donation and other community related activities like providing relief to the victims of super cyclone in Orissa and rendering assistance during the General Elections. Cadets participation during the last three years is listed below:-

S.No.	Trg. Year	Blood Donation	Tree Plantation	Adult Education	Development Projects
(1)	1997-98	7,046 Cdts	3,49,153 Trees	24,068 Cdts	1,20,207 Cdts
(2)	1998-99	7,568 Cdts	3,62,907 Trees	27,945 Cdts	2,84,600 Cdts
(3)	1999-2000	30,998 Cdts	6,31,970 Trees	79,904 Cdts	5,15,675 Cdts

#### NCC'S CONTRIBUTION DURING NATURAL CALAMITIES

13.12 The NCC cadets rendered assistance in the aftermath of super cyclone in Orissa by distributing relief materials including food packages and air dropping. They also contributed in the rehabilitation and reconstruction activities. In the drought affected areas of Rajasthan and Gujarat, the cadets established water points and assisted in water distribution. They were also in the forefront of recent flood relief operations in Andhra Pradesh and West Bengal.

#### PARTICIPATION IN OTHER ACTIVITIES AT NATIONAL LEVEL

13.13 The NCC cadets participated in the following other activities conducted at the national level:-

- (a) **All India GV Mavlankar Shooting Competition** : The 12th All India GV Mavlankar Shooting Championship was conducted at Chennai in Tamil Nadu from September 01-10, 2000. 32 cadets, i.e., one boy and one girl cadet from each of the 16 NCC Directorates, participated in the event. The NCC cadets performed extremely well in Mavlankar Shooting Competition 2000.

Four cadets were placed in top ten positions, including a first and a third position, in various events.

- (b) **All India NCC Games for the year 2000 :** The events of Volley Ball, Athletics and Football were held in three different States. We intend to lay more emphasis on sub-juniors, with the aim of spotting promising young talents with the help of National Coaches.
- (c) This year, NCC XI reached the Quarter Finals of All India Subroto Cup Championship as against the last year's performance of losing in the first match. The team defeated the champion of last year (Meghalaya) and drew with champion of last to last years (Delhi).

#### ACHIEVEMENTS

13.14 **Awards:** In the current year, the following Service and NCC awards were presented to service officers and cadets:-

- (a) **Service Awards:**
- (i) VSM - 6
  - (ii) COAS Commendation - 1
- (b) **NCC Awards:**
- (i) RM's Padak - 1
  - (ii) Defence Secretary Commendation Card - 5
  - (iii) DG's Commendation Card - 67

13.15 **Collection of Funds for National Calamities :** The Officers, JCOs, ORs, Civilian Staff and NCC Cadets contributed the following amounts for Kargil Welfare Relief Fund, Orissa cyclone and drought in Gujarat and Rajasthan:-

- (a) Army Welfare Relief Fund Rs. 67,07,079.00
  - (b) NHQ Amenities Kargil Fund Rs. 30,826.00
  - (c) IAF Central Welfare Fund Rs. 20,999.00
  - (d) PM's National Relief Fund for Orissa Cyclone and Flood Rs. 4,96,000.00
  - (e) PM's National Relief Fund for Drought in Gujarat and Rajasthan Rs. 3,01,000.00
- Total** Rs. 75,55,904.00

#### WELFARE

13.16 **Grant of Medical Facilities to NCC Whole Time Officers, NCC Whole Time Lady Officers and Girls Cadet Instructors after Retirement:** Government sanction for grant of medical facilities to retire NCC Whole Time Officers, NCC Whole Time Lady Officers and Girl Cadet Instructors and their dependant family members as applicable to the Armed Forces Officers and their families have been issued.

13.17 The honorarium and rank pay of associated

NCC Officers have been enhanced to attract service in NCC by Professors/Teachers as per details given below:-

	Revision of Previous Rate	Rank Pay Enhanced Rate
(a) Second Lt	2,300/-	7,100/-
(b) Lt	2,500/-	8,000/-
(c) Captain	2,700/-	9,300/-
(d) Major	3,300/-	11,300/-
(e) Third Officer	1,050/-	3,250/-
(f) Second Officer	1,420/-	4,400/-
(g) First Officer	1,670/-	5,400/-
(h) Chief Officer	2,050/-	6,600/-
(a) Second Lt	400/-	800/-
(b) Lt	450/-	900/-
(c) Captain	500/-	1,000/-
(d) Major	550/-	1,100/-
(e) Third Officer	350/-	700/-
(f) Second Officer	375/-	750/-
(g) First Officer	400/-	800/-
(h) Chief Officer	425/-	850/-

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# 14

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GENERAL



*"UNDER THE BLUE FLAG"*

*Vice Chief of Army Staff, Lt. Gen. Vijay Oberoi, with the Indian troops leaving on UN - mission*

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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 below:-

#### **INSTITUTE FOR DEFENCE STUDIES AND ANALYSES**

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, scholars, the media,

civil and defence service officers, and others who have an interest in problems of national security.

14.4 During the year 2000-01, the tempo of its activities was maintained and strengthened in selected areas. The Parliamentary Standing Committee on Defence continued to draw heavily upon the literature, information and expertise of the Institute in its work. Numerous institutions, including defence establishments in India and abroad, continued to draw upon the experience and expertise of the Institute to support their training, research, and orientation programmes. Interaction with the Defence Services continued to flourish. Two courses for senior IAS officers were organised on behalf of the Department of Personnel and Training, Government of India, on the theme of "India and the World." The Institute jointly organised with Research and Information Service (RIS), the Tenth Lecture on "India-ASEAN Partnership: Challenges and Opportunities" by H.E. Dato Seri Syed Hamid Albar, Honourable Minister of Foreign Affairs, Malaysia, on October 9, 2000.

14.5 The Institute organised the 3<sup>rd</sup> annual international conference on the theme of "Asian Security in the 21<sup>st</sup> Century" in January 2001. This followed the earlier two in the series and was attended by 35 foreign participants composed of policy makers and opinion shapers from Asian countries and major powers. There has been high level enthusiastic response from across the world. The conference was inaugurated by the De-

fence Minister and the Deputy Chairman, Planning Commission delivered the closing address. The Institute also organised a national seminar on "Air Power in India's Security" on October 9-10, 2000 inaugurated by the Defence Minister. In addition, the Institute organised the following international conferences:

- (i) Fourth India-Japan Strategic Dialogue in collaboration with Japan Institute of International Affairs (JIIA) in July 2000.
- (ii) Third Indo-Iranian Dialogue in collaboration with Institute for Political and International Studies (IPIS) in August 2000.
- (iii) Second India-Central Asia Seminar in collaboration with strategic studies institutions of Central Asian countries in September 2000.
- (iv) Second India-UAE Bilateral Dialogue in collaboration with Emirates Centre for Strategic Studies (ECSSR) in November 2000.
- (v) First India -Bangladesh Dialogue in collaboration with Bangladesh Institute for International Strategic Studies (BIISS) in January 2001.

14.6 During the year, research staff of the Institute published the following books:

- (i) Argentina's Nuclear Policy, by Manpreet Sethi, published by Knowledge World in association with IDSA, New Delhi.



*"SCOTTING ON ICE" ICE-SCOOTER in super high altitude area.*

(ii)	India's Navy and Southeast Asia, by GVC Naidu, published by Knowledge World in association with IDSA.	14.7	In addition, the following monographs were also published by the IDSA research faculty :		clear Forces
(iii)	Cambodia: The Lost Decades, by Shankari Sundararaman, published by Knowledge World in association with IDSA.	(i)	The Road to Nuclear Peace: The Israeli-Palestinian Conflict, by Farah Naaz, Delhi Paper published by IDSA.	6.	Indo-Israel Relations
(iv)	India's Maritime Strategy by Rahul Roy-Chaudhury, published by Knowledge World in association with IDSA.	(ii)	Pakistan's Fifth Estate: Inter-Services Intelligence Directorate, Delhi Paper published by IDSA.	7.	Conversion of Military Industry in the PRC: Problems and Prospects
(v)	Asia's New Dawn, edited by Jasjit Singh, published by Knowledge World in association with IDSA.	(iii)	Indo-Israel Co-operation, by Farah Naaz., Delhi Paper published by IDSA.	8.	Intra-SAARC Economic Relations and the Political Factors: Looking Ahead for Economic Security
(vi)	Terrorism: An Instrument of Foreign Policy, by Kshitij Prabha, published by South Asian Publishers.	(iv)	Pertinence of Pakistani Ballistic Missiles in the Indo-Pak Conflict, by A.K. Sachdev, Delhi Paper published by IDSA.	9.	Armed Forces in 21 <sup>st</sup> Century and Evolution of a Joint Doctrine
(vii)	Space Age Gladiators, by Gp. Capt. A.K. Sachdev, published by Knowledge World in association with IDSA.	(v)	Sun Zu and Kautilya: Towards a Comparative Analysis, by K N Ramachandran et. al., Occasional Paper Series published by IDSA.	10.	India's National Security Strategy for the 21 <sup>st</sup> Century
(viii)	China's Naval Power, by Srikanth Kondapalli published by Knowledge World in association with IDSA.	14.8	The following research projects are currently being pursued in the Institute:	11.	Maritime Surveillance: An Indian Perspective
(ix)	Managing Suspicions: Understanding India's Relations with Bangladesh, Bhutan, Nepal, Sri Lanka, by Ms. Padmaja Murthy, published by Knowledge World in association with IDSA.	1.	The Rise of ISI and India	12.	Surface to Surface Missiles and Air Strategy
(x)	Nuclear Defence: Shaping the Arsenal, by Gurmeet Kanwal, published by Knowledge World in association with IDSA.	2.	Future Challenges and Role of ASEAN	13.	India's Conventional Defence in a Nuclear Scenario
		3.	Afghanistan and Central Asia: Challenges for India's Security	14.	Philosophy for Restructuring of the Indian Army to Meet Future Challenges
		4.	Military Doctrine of China: Changes since 1991 and its Implications	15.	Security Policy of South Africa
		5.	The Operational Logic of Small Nu-	16.	Russia's China Policy after the Cold War : Relevance for India
				17.	Ballistic Missile Defence and the Future of Deterrence
				18.	India's Nuclear Doctrine and Strategy
				19.	ASEAN Regional Forum

20. Limited War: China's Warfighting Doctrine for 21<sup>st</sup> Century
21. The Indian Ocean and India's Security: Development and Defence
22. India and Japan: Co-operating for Peace in Asia
23. Chinese Armed Forces: A Fifty-Year Assessment and Future Projection
24. Geopolitics of Energy Security: Challenges and Options for India
25. Transnational Terrorism: Implications for India's Foreign Policy and National Security
26. Secessionism, Ethnic Insurgency and Security of India's Northeast
27. Force Structure for the Indian Army: A Viable Systematic Approach
28. Maritime China: Implications for Regional Security
29. Impact of NE Insurgency on India's Security
30. Pakistan's Islamisation and Sectarian Strife
31. China's Approach to Conflict Resolution.
32. Battlefield of the 21<sup>st</sup> Century in the Indian Environment.
33. Balance of Power in Asia after the Indian Nuclear Tests.
34. Chinese Strategic Forces.

35. Nuclear in Pakistan's Grand Strategy.
36. Major Powers and Security of SE Asia.
37. Pakistan's Proxy War in Kashmir: Conceptual Parameters and Strategic Context.
38. Global Defence Industry: Assessing Trends and Implications for India.
39. India and West Asia.
40. China's Policy Toward India's Eastern Neighbours: Assessing the Challenges to India.
41. Nuclear, Biological and Chemical Terrorism: Challenges in the South Asian Region.
42. Strategy for Stability in South Asia.
43. Nuclear Triad and Viability of a Sea-based Nuclear Deterrent: Options for India.
44. Information Warfare in Indian Context.

#### MOUNTAINEERING INSTITUTES

- 14.9 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 Uttaranchal and Jawahar Institute of Mountaineering and Winter Sports (JIM), Aru with temporary headquarter at Batote (J&K). These Institutes are run as private Registered Societies. The Raksha Mantri is the Presi-

dent of these Institutes. 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.

- 14.10 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, Uttrakashi, 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 and order, the training courses conducted by the Institute were temporarily suspended from April 1996. The Institute is now conducting some courses on ad-hoc basis.
- 14.11 In a meeting held on November 6, 1997, the executive council of JIM approved the proposal of the State Government to locate

the Institute at Sonamarg area. A reconnaissance of the area conducted subsequently revealed that the permanent set up of the Institute could not be located at Sonamarg, as the area remains cut off during winter. An alternative location at Tangmarg suggested by State Government has also not been found acceptable for security reasons. Further progress in regard to a permanent location of the Institute is still awaited from the State Government.

14.12 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.

14.13 The Institutes conduct Basic and Advanced Mountaineering Courses, Method of Instruction Course (MOI), Search and 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 mountaineering expeditions.

14.14 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 these courses.

14.15 The Institutes conducted the following courses during the year upto December 2000:-

Institute	Basic	Advanced	Adventure	MOI	S&R
HMI	6	3	5	1	-
NIM	5	3	5	1	1
JIM	2	1	4	-	-

14.16 The number of students trained in these courses are as under:-

Institute	Basic	Advanced	Adventure	MOI	S&R
(HMI/NIM/JIM)					
Men	607	143	383	25	23
Women	124	49	241	—	1

14.17 The Institutes at Darjeeling and Utrakashi have separate stores of mountaineering equipment for loan to the Mountaineering Expeditions on nominal hire charges.

14.18 The Principal JIM led a successful expedition to Mount Dhura (6145 meters) in Kumaon Himalayas in September 2000, organised by Mountaineering Foundation. This was the first ascent to this peak.

14.19 A proposal to construct a museum complex at HMI Darjeeling has been under consideration for quite some time. On the basis of the recommendations of a Selection committee, contract for the construction of the Museum Project has been awarded to the selected

construction agency. The construction work which commenced in September 2000 is expected to be completed by end May 2001.

14.20 An Artificial Rock Climbing System has been set up at HMI Campus for training in rock climbing. Panels/components etc. for the system were imported. This would enable the Institute to organise National and International climbing competitions at its campus.

#### CEREMONIALS, HONOURS AND AWARDS

14.21 The Ministry of Defence is responsible for organising national functions like the Republic Day Parade, the Beating Retreat Ceremony, the Independence Day Celebration and the Martyrs' Day Function. Defence Investiture Ceremonies at the Rashtrapati Bhawan for presentation of Gallantry and Distinguished Service Awards are also organized by the Ministry of Defence in association with the President's Secretariat. The organisation of these ceremonies requires co-ordination of a large number of activities amongst various Ministries/Departments and a large number of other agencies.

14.22 The Ceremonial functions organized during 2000-2001 are:-

#### INDEPENDENCE DAY - 15 AUGUST 2000

14.23 On August 15, 2000, 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 a 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.

14.24 The following gallantry awards were announced on the Independence Day, 2000:-

Mahavir Chakra	1 (Posthumous)
Kirti Chakra	2 (1 Posthumous)
Vir Chakra	3 (2 Posthumous)
Shaurya Chakra	22 (11 Posthumous)
Yudh Seva Medal	1
Bar to Sena Medal (G)	2
Sena Medal (G)	100 (31 Posthumous)
Nao Sena Medal (G)	5 (2 Posthumous)
Vayu Sena Medal (G)	3
Mention-in-Despatches	108 (38 Posthumous)

#### DEFENCE INVESTITURE CEREMONIES-2000

14.25 Because of the larger number of awards due to OP Vijay, the investiture ceremonies were held at Rashtrapati Bhawan in two phases - the first phase being on April 6 and 11, 2000 and the second phase on October 20 and November 3, 2000, when the following awards announced on the Independence

Day-1999 and Republic Day-2000 were presented by the President to the recipients:

#### GALLANTRY AWARDS

Mahavir Chakra	10	(7 Posthumous)
Kirti Chakra	10	(9 Posthumous)
Vir Chakra	75	(36 Posthumous)
Shaurya Chakra	45	(22 Posthumous)

140

#### DISTINGUISHED SERVICE AWARDS

Sarvottam Yudh Seva Medal	2
Param Vishisht Seva Medal	24
Uttam Yudh Seva Medal	9
Bar to Ati Vishisht Seva Medal	2
Ati Vishisht Seva Medal	<u>45</u>
	<u>82</u>

14.26 Yudh Seva Medals, Bar to Vishist Seva Medals, Vishisht Seva Medals, announced on January 26, 2000 and Bar to Sena Medals, Sena Medals, Nau Sena Medals and Vayu Sena Medals announced on August 15, 1999 were presented by the respective Chiefs of Staff and Senior Commanders at separate Investiture Ceremonies.

#### AMAR JAWAN CEREMONY-2001

14.27 The Prime Minister placed a wreath at the Amar Jawan Memorial, under the arch of the India Gate on January 26, 2001 to pay homage to the memory of those who sacrificed their lives in safeguarding the freedom of the nation. War widows and children of war casualties were invited to witness the Ceremony.

#### REPUBLIC DAY PARADE-2001

14.28 The President took salute at the Republic Day Parade on January 26, 2001. His Excellency, Mr. Abdelaziz Bouteflika, President of the People's Democratic Republic of Algeria, was the Chief Guest. The Services contingents comprising of mounted, mechanised and marching columns from the Army, the Navy and the Air Force, followed by contingents of Para Military Forces, Delhi Police, NCC and NSS participated in the parade. In addition, Defence Research and Development Organisation displayed Sujav, Safari and two Floats on the theme 'DRDO in the Service of the Soldier' and 'Naval Systems - Sonar and Sea Mines'. Twenty-nine tableaux, 21 national bravery award winning children on elephants and ten cultural items presented by the school children from Delhi and different parts of the country 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 and achievements of the country in different fields. The Motor Cycle Display by ASC Tornados and 'Flypast' by the IAF was the grand finale to the parade. A large number of balloons were also released at the end of the parade.

#### HONOUR AND AWARDS

14.29 The following gallantry and distinguished service awards were announced on the Republic Day, 2001:-

Kirti Chakra	- 5 (4 Posthumous)
Shaurya Chakra	- 22 (6 Posthumous)
Param Vishisht Seval Medal	- 25
Bar to Ati Vishisht Seva Medal	- 1
Ati Vishisht Sev Medal	- 38
Yudh Seva Medal	- 7
Bar to Vishisht Seval Medal	- 2
Vishisht Seva Medal	- 123
Bar to Sena Medal (G)	- 2
Sena Medal (G)	-111 (17 Posthumous)
Bar to Nao Sena Medal (G)	- 1
Nao Sena Medal (G)	- 3
Vayu Sena Medal (G)	- 5
Bar to Sena Medal (D)	- 1
Sena Medal (D)	- 36
Nao Sena Medal (D)	- 8
Vayu Sena Medal (D)	- 14
Mention in Despatches	- 51

### MARTYRS' DAY CEREMONY-2001

14.30 On January 30, 2001, the President placed a wreath at Mahatma Gandhi's Samadhi at Rajghat. Floral tributes were also paid by the Vice President, 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.

### OFFICIAL LANGUAGE DIVISION

14.31 The Official Language Division of the Ministry of Defence is the nodal agency to implement the Official Language Policy of the Government of India in the Ministry, its sub-

ordinate offices, Defence Undertakings, etc. The Division comprises of one Director (OL), one Deputy Director (OL), four Assistant Directors (OL) and other staff. Implementation of orders/ instructions regarding use of Hindi in official work is monitored by the Official Language Division through various channels, such as quarterly Hindi progress reports, annual evaluation reports, quarterly meetings of the departmental Official Language Implementation Committees, Hindi Salahakar 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 organising Hindi workshops, seminars, sammelans, etc., and by encouraging the staff members through various incentive schemes introduced in the Ministry.

### ANNUAL PROGRAMME

14.32 In order to streamline the work, OL Division prepared an annual action plan in the beginning of the year under report and

achieved all the targets such as the organisation of Hindi workshops, inspections of different sections of the Ministry, nomination of 56 officials for training in Hindi, Hindi stenography and Hindi typing courses; organisation of four meetings each of the two Official language Implementation Committees, etc. Work relating to selection of the best in-house journals published by various defence organisations during the year for awarding cash prizes, etc., is in progress.

### TRANSLATION WORK

14.33 This 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 meetings, Standing Committees, 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.

### HINDI TRAINING

14.34 Keeping in view 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 for these courses. During the year, out of 56 officials nominated for Hindi classes, 19 were for Hindi (Prabodh, Praveen and Pragya), 16 for Hindi stenography and 21 for Hindi typing.

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## HINDI WORKSHOPS

- 14.35 In order to encourage more and more staff to work in Hindi, 3 Hindi workshops were organised till December 2000 in which 75 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 their 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 organise such Hindi workshops in their respective offices to encourage their staff to use Hindi in their official work. Officers of OL Division assisted them in organising Hindi workshops and provided them necessary guidance in this regard.

## MONITORING

- 14.36 The overall monitoring regarding the progressive use of Hindi in the Ministry of Defence Secretariat, the three Service Headquarters, Inter-Service Organisations and Defence Undertakings is done by two separate Departmental Official Language Implementation Committees, which meet regularly at an interval of every three months. Four meetings each of the two committees were held during the year under review in which the progress made in the use of Hindi was reviewed and remedial measures suggested.

These committees also provided necessary guidance to the subordinate offices to discharge their duties properly and effectively. The Committee of Parliament on Official Language visited various Defence organisations located all over the country at various places such as Bhuj, Dwarka, Mumbai, Bangalore, Kanpur, etc., for conducting Official Language inspections. The Committee also invited Defence Secretary along with the heads of 17 other Defence Organisations for oral evidence on August 30, 2000 and reviewed the position regarding implementation of Official Language policy in these organisations.

## GOLDEN JUBILEE CELEBRATIONS

- 14.37 The Golden Jubilee Year of Hindi as Official Language of the Union was celebrated throughout the country from September 14, 1999 to September 14, 2000. The Ministry of Defence also prepared a comprehensive plan to celebrate the year in a big way. To start with, a Hindi Pakhwara was observed during September 14-28, 2000 in the Ministry as well as in its subordinate offices and Defence Undertakings. The messages issued on this occasion by the Home Minister, Defence Minister and Cabinet Secretary were circulated among all officers and staff of the Ministry as also among the three Service Headquarters, and various Defence Organisations spread all over the country. The officers and staff were requested to do their official work in Hindi. To achieve this end, various competitions were organised during

the fortnight in which 146 officials participated and 104 of them were selected for award of prizes amounting to Rs.36,500/-. The Pakhwara was followed, in the later part of the year, by prize distribution functions, personal contact programmes, meetings of Official Language Implementation Committees, Kavya Goshthi, etc.

## SALAHAKAR SAMITIES

- 14.38 There are two Hindi Salahakar Samities in the Ministry of Defence, one for the Department of Defence and the Department of Defence Research and Development, and the other for the Department of Defence Production and Supplies. The re-constitution process of these two Samities has been completed. A meeting of the Hindi Salahakar Samiti of the Department of Defence and Department of Defence Research and Development was also convened on November 20, 2000 under the chairmanship of Raksha Mantri.

## RAJBHASHA

- 14.39 The progressive use of Hindi is given due importance in OFB. A significant portion of the year 2000-2001 coincided with the Golden Jubilee celebrations of Rajbhasha. Special functions, competitions, etc. were arranged in various units to commemorate the occasion and to propagate the use of Rajbhasha. The details of some of the main events at OF Board during 2000-2001 are as under:-

- i) Printing and use of special stickers in all correspondence.
- ii) Computer presentation on activities of CALTOLIC in Hindi.
- iii) Purchase of new software for augmenting the use of computer for Hindi related job.
- iv) Celebration of Hindi Day on September 14, 2000, marking the beginning of Golden Jubilee year.
- v) Lectures by eminent speakers.
- vi) Rajbhasha competitions such as Hindi essays, typing, noting and drafting were held.
- vii) Facilities of Hindi training and typewriting/stenography to the officers/employees were made available.
- viii) Ordnance factories have participated in a competition organised by the Ministry of Defence on In-house Hindi Magazine. The In-house Magazines of four ordnance factories have been adjudged prize winners.

#### USE OF HINDI

14.40 The Service Headquarters encourages the use of Hindi in office work. During the period under review, 50% correspondence was done in Hindi and emphasis was given for notings to be written in Hindi. Coast Guard Bulletins and Coast Guard Orders are printed in Hindi also. The incentive schemes introduced by the Government were also imple-

mented and the personnel of this Headquarters were awarded cash prize for writing 20,000 words in Hindi. The Official Language trophy is also being awarded to the Directorate for maximum work in Hindi and CGS (Delhi) was awarded the same. The Hindi Fortnight was organised from September 14 to 28, 2000. The year 1999-2000 was celebrated as National Language Golden Jubilee year. On this occasion, an exclusive Hindi magazine and Golden Jubilee year's logo (sticker) were printed and distributed to all CG units.

#### DEFENCE COOPERATION WITH FOREIGN COUNTRIES

14.41 The enhancement and strengthening of defence cooperation with foreign countries continued to be an important objective and component of our overall defence and foreign policy. Consequent upon the significant changes that have taken place in recent years in the global political and strategic environment, and even as our traditional defence ties have been maintained, defence cooperation with a large number of countries has been progressed.

14.42 The fifth meeting of the Indo-UK DCG was held in London from July 31 to August 1, 2000. Areas of potential practical future cooperation were identified in line with the aims of Defence Consultative Committee Meeting. The meeting demonstrated the continued spirit of cooperation in various dimensions and through new initiatives.

14.43 A high level delegation led by Defence Sec-

retary visited Australia from August 27 to September 1, 2000. Both the countries emphasised the need to pursue the various elements of defence cooperation between the two countries including aspects relating to strategic dialogue.

14.44 An agreement on India-South Africa Defence cooperation was signed on September 27, 2000 at Cape Town. The agreement reflects the common approach between the two countries on defence issues. Various areas of cooperation between the two countries in the joint activities in the field of defence production were identified.

14.45 The Defence Cooperation meetings and other high-level interactions with other countries provided an opportunity to review the structures and content of defence cooperation, with a view to further strengthening them.

14.46 The third meeting of the Malaysia-India Defence Committee was held in January 2001. An MoU between India and Malaysia on exchange of flight safety information pertaining to MiG-29 aircraft was signed.

14.47 Bilateral relations between India and Maldives are on a strong footing. India cherished its special relations with Maldives. An MoU regarding gifting of a radar to the Government of Maldives was signed in January 2001.

14.48 The Defence Ministers of Romania, Maldives, Germany and Turkey visited India during the year 2000-2001 to discuss

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- areas of strengthening defence cooperation between India and the respective countries.
- 14.49 The Raksha Mantri visited UK, Japan, South Africa and Maldives to enhance bilateral defence cooperation with these countries.
- 14.50 Indo-Russian relations moved from strength to strength during 2000. Mr Sergei Ivanov, Secretary of the Security Council of the Russian Federation, accompanied by Mr. I. Klebanov, Deputy Prime Minister of the Russian Federation, Mr. M. Fradkov, Minister of Trade of the Russian Federation and other senior officers of the Government of the Russian Federation visited India on April 26-27, 2000. During the meeting of the delegation with the Raksha Mantri, matters relating to Defence Cooperation between the two countries were discussed.
- 14.51 Raksha Mantri, accompanied by Defence Secretary and other senior military and civilian officers from Ministry of Defence and Service Headquarters, visited Russia from June 26 to 30, 2000. During his meetings in Russia the two sides discussed in detail the various aspects of their bilateral relations and resolved that the forthcoming visit of President Putin to India would mark an important milestone in the bilateral relationship for the new millennium.
- 14.52 Mr. I.I. Klevnov, Deputy PM of Russia, accompanied by Mr G. Rapota, First Deputy Minister for Science and Technology and Industry, and other senior officers of the Russian Federation visited India from September 19 to 23, 2000. During this visit, agreements on (i) Establishing the Indo-Russian Inter-governmental Commission on Military Technical Cooperation; (ii) Supply of Aircraft Carrier Admiral Gorshkov; (iii) Transfer of Technology and Licensed Production of SU-30 MKI Aircraft; (iv) Purchase of T-90 Tanks were concluded.
- 14.53 President Putin's 4-day visit to India between October 2 and 6, 2000 reaffirmed the strategic partnership between the two countries and opened up further possibilities of cooperation in diverse fields including military and nuclear. Mr. Putin came out in support of India's position on Jammu & Kashmir and pledged to cooperate with India in its fight against terrorism.
- 14.54 Mr. Alain RICHARD, Minister of Defence of the French Republic, accompanied by Mr. J.B.OUVRIEU, Special Representative of the French Minister of Defence, visited India from May 18 to 20, 2000. During the meeting, matters relating to defence cooperation between the two countries and issues of security concerns of both countries were discussed. The Third Meeting of Indo-French High Committee on Defence Cooperation was held in Paris on July 5-6, 2000. During the meeting, the two sides held wide ranging discussions on bilateral, regional and international issues of mutual concern.
- 14.55 Exchange of visits at the level of Service Chiefs is also an important measure for promoting goodwill between our Armed Forces Chiefs and their foreign counterparts. During this period, the Chief of the Army Staff (COAS) visited Bangladesh, Bhutan, Russia and Myanmar. The Chief of Air Staff (CAS) visited Sri Lanka, Spain, UK, Russia, Nepal. The Chief of the Naval Staff (CNS) visited Mauritius and Myanmar. The Chief of Defence Staff of France, Chief of Defence Staff of Sri Lanka, Chief of Naval Staff of Indonesia, Air Chief of South Africa, Naval Chief of Sri Lanka, Commander of Oman Royal Air Force, Chief of Spanish Air Force, Vietnam Naval Delegation, Director General, Ministry of Defence, Israel, and Chief Operation Officer, Royal Bhutan Army visited India during 2000-2001.
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## ACTIVITIES AND ACHIEVEMENTS OF VIGILANCE UNITS

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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 and Development Organisation is being looked after by one Chief Vigilance Officer and in respect of the Department of Defence Production and Supply by another Chief Vigilance Officer. The Vigilance Division looks after all vigilance matters and provides link between the Ministry/Departments and the Central Vigilance Commission(CVC). The Vigilance Division is responsible for regular and surprise inspection of sensitive spots, review and streamlining of procedures and initiating other measures for combating corruption. The complaints received through the Prime Minister's office and Raksha Mantri's Complaint Boxes 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 Wing of Ministry of Defence through the Department of Administrative Reforms and Public Grievances. These griev-

ances are also received from the petitioners directly. All these grievances are reviewed on fortnightly basis regularly.

### OBSERVANCE OF VIGILANCE AWARENESS WEEK

15.3 In accordance with the directives issued by the CVC, Vigilance awareness Week commencing from October 31, 2000 to November 4, 2000 was observed in the Ministry and Defence PSUs, attached and subordinate offices with the following programmes:-

(a) **Pledge**

All employees including officers took a pledge administered by the Defence Secretary in the South Block. Messages received from CVC and Vigilance Commissioner were read out soon 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 were conducted in all offices under the control of the Ministry of Defence and prominent personalities addressed the gatherings at various locations.

(d) **Involvement of Non-Government Organizations-Vendors**

During the week, vendors meets were organized at various locations. Representatives of Ancillary Units and various contractors attended in large number. The suggestions made by various representatives on purchase and sub contract procedures have been taken note of and circulated to all concerned for comments. Necessary changes will be made in the procedure after examination of suggestions and comments.

(e) **Essay/Slogan Writing on Anti-Corruption**

Competitions were organized during the week through essays and slogans on vigilance/anti-corruption. Similar competitions were organized in some of the schools and colleges run by defence PSUs and defence Departments.

(f) **Prize Distribution**

Prizes were distributed to all the winners in the competitions. With the distribution of prizes for the winners, the Vigilance Awareness Programme was concluded.

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# Appendix-I

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## MATTERS DEALT WITH BY THE DEPARTMENTS OF THE MINISTRY OF DEFENCE

### A. DEPARTMENT OF DEFENCE

1. Department of 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 demobilisation.
2. The Armed Forces of the Union, namely, the Army, the Navy, the Air Force.
3. The Reserves of the Army, Navy and Air Force.
4. Territorial Army.
5. The National Cadet Corps.
6. Works relating to Army, Navy, Air Force and Ordnance Factories.
7. Remounts, Veterinary and Farms Organisation
8. Canteen Stores Department (India).
9. Civilian Services paid from Defence Estimates.
10. Hydrographic Surveys and preparation of navigational charts.
11. Formation of Cantonments, delimitation/excision of Cantonment areas, local self government in such areas, the constitution and powers within such areas of Cantonment Boards authorities and the regulation of house accommodation (including the control of rents) in such areas.
12. Acquisition, requisitioning, custody and relinquishment of land and property for defence purposes. Eviction of unauthorised

13. occupants from defence land and property. Matters relating to ex-Servicemen including Pensioners.
14. Defence Accounts Department.
15. Purchase of foodstuffs for military requirements and their disposal excluding those entrusted to Ministry of Food and Civil Supplies (Department of Food).
16. Coast Guard Organisation.
17. Matters relating to diving and related activities in the country.
18. 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) Directorate General of Defence Planning Staff.
  - (viii) Services 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) Defence Services Staff College.
  - (xv) Ministry of Defence Library.

### B. Department of Defence Production & Supplies

19. Ordnance Factory Board and Ordnance Factories.
  20. Hindustan Aeronautics Limited (HAL).
  21. Bharat Electronics Limited (BEL)
  22. Mazagon Docks Limited MDL.
  23. Garden Reach Shipbuilders & Engineers Limited (GRSE).
  24. Goa Shipyard Limited (GSL)
  25. Bharat Dynamics Limited (BDL)
  26. Mishra Dhatu Nigam Limited (MIDHANI)
  27. Directorate General of Quality Assurance (DGQA) including Directorate of Technical Development & Production (Air).
  28. Standardisation of defence equipments and stores including Directorate of Standardisation.
  29. Bharat Earth Movers Limited (BEML)
  30. Development of aeronautics industry and Co-ordination among users other than those concerned with the department of Civil Aviation and the Department of Space.
  31. Indigenisation, development and production of items required for defence purposes.
  32. Procurement exclusive to the defence services.
- ### C. Department of Defence Research & Development
33. Apprising, assessing and advising Raksha Mantri on the influence on National Secu-

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| <p>34. rity of Emerging developments in Sciences and Technology.</p> <p>34. Rendering advice to Raksha Mantri and to the three services and inter-Services Organisations on all scientific aspects of weapons; weapon platforms; military operations; surveillance; support and logistics, in all likely theatres of conflict.</p> <p>35. 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 Governments relating to the acquisition of technologies whose export to India is the subject of national security related controls of foreign Governments.</p> <p>36. Formulation and execution of programmes of scientific research and design, development, test and evaluation, in fields of relevance to national security.</p> <p>37. Direction and administration agencies, laboratories, establishments, ranges, facilities, programmes, and projects of the department,</p> <p>38. Aeronautical Development Agency.</p> <p>39. All matters relating to certification of the design, air worthiness of military aircraft, their equipment and stores.</p> <p>40. All matters relating to the protection and transfer of technology generated by the activities of the Department.</p> <p>41. Scientific analysis, support and participation in acquisition and evaluation proceedings of all weapon systems and related technologies proposed to be acquired by the Ministry of Defence.</p> <p>42. To render advice on the technological and intellectual property aspects of the import</p> | <p>of technology by production units and enterprises, manufacturing or proposing to manufacture equipment and stores for the Armed Services.</p> <p>43. To deal with reference made under section 35 of the Patents Act, 1970(39 of 1970).</p> <p>44. Financial &amp; other material assistance to individuals, institutions and bodies corporate, for study &amp; for training of manpower on aspects of science &amp; technology that bear on national security.</p> <p>45. In consultation with the Ministry of External Affairs, on international relations in matters connected with the role of Science and Technology in national security including:</p> <p>i) Matters relating to relations with Research Organisations of other countries and with Inter-Governmental agencies, particularly those which concern themselves, inter alia, with the scientific and technological aspects of national security.</p> <p>ii) Arrangement with universities, educational and research oriented institutions or bodies corporate abroad to provide fore foreign scholarships and the training of Indian scientists and technologists under the administrative control of the Department.</p> <p>46. Execution of works and purchase of lands debitable to the budget of the Department.</p> <p>47. All matters relating to personnel under the Control of the Department.</p> <p>48. Acquisition of all types of stores, equipment and services debitable to the budget of the Department.</p> <p>49. Any other activity assigned to, accepted by, the Department through understanding or arrangements with any other Ministry, De-</p> | <p>partments Agency of the Government of India whose activities have a bearing on the scientific and technological aspect of national security.</p> <p><b>D. Defence (Finance) Division</b></p> <ol style="list-style-type: none"> <li>1. To examine all Defence matters having a financial bearing.</li> <li>2. To render financial advice to the various functionaries of Ministry of Defence and the Service Headquarters.</li> <li>3. To act as integrated finance Division of Ministry of Defence.</li> <li>4. To assist in the formulation and implementation of all Scheme/proposals involving expenditure.</li> <li>5. To assist in the formulation and implementation of Defence Plans.</li> <li>6. To prepare Defence budget and other estimates for the Defence Services and to monitor the progress of the Schemes against the budget.</li> <li>7. To exercise post-budget vigilance to ensure that there are neither considerable short falls in expenditure nor unforeseen excesses.</li> <li>8. To advice heads of branches of the Armed Forces Headquarters in the discharge of their financial responsibility.</li> <li>9. To function as the accounting authority for Defence Services.</li> <li>10. To prepare the Appropriation Accounts for the Defence Services.</li> <li>11. To discharge the responsibility for payments and internal audit of Defence expenditure through the Controller General Defence Accounts.</li> </ol> |
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# APPENDIX-III

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## MINISTERS, CHIEFS OF STAFF AND SECRETARIES WHO WERE IN POSITION FROM APRIL 1, 2000 ONWARDS

### RAKSHA MANTRI

Shri George Fernandes  
Shri Jaswant Singh

From March 19, 1998 to March 15, 2001  
From March 18, 2001 onwards

### RAKSHA RAJYA MANTRI

Shri Harin Pathak

From October 14, 1999 to November 14, 2000

#### Defence Secretary

Shri T.R. Prasad

*From January 1, 1999 to October 19, 2000*

Shri Yogendra Narain

*From October 20, 2000 onwards*

#### Secretary Defence Production and Supplies

Shri Prabir Sengupta

*From August 20, 1998 to May 31, 2000*

Shri Ravindra Kumar Gupta

*From June 1, 2000 to November 30, 2000*

Shri Subir Dutta

*From December 1, 2000 onwards*

#### Secretary DR&D and SA to Raksha Mantri

Dr. V.K. Aatre

*December 29, 1999 onwards*

#### Financial Advisor (Defence Services)

Shri P.R. Sivasubramanian

*From November 20, 1996 to March 15, 2001*

#### Secretary (Defence Finance)

Shri P.R. Sivasubramanian

*From March 16, 2001 onwards*

#### Chief of Army Staff

General V.P. Malik

PVSM, AVSM, ADC

*From October 1, 1997 to September 30, 2000*

General S. Padmanabhan,

PVSM, AVSM, VSM, ADC

*From September 30, 2000 onwards*

#### Chief of Naval Staff

Admiral Sushil Kumar

PVSM, UYSM, AVSM, NM, ADC

*From December 30, 1998 onwards*

#### Chief of Air Staff

Air Marshal A.Y. Tipnis,

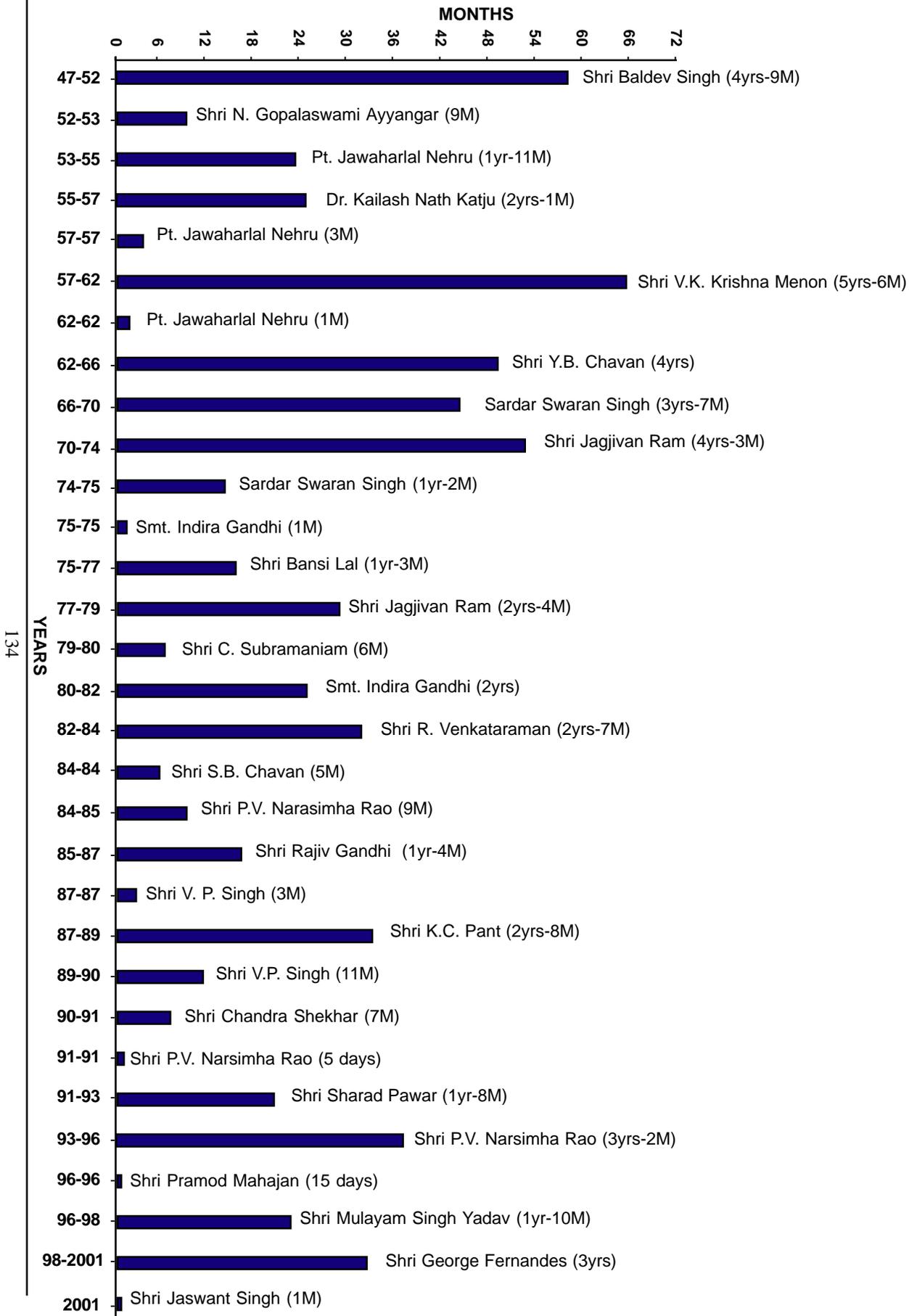
PVSM, AVSM, VM, ADC

*From January 1, 1999 onwards*

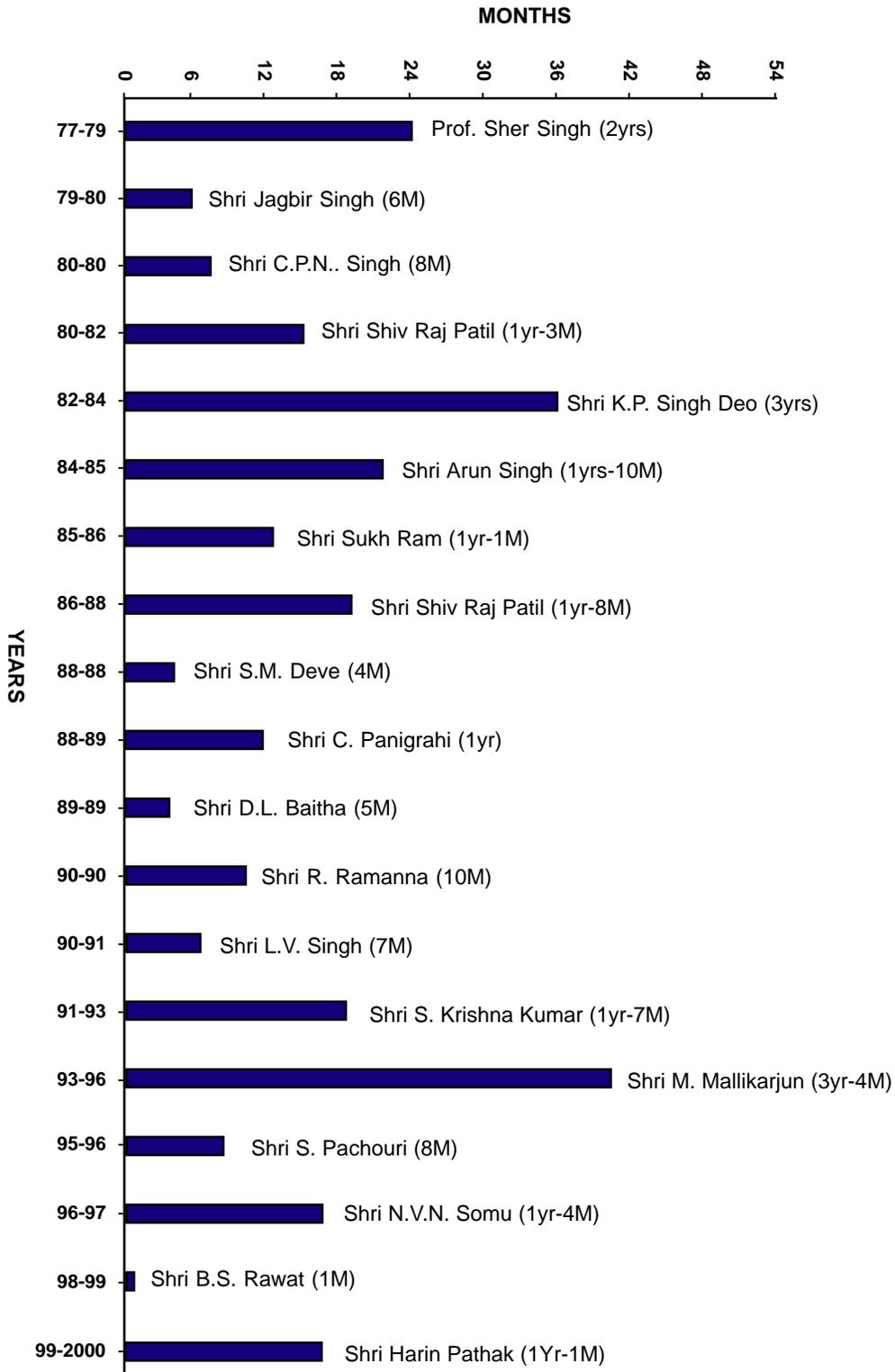
# APPENDIX-III

## MINISTERS, CHIEFS OF STAFF AND SECRETARIES WHO WERE IN POSITION FROM AUGUST 15, 1947 ONWARDS

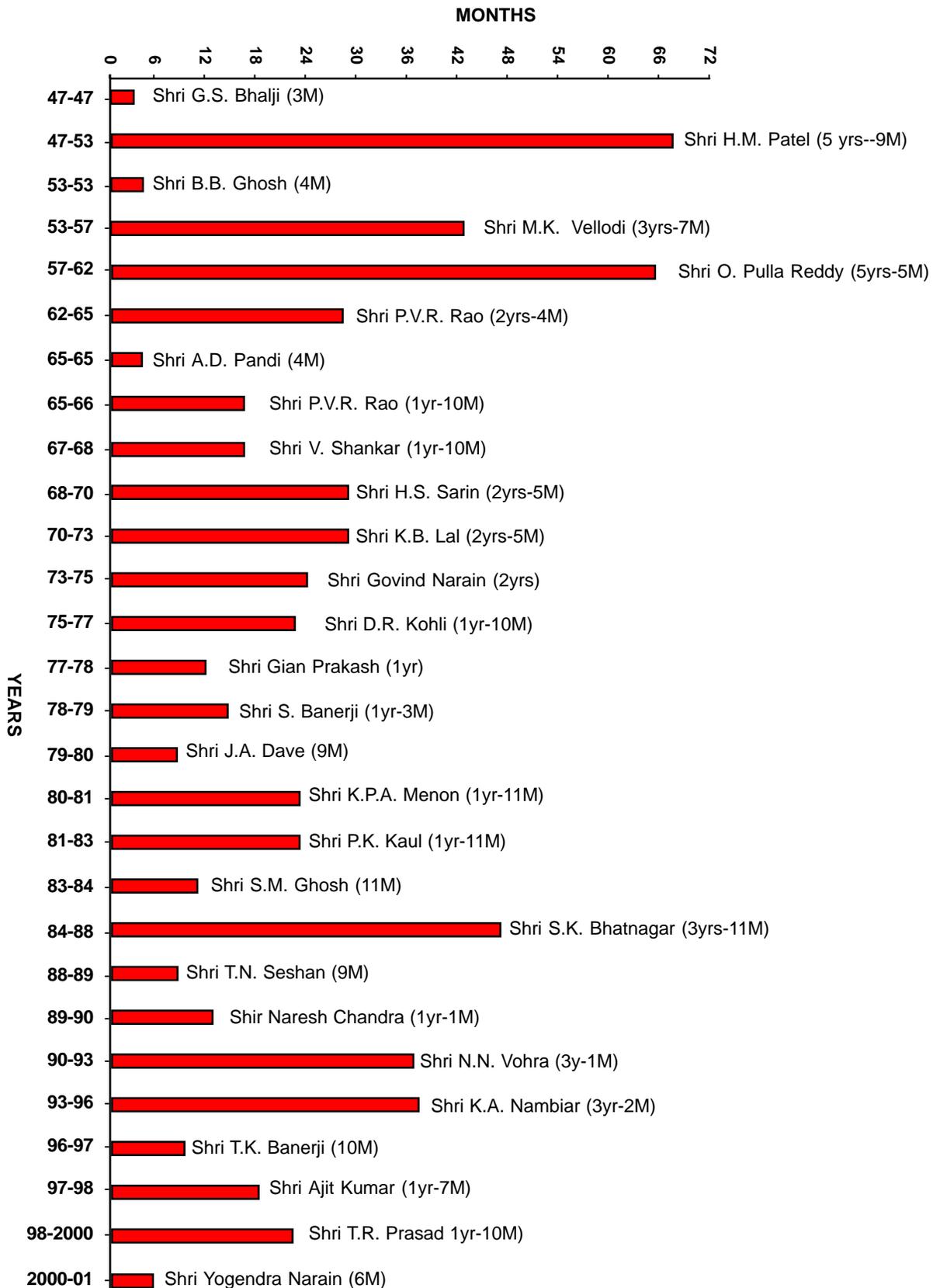
### RAKSHA MANTRIES



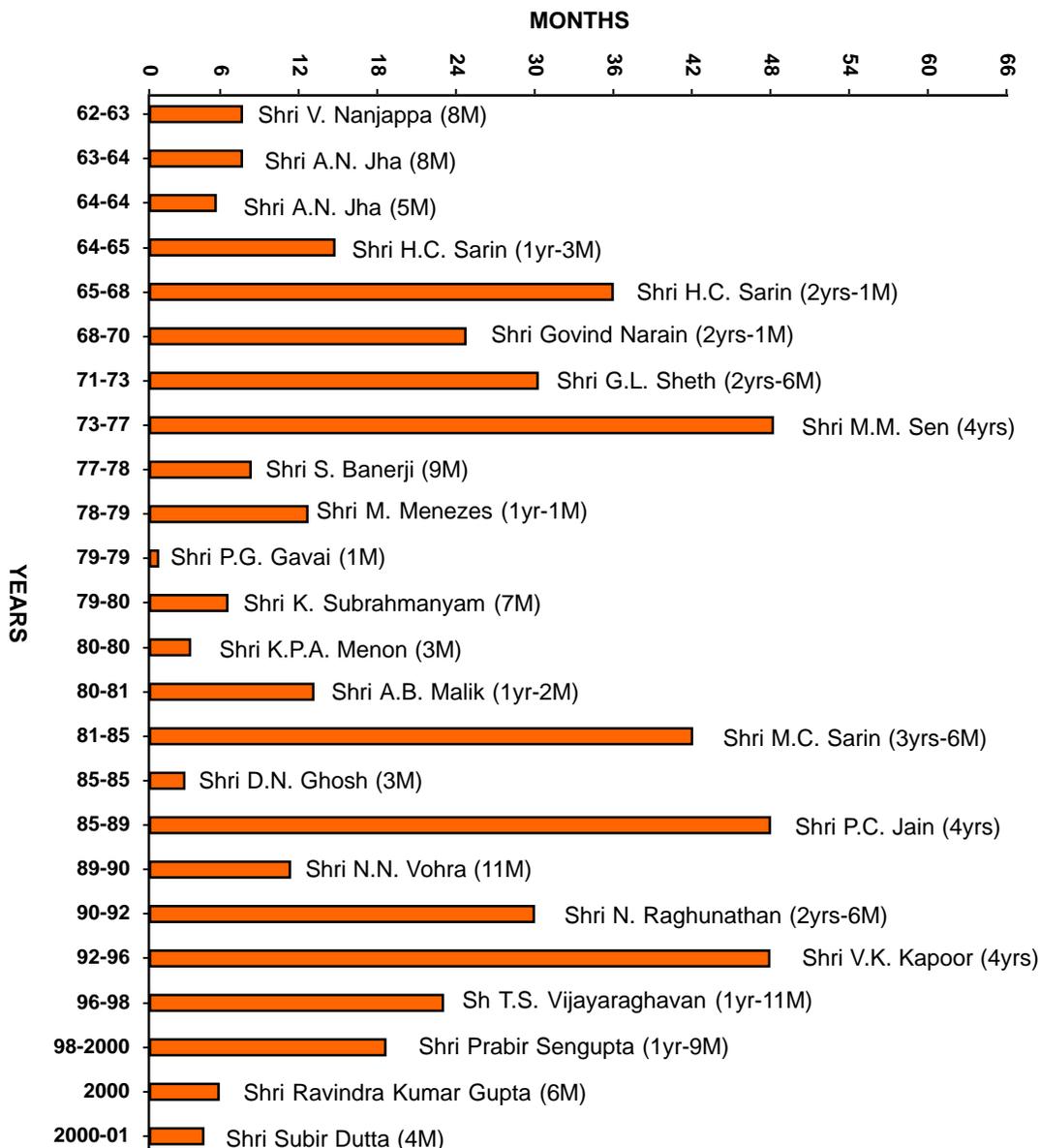
# RAKSHA RAJYA MANTRIES



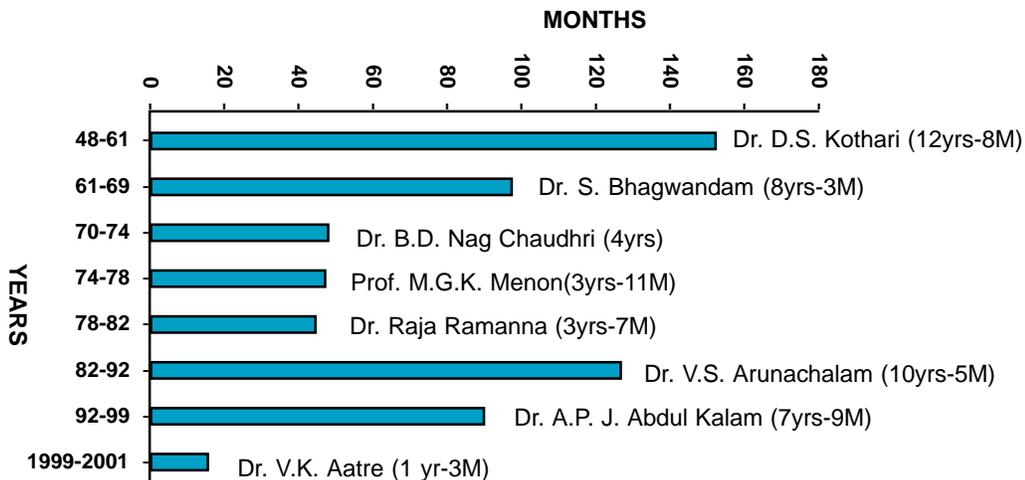
# DEFENCE SECRETARIES



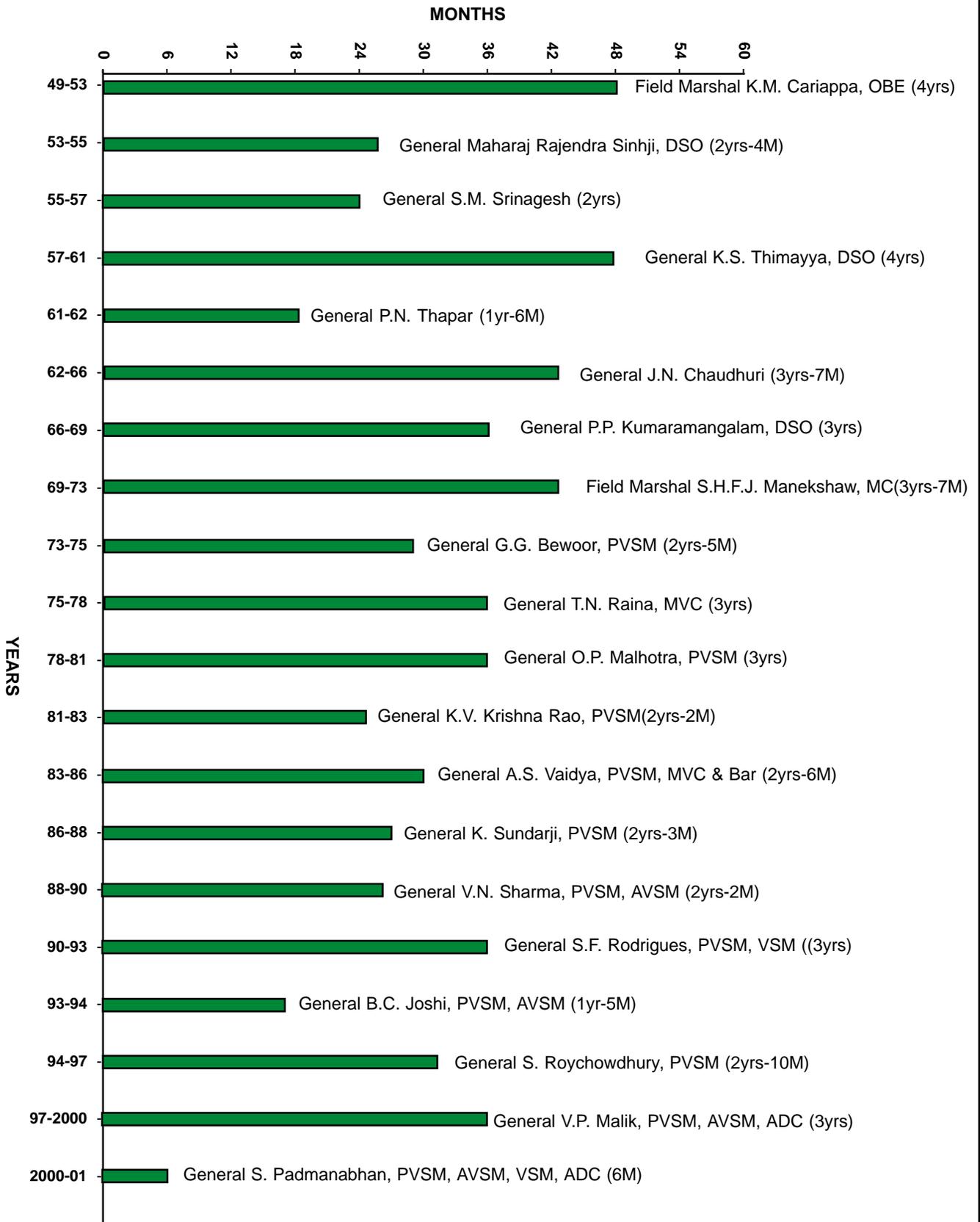
## DEFENCE PRODUCTION SECRETARIES



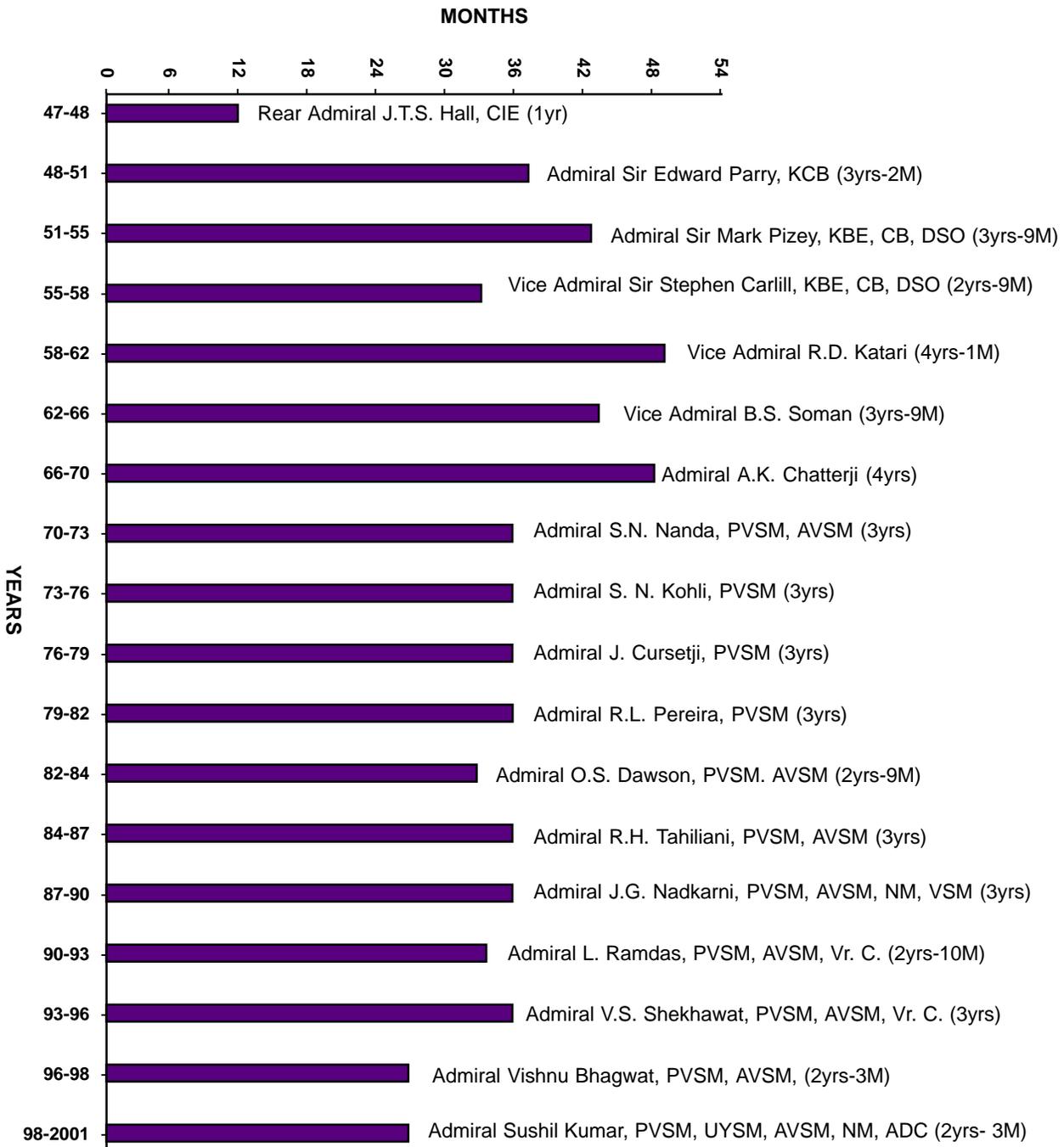
## DEFENCE RESEARCH & DEVELOPMENT SECRETARIES



# ARMY CHIEFS



# NAVAL CHIEFS



# AIR FORCE CHIEFS

