Annual Report
2010-11

Ministry of Defence
Government of India

CONTENTS

1.	Security Environment	1
2.	Orgnanisation and Functions of the Ministry of Defence	9
3.	Indian Army	17
4.	Indian Navy	31
5.	Indian Air Force	39
6.	Coast Guard	45
7.	Defence Production	53
8.	Defence Research and Development	81
9.	Inter Service Organizations	101
10.	Recruitment and Training	115
11.	Resettlement and Welfare of Ex-Servicemen	137
12.	Cooperation between the Armed Forces and Civil Authorities	149
13.	National Cadet Corps	155
14.	Defence Relations with Foreign Countries	165
15.	Ceremonial, Academic and Adventure Activities	175
16.	Activities of Vigilance Units	187
17.	Empowerment and Welfare of Women	193
	Appendices	
	I Matters Dealt with by the Departments of the Ministry of Defence	201
	II Ministers, Chiefs of Staff and Secretaries who were in position from January 1, 2010 onwards	205
	III Summary of latest Comptroller & Auditor General (C&AG) Report on the working of Ministry of Defence	206

1

SECURITY ENVIRONMENT

Fire Power display during Vayushakti-2010 at Pokhran

In an environment of evolving security challenges, which include non-traditional and asymmetric threats, India pursues a robust and autonomous defence and security strategy which involves the strengthening of her own capacity to deal with such challenges, while also engaging with and contributing to regional and global efforts to promote peace and stability

1.1 India enjoys a strategic location with reference to continental Asia and the Indian Ocean Region. The Indian peninsular landmass covers an area of 3.3 million square km and its population of over 1 billion people encompasses a vast range of ethnic, religious, cultural and linguistic diversities.

1.2 The over 15,000 km long land borders which India shares with seven neighbours (Afghanistan, Pakistan, Bangladesh, Myanmar, China, Bhutan and Nepal) range over terrain that is as diverse as her people. The Northern borders are marked by Himalayan peaks at upto 28,000 feet; the Western border stretches through deserts, fertile plains and thickly forested mountains; the North Eastern frontier comprises high ranges and dense tropical forests. India is flanked to its East, West and South by the Bay of Bengal, Arabian Sea and the Indian Ocean. The Andaman and Nicobar Islands are located 1300 km away from the nearest point on our East Coast and are strategically important in relation to the entrance to the Malacca Strait. The Lakshadweep and Minicoy Islands lie about 450 km from the nearest land point on the West Coast in the Arabian Sea, on the eastward sea lane of communication from the Persian Gulf and the Red Sea.

1.3 India's geographical area, strategic location, trade links and its EEZ connect its security environment directly with its extensive neighbourhood, particularly neighbouring countries and the regions of Central Asia, South-East Asia, the Gulf and the Indian Ocean. In an increasingly globalised environment, these factors involve concomitant security concerns, responsibilities and challenges.

1.4 While geo-strategic imperatives play a defining role in our security paradigm, economic and social imperatives also shape our security concerns and objectives. The economy is growing rapidly and is among the fastest rising in the region and the world. The trajectory of India's national development is based on the core values of democracy, secularism and peaceful co-existence. A stable and peaceful regional and global environment is necessary to achieve the aim of growth and prosperity for our citizens.

1.5 In an environment of evolving security challenges, which include non-traditional and asymmetric threats, India pursues a robust and autonomous defence and security strategy which involves the strengthening of her own capacity to deal with such challenges, while also engaging with and contributing to regional and global efforts to promote peace and stability.

THE GLOBAL SECURITY ENVIRONMENT

1.6 Our security environment is deeply affected by global and regional developments. A number of trends have a vital bearing on India's security.

1.7 While the global economy showed some revival in the wake of the 2008 global economic crisis, the danger is clearly far from over. The international financial crisis is a major cause of worry for the global economy.

1.8 The rise of countries like India, China, Brazil and South Africa are developments of global significance. The trend holds promise and opportunities, as well as challenges.

1.9 Global security continues to be adversely affected by continuing conflict and violence in the world. Even though the probability of conventional full scale inter-state wars is reckoned by many analysts to have reduced, the security environment has become complex, with incidence of low intensity conflicts and asymmetric threats taking various forms, including domestic and trans-national terrorism, narco-terrorism, cyber warfare and piracy.

1.10 Despite international efforts, the threat from terrorism remains as potent as ever. Advances in telecommunications and improvements in international commercial logistics have combined to increase the range and effects of terrorist activities, providing the physical means to transcend even the most secure borders and with the potential to cause serious damage to global political and economic systems. There is continuing concern over the immediate neighbourhood remaining a hub for international terrorist organisations.

Even though the probability of conventional full scale inter-state wars is reckoned by many analysts to have reduced, the security environment has become complex, with incidence of low intensity conflicts and asymmetric threats taking various forms, including domestic and trans-national terrorism, narco-terrorism, cyber warfare and piracy.

1.11 The threat of piracy and terrorism to international trade and safety of the sea lanes of communication has emerged as a major problem. The spread of piracy to areas close to our western seaboard has made this a cause of greater concern.

1.12 The non-proliferation and nuclear security efforts continue to face challenges on account of clandestine nuclear

programmes in some countries. The danger of nuclear materials falling into the hands of non-state actors and terrorists remains a matter of concern. Although the ratification of the New START between the US and Russia was a positive development, progress towards global nuclear disarmament and the complete elimination of nuclear weapons is uncertain.

1.13 In view of the multifaceted security concerns and the global dimensions of the challenges, India has strengthened its participation in multilateral institutions and deepened its strategic partnerships with various countries.

1.14 The security situation in East Asia increased security concerns amongst several nations and underlined the need for initiatives for building trust and confidence in the region. The establishment of the ASEAN Defence Ministers Meeting Plus forum of ten ASEAN and eight non-ASEAN countries, including India, is seen as an effort to establish an open and inclusive security architecture for the region. India's policy is to encourage and participate in cooperative approaches which would enable all countries in the region to counter traditional and non-traditional security challenges and to ensure that the critical sea lanes in the region are kept open, secure and free for navigation and trade. India's involvement in the ADMM Plus and various other ASEAN fora is a part of our progressive and multifaceted partnership with the East Asian region. At the same time, India is also mindful of the evolving dynamics of power rivalries in the region and their impact on the region and on our national interests.

1.15 The salience of Africa in international security is increasing. A number of unresolved inter and intra national conflicts in the continent have global resonance. India has traditional historic ties with a number of African countries, which acquire an added strategic dimension in view of the emerging security challenges. The

Troops practicing Amphibious Landing Drills during an Exercise

threat of piracy emerging from Somalian waters continues to endanger the safety of the sea lanes and is a matter of concern for the international community. The linkages between terrorists based in Somalia and trans-national organized crime is also a cause of major concern globally. The Indian Navy has been actively involved in combating maritime piracy in the region on its own and in coordination with the navies of other countries. India has also been actively involved in peacekeeping operations in Africa under the UN mandate and seeks to consolidate its relations with many countries in the region with which we have historical linkages.

1.16 The recent political developments in West Asia and North Africa and the evolving dynamics of the internal situation in various countries are being watched by the international community. The impact of these developments on the security situation in the region and on the security of energy supplies is of global concern. India has long standing, warm and wide-ranging relations with all countries in the region and will continue to engage with them on the basis of mutuality of respect and interests.

THE REGIONAL SECURITY ENVIRONMENT

1.17 The security situation in India's neighbourhood continued to be cause for concern during the year, owing to continued insurgency in Afghanistan, spread of terrorism and radicalism in the region and the inadequacy of responses in some countries. On the positive side, the democratic process in the region is being consolidated in most countries and hurdles in the way of regional cooperation are being addressed. There are signs of economic recovery in the region. A secure, stable peaceful and prosperous neighbourhood is central to India's security construct. India continues to pursue active and collaborative engagements with her neighbours with a view to promoting mutual understanding, regional peace and stability.

The security situation in India's neighbourhood continued to be cause for concern during the year, owing to continued insurgency in Afghanistan, spread of terrorism and radicalism in the region and the inadequacy of responses in some countries.

1.18 Security concerns vis-à-vis Pakistan continue to raise apprehensions due to the undiminished activities of terrorist organisations from its territory. The continued infiltrations across the LoC and the existence of terrorist camps across the India-Pak border demonstrate the continuing ambivalence of Pakistan in its attitude and approach to terrorist organisations, even though such organisations pose a danger to Pakistan's own social and political fabric. India supports dialogue with Pakistan. However, Pakistan needs to take effective steps to address India's concerns about terrorism originating from the territory under Pakistan's control.

1.19 The situation in Afghanistan is of critical concern to India. The region remains challenged

by a Taliban led insurgency. India remains committed to supporting the people and Government of Afghanistan as they build a stable, peaceful, pluralistic, democratic and prosperous Afghanistan.

1.20 India's relations with the China are of crucial importance. The effort has been to work on areas of mutual interest which would enable both countries to pursue common goals of growth and development. India is conscious and watchful of the implications of China's evolving military profile in the immediate and extended neighbourhood. India's policy is to engage with China on the principles of mutual trust and respect and sensitivity for each other's concerns.

1.21 India and Nepal share a unique relationship of friendship and cooperation characterized by open borders and deep-rooted people-to-people contacts of kinship and culture. As a close friend and neighbour, India stands committed to support the people and the Government of Nepal in consolidating the peaceful democratic transition and in its economic development efforts.

1.22 The traditional good relations between India and Bangladesh have improved significantly as both countries have taken a number of measures to boost bilateral cooperation. Extended economic engagement, growing security cooperation between both countries and the ongoing dialogue to settle outstanding border issues will contribute to the improvement of the regional security scenario.

1.23 India-Myanmar relations are reinforced by historical, cultural, ethnic and religious ties. India continues to engage with Myanmar on various fronts, including trade and infrastructure and developmental cooperation and cooperation in security matters is also being enhanced. The Government of Myanmar has reciprocated India's gestures of goodwill and friendship.

1.24 With the end of the civil war in Sri Lanka, the security situation in the region as a whole has improved considerably. India supports Sri Lanka in finding a lasting political settlement where all its citizens can live in peace. India is already contributing substantially to the rehabilitation of internally displaced persons and the reconstruction efforts in Northern Sri Lanka and stands ready to enhance bilateral cooperation in a range of areas, including defence and security.

1.25 India's bilateral relationship with Bhutan is based on mutual trust and understanding, shared interests and mutual cooperation. India has had extensive cooperation with Bhutan in areas such as power, transport, communications infrastructure, education, IT, industry, medicine and agriculture. India remains committed to assist the Royal Government of Bhutan in its socio-economic development.

1.26 India and the Maldives have traditionally enjoyed a warm and friendly relationship. Regular contacts and exchanges at all levels have kept the tempo of friendly relations between both countries. India and Maldives are cooperating closely in maritime matters,

especially in view of increasing piracy related incidents.

1.27 India's maritime interests are evident, considering our 7600 km long coast line and an Exclusive Economic Zone (EEZ) of over 2.2 million sq km. These are accentuated on account of our location, astride major commercial routes and energy lifelines in the Indian Ocean, namely, the Malacca Straits, Six and Ten degree channel and the Persian Gulf. Annually, US $200 billion worth of oil passes through the Straits of Hormuz and US $60 billion through the Malacca Strait.

1.28 The Indian Ocean, spread over an area of 68.56 million square kilometres is, thus, central to India's maritime interests and concerns. India's economic development is crucially dependent on the sea because of the criticality of sea borne trade in an increasingly inter-linked world, as well as because of the potential of vast economic resources of the oceans. By virtue of our geography, we are therefore interested in the security of shipping along the sea lanes of communications in the Indian Ocean Region (IOR). India's maritime interest involve the safeguarding of our coastline and island territories, as also our interests in our EEZ, as well as in maintaining open and secure Sea Lines of Communication (SLOCs).

1.29 The increased incidence of piracy in the IOR is an issue of serious concern. The presence of Somali pirates in the waters around

A Missile Firing Demonstration from a Rajput Class Destroyer

our western island territories has been an unwelcome development which requires heightened vigil. The Indian Navy, which has been given the overall responsibility for maritime security, is working in coordination with the Coast Guard and other Central and State agencies to deal with challenges of threats from the sea. The Indian Navy and Coast Guard have enhanced coastal surveillance and patrolling and joint exercises are also being regularly conducted with other agencies to improve operational coordination. India is also engaged in enhancing cooperative interactions and exchanges with various other countries in the IOR to tackle common security challenges. The Indian Navy is working in coordination with the Navies and coalition forces of various countries in the Gulf of Aden. India is in favour of strengthening multilateral cooperation under a UN framework to meet the complex challenges of maritime security.

The dynamic regional and global security environment present a wide spectrum of challenges to India which must be faced rapidly and effectively, in order to sustain and support the growth and rise of the country and the development of her people.

INTERNAL SECURITY CHALLENGES

1.30 India has been facing multifaceted internal security challenges which have included left wing extremism, continued engagements with Special Forces (SFs) by subversive elements in Kashmir, insurgencies in some Northeast states and organized crime in some of India's major cities.

1.31 The continuation of attempts at infiltration into Jammu and Kashmir by terrorists from Pakistan and Pak occupied Kashmir (POK) is a matter of concern and is being effectively tackled by the Security Forces. The security situation in the North-Eastern States has improved during the current year. A number of insurgent groups, including the ULFA, have shown interest in abjuring violence and are involved in talks with the Government. However, given the external linkages of some of the insurgent groups, it will be necessary to remain alert and prepared to tackle any possible increase in insurgent activity in the region.

1.32 The dynamic regional and global security environment present a wide spectrum of challenges to India which must be faced rapidly and effectively, in order to sustain and support the growth and rise of the country and the development of her people. Few countries of the world face the range of security challenges that India faces today. Nonetheless, the country and our defence forces remain fully prepared to tackle all eventualities.

2

ORGANISATION AND FUNCTIONS OF THE MINISTRY OF DEFENCE

Release of Joint Doctrines : February 9, 2010

The principal task of the Ministry is to frame policy directions on defence and security related matters and communicate them for implementation to the Services Headquarters, ISOs, Production Establishments and Research & Development Organisations

ORGANISATIONAL SET- UP AND FUNCTIONS

2.1 After independence, Ministry of Defence was created under the charge of a Cabinet Minister and each Service was placed under its own Commander-in-Chief. In 1955, the Commanders-in-Chief were renamed as the Chief of the Army Staff, the Chief of the Naval Staff and the Chief of the Air Staff. In November 1962, a Department of Defence Production was set up to deal with research, development and production of defence equipment. In November 1965, the Department of Defence Supplies was created for planning and execution of schemes for import substitution of defence requirements. These two Departments were later merged to form the Department of Defence Production and Supplies. In 2004, the name of Department of Defence Production and Supplies was changed to Department of Defence Production. In 1980, the Department of Defence Research and Development was created. In 2004, the Department of Ex-Servicemen Welfare was created.

2.2 The Defence Secretary functions as head of the Department of Defence and is additionally responsible for co-ordinating the activities of the four Departments in the Ministry.

DEPARTMENTS

2.3 The principal task of the Ministry is to frame policy directions on defence and security related matters and communicate them for implementation to the Services Headquarters, Inter-Service Organisations, Production Establishments and Research & Development Organisations. It is required to ensure effective implementation of the Government's policy directions and the execution of approved programmes within the allocated resources.

2.4 The principal functions of the Departments are as follows:

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

(ii) The Department of Defence Production is headed by a Secretary and deals with matters pertaining to defence production, indigenisation of imported stores, equipment and spares, planning and control of departmental production units of the Ordnance Factory Board and Defence Public Sector Undertakings (DPSUs).

Vision of HQ IDS- "Act as a point organization for jointness in the Ministry of Defence with integrated policy, doctrine, war fighting and procurement by employing best management practices."

(iii) The Department of Defence Research and Development is headed by a Secretary, who is 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 required by the Services.

(iv) The Department of Ex-Servicemen Welfare is headed by a Secretary and deals with all resettlement, welfare and pensionary matters of Ex-Servicemen.

2.5 A list of subjects dealt with by various Departments and Finance Division of the Ministry of Defence is given in **Appendix-I** to this report.

HEADQUARTERS INTEGRATED DEFENCE STAFF (HQ IDS)

2.6 HQ IDS came into existence about ten years ago in response to the pressing need for Tri Service Jointness and the Group of Ministers (GoM) report on Kargil on this issue and need for seamless integration, in the areas of intelligence, operation or logistics. Acting as a single point organisation for inculcating Jointness and Synergy between the Armed Forces, IDS (under the aegis of Chairman, Chiefs Of Staff Committee) also renders military advice to the Government.

2.7 **Defence Planning Process:** Raksha Mantri's Operational Directive is the core document on the basis of which the Armed Forces have to formulate their operational and acquisition plans. Formulation of draft Long Term Integrated Perspective Plan (LTIPP) 2012-27 is already underway. This document will further guide the preparation of Five Year Defence Plans as well as the Annual Acquisition Plans.

2.8 **Satellite Based Imagery:** Cartosat 2B was successfully placed in orbit in July 2010. The imagery downloaded from this satellite is being archived at the Central Archival Facility created for the purpose.

2.9 **Disaster Management:** HQ IDS is responsible for coordinating the Armed Forces' response to disaster situations, both within and outside the country. Major operations coordinated by HQ IDS during this year were:

(a) Relief for Kyrgyzstan

(b) Cloud Burst in Leh

(c) Flood Relief Operations – 2010

2.10 **Ministry of Defence Crisis Management Plan:** As per the Crisis Management Plan 2009 released by Ministry of Home Affairs, the Ministry of Defence Crisis Management Plan has been formulated. Ministry of Defence has been nominated as Nodal Ministry to deal with mutiny, desertions etc. in Armed Forces, Central Police Organisations (CPOs) & Police.

2.11 **Establishment of Integrated Space Cell:** In order to give thrust to exploitation of Space for National Security and to integrate Space programmes of the three Services, an Integrated Space Cell (ISC) has been set up.

2.12 **Tri Service Joint Special Forces Training Capsule:** A Tri Service Joint Special Forces training capsule was organized at Special Forces Training School, Nahan from October 11-30, 2010 in which 111 personnel from the three Services participated.

2.13 **Usage of Non Conventional Energy Sources in Defence:** The Ministry monitors the usage of Non Conventional Energy Sources in Defence Services.

2.14 **National Defence Academy:** Government has accorded 'in principle' approval for raising of 16th Squadron at National Defence Academy, Khadakwasla, which is likely to be completed by June 2013. The additional intake of 120 cadets will assist in overcoming the shortage of officers in the Armed Forces.

2.15 **Indian National Defence University (INDU):** On May 13, 2010, Government approved the proposal of setting up of INDU

Seminar on Renewable Energy for Defence Services: March 18, 2010

as a fully autonomous institute. It aims to develop & propagate higher education for Defence purposes and also National Security, both internal and external.

2.16 **Defence Institute of Advanced Technology (DIAT), Deemed University, Pune:** Government has approved re-structuring of DIAT (DU) to provide for a separate Military Institute of Technology (MILIT) to cater to the needs of the Armed Forces. A Joint Committee has been constituted to lay down the roadmap for the creation of MILIT.

2.17 **Centre for Joint Warfare Studies (CENJOWS):** The Centre has been giving very valuable inputs on strategic issues of national interests, like War Against Global Terror, Net Centric Warfare, Strategic Importance of Andaman and Nicobar Islands.

SERVICES HEADQUARTERS

2.18 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-Service 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.

2.19 A number of Committees dealing with defence related activities assist the Raksha Mantri. The Chiefs of Staff Committee is a forum for the Service Chiefs to discuss matters having a bearing on the activities of the Services and also to 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.

2.20 Information regarding the Ministers in the Ministry of Defence, the Chiefs of Staff, the Secretaries in the Departments of the Ministry and the Secretary (Defence Finance) / Financial Advisor (Defence Services) who held positions from January 1, 2010 onwards is given in **Appendix-II** to this report.

ESTABLISHMENT OF ARMED FORCES TRIBUNAL

2.21 The Government has established an Armed Forces Tribunal (AFT) for the adjudication of complaints/ disputes promptly, in service matters and appeals arising out of the verdicts of the Courts Martial of the members of the three Services (Army, Navy and Air Force).

2.22 In addition to the Principal Bench at Delhi, Regional Benches at Chennai, Jaipur, Lucknow, Chandigarh, Kolkata, Kochi and Guwahati have been made functional.

DEFENCE (FINANCE)

2.23 Finance Division in the Ministry of Defence deals with all matters having a financial

implication. This Division is headed by Secretary (Defence Finance)/Financial Advisor (Defence Services) and is fully integrated with the Ministry of Defence and performs an advisory role.

2.24 To facilitate quicker decision making, the Ministry of Defence enjoys enhanced delegated financial powers. These powers are exercised with the concurrence of the Finance Division. With a view to ensuring transparency in exercise of these powers and compliance with the laid down policy guidelines, Defence Procurement Procedure and Defence Procurement Manual were brought out in 2005 and are updated from time to time.

With a view to ensuring transparency in exercise of the delegated financial powers and compliance with the laid down policy guidelines, Defence Procurement Procedure and Defence Procurement Manual were brought out in 2005 and are updated from time to time.

2.25 Finance Division prepares and monitors Defence Services Estimates, Civil Estimates of the Ministry of Defence and the Estimates in respect of Defence Pensions. Break-up of the actual expenditure for the years 2008-09 and 2009-10 as also the Revised Estimates for 2010-11 and Budget Estimates for 2011-12 in respect of Defence Services Estimates are given in **Table No. 2.1** and chart/ graph at the end of this chapter.

2.26 Summary of latest report of the Comptroller & Auditor General of India on the working of the Ministry of Defence is given in **Appendix-III** to this Annual Report.

Table -2.1
Service/ Department-wise Break-up of Defence Expenditure

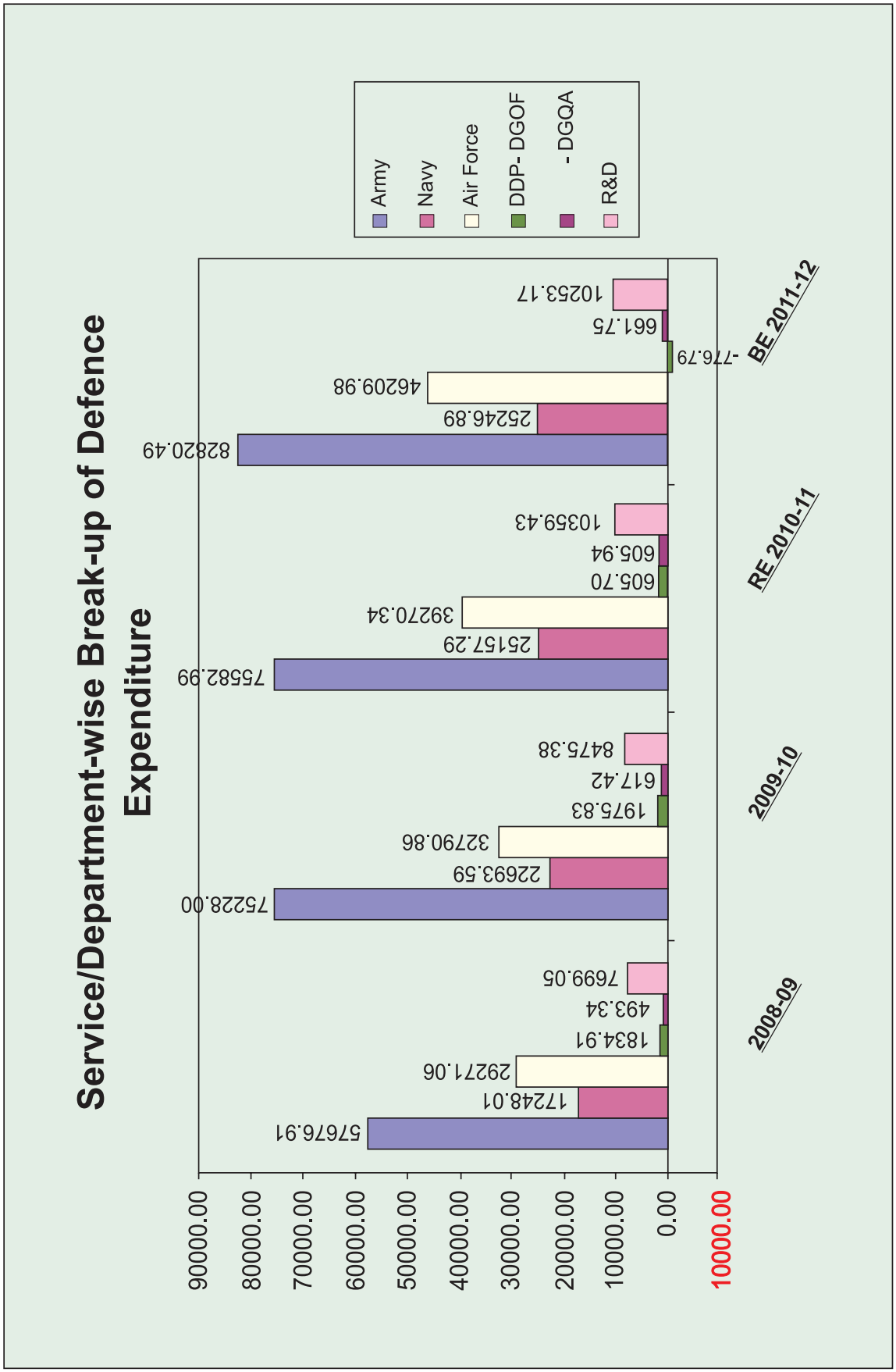
Service/Department		2008-09 Actuals (Rev+Cap)	2009-10 Actuals (Rev+Cap)	RE 2010-11 (Rev+Cap)	BE 2 011-12 (Rev+Cap)
Army		57676.91	75228.00	75582.99	82820.49
Navy		17248.01	22693.59	25157.29	25246.89
Air Force		29271.06	32790.86	39270.34	46209.98
DDP	**DGOF**	1834.91	1975.83	605.70	(-)776.79
	DGQA	493.34	617.42	605.94	661.75
	Total	2328.25	2593.25	1211.64	(-)115.04
R&D		7699.05	8475.38	10359.43	10253.17
Total		**114223.28**	**141781.08**	**151581.69**	**164415.49**

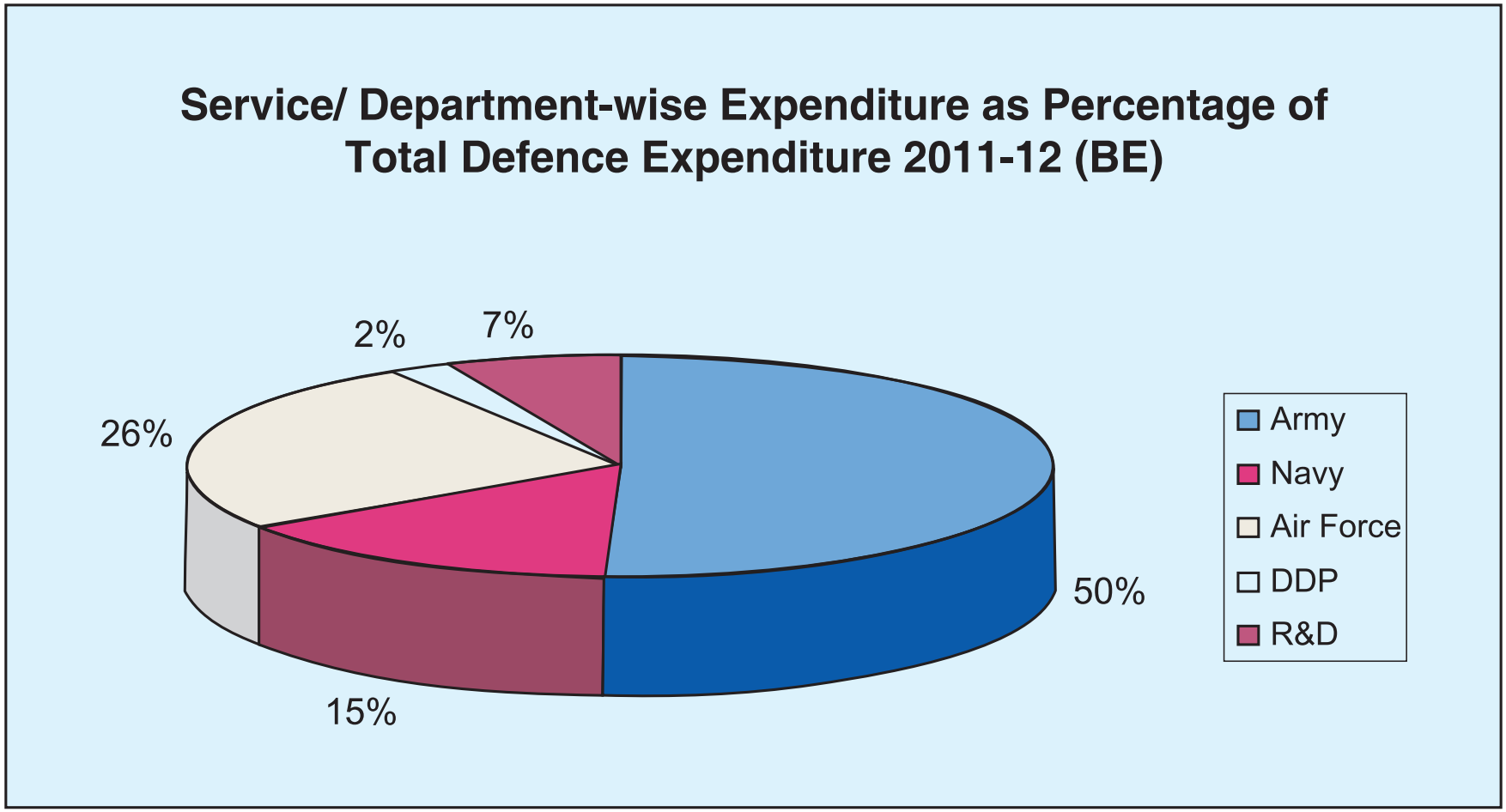
DDP - Department of Defence Production

DGOF - Directorate General of Ordnance Factories

DGQA - Directorate General of Quality Assurance

R&D - Research & Development


Service/Department-wise Break-up of Defence Expenditure
Army
Navy
Air Force
DDP- DGOF
- DGQA
R&D
90000.00
80000.00
70000.00
60000.00
50000.00
40000.00
30000.00
20000.00
10000.00
0.00
10000.00
2008-09
2009-10
RE 2010-11
BE 2011-12
57676.91
17248.01
29271.06
1834.91
493.34
7699.05
75228.00
22693.59
32790.86
1975.83
617.42
8475.38
75582.99
25157.29
39270.34
605.70
605.94
10359.43
82820.49
25246.89
46209.98
-776.79
661.75
10253.17


Service/ Department-wise Expenditure as Percentage of Total Defence Expenditure 2011-12 (BE)
2%
7%
26%
50%
15%
Army
Navy
Air Force
DDP
R&D

3

INDIAN ARMY

Creating Barriers in Difficult Terrains

The Indian Army is committed to the defence of the country from external and internal threats across the entire spectrum of warfare and the Army operations have significantly reduced the terrorist related incidents

SECURITY OVERVIEW

3.1 The ever changing global geo-political dynamics presents the Nation to multiple security challenges. The Indian Army (IA) is committed to the defence of the country from external and internal threats across the entire spectrum of warfare. Additionally, aid to Civil Authorities is provided in times of disaster/ natural calamities.

3.2 The Army continues to maintain strict vigil while constantly reviewing its operational preparedness/ postures to meet the perceived security challenges.

JAMMU AND KASHMIR

3.3 The security situation in J&K has stabilized. The Army's persistent and pro-active counter terrorist operations have continued. This has manifested in a more secure environment.

3.4 While Army operations have significantly reduced the terrorist related incidents and their residual strength, the terrorist threat remains real as the terrorist infrastructure across the borders remains intact. Violent protests and civil unrest stoked by anti- national elements and separatists, with active support from across the borders, occurred during the June – September period. Coordinated action by the Security forces, has stabilised the security situation.

3.5 **Situation Along the Borders:** The ceasefire on the borders is holding out with a few aberrations. There have been 57 cases of ceasefire violations along the borders during the current year, as compared to 31 cases in 2009. The incidents of ceasefire violations are being taken up through the established mechanism of DGsMO talks and local level flag meetings.

3.6 Strict vigil is being maintained along the borders and counter infiltration measures adopted by the Army have been further strengthened. Infiltration attempts, however, continue. In this period, 31 infiltration bids have been foiled and 40 terrorists have been killed in action.

3.7 **Situation in Hinterland:** In 2010, the Army has killed 238 terrorists and apprehended 62, while suffering 52 casualties. The terrorist leadership has successfully been targeted

and a total of 31 terrorist leaders have been neutralised. Incidents of terrorists related violence remains low, due to the operational ascendancy achieved by the Army.

In the Hinterland 238 terrorists were killed in 2010 and 62 apprehended.

NORTH EAST

3.8 The security situation in the North Eastern States has improved due to the consistent and co-ordinated efforts of Army and the Government. The proactive Counter Insurgency (CI) Operations in the region, being undertaken by Army and other Central and State Forces, has prompted a large number of groups to seek peaceful negotiations.

3.9 **Assam:** A large number of junior and middle level leaders of United Liberation Front of Assam (ULFA), the largest under ground (UG) group in the State, have been neutralized in the ongoing Counter Insurgency (CI) operations. Over 18 ULFA cadres have been killed, 13 surrendered and 87 apprehended by the Security forces since January 2010. Six senior cadres, including Chairman, Mr. Arabindo Rajkhowa, who were in jail; have been released on bail to facilitate peace talks. Mr. Paresh Baruah, the SS Commander in Chief of the outfit remains elusive and his loyalists continue extortion. There is popular support for peace and pressure is mounting on ULFA to initiate dialogue with the Government.

3.10 Suspension of Operations (SoO) Agreements with other UG Groups like the National Democratic Front of Bodoland (NDFB), Dimasa Halam Doagah (DHD) and United Peoples Democratic Solidarity (UPDS) are continuing. The anti-talk faction of NDFB emerged as the most violent group. The operations against the group have resulted in death of its 68 cadres in 2010. The group has declared unilateral ceasefire with effect from December 30, 2010 for a period of six months to initiate peace talks with the Government.

3.11 In South Assam, surrender by cadres of DHD (J) has ushered in peace. However, the renaming of NC Hills District as Dima Hasao has caused resentment amongst non-Dimasas. The work on infrastructure projects, which was hampered by ongoing violence has resumed, although the progress is slow.

3.12 **Nagaland:** Violence levels in the State have declined and also the Inter Factional Clashes (IFCs) between the NSCN (IM) and NSCN (K) have considerably reduced. The reconciliation process spearheaded by Forum for Naga Reconciliation (FNR), has gained momentum as the populace of State longs for peace. The Army and Assam Rifles (AR) are keeping the UG groups under check and ensuring adherence of Ceasefire Ground Rules (CFGRs).

3.13 **Manipur:** In the last few years Manipur has emerged as the most volatile State in North East. However, the insurgency related activities in 2010 have been on comparatively low ebb.

Operations by the Army and Assam Rifles are continuing. 70 cadres of various outfits have been killed and over 668 apprehended by the security forces since January 2010.

3.14 The Suspension of Operations (SoO) with Kuki and Zomi UG Groups has ushered peace in the Kuki and Zomi inhabited areas and they have been impressed upon to adhere to the SoO ground rules. The laying down of arms by KCP (MC) Lalumba faction (first Meitei UG Group to lay down arms) on August 6, 2010 can be termed as a watershed in Meitei insurgency. The arrest of Mr. RK Meghen Chairman UNLF in November 2010, has inflicted a major setback to the group and can severely weaken the outfit.

3.15 Year 2010 saw two major closures of National Highways 39 and 53 by the front organisations of Naga UG groups, which caused great inconvenience to the local populace. All efforts were made to ensure uninterrupted supply of essentials to the State. The protests in the state are being funded by insurgent groups who are using front organisations to continuously fuel the agitation.

ARMS/ SERVICE MODERNIASTION INITIATIVES

3.16 **Armoured Corps:** Armoured Corps is undergoing rapid modernisation as per the requirements of the modern battlefield. To attain cutting edge, focus is on removing night blindness of tanks and equipping them with modern fire control systems as well as the latest gunnery simulators. Efforts are also on

Arjun the Warrior

to provide an active defence suit, which can detect and neutralize the incoming threats. The contract for procurement of Night Vision Devices for T-72 tanks has been concluded. Procurement of Digital Control Harness, Gunnery simulators tank T-72 and T-90 tanks is also in progress.

3.17 **Mechanised Infantry:** Contracts for procurement of Environmental Control System for BMP-2/2K and Milan 2T missiles for Recce and Support Battalions of the Mechanised Infantry have been concluded. To provide a cutting edge to the Mechanised Infantry, the procurement of Third Generation Anti-Tank Guided Missiles and the Integration of Thermal Imager Sight with all the weapon systems of BMP-2/2K is in process.

Ruler of the Desert

3.18 **Artillery:** The focus for procurement of Artillery equipment has primarily been on surveillance and firepower. To enhance the surveillance capability, the procurement of Battlefield Surveillance System, Mobile Telescopic Mast for Lorros and Heron UAV is at an advanced stage. Procurement of various other weapons and equipment like Pinaka Multi Barrel Rocket Launcher System, 155 SP Gun (Wheeled) and 155mm Ultra Light Howitzer, 155mm Towed Gun, Smerch Multi Launcher Rocket System and Vehicle Platform for GRAD BM 21 MBRL is also in progress.

3.19 **Army Air Defence:** The Corps of Army Air Defence is taking major strides in upgrading its gun and missile systems. The procurement of the Akash Missile System is at an advanced stage of fructification. To enhance surveillance capabilities, 3D Tactical Control and Low Level Light Weight Radars are at an advanced stage of procurement. Upgradation of Self Propelled Air Defence Gun Missile System, Schilka Gun System and L70 Gun is also in process.

3.20 **Engineers:** The capabilities of Corps of Engineers have been enhanced with the signing of contracts/ indents for procurement of state-of-the-art Quick Reaction Team Boats for high altitude operations, Trawls for tank T-72 and BMPs modified as Armoured Engineer Recovery Vehicles. The operational efficiency of the Engineers to operate in a Nuclear Biological and Chemical (NBC) environment has also been enhanced with the signing of contracts/ indents for procurement of BMPs modified as NBC Recce Vehicles, RPL Dosimeter MK II and Reader Personal Dosimeter.

3.21 **Signals:** The Corps of Signals has undertaken a number of major steps in consolidating the various networks of the Indian Army. Upgradation of Army Static Switched Communication Network (ASCON) and Army Wide Area Network (AWAN) is in progress to incorporate the latest technological changes and further extend the reach of these networks to field areas. Procurement of Defence Communication Network, a prestigious Tri-Service project, is at an advanced stage.

Blasting the Enemy

Contract for procurement of Radio Trunking System has recently been concluded.

Communicating from the Sky

3.22 **Infantry:** Full thrust is being laid on modernising and equipping the Infantry soldier with various weapons/ equipment like Submachine Guns and Assault Rifles for Special Forces; Bullet Proof Jackets and Ballistic Helmets for counter insurgency operations; Hand Grenades and Ballistic Shields for Ghatak Platoons etc.

Infantry Man-I Fly

3.23 **Army Aviation:** Procurement action for replacement of existing reconnaissance and surveillance helicopters with modern helicopters with better capabilities is in progress. Army Aviation is also in the process of weaponising the indigenously manufactured Advanced Light Helicopter (ALH). In order to enhance its operational efficiency, the Army Aviation is also in the process of procuring Cheetal Helicopters.

Help from the Skies

RASHTRIYA RIFLES

3.24 The Force has contributed immensely in checking terrorism and in facilitating the well being of people of Jammu & Kashmir. All out efforts were made to carry out people friendly operations and the troops made efforts to win their hearts and reaffirm their faith in the Indian Army. A number of successful operations severely dented the terrorist leadership.

3.25 Efforts are on to procure modern weapons and equipment to give cutting edge to the Rashtriya Rifles for its sustained operations against the terrorists in the valley.

During 2010, Rashtriya Rifles killed 129 terrorists and apprehended 52 terrorists.

3.26 **Achievements:**

(a) Terrorists Neutralised:

(i)	Killed	129
(ii)	Surrendered	6
(iii)	Apprehended	52

(b) Recoveries:

(i)	Rifles (All Types)	231
(ii)	Pistol	113
(iii)	LMG/UMG	2
(iv)	RL/UBGL	42
(v)	Grenedes	1379
(vi)	IEDs	153
(vii)	RS	125
(viii)	Explosives	845.1 Kgs
(ix)	Ammunition	32476 Rounds

3.27 **Setbacks:** Casualties suffered by Rashtriya Rifles for the period from January 1, 2009 to November 30, 2010 are given as under

		Fatal	Non Fatal
(a)	Officers	4	9
(b)	JCOs	1	5
(c)	Other Ranks	36	80

Securing our Houses

MODERNISATION OF EQUIPMENT

3.28 **Project SHAKTI:** Project SHAKTI, "Artillery Combat Command and Control System (ACCCS)" has been successfully fielded in four operational Corps of the Indian Army. It is the first System which has been fielded as part of the process of modernization to make it a Network Centric force capable of meeting the challenges of the modern day battle field. The system has been well received by the environment.

Hand Held Computer being used by a Forward Observation Officer (FOO)

3.29 With the induction of this system in the Indian Army, India has joined a select few developed countries like USA, UK and Germany, where such systems are in use.

3.30 **T-90 Tanks:** The complete consignment of T-90 Tanks consisting of 124 fully formed tanks ex-import have been received and handed over to the Field Army. The Semi Knocked Down (SKD) version of T-90 tanks are under collection by Indian Army. Indigenously manufactured T-90 tanks are under collection by Indian Army at HVF, Avadi.

3.31 **FICV:** Mechanised Infantry Battalions are equipped with ICV BMP-2/2K. BMP-2/2Ks are likely to outlive their lives in next two decades. 2610 FICVs are planned to be inducted into service to replace these and will remain in service till 2050.

3.32 The expression of interest was submitted by the development agencies. The evaluation of the document and development capability is being done by the Integrated Project Management Team which is likely to be completed shortly. Based on the evaluation of the Expression of Interest (EoI), comparison of the vendors would be carried out to select two developing agencies for the development and production of prototypes for user trials.

3.33 **Caravan Cum Office Container - Armoured Ambulance Track:** Many variants of BMP-2 have rolled out and some are in the pipeline. One variant, that has raised the morale of troops, is Armoured Ambulance Track. The Ambulance based on BMP with state-of-the-art facility by way of medical equipment and other connected infrastructure, has actually revolutionalised medical treatment. It is a boon for the soldiers and their Commanders and will save many precious lives in the battle field.

3.34 **Main Battle Tank Arjun:** The Indian Main Battle Tank Arjun has come a long way from its inception. The tank cleared numerous hurdles and was finally accepted by the Indian Army. The first two Armoured Regiments are now being exploited during an exercise this winters.

3.35 As a progressive step, a number of improvements have been planned on the present MBT Arjun which would be called as Arjun Mk-II.

Main Battle Tank

3.36 **Weapon Locating Radar (WLR) for Plains (DRDO Development Project):** WLRs are capable of locating guns, mortars and rockets firing in low and high angles. WLR ANTPQ-37 have been procured under Foreign Military Sales (FMS) from US Government in 2002. WLRs are also being developed by LRDE/ BEL, Bangalore.

Wepon Locating Radar

3.37 **Battle Field Surveillance Radars (MR BFSR ELM 2140):** Sufficient number of BFSRs, capable of detecting moving targets upto 40 Kms, have been issued to units. Procurement of some more units is planned.

3.38 **Mobile Mast for Medium Range Battle Field Surveillance Radar (MR BFSR):** The range of BFSR is limited due to the Line of Sight (LOS) restrictions, when deployed on the ground. Therefore, there is a requirement to elevate the radar above the ground to be able to overcome the LOS restrictions especially due to the curvature of earth. Mobile Mast with 30 meter height has been procured to enhance its operational range.

Mobile Battle Field Surveillance Radar

3.39 **Unmanned Aerial Vehicle (UAV) Heron:** Heron is High Altitude and Long Endurance class UAV employed for surveillance and target acquisition roles.

Unmanned Aerial Vehicle

3.40 **Rustom UAV System:** DRDO/ ADE Bangalore is developing Medium Altitude Long Endurance class of UAVs for the three Services.

3.41 **Satellite Communication System (SATCOM):** Heron UAVs are proposed to be upgraded with SATCOM. Heron UAVs with SATCOM system would enhance the operational range and coverage of the UAVs.

3.42 **Artillery Fired Medium Range Loitering Missile System (AFMRLMS):** AFMRLMS is a missile system, which has loitering capability like UAV and can strike a target with fully guided precision like a missile. Thus, it has the capability for acquisition of targets and precision engagement. Each system can carry out one combat mission. This proposal is under progress.

3.43 **Smerch Multi Rocket Launcher System (MBLRS):** Some Regiments have been fully equipped with Smerch Weapon System. The 300mm SMERCH MBRLS, designed and developed by Russia, is a long range rocket system. Smerch Weapon System, with ability to deliver massive volume of fire in a short span of time, is an ideal weapon for degradation

of enemy's combat potential and shaping the battlefield to our advantage.

Long Range Multi Barrel Rocket Launcher

3.44 **Pinaka MBRLS:** A couple of Regiments have been fully equipped with Pinaka Weapon System. It has been designed and developed by the DRDO as an all weather free flight artillery rocket system. It delivers accurate and massive firepower at a high rate over extended ranges. In terms of its performance characteristics, it is comparable to contemporary MBRLS of the world. The weapon system signifies a giant step in self reliance in major weapon production by the private industry.

Indigenous MBRLS Pinaka

3.45 **BrahMos:** The BrahMos is an excellent model of high technology cooperation between India (DRDO) and the Russian Federation (NPOM). It is the first Super Sonic Cruise Missile developed to engage, pin point high value targets with minimum collateral damage. It is a highly accurate and an all weather fire and forget missile capable of being launched from multiple platforms based on land, sea, sub-sea and air. It has an inertial guidance system with capability of mid-course correction. The induction of the equipment is in full swing in accordance with the induction schedule.

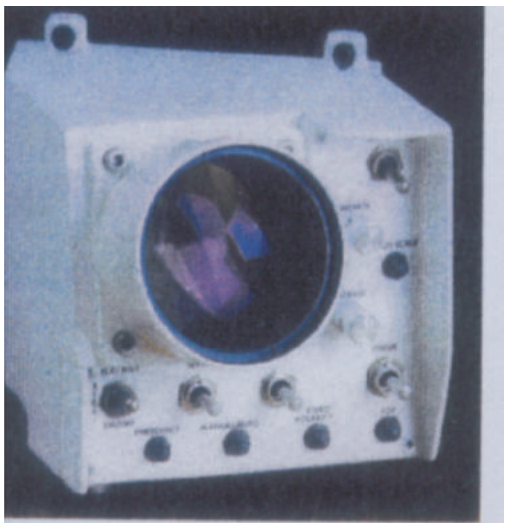
BrahMos

EQUIPMENT MANAGEMENT

3.46 **TISAS-300 Upgraded:** Contract for 300 nos. TISAS-300 sights with enhanced specifications, has been signed with the vendor M/s Elbit Systems. Delivery and installation would commence shortly and continue till early next year.

3.47 **Retrofitment of II based Dvr Ni Sight for tank T-72:** These sights are a product

improvement over the existing IR based sights and provide an operational advantage on account of being passive in nature. Retrofitment has been completed on a large number of tanks.



DVR Ni Sight

3.48 **Cdr TI Sight (Non- Panoramic) for tank T-72 :** These sights, developed as a design and development project by IRDE and OLF, will provide enhanced capabilities in terms of terrain observation, search, detection and recognition of ground targets during day and night, as also target designation.

Thermal Imaging Sight

3.49 **BLT T-72:** These BLTs would provide the much needed obstacle-crossing support to units/ formations in carrying out their operational tasks. Indent for BLTs on T-72 has been placed on HVF.

BLT T-72

3.50 **Overhaul of Tank T-72:** Concerted efforts are being made by all concerned agencies to improve the quality and backlog situation of the overhaul of tank T-72

3.51 **Induction of Upgrades - Motor Cycle:** Royal Enfield Bullet 350cc with Unit Construction Engine (UCE), having superior technology, high power, fuel efficient, easy start ability and BS-III compliant, has been introduced w.e.f. May 26, 2010.

3.52 **Establishment of 'D' Level Repair Facilities at BEL:** Bharat Electronics Limited (BEL), Hyderabad has been identified as

Surveillance Vehicle

the agency to carry out 'D' Level Repair of Unmanned Aerial Vehicles (UAVs) procured from M/s IAI Malat.

OPERATIONAL LOGISTICS

3.53 Important steps are being undertaken to improve the quality of kitting of troops. These are as under:

(a) **PT Shoes:** In keeping with the policy of providing items of high quality to PBORs, it has been decided to procure improved PT Shoes.

High Quality PT Shoes

(b) **Pilot Project for Issue of Olive Green (OG) Cloth in Place of Stitched Uniform:** Project for issue of Uniform cloth in place of stitched uniform for 1/3rd Army, was initiated to improve the turnout, meet aspirations and raise the morale of JCO's & ORs. The process will be completed by December 2010.

(c) **Coat Combat Disruptive:** Coat Combat ICK and Coat Combat Disruptive with detachable lining 1998 pattern (improved version) have been merged into one and new design has been approved for production. Indent for large quantity has been placed and supply is likely to commence shortly.

(d) **Socks OG:** Supply of improved socks OG has commenced from Ordnance Equipment Factory. Approximately two lakhs pairs have been issued to troops.

(e) **Jersey OG:** Jersey OG with better quality of wool and 'V' shaped neck has been approved.

(f) **Modernisation of Cooking Utensils:** Out of 33 items approved in Equipment Table Review Committee (ETRC), with improved specifications, 15 items including utensils of SS304 Grade (Salem), post procurement, have been issued to Field Army. Remaining items are in various stages of procurement.

(g) **Extreme Cold Clothing & Equipment (ECC&E):** The authorization of ECC&E in respect of Indian Army has been enhanced. Administrative Instruction for management of ECC&E has been issued to the environment. Procurement action for enhanced quantity has been initiated.

(h) **Procurement:**

(i) **Socks Woollen Special:** Contract for socks woollen special was signed in September 2010. First consignment was received in last quarter of 2010 and has been issued.

(ii) **Snow Mobiles:** Limited trials and technical evaluation of new Snow mobile have been carried out and it was strongly recommended for procurement and induction into service. Contract for the same has been signed and delivery is expected to take place early this year.

Presently, Indian Army has deployed over 7,325 troops deployed to various UN Missions.

INDIAN ARMY AND UNITED NATIONS PEACE KEEPING OPERATIONS

3.54 **Peace Keeping Saga:** India has been participating in United Nations(UN) peacekeeping since its first commitment in Korea in 1950. Indian Army has participated in some of the most difficult UN peacekeeping operations and won universal acclaim for their professional excellence. So far, India has taken part in 42 Peacekeeping Missions with more than 1,15,000 troops, all over the world. Indian Army has made significant contributions to ensure peace and stability in Africa and Asia. It has demonstrated unique capacity of sustaining large troop contingents all over the globe, over prolonged periods. Known for their professionalism, compassion, equanimity and forbearance, Indian troops have been popular, effective and always in demand.

3.55 The gallant Indian soldiers, as part of the UN Peacekeeping Missions, have time and again displayed exemplary courage and dedication towards duty. In recognition of their gallant and distinguished service while serving the noble cause of world peace, Indian Army personnel have won many awards. It has performed consistently and positively which helped in building India's image and standing in the international community. Presently, Indian Army has deployed over 7,325 troops to various UN missions and approximately the same numbers are getting ready for deployment.

Flag Bearers of Peacekeeping

Multitude of Activities on Foreign Land

Participation in Current Missions

3.56 **Lebanon (UNIFIL):** The present Indian Army component in UNFIL is an Infantry Battalion Group with Level II Hospital comprising 650 ORs and 23 staff officers

The Blue Berets

3.57 **Congo (MONUSCO):** The UN mission in the Democratic Republic of Congo is currently one of the most challenging Missions, with an expanded chapter VII mandate. The Indian contribution to the Mission consists of an augmented Infantry Brigade Group with Level III Hospital. An Indian Air Force Contingent, comprising of Attack and Utility Helicopters and an Air Field Support Unit is also in Congo. The Indian Army component comprises of 203 officers, 248 JCOs and 3259 ORs.

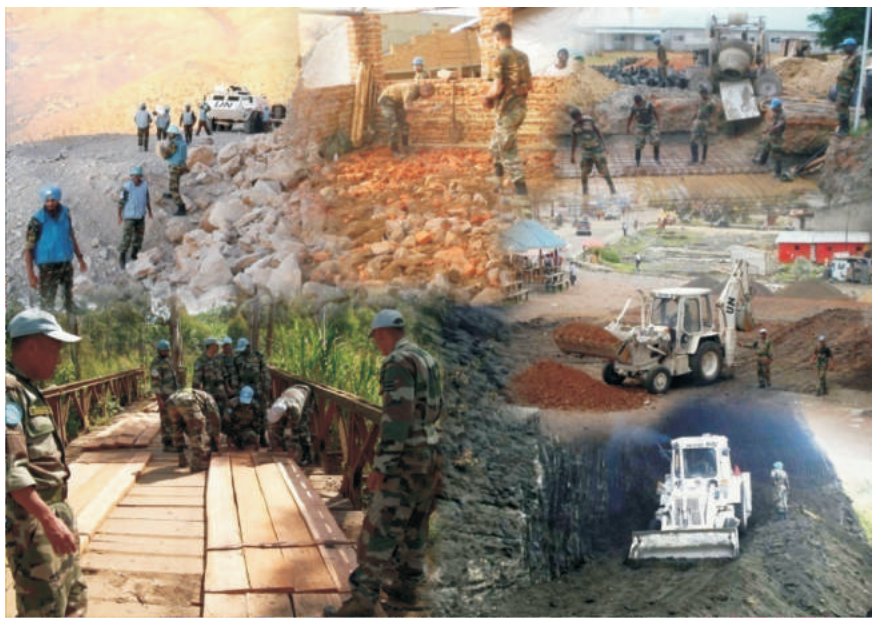
3.58 **Sudan (UNMIS):** The Indian contribution to Sudan UN Mission is in the form of two infantry Battalion Groups, Sector HQ, the force Signal Coy and Level II Hospital. With the referendum in January 2011 and likely secession of South Sudan, the country is now going through a redefining phase of history.

3.59 **Golan Heights (UNDOF):** A Logistic Battalion with 190 personnel has been deployed to look after the logistics of UNDOF in Israel and Syria.

3.60 **Ivory Coast (UNOCI):** The mission has been supported by Indian Staff Officers and MILOBS since inception and Indian contribution has been successful in bringing peace and tranquility in the region.

3.61 **East Timor (UNMIT):** The mission in East Timor is relatively new. Indian contribution has been in terms of Staff Officers to kick start the mission from the scratch.

3.62 **Haiti (MINUSTAH):** This mission is supported by Indian Staff Officers since inception.



In Aid of Friendly Foreign Countries

4

INDIAN NAVY

Glorious Wake Vibrant Future

The Indian Navy by virtue of its multidimensional capability, strategic positioning and robust presence in the areas of interest has been a catalyst for peace, tranquility and stability in the Indian Ocean Region

4.1 The Indian Navy (IN) by virtue of its multidimensional capability, strategic positioning and robust presence in the areas of interest has been a catalyst for peace, tranquility and stability in the Indian Ocean Region(IOR). During the year, the IN has engaged other maritime nations to support national initiatives of cooperation and engagement and our fleets have sailed and exercised successfully in the South China Sea and the African and Mediterranean waters. These opportunities have strengthened bilateral relationships, enhanced inter-operability and helped in sharing best practices from other navies. Such overseas deployments also reassure our overseas Indian population. To achieve its mandated tasks, the Indian Navy is enhancing its capabilities, cooperation and inter-operability with regional and extra-regional navies.

4.2 The Indian Navy has always responded swiftly and efficiently to the various challenges, be it in safeguarding our frontiers or sea trade. These include combating piracy and terrorism at sea, conducting hydrographic surveys in IOR and in the waters of friendly foreign countries, coordinating navigational warnings over vast oceanic and littoral areas and providing Search and Rescue facilities to those in distress. Our proactive response and professional handling of situations has encouraged a number of countries of the IOR in seeking our assistance and advice to counter maritime challenges in their respective Exclusive Economic Zones (EEZs). We continue to support and augment the efforts towards capacity building and surveillance, thereby enhancing overall maritime capabilities in the Indian Ocean Region.

4.3 Creation of capability and modernisation of the force is being pursued with vigour, based upon the threat perceptions, prevailing external strategic security environment and emerging technologies. The Indian Navy remains deeply committed to the process of indigenisation by inducting capabilities both from the public and private sector. A total of 36 ships and submarines are presently on order in Indian and overseas yards.

OVERSEAS OPERATIONS

4.4 **Overseas Deployment:** Overseas deployments (OSD) are undertaken by ships of Indian Navy for Flag showing, fostering better relations with friendly countries and enhancing foreign cooperation. Important

overseas activities in 2010 included deployment to South East Asia, East African Coast and Southern Indian Ocean.

4.5 **Overseas Deployment of Training Squadron:** IN Ships Tir, Krishna and Indian Coast Guard Ship Varuna were deployed overseas to Chittagong, Yangon and Phuket from February 7 to 25, 2010. The IN and ICG training ships Tir, Shardul, Varuna and Tarangini proceeded on OSD from October 6 to November 3, 2010 to Sri Lanka, Maldives and Seychelles.

In order to ensure security of Sea Lines of Communications from piracy attacks, the Indian Navy has deployed one warship continuously in the Gulf of Aden with effect from October 23, 2008.

4.6 **Anti - Piracy Operations in the Gulf of Aden:** In order to ensure security of Sea Lines of Communications from piracy attacks, the Indian Navy has deployed one warship continuously in the Gulf of Aden with effect from October 23, 2008. The presence of an Indian warship in the area has effectively deterred the pirates and provided requisite security assurance to Indian flagged merchant ships. As on date, over 1400 merchant ships of varying nationalities have been escorted safely by Indian warships.

Anti-Piracy operations in Gulf of Aden

4.7 **Anti-Piracy Operations off Maldives/ Seychelles/ Mauritius:** Additional ships and aircraft of the Indian Navy were deployed for conduct of surveillance and anti-piracy operations off Maldives, Seychelles and Mauritius at the request of host governments.

MAJOR EXERCISES

4.8 **MILAN 2010:** The biennial get together of regional navies 'MILAN 2010' was held at Port Blair from February 3 to 8, 2010. The events included a table- top exercise on improving inter-operability in dealing with challenges of piracy, gun and drug running and illegal immigration, seminar on 'Humanitarian and Disaster Relief operations', City Parade, Band Concert, cultural activities and PASSEX. Delegates from a total of twelve countries, including warships from eight countries participated in MILAN 2010.

4.9 **TROPEX 2010:** This annual 'Theatre Level Operational Readiness Exercise' was conducted off the Eastern Seaboard from February 7 to mid March, 2010. The preparedness to counter various threats to national security and the integration of various elements of the Armed Forces at the operational and tactical level were validated.

4.10 **DGX 2010:** 'Defence of Gujarat Exercise' was conducted from November 15 to 26, 2010, to validate the preparedness of the Indian Navy to undertake a range of missions.

EXERCISE WITH FOREIGN NAVIES

4.11 **MALABAR – 10:** The IN-USN bilateral exercise MALABAR EX -10 was held off Goa from April 23 to May 2, 2010. IN Ships Mysore, Tabar, Brahmaputra, Godavari along with submarine Shishumar and US Navy units Shiloh, Chaffee, Curts, Lassen, nuclear powered submarine Annapolis and two P 3C Orion aircraft participated in the exercise.

4.12 **SIMBEX – 10:** The annual IN-Singapore bilateral exercise, SIMBEX -10 was held in the Andaman Sea and Bay of Bengal from April 3 to 16, 2010. IN Ships Ranvir, Kora, Mahish and Battimalv and Republic of Singapore Navy ships RSS Intrepid and RSS Victory participated in the exercise. One IN Dornier and Singapore Navy Fokker 50 Maritime Patrol Aircraft also participated.

4.13 **IND-INDO CORPAT:** The 16th Cycle of 'Coordinated Patrol' (CORPAT) between the Indian Navy and Indonesian Navy named 'IND-INDO CORPAT' was conducted from October 20 to November 7, 2010.

4.14 **IBSAMAR II:** IBSAMAR II, the tri-lateral naval exercise between the navies of India, Brazil and South Africa was held off South Africa in September, 2010. The exercise is the maritime element of the regional co-operation initiative between India, Brazil and South Africa, namely IBSA. IN ships Mysore, Ganga, Tabar and Aditya participated in the exercise.

4.15 **DIMDEX 2010:** Qatar hosted the 2nd International Maritime Defence Exhibition & Conference (DIMDEX 2010) from March 28 to 31, 2010 at the Doha Exhibition Centre. Indian Navy ship Betwa participated in the exhibition and conference.

4.16 **KONKAN – 10**: KONKAN- 10, a table-top exercise between IN and RN was conducted at Visakhapatnam from July 26 to 30, 2010.

4.17 **Ex HABUNAG-10:** Ex HABUNAG-10, a joint Indo-US exercise was conducted from September 24 to October 6, 2010 at White Beach Naval Facility, Okinawa, Japan. A fourteen member Indian tri-service delegation participated in the exercise.

4.18 **Passage Exercise:** During 2010, the Indian Navy undertook passage exercises with Navies of France, Russian Federation and UK.

COASTAL SECURITY MEASURES

4.19 Coastal Security continues to be the main thrust of Indian Navy ever since it was given the overall responsibility for maritime security post 26/11. Synergy among various stake holders and ground level coordination were the main areas of concern, which have been substantially improved in the past one year. Towards this IN and Indian Coast Guard (ICG) have conducted 33 coastal security exercises, 103 Awareness campaigns and 73 coastal security operations. Indian Navy is

coordinating and monitoring from the Joint Operation Centres established for the purpose of day-to-day coastal security surveillance being undertaken by various agencies such as Indian Coast Guard, Coastal Marine Police, Customs and Ports. Various communication channels and hotlines have been established for this purpose. The Sagar Prahari Bal has been established in all naval commands and the fast interceptor crafts are in advanced stage of procurement.

4.20 **Training of Marine Police:** A two-week training capsule for 30 Marine Police personnel of Coastal States was conducted from February 19 to March 9, 2010.

4.21 **Training of Police Personnel:** 60 Kerala Police personnel were trained in boarding operations at IN Ship Dronacharya in June 2010. In addition, naval personnel are undertaking training-cum-joint patrolling in their 12 Ton and 5 Ton boats on a regular basis to familiarise police personnel in operations at sea and also training them on the equipment fitted on board these boats.

FOREIGN COOPERATION

4.22 **Institutionalising Navy-to-Navy Interaction:** Navy-to-Navy level interaction by way of Staff Talks/ Executive Steering Groups (ESG) provide an effective forum to develop

Training to Marine Police

and implement bilateral cooperation initiatives. Staff Talks/ ESGs were held with Navies of Thailand, Australia, South Africa, Singapore and France in 2010.

4.23 **IN/CG - SLN IMBL Meeting:** The 17th trilateral International Maritime Boundary Line meeting between Indian Navy/ Coast Guard and Sri Lankan Navy was held onboard Sri Lankan Naval (SLN) Ship Sayura on April 29, 2010.

4.24 **Refit of MCGS Huravee:** The Maldives Coast Guard Ship Huravee underwent refit at Naval Dockyard (Visakhapatnam). On successful completion of the refit, the ship was handed over to the Maldivian Minister of State for Defence & National Security, Mr Mohamed Muizzu Adnan by Rajya Raksha Mantri during a formal ceremony on February 11, 2010.

4.25 **Medical Camp at Philippines:** A medical camp was conducted by the medical team of IN Ship Jyoti at Manila, Philippines on June 1, 2010 with the support of the Manila Health Department. The response of the local population towards the medical camp was overwhelming and over 600 patients were examined.

4.26 **Indian Ocean Naval Symposium (IONS) – 2010:** The second symposium (IONS-2010) was hosted by the UAE Navy from May 8 to 10, 2010 at Abu Dhabi, UAE. The Chairmanship of the IONS was handed over by the CNS to the Commander of the UAE Navy during this event. He will retain the Chair for a tenure of two years. The theme selected by the Commander of the

Rajya Raksha Mantri(left) and C-in-C East handing over of MNDF Huravee after successful refit

UAE Navy, *"Together, for the Reinforcement of Maritime Security in the Indian Ocean"* for the period 2010-12 appropriately captures the collective and cooperative nature of IONS.

The first indigenously designed and built stealth frigate, IN Ship Shivalik; and IN Ships Cankarso, Kondul and Kalpeni were commissioned during the year 2010.

SURVEY TASKS FOR FOREIGN COUNTRIES

4.27 **SAMBANDH 06/ 09:** On request from Government of Maldives, IN Ship Nirupak was deployed for undertaking survey of North Male Atoll at Maldives from December 1, 2009 to January 10, 2010.

4.28 **Survey off Mauritius:** IN Ship Nirdeshak was deployed from March 17 to May 4, 2010 to undertake survey off Mauritius.

4.29 **Survey of Kankesanturai Harbour, Sri Lanka:** IN Ship Nirupak carried out survey of Kankesanturai harbour from June 29 to July 15, 2010. The survey operations would facilitate rehabilitation of the harbour.

COMMISSIONING AND DECOMMISSIONING

4.30 **Commissioning of New Ships:** The first indigenously designed and built stealth frigate, IN Ship Shivalik was commissioned by Raksha Mantri at Mumbai on April 29, 2010.

Commissioning of INS Shivalik by Raksha Mantri

IN Ships Cankarso, Kondul and Kalpeni were also commissioned in 2010.

4.31 **Decommissioning of Old Units:** IN Submarines Vela and Vagli, IN Ship Dunagiri and IN Seaward Defence Boat T-58 were decommissioned in 2010.

4.32 **Sagar Parikrama INSV Mhadei:** IN Sailing Vessel Mhadei completed the solo circumnavigation exercise named Sagar Parikrama. Mhadei commenced the fourth leg of Sagar Parikrama from Port Stanley to Cape Town on February 1, 2010 and returned to Mumbai on May 25, 2010.

4.33 **Revised Career Planning for Sailors:** The introduction of high technology equipment and platforms has considerably impacted upon Navy's organizational structure and Human Resource requirements. The Navy needs a young, well trained and motivated workforce to shoulder higher responsibilities attendant to its transformational plan. Government approval has been accorded for implementation of the Review of Career Profile of Sailors (RECAPS) for upgradation from Leading to Petty Officer. RECAPS will enhance functional efficiency and improve satisfaction levels as it would facilitate sailors to attain Petty Officer Rank within initial engagement period.

5

INDIAN AIR FORCE

Indian Air Force transforming towards Network Centric Capabilities

Air power, due to its inherent nature, possesses immense potential for coercive strategy and IAF, today, is well established on the path of becoming a lethal aerospace force, ready to face the dynamic technological global challenges through modernization and able leadership

5.1 The world at large faces enormous strategic uncertainties; and India is not outside its influence. Since 1999, IAF has been involved in various strategic roles ranging from air maintenance to disaster relief, support to UN peace keeping efforts and international co-operation. The IAF has been a very active component of the nearly 9000 air warriors in various UN Peace keeping force across the world. It is also engaged in a number of air exercises with friendly countries to hone its strategic capabilities in a global environment. Military technological growth poses new challenges and provides unique opportunities to leverage new and current military capabilities in pursuit of national interests. Air power, due to its inherent nature, possesses immense potential for coercive strategy. IAF today is well established on the path of becoming a lethal aerospace force, ready to face the dynamic technological global challenges through modernization and able leadership. Due to its inherent characteristics of mobility and responsiveness, IAF is amongst the first elements to respond to any disaster relief and humanitarian assistance.

OPERATIONS

5.2 **Transforming towards Network Centric Capabilities:** IAF, under the ambit of C4ISR (Command, Control, Communication, Computer, Intelligence, Surveillance and Reconnaissance), is enhancing its network centric capabilities, that generate combat power by networking - sensors, decision makers and weapon systems - to achieve shared awareness, increased efficacy of command structure, higher tempo of operations and greater lethality. Implementing Operational Data Link is the key component towards achieving network centric capabilities. The project envisages networking of airborne platforms, ground sensors and Command and Control Centres, to reduce the sensor-to-shooter time, in a time sensitive targeting scenario. IAF has also significantly enhanced its force projection capabilities in emergent situations, both in Offensive and Defensive operations with the induction of three Airborne Warning and Control System (AWACS) aircraft. The institutionalisation of IACCS, the mother board of all Network Centric Operation, has primarily led to automating all Air Defence (AD) functions of the IAF towards

control over all weapon systems from a centralized location.

5.3 **IAF Transport and Helicopter Support Operations:** Assistance to civil agencies during natural calamities and disasters is a vital function of the transport and helicopter fleet of Indian Air Force and these roles have been performed by it commendably over the years. The current year was no exception. Aid to civil authorities was a core task, as was exemplified during the flood relief operations carried out in the Leh sector

Air warriors clearing the runway from mud caused due to the landslides

Fixed Wing Operations

5.4 **Air Maintenance in the Northern & North Eastern Sector:** Supplies to far flung areas of the country such as Ladakh, Arunachal Pradesh etc were sustained throughout the year by the Transport and Helicopter fleet of IAF through air maintenance. IAF transport aircraft airlifted 14,274.50 and 1015.94 tonnes of load for Ladakh and North Eastern region respectively. After the record breaking landing of an An-32 aircraft at Daulat Beg Oldie (DBO) at 16300ft elevation, the highest airstrip in the world, air maintenance operations by An-32 aircraft have since, commenced from this ALG (Advance Landing Ground).

Rotary Wing Operations

5.5 **State Elections:** Towards the recently concluded state elections in Tripura, Manipur and Bihar, IAF helicopters were extensively employed, wherein helicopters flew 161 sorties/ 118 hours air lifting 506 passengers and 2.23 MT load towards successful conduct of the elections.

5.6 **Flood Relief in Leh and Uttarakhand:** This year, a total of 313 sorties utilising 167 Hrs were flown by IAF for flood relief operations in the Leh and Uttarakhand sector. A total of 873

Transportation of Supplies to Troops by Transport and Helicopter Fleet

passengers and 60.73 MT of load were airlifted during these operations. The causalities evacuation rescue missions undertaken for stranded foreign nationals were appreciated by many countries.

5.7 **Operation Triveni:** The IAF provided four MLH helicopters for Anti Naxal operations in Chattisgarh sector. The IAF has flown 1405 sorties utilising 1096 hours and airlifted 9639 passengers and 124 tonnes load. In addition, 43 missions were flown towards casualty evacuation.

Un-manned Aerial Vehicles (UAVs)

5.8 IAF had planned the Air Defence cover of the NCR in coordination with ground security agencies, to ensure a foolproof Air Defence plan for smooth conduct of the Commonwealth Games (CWG) 2010. A total of 12 missions were flown towards Air Defence effort during CWG 2010.

IAF UN MISSION

5.9 Indian Air Force has deployed two aviation contingents on UN mission to DR Congo and one to Sudan. Due to pressing national requirements, the Government of India has accorded approval to a phased withdrawal of these missions on completion of their terms of Letter of Assist (LoA).

METEOROLOGICAL EQUIPMENT

5.10 An upper air sounding system Radiosonde, was successfully installed at AF Station, Sulur from November 27-30, 2010. The present generation GPS based Radiosonde Ground Station is capable of operations in any kind of weather which enables immediate availability of upper air profile of winds and temperature at the receiving station.

AIRCRAFT ACQUISITION

5.11 **Light Combat Aircraft (LCA):** The achievement of Initial Operational Clearance –I (IOC-I) on Tejas (LCA) Marck I aircraft was declared by Aeronautical Development Agency (ADA) on January 10, 2011 in presence of Raksha Mantri and Chief of Air Staff (CAS) during a formal ceremony held on the occasion in Bangalore. During this ceremony, Chief Executive (CE) of Centre of Military Airworthiness and Certification (CEMILAC) handed over the 'Release to Service Document (RSD)' for LCA (IOC-I) aircraft to the CAS. As per ADA, IOC-II is planned to be achieved on Tejas Mark I aircraft by June, 2011. The first Tejas Mark I aircraft in IOC-II configuration is planned to be delivered by Hindustan Aeronautics Limited (HAL) to IAF in August, 2011. Another contract has also been signed to procure 20 additional LCA in Final Operational Clearance (FOC) which is expected to be achieved by December, 2012.

The first Tejas Mark I aircraft in IOC-II configuration is planned to be delivered by Hindustan Aeronautics Limited (HAL) to IAF in August, 2011.

5.12 **Low Level Light Weight Radars (LLLWR):** The Indian Air Force has strengthened its Air Defence capability by contracting 15 LLLWR from Israel. Nine of these radars are already inducted and operational thereby providing gap free radar coverage at Tier-I of the nation's AD network.

LLLWR Radar

5.13 **Central Acquisition Radars (CAR):** The Air Defence (AD) network has been further reinforced by induction of indigenously developed CAR by Laser Research Development Establishment (LRDE) and produced by M/s Bharat Electronics Limited.

Central Acquisition Radar

5.14 **Dedication of Air Force Net (AFNET) to the Nation:** The growing demand for launching the 3G Mobile telephone services in the country and a need to surrender the frequency spectrum in the frequency band range of 1.7 to 2 Ghz by the IAF, necessitated the provision of Project AFNET. This reliable communication would provide high speed,

Raksha Mantri and Chief of Air Staff (CAS) at inauguration ceremony for dedication of Air Force Net to the Nation

real time, secure communication between all IAF units providing converged voice, Data, and video solutions on the IP/MPLS technology.

AEROSPACE SAFETY

5.15 IAF is conscious of the need of maintaining high aerospace safety standards. Constant efforts are made at various levels to achieve this goal. A slew of measures like defect investigations and meticulous follow-up of the recommendations of the defect investigation agencies are being taken, in order to prevent recurrence of serious defects. Up gradation of skills of air warriors through a well planned and sustained effort are also in place towards achieving this goal.

INTERNATIONAL TRAINING/ EXERCISES

5.16 The international exercises with friendly countries conducted during the year 2010-11 are given Table 5.1

OPERATIONAL INFRASTRUCTURE

5.17 For optimum utilization of all weapon systems on its inventory, IAF needs modern infrastructure. IAF is going in for a massive upgradation of its airfields and helipad infrastructure across the country. A new air base at Phalaudi in Rajasthan was inaugurated by the Chief of Air Staff (CAS) on April 6, 2010.

Table 5.1

Event	Venue	Duration	Participants/ Level of Participation
Exercise Garuda-IV	Istres, France	June 4-25, 2010	IAF, FAF and RSAF.
UE Exercise	Hawaii, USA	June 21-25, 2010	IAF and USAF. A Table Top Exercise. Ten IAF Officers participated in the Ex.
EX Indradhanush-III	AF Station Kalaikunda, India	October 20 to November 3, 2010	IAF and RAF RAF participated with 6xTyphoon, 1xVC-10 FRA and 1xE3D AWACS.
Joint Military Training (JMT-10)	AF Station Kalaikunda, India	November 29 to December 17, 2010	Vide Bilateral Agreement signed between two countries. RSAF participated with 5xF-16, PSTAR radar and RBS-70 FU. IAF participated with Mig-27 aircraft

6

COAST GUARD

Indian Coast Guard ships in exercise

The Indian Coast Guard has a force level of 46 ships, 45 Aircraft, 26 boats / hovercraft and 25 non-commissioned boats/ craft in its fleet

6.1 The Indian Coast Guard was commissioned as an independent service on August 19, 1978 under the Coast Guard Act, 1978. Since its inception, the Coast Guard has acquired a wide range of capabilities both surface and airborne to undertake the assigned tasks during peace time and to supplement the efforts of Indian Navy during war.

6.2 **Organisation:** The command and control of the Coast Guard lies with the Director General of Indian Coast Guard, at New Delhi. The Organisation has four Regional headquarters located at Mumbai, Chennai, Gandhinagar and Port Blair. These Regional Headquarters exercise command and control in the waters adjoining the entire coastline of India through twelve Coast Guard District Headquarters located along the coastal states of India. In addition, there are co-located and independent stations at strategic locations. Two Air stations, one Air enclave and five independent squadrons have been set up for deployment of aircraft for Search & Rescue and maritime surveillance.

6.3 **Duties and Functions:** The duties of Coast Guard are as follows:-

(a) Ensuring the safety and protection of artificial islands, offshore terminals, installations and other structures and devices in Maritime Zones.

(b) Providing protection to fishermen including assistance to them at sea while in distress.

(c) Taking such measures as are necessary to preserve and protect the maritime environment and to prevent and control marine pollution.

(d) Assisting the customs and other authorities in anti-smuggling operations.

(e) Enforcing the provisions of such enactments as are for the time being in force in the maritime zones.

(f) Such other matters, including measures for the safety of life and property at sea and collection of scientific data, as may be prescribed.

6.4 **Existing Force Level:** The Indian Coast Guard has a force level of 46 ships, 45 Aircraft,

26 boats/hovercraft and 25 non-commissioned boats/ craft to carry out regular surveillance of the Maritime Zones of India. The first Pollution Control Vessel 'Samudra Prahari' and two Offshore Patrol Vessels 'Vishwast' and 'Vijit' were commissioned in 2010. In addition, four Interceptor Boats, two Interceptor Crafts also joined the fleet of Indian Coast Guard in 2010. 160 Surface platforms of varying sizes and capabilities are under construction. 18 Aircraft (16 Dornier and 2 Chetak Helicopters) are also under production. Acquisition of 36 Aircraft (6 Multi Mission Maritime Aircraft and 30 Helicopters) are at various stages of procurement process.

COASTAL SECURITY

6.5 Post 26/11, Indian Coast Guard has been additionally designated as the authority responsible for Coastal security in territorial waters including waters to be patrolled by Coastal Police. The Director General, Indian Coast Guard has also been designated as Commander, Coastal Command and will be responsible for overall coordination between Central and State agencies in all matters relating to Coastal security.

6.6 Coast Guard, in coordination with Navy, has increased patrolling and surveillance of the entire coastline. The coastal security exercises conducted during the year for ensuring effectiveness of the coordinated patrolling are given in Table 6.1.

6.7 The deployment of Coast Guard Ships and aircraft has been increased for Coastal Security in addition to the normal EEZ patrolling. In addition to coastal security exercises, several coastal security operations have been conducted by Coast Guard in coordination with Navy, which are given in Table 6.2.

SIGNIFICANT MILESTONES AND ACHIEVEMENTS

6.8 **Commissioning of Pollution Control Vessel:** The First Pollution Control Vessel (PCV) ICGS 'Samudra Prahari' was commissioned on October 9, 2010.

6.9 **Commissioning of Offshore Patrol Vessels:** Two state-of-the-art Offshore Patrol

Commissioning of ICGS Vishwast by Raksha Mantri

Table 6.1.

Code Name	Period	Place
SAGAR KAVACH	January 20-21, 2010	Maharashtra Coast
RAKSHA 01/2010	January 24- 27, 2010	Gujarat, Maharashtra, Goa & Karnataka Coast
RAKSHAK	January 28- 29, 2010	West Bengal Coast
NEPTUNE	January 29- 31, 2010	Lakshadweep Coast
RAKSHAK 01/10	February 3-4, 2010	Orissa Coast
SAGAR KAVACH(GUJ)	April 15-16, 2010	Gujarat Coast
TRITON	April 19-21, 2010	Kerala & Lakshadweep Coast
TAT SURAKSHA	April 20-23, 2010	A&N Coast
SAGAR KAVACH(KT)	April 21-22, 2010	Karnataka Coast
RAKSHAK (AP)	April 28-30, 2010	Andhra Pradesh Coast
SAGAR KAVACH (GOA)	May 5-6, 2010	Goa Coast
SAGAR KAVACH (MAHARASHTRA)	May 12-13, 2010	Maharashtra Coast
HAMLA (TN & P)	August 4-5, 2010	Tamil Nadu & Puducherry Coast
HAMLA (WEST BENGAL)	August 25-26, 2010	West Bengal Coast
NEPTUNE II (L&M ISLANDS)	September 14-16, 2010	Lakshadweep Coast
HAMLA (ORISSA)	October 5-6, 2010	Orissa Coast
SAGAR KAVACH (MAHARASHTRA)	October 19-20, 2010	Maharashtra Coast
HAMLA (AP)	October 21-23, 2010	Andhra Pradesh Coast
SAGAR KAVACH (GOA)	October 28-29, 2010	Goa Coast
SAGAR KAVACH (KARNATAKA)	October 28-29, 2010	Karnataka Coast
SAGAR KAVACH (GJ /DD-02/10	November 22-23, 2010	Gujarat, Daman & Diu Coast
TRITON-3	November 24-26, 2010	Kerala Coast
DWEEP YUDH (PB)	November 29- December 2, 2010	Andaman & Nicobar Coast

Table 6.2

Code Name	Period	Place
HOSHIAR	January 20-27, 2010	Southern Tamil Nadu Coast
SATARK (TANGO)	February 25-28, 2010	Puducherry and Northern part of Tamil Nadu Coast
PINJRA	March 29-31, 2010	Gujarat and Maharashtra Coast.
SATRAK 'A'	April 8-9, 2010	Andhra Pradesh Coast
SATRAK 06/10	May 7, 2010	Off Chennai
TALASH	July 23, 2010	Off Chennai
RAINBOW (SATARK 01/10)	August 13-16, 2010	Gujarat Coast
RAKSHA 02/10	August 14-16, 2010	Off Chennai and Puducherry
SURAKSHA	August 13-15, 2010	Entire East Coast of India
RAKSHA-04/10 (GUJ/MAH)	November 25-27, 2010	Gujarat & Maharashtra Coast
SURAKSHA	November 25-26 , 2010	Entire East Coast of India
OP ISLAND WATCH	December 13, 2010- January 13, 2011	Lakshadweep Coast
RAKSHA - 05/10	December 24-26, 2010	Gujarat & Maharashtra Coast

Vessels (OPVs) ICGS 'Vishwast' and ICGS 'Vijit' were commissioned on March 17 and December 11, 2010 respectively

Commissioning of ICGS Vijit by Raksha Rajya Mantri

6.10 **Commissioning of Interceptor Boats:** Four Interceptor Boats, namely C-146, C-147, C-148 and C-149 have been commissioned on January 28, May 28, October 1 and November 30, 2010 respectively.

Commissioning of ICGS C-147 by Defence Secretary

6.11 **Establishing of District Headquarters-12:** Coast Guard District Headquarters No. 12 (Lakshadweep & Minicoy) was inaugurated at Kavaratti on December 24, 2010 by Raksha Mantri.

6.12 **Commissioning of Coast Guard Stations:** Indian Coast Guard Stations at Hutbay, Murud Janjira, Veraval and Minicoy were commissioned on January 28, September 30, October 2 and December 24, 2010 respectively.

6.13 **Activation of Coast Guard Station Ratnagiri:** Indian Coast Guard Station at Ratnagiri was activated on December 25, 2010.

6.14 **Launching of Inshore Patrol Vessels (IPVs):** ICGS Rani Durgavati and ICGS Rani Gaidinliu were launched on May 15 and November 6, 2010 respectively. The vessels are being constructed by M/s HSL, Vizag.

Launching of ICGS Rani Gaidinliu (HSL Yard No. 11157)

INTERNATIONAL COOPERATION

6.15 **Cooperation with Maldives:** One Advanced Light Helicopter Dhruv was transferred by the Indian Coast Guard to Maldives National Defence Force on April 21, 2010. ICGS Samar was deployed from April 18-26,2010 for handing over the Advanced Light Helicopter to Maldives. Major General Moosa Ali Jaleel, Chief of Maldives National Defence

Force visited Coast Guard Headquarters on October 22, 2010. The interaction witnessed candid discussions on maritime issues and cooperation between the two Coast Guards.

6.16 **Cooperation between Indian Coast Guard and Japan Coast Guard:** A Japanese delegation led by Admiral Hasayasu Suzuki, Commandant, Japan Coast Guard comprising of seven members visited India from January 10-14, 2010 for the 9th high level meeting between Japan Coast Guard and the Indian Coast Guard. A high level delegation led by Director General Indian Coast Guard visited Tokyo, Japan from November 29 to December 2, 2010 for the Xth ICG-JCG High Level Meeting and combined exercise.

6.17 **Cooperation with Korea:** A six member Korean delegation led by Mr Yoon Huk Soo, Deputy Commissioner General, Korea Coast Guard (KCG) visited India from August 9-15, 2010 and the 5th ICG-KCG High Level Meeting was held on August 10, 2010 at New Delhi

6.18 **Cooperation between ICG and USCG:** United States Coast Guard (USCG) International Port Security (IPS) Programme representatives, LCDR Paul Turner and LCDR Rosario Russo visited India from March 13-17, 2010. A meeting was organised at Coast Guard Headquarters on March 15, 2010 for interaction between the USCG Officials and representatives of various Ministries/ Departments including Director General (Shipping) and Bureau of Immigration.

6.19 **Cooperation with Seychelles:** Brigadier Leopold Payet, Chief of Defence Force (CDF), Seychelles visited Coast Guard Headquarters on April 13, 2010. During his visit, the issues relating to the regular visits of ICG ships to Seychelles and training programme to be undertaken by the ICG for the SCG personnel were discussed.

6.20 **Cooperation with Oman:** Omani traditionally constructed sailing vessel 'Jewel of Muscat', under a historic voyage from Muscat to Singapore, made the first port call at Kochi, on March 14, 2010. In addition to providing the SAR cover in the Indian Search and Rescue Region, the vessel was escorted by ICG ship.

Japanese delegation with ICG Officers

Joint Exercise with Korean Coast Guard

The vessel departed from Kochi on April 10, 2010.

6.21 **Cooperation with Sri Lanka:** A four member Coast Guard delegation visited Sri Lanka from November 9-15, 2010 for interaction with Sri Lankan Coast Guard and development of blue print for its future development.

6.22 **Cooperation with Argentina:** A delegation led by Director General Coast Guard participated in the International Heads of Coast Guard Services forum at bicentennial anniversary celebrations of Prefectura Naval Argentina held at Buenos Aires, Argentina from June 28 to July 2, 2010.

6.23 **Regional Cooperation Agreement on Combating Piracy and Armed Robbery Against Ships in Asia (ReCAAP):** The Regional Cooperation Agreement on Combating Piracy and Armed Robbery Against Ships in Asia (ReCAAP) Information Sharing Centre (ISC) is established at Singapore w.e.f. December 9, 2006 and is responsible to carry out information exchange between Focal Points of fourteen countries and ReCAAP. The 4th Annual Meeting of ReCAAP ISC Governing Council was held at Singapore from March 9 - 11, 2010 which was attended by the Deputy Director General (Operations & Coastal Security).

6.24 **National SAR Board Meeting:** The 9th National Search and Rescue Board meeting was held on June 17, 2010 at New Delhi. MV Annemieka was presented with 'SAR Award' for merchant ship and ESSAR SAR Award was awarded to Paradeep Port Trust and SAR Award for Fishermen was awarded jointly to FB Dharmashasta and FB Mahalaxmiwara-II.

6.25 **Operations:** Indian Coast Guard ships and aircraft are always ready for providing assistance to the crew/ vessels when in distress at sea and assist the customs and other authorities in anti-smuggling operations. The vast sea area of 2.01 million sq. kms in our Exclusive Economic Zone is regularly kept under vigil to keep the poachers at bay.

6.26 **Pollution Response:** In the Year 2010, five major Oil Pollution incidents including the collision of MV Chitra and Khalija-III off Mumbai occurred at sea. ICG ships and aircraft conducted coordinated pollution response operations. A dedicated Pollution Response Vessel "Samundra Prahari" has been commissioned in 2010 to strengthen the oil spill capability of the Coast Guard.

6.27 **Search and Rescue:** The sea area of 3.7 million Sq Kilometres is demarcated as Indian Search and Rescue Region and it is the sole responsibility of the Indian Coast Guard to provide the Search and Rescue service at sea. Indian

Coast Guard Ships and Aircraft undertake various Search and Rescue Operations and during the year saved 253 lives at sea.

Coast Guard provides assistance to the Indian fishermen at sea while is distress .

6.28 The details of major operations of ICG are shown in table 6.3.

Table 6.3

Sl.No.	Subject	Since Inception	From January 1 – December 15, 2010
(a).	Contraband Seized	504.16 Crs	--
(b)	Poaching Trawler apprehension	1251 Boats 11199 Crew	99 Boats 649 Crew
(c)	Smuggling vessels apprehension	120 Boats 731 Crew	-- --
(d)	Search and Rescue (SAR) Mission	1594	353
(e)	Search and Rescue (SAR) Sorties	2736	252
(f)	Lives saved	5034	253
(g)	Oil Spill Incident responded	76	09
(h)	Oil Spill Incident out of country	01	-

7

DEFENCE PRODUCTION

Launching of Missile Destroyer Chennai

Over the years, the Department of Defence Production has established wide ranging production facilities for various defence equipment through the Ordnance Factories and Defence PSUs

7.1 The Department of Defence Production was set up in November 1962 with the objective of developing a comprehensive production infrastructure for the defence of the nation. Over the years, the Department has established wide ranging production facilities for various defence equipment through the Ordnance Factories and Defence PSUs. The products manufactured include arms and ammunition, tanks, armoured vehicles, heavy vehicles, fighter aircraft and helicopters, warships, submarines, missiles, ammunition, electronic equipment, earth moving equipment, special alloys and special purpose steels.

7.2 The following are the main organizations under the Department of Defence Production:

- Ordnance Factory Board (OFB)
- Hindustan Aeronautics Limited (HAL)
- Bharat Electronics Limited (BEL)
- Garden Reach Shipbuilders & Engineers Limited (GRSE)
- Goa Shipyard Limited (GSL)
- Hindustan Shipyard Limited (HSL)
- Mazagon Dock Limited (MDL)
- BEML Limited (BEML)
- Bharat Dynamics Limited (BDL)
- Mishra Dhatu Nigam Limited (MIDHANI)
- Directorate General of Quality Assurance (DGQA)
- Directorate General of Aeronautical Quality Assurance (DGAQA)
- Directorate of Standardisation (DOS)
- Directorate of Planning & Coordination (Dte. of P&C)
- Defence Exhibition Organisation (DEO)

7.3 Of the above, Hindustan Shipyard Limited was transferred from the Ministry of Shipping to the Ministry of Defence during 2009-10 for strengthening the naval defence capabilities for manufacture of warships and submarines.

7.4 With the objective of achieving self-reliance in defence production, the Ordnance Factories and Defence PSUs have been continuously modernizing and upgrading their capabilities and widening their product range. They have also developed a large number of major products on their own, apart from developing the capabilities in various fields through transfer of technology.

7.5 The production and turnover of Ordnance Factories and Defence PSUs have been increasing steadily, in response to the increasing requirements of armed forces as well as the nation's security and strategic concerns. Details of turnover for the last three years are given below:

YEAR	TOTAL SALES ORDNANCE FACTORIES	TOTAL SALES PUBLIC SECTOR UNDERTAKINGS	GRAND TOTAL (Rs. in Cr.)
2007-08	6937.81	16740.25	23678.06
2008-09	7229.31	20403.64	27632.95
2009-10	8715.26	25899.64	34614.90
2010-11	11208.00 (BE)	27407.00	38615.00

7.6 For achieving self-reliance in defence production, it is also essential to develop a wide production base in the private sector, apart from developing the public sector industries. Defence PSUs and Ordnance Factories have, as a policy, been outsourcing many of their requirements and have, over the years, developed a wide vendor base which includes a large number of medium and small scale enterprises, apart from large scale industries.

7.7 In May 2001, the Government of India had decided to allow private sector participation in defence industry which was till then reserved for the public sector. Under the guidelines issued by the Department of Industrial Policy and Promotion (DIPP), 100% investment by private sector is allowed in the sector and foreign direct investment upto 26% is allowed, subject to licensing.

7.8 Applications for licensing are considered by a Standing Committee in the Department of Defence Production and appropriate recommendations are given to the DIPP. DIPP has so far issued 155 Letters of Intent (LOI) to different Indian companies for setting up defence industrial units. A number of joint ventures have also been formed between Indian and foreign companies.

7.9 In 2006, the Ministry of Defence had made a major change in the Defence Procurement Procedure, under which offsets have been provided for in respect of all contracts of Rs. 300 Cr.s or more. Specified goods or services worth 30% of the value of such contracts, have to be procured by supplies from Indian industry. Since a large number of major procurements are on the anvil in connection with the modernization of the armed forces, the Indian defence industry will have several opportunities for participation in offset contracts.

7.10 The Government has recently brought out a Defence Production Policy with the following objectives:-

(i) To achieve substantive self reliance in the design, development and production of equipment/ weapon systems/ platforms required for defence in as early a time frame as possible;

(ii) To create conditions conducive for the private industry to take an active role in this endeavour; and

(iii) To enhance the potential of SMEs in indigenization and to broaden the defence R&D base of the country.

7.11 To achieve the above objectives, it has been decided that preference will be given to indigenous design, development and manufacture. For building a robust defence industrial base, it has been decided to encourage larger involvement of the Indian private sector industry in the design and development of defence equipment. In order to synergize and enhance the national capabilities in producing state-of-the-art Defence equipment; formation of consortia, joint ventures and public private partnerships etc. will be encouraged. The Academia, Research and Development Institutions as well as Technical and Scientific Organizations will also be involved in the process.

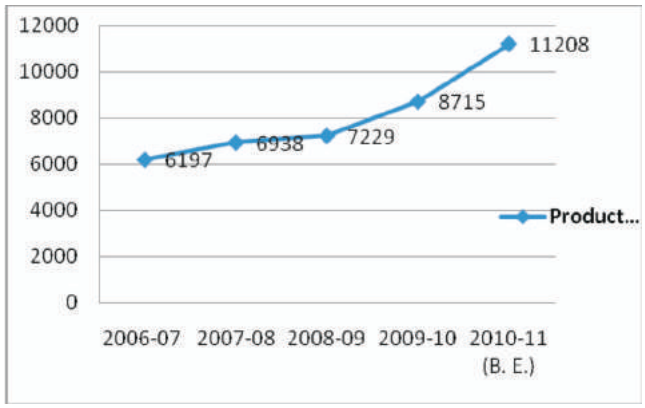
ORDNANCE FACTORY BOARD (OFB)

7.12 Indian Ordnance Factories Organisation is more than 200 years old, with the first factory at Cossipore having been established in 1801. The organization has 39 Ordnance Factories with two more being set up at Nalanda and Korwa. The organization has over the years progressed from labour intensive manual operations to **Highly Automated Computer Based manufacturing systems** and the emphasis has shifted from production of basic and intermediate inputs to production of finished stores and the organization has emerged as the system integrator.

7.13 **Organisation:** The Ordnance Factory Board (OFB) comprises of the Director General and Chairman and 9 Members in the rank of Addl. DGOF. Ordnance Factories are divided into 5 operating groups (i) Ammunition and Explosive, (ii) Weapons, Vehicles and Equipments, (iii) Materials and Components, (iv) Armoured Vehicles and (v) Clothing and equipments, each headed by Additional DGOF. The other members are responsible for staff functions, viz Personnel, Finance, Planning & Material Management, Projects & Engineering and Technical Services.

The Ordnance Factory Board has 39 Ordnance Factories with two more being set up at Nalanda and Korwa.

7.14 **Production Achievement & Growth:** In response to the increasing needs of the armed forces and new security challenges, several new initiatives have been taken up by OFB for enhancing productive capacity and improving overall performance. The growth in performance is indicated below:



7.15 **Highlights of 2010-11:** The growth has been possible largely due to synergized effort of DDP, OFB and Army Headquarters leading to better planning of resources. Emphasis has been placed on **indigenization, modernization, quality improvement and R&D.** New initiatives have been taken

for modernization by inducting the state-of-the-art technology and new products. During the last couple of years, indigenous production of T-90 tanks has started. Production of BMP-II has resumed after a gap of 7 years. Regular production of MBT Arjun, Tank T-90, BMP-II and armoured ambulance, Pinaka rockets, mine protected vehicle for Army and 105 mm LFG has commenced. There has been a 30% increase in production of various types of ammunition during the current year.

- Metal & Steel Factory, Ishapore in collaboration with Bengal Engg. & Science University (BESU) has obtained a patent for its development of Micro-alloyed Ultra High Strength Steel.
- OF Ambajhari has developed the capability for making strategic aluminium alloys and is qualified for supply of extrusions for aircraft applications.
- The National Academy of Defence Production has been awarded the "Golden Peacock National Training Award".

7.16 **Modernisation and Capacity Augmentation:** OFB has prepared a comprehensive plan for modernizing its facilities with state-of-the-art technology during the next five years with an investment of Rs. 15,000 Cr.. Modernization will also include an online quality management system, substantial improvement in productivity and appointmrnt of about 8000 skilled manpower.

7.17 There has been substantial increase in the requirement of Armoured vehicles, other equipment and their spares from armed forces. In order to meet these requirements, OFB has initiated augmentation projects. Augmentation projects worth approximately Rs. 1000 Cr. in respect of Mine Protected Vehicles, Armoured Vehicle Engines, T-72 tank variants, spares for T-72 overhaul are being executed. In addition, augmentation projects for Pinaka rocket, High Calibre weapon systems, T-90 tanks, BMP-II ICVs and MBT Arjun tank worth approximately Rs. 6000 cr. are in the pipeline. DDP has empowered OFB with enhanced financial powers for speedy execution of these projects.

7.18 **R&D and New Products Development:** OFB has substantially enhanced its R&D efforts by setting up 12 Development Centers with state-of-the-art CAD/CAM facilities. Some important products developed through R&D are: Commanders' Thermal Imaging Night Sight for T-72, indigenous barrel for T-90 and Rocket RGB-60 (Practice version) for Indian Navy, Mine Protected Vehicle (MHA Version), Mine Protected Vehicle (Army Version), Water Bowser (2 KL), 105 mm ERFB with Base Bleed, Chaff Launcher Kavach MOD –I & II for Indian Navy, 100-120 Kg Aerial Bomb, A-7 Ammunition for AK-47, CRN-91 with Optronic sight for Indian Navy, Driver Night Sight for BMP-II, Bullet Proofing of vehicles and Multi Barrel Rocket System (PINAKA) in partnership with DRDO. Some of the import substitution projects which are in advanced stage of development include Ammunition for 40mm UBGL and MGL, Practice version

of AMR ammunition, Anti-submarine Rocket RGB-60 and RGB-12 for Indian Navy and RL-140 Rocket for Navy (single mode).

7.19 **Quality and Environment Management:** OFB has institutionalized Total Quality Management (TQM) by switching over to Quality Management System conforming to ISO-9001:2000 for 39 factories; accreditation of its 58 Laboratories with National Accreditation Board for Laboratories (NABL); 3 tier Quality Audit system and Adoption of 5-S, SQC, SPC, TPM, TQM and KAIZEN. This has resulted in downward trends in the customer complaints and increase in the customer satisfaction.

7.20 Ten Factories have ISO 14001: 2004. OF AJ has switched over to Solar heating system for process heating of EDS anodizing and black die tanks.

7.21 OFB has taken up energy conservation based on the energy audit by internal resources every year and external accredited Energy Auditors every fifth year. Installation of energy meters in every section of the Factory has helped better monitoring of energy utilization. OFs have taken steps to improve power distribution within the Factory and estate, to reduce transmission losses and improve power Factor.

7.22 **New initiatives to improve Transparency:** OFB has taken initiative to improve transparency. More financial powers have been delegated and new material procurement manual and e-procurement are likely to be implemented shortly. E-Admin for E-payment of salary/wages , providing direct access to the Personnel database by employees – kiosks and computerized registration of complaints/ grievances are also being implemented.

7.23 With a view to motivate employees, all efforts are being made to ensure timely career progression at all levels/ categories of employees. Reward and recognition schemes like "Man of the Month" have been launched. Steps have been taken to improve working environment in units and also to provide better quality of life to the employees and their families in the estates/ residential areas.

7.24 **Financial Data:** The financial data as on November 30, 2010 is given in Table 7.1.

84mm RL MK-III (GSF)

NBC Recce Vehicle

Table 7.1

(Rs. in Crs)

Sl. No	Item	2009-10	2010-11	
			Target (RE) (Prov)	As on 30-11-10 (Prov)
1	Value of Production including IFD	11,817.89	14,884.27	8,397.10
2	Value of Sales (including Export) excluding IFD	8,715.26	11,235.79	6,097.59
3	Exports	11.46	41.50	23.88
4	Surplus	477.91	412.84	234.39

T-90 S

DEFENCE PUBLIC SECTOR UNDERTAKINGS (DPSUs)

Hindustan Aeronautics Limited

7.25 The Hindustan Aeronautics Limited (HAL) is a Navratna company and the largest DPSU under the Department of Defence Production, Ministry of Defence. It is ranked 38th among global defence companies with a turnover of around Rs. 12600 Cr..

7.26 It has positioned itself as a comprehensive solution provider to the Indian Defence Services in aviation, spanning fighter aircraft, trainer aircraft and light helicopters. Around 90% of the Sales of HAL is to the Indian Defence Services.

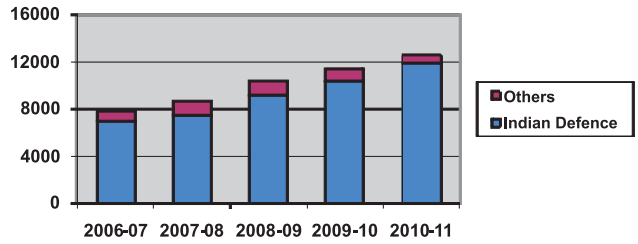
7.27 HAL has 19 Production Divisions and 10 R&D Centres located in Bangalore, Nasik, Hyderabad, Lucknow, Kanpur, Korwa, Koraput and Barrackpore. Modern design and production infrastructure for aircraft, helicopters, their engines, accessories (hydraulic, pneumatic, fuel and instruments) and avionic systems (radars, navigation system, communication systems etc) have been established in dedicated units.

7.28 The Company is producing the following types of aircraft for the Air Force, Army, Navy and civilian requirements:

- SU-30MKI multirole fighter
- Hawk – Advanced Jet Trainer
- Light Combat Aircraft (LCA)
- Intermediate Jet Trainer(IJT)

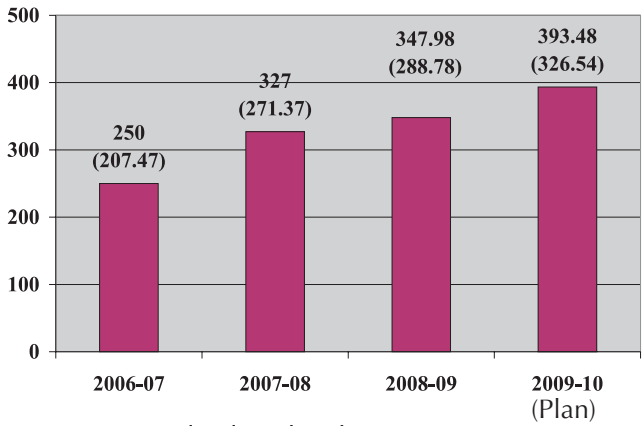
- Dornier 228 – Light Transport Aircraft
- Dhruv (Advanced Light Helicopter)
- Cheetal/Chetak helicopters

7.29 The sales of the company have been steadily increasing. The sales of Rs. 7784 Cr.s in the year 2006-07 rose to Rs. 11457 Cr.s in the year 2009-10. During 2010-11 sales are expected to touch Rs.12600 Cr.



Sales during last 5 years (Rs. Cr)

7.30 HAL paid a dividend of Rs. 460.35 Cr (including tax) for the year 2009-10 at a dividend/ equity ratio of 382 %.



Dividend paid to the Government

7.31 HAL has a strong Design and Development Wing. The design and development wings are grouped together in ten R&D centres – the major being the Aircraft R&D Centre and Rotary Wing R&D centre at Bangalore for design and development of fixed wing and Helicopters respectively. Other R&D centres are Strategic Electronic R&D centre, Aerospace System and Equipment R&D centre; Aircraft Upgrade R&D centre, Engine & Test Bed R&D centre, Mission and Combat System R&D centre and Gas Turbine R&D centre. Apart from this, the rotary wing has a separate design and development centre.

7.32 HAL has a rich history of designing aircraft. The first trainer aircraft HT-32 was developed in 1952 followed by Kiran Mk I & II developed in 1968 and 1976 respectively and the basic trainer HPT-32 in 1977. HPT-32 and Kiran have met the basic and intermediate training needs of the Indian Air Force for more than 30 years.

7.33 The first indigenous fighter aircraft, the Marut HF-24 was developed in 1960's and was rated by all experts as a good fighter. In addition, HAL has also indigenously developed Dhruv (ALH) helicopter in early 1990's.

7.34 New major products currently under design and development at HAL are the Light Utility Helicopter (LUH) and the Light Combat Helicopter (LCH).

Mock-up of Light Utility Helicopter (LUH)

7.35 Light Combat Helicopter (LCH), designed and developed by HAL made its Maiden flight on March 29, 2010. This is the first craft, in the attack helicopter category, to be designed and developed in India indigenously. LCH will be suitable for close air support and attack roles with Air to Air/ Air to Ground Missiles, rockets, turret gun, Electronic warfare suite and NBC sensors.

Light Combat Helicopter

7.36 The initial operation clearance of the Light Combat Aircraft (LCA), Tejas was achieved in January, 2011 and the series production of LCA is in progress.

Light Combat Aircraft- Tejas

7.37 The new military variant of ALH (Mk. III) with Shakti engine, systems like electronic warfare sensors, counter measure systems was developed for the IAF and Army. The twin Shakti engines give the armed ALH the required power to operate at 6 km altitude. Initial Weapon trials for the armed variant (ALH Mk.IV) have commenced and will be completed by end 2010-11. These are planned to be delivered to the Armed Forces from 2011-12 onwards.

7.38 Intermediate Jet Trainer (IJT) successfully completed its flight trials with the new AL-55i engine. Production of Limited Series aircraft (LSP) has commenced and the first LSP aircraft has been flight tested.

7.39 The Naval prototype of LCA was rolled out in the presence of Raksha Mantri and Chief of the Naval Staff on July 6, 2010. HAL has played a vital role in the design of Light Combat Aircraft (LCA).

7.40 During the year progress was made in operationalising two new design and development programmes. A joint venture company of HAL and UAC-TA of Russia was registered on December 1, 2010 to design, develop, manufacture and market a multi-role transport aircraft.

7.41 The preliminary design contract between HAL and Russian companies was signed for the design, development and production of a fifth generation fighter aircraft.

7.42 HAL has a work force of 33560 employees and the company is growing. It has, from 2009 onwards, started recruitment

of engineer trainees in substantial numbers from reputed engineering institutes campuses to meet the manpower needs for new design and development projects. It plans to appoint 1500 engineers during the next two years.

HAL has achieved exports of Rs. 204.67 Cr.s for the financial year 2009-2010. The value of export orders booked during the year up to November 2010 stands at Rs. 219 Cr..

7.43 HAL has achieved exports of Rs. 204.67 Cr.s for the financial year 2009-2010. The value of export orders booked during the year up to November 2010 stands at Rs. 219 Cr..

7.44 A dedicated Aerospace Division has been working for the launch vehicle structures for Indian space programs. Structures, tankages and heat shields for the GSLV, PSLV, INSAT are manufactured in this plant located in Bangalore. Special high-tech facilities have been established to take up production of thin walled huge aluminium alloy structures (upto 4.5 m dia) at this facility.

7.45 HAL received Raksha Mantri's Award for Excellence for the year 2008-09 under the "Institutional" category for Exports and the performance Excellence Award – 2009 from Indian Institute of Industrial Engineering.

7.46 The Divisions of HAL have implemented requirements of ISO 9001 – 2000 QMS standard and obtained certification.

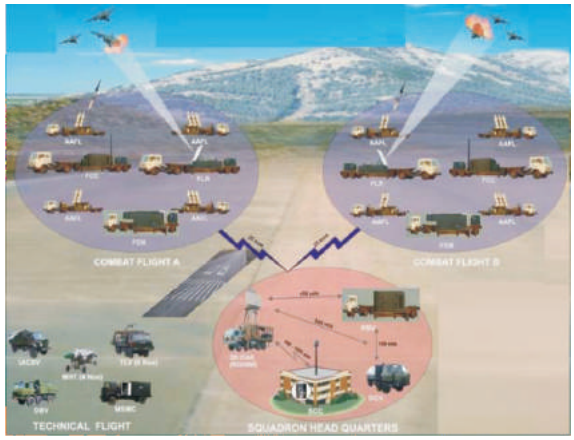
7.47 Seven HAL Divisions have also implemented the Aerospace Sector Quality Management System requirements stated in AS 9100 standard and obtained certification. Four of these Divisions have also obtained NADCAP certification (National Aerospace Defence Contractors Accreditation Programme – USA) for special processes such as NDT, heat treatment, welding etc.

Bharat Electronics Limited (BEL)

7.48 Bharat Electronics Limited (BEL), a Navaratna PSU, was established at Bangalore in the year 1954. BEL ranks 62nd among top 100 companies worldwide in defence revenues, as published by Defence news, USA. BEL has nine operating units spread all over the country.

7.49 The company has core competencies in areas of Radars, Weapon systems, Sonars, Communication, Electronic Warfare Systems, Network Centric Systems, Electro Optics, Tank Electronics and Homeland Security systems. About 80% turnover of the company comes from these business segments. Apart from these areas, BEL manufactures specialised products like Electronic Voting Machine and large variety of Components like electron tubes, semiconductor devices, solar cells etc.

7.50 BEL is the lead integrator for Akash Missiles, an indigenous complex tactical weapon system for Indian Air Force. It has taken initiative to implement the Coastal Surveillance System, a project of enormous strategic importance, during the year.



Akash Missile

Coastal Defence System

7.51 Its other major supplies during the year are radars (Surveillance Radar, Central Acquisition Radar, Battle Field Surveillance Radar), Communication equipment (HF & VHF trans receivers, Combat Net Radio, Semi Ruggedised Automatic Exchanges), Electronic Warfare Products (Airborne Electronic Support Measure System, Jammer, Digital Flight Control Computer), Sonar and Civilian Products (Homeland Security, Smart card).

7.52 BEL is a technology driven company. All its units have their own Research & Development Groups, which are supported by three central laboratories for developing cutting edge technologies. Expenditure on R&D has grown at a CAGR of 25% against a growth in turnover at a CAGR of 10% in last three years in the competitive electronic sector. In 2009-10, it spent Rs. 316 Cr.s (6% of turnover) against Rs. 243 Cr.s (53% of turnover) in earlier year. Thrust on R&D has resulted in introduction of a number of new products, inter alia, Combat Management System, Coastal Surveillance Software, Gap Measuring Device, Laser Target Designator, Anti Tank aided Missile Simulator and HF and VHF transreceivers. Because of its efforts, it won Raksha Mantri's Award for import substitution, design efforts, innovation and Best Performing Division among DPSUs (2007-08). It also won Indian Semiconductor Association Technovation Award for the Best Electronic Product of the year 2010 for the Pre-shower 32 Channel Silicon Strip Detector supplied to CERN, Geneva, for the Big Bang Experiment.

7.53 BEL's professional approach is symbolised by excellence in integration of strategic, managerial and operational processes in its 17 Strategic Business Units. BEL's constant thrust on modernisation is an important outcome. It has also resulted in the company getting excellence awards at various fora including CII-EXIM Bank awards.

7.54 In the area of Quality Assurance, BEL has adopted the Total Quality Management initiated under the acronym TORQUE (Total Organisational Quality Enhancement). All the Divisions/SBUs/Units of the company are certified for ISO 9001:2000 (Quality

Management Systems) & ISO 14001:204 (Environmental Management Systems). Recently the company has also embarked upon the process of obtaining certification for AS 9100 (Aerospace Standard) for the Divisions/SBUs/Units, which are in the business of manufacturing systems for aerospace industry. Two SBUs/Units have received the certification in 2009-10 and overall seven SBUs/Units have been certified for AS9100.

During 2009-10, BEL registered a growth of 13% and reached an all time high turnover of Rs. 5220 Cr.s making a profit of Rs. 72 Cr. after tax and paying a dividend of Rs.179 Cr..

7.55 BEL's turnover for last 3 years has shown upward trend. During 2009-10, the company registered a growth of 13%. The Company reached an all time high turnover of Rs. 5220 Cr.s. The Company made a profit of Rs. 72 Cr. after tax and paid a dividend of Rs.179 Cr. in 2009-10.

7.56 BEL's export figures grew by 33 per cent from US $ 17.77 million in 2008-09 to US $ 23.65 million in 2009-10. BEL has exploited emerging offset opportunities to export Composite Communication System (CCS) for Fleet Tanker, Airborne equipment such as Data Link II and to get orders for IFF etc. BEL is all set to increase its export by 74 percent to $ 40 million.

7.57 BEL is in the process of providing sensitive and responsive Tactical Communication System and Battlefield Management System to the Defence Forces in coming years to provide an edge to our forces over potential adversaries.

Garden Reach Shipbuilders and Engineers Ltd. (GRSE)

7.58 Garden Reach Shipbuilders & Engineers Ltd. (GRSE), a Mini Ratna Category I Public Sector Company since September 5, 2006, has kept pace with India's expanding maritime interests and is recognised as a leading Shipbuilding Yard and manufacturer of high-value, high-technology, complex engineering items. Over the years GRSE has gained expertise in construction of Warships for the Indian Navy, Ships and Hovercrafts. Apart from shipbuilding and ship repair, GRSE is one of the very few versatile shipyards having its own Engineering and Engine Division.

7.59 The 5th & 6th ships of the Fast Attack Crafts (FACs) were commissioned as INS Cancarso and INS Kondul on June 29, 2010 at Visakhapatnam; and the 7th vessel of the Waterjet FAC series INS Kalpeni was commissioned on October 14, 2010 at Kochi. Ministry of Home Affairs placed order on GRSE for 88 Fast Interceptor Boats for use by coastal states towards coastal security. 83 boats have already been delivered and the remaining 5 will also be delivered by March 2011. GRSE also achieved a major milestone when the first ship of the P-28 Class Anti Submarine Warfare Corvette was launched on April 19, 2010. As a result of these sustained efforts, for the first time in the history of GRSE, the yard will be

achieving a Value of Production of more than Rs. 1000 Cr in the FY 2010-11 as against Rs. 573 Cr in the year 2007-08. GRSE has paid a dividend of Rs. 24.77 Cr in 2009-10.

7.60 In order to reduce the build period of ships, GRSE has embarked upon a modernisation plan towards up-gradation of its infrastructure and modern production methodologies at an estimated cost of Rs. 606 Cr. Presently, Phase II of the modernisation is in progress; and facilities such as 250 T Goliath Crane, dry dock, inclined berth, modern Hull shop, module hall, portable shelters and integrated blasting and painting facility are being created. On its completion, GRSE is slated to have state-of-the-art globally comparable shipbuilding facilities; increase its shipbuilding capacity by 100% and prepare the yard for the modern modular construction techniques.

7.61 GRSE has partnered with the Indian Institute of Cerebral Palsy, a voluntary organisation offering specialized and comprehensive services for the children and adult with cerebral palsy, to adopt one class in the special school consisting of differently-abled children of a certain age band for a period of one year.

7.62 As part of its efforts at being a forerunner in environment protection and energy conservation, a fume filtration system has been installed to reduce air pollution in an effort to provide a healthy and safe working environment. An effluent treatment plant of capacity 2.0 Cu Mtrs per day, installed in the yard, is in operation round the clock to treat automobile waste; and another effluent treatment plant of capacity 4.5 Cu Mtrs per day is also in operation to treat canteen waste. Battery-operated trucks are increasingly being used to reduce noise and air pollution as also oil conservation, resulting in reduction of carbon footprint. "ECO Friendly Green Materials " are also being introduced for roofing and cladding sheets, replacing conventional asbestos in covered docks.

7.63 The cost of energy input has been reduced to 0.89% of the total value of production from 1.23% for previous year. The contractual maximum power demand of the shipyard has also been optimized, resulting in a saving of Rs. 56 Lakhs annually. Solar-powered LED based streetlight luminaries are installed in the yard to reduce energy consumption. Elevators

INS Cankarso

Fast Interceptor Boats

INS Kondul

Launch of Anti-Submarine Warfare Corvette

of the shipyard has been renovated with V3F drive system to save 30% of energy input; and LED luminaries are extensively being used in offices.

Goa Shipyard Limited (GSL)

7.64 Goa Shipyard Limited is the youngest and smallest of Defence Shipyards. From a humble beginning as a small barge repair and construction yard in 1957, GSL has progressed and grown to the present status of a competitive shipyard of repute capable of indigenously designing and building sophisticated high-technology ships required for the Indian Navy & Coast Guard. GSL was conferred with the prestigious Mini Ratna, Category-I status by the Government of India in March 2007.

7.65 Over the years, GSL has designed and built a wide range of vessels for the defence and commercial sectors, with special expertise in designing and building modern Patrol Vessels of Steel & Aluminium hull. The product range includes Offshore Patrol Vessels, Special Purpose Warships, Survey Vessels, Fast Attack Craft, Sail Training Ships, Offshore Supply Vessels, Ferries and Tugs. Other products & services include Damage Control Simulators, Safety at Sea Training facilities, repair and modernization of vessels, and GRP boats. The seven Fast Patrol Vessels (FPVs) currently in service with the Indian Coast Guard are an in-house product of GSL.

7.66 The value of production at GSL has steadily grown from Rs. 249 lakhs in 2005-06 to Rs. 866 Cr. in the year 2009-10. The dividends paid by GSL have increased from Rs. 6.4 Cr in 2005-06 to Rs. 26.20 Cr in 2009-10.

7.67 During FY 2010-11, one 90m Offshore Patrol Vessel, second of the class was commissioned on December 11, 2010. A Naval OPV was launched on December 6, 2010; and a Sail Training Ship was launched on January 25, 2011. 102 out of 116 GRP Interceptor boats have already been delivered to various state Coastal Marine Police and the balance 14 will be delivered by March 2011. The orders under construction include four in-house designed Naval Offshore Patrol Vessels, one Sail Training Ship for the Indian Navy, and one Offshore Patrol Vessel for the Indian Coast Guard. GSL is also executing a Damage Control

Simulator for INS Kochi and Shore-Based Test Facility for ADA Bangalore at INS Hansa.

7.68 GSL is also implementing an ambitious modernization programme aimed at creating new modern facilities and augmenting and upgrading existing infrastructure to increase the shipbuilding capacity of GSL by 200%. This plan is being implemented in four phases at an estimated outlay of Rs. 792 Cr. Civil construction works under these phases including the construction of hard stand area, two land berths, ship transfer area, civil work for shiplift installation, and a new jetty. Modern Shiplift and Transfer systems have also been installed. On its completion, GSL will have state-of-the-art and globally comparable infrastructure for contemporary and future shipbuilding.

7.69 GSL carries out its own R&D activities for design and development, and is one of the few shipyards which has the capacity and capability to carry out basic design of ships. As a result, most of GSL's new shipbuilding projects are based on its in-house design.

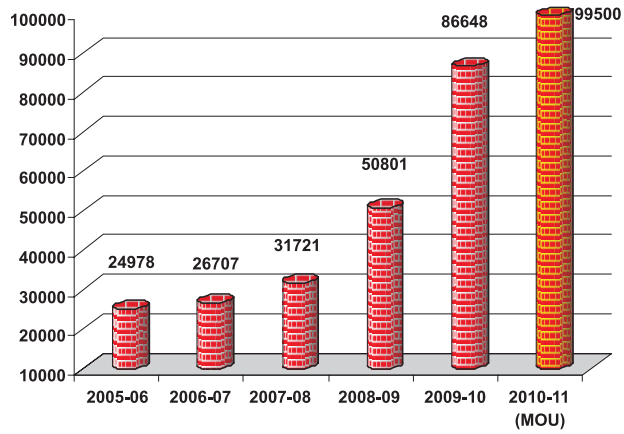
Offshore Patrol Vessel (AOPV):

Fast Patrol Vessels (FPV)

Offshore Patrol Vessels:

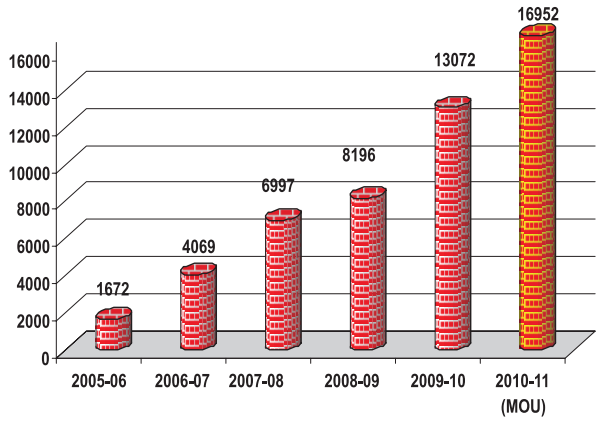
7.70 GSL has been a consistently dividend-paying company, and bonus shares have been declared two times. Key financial parameters show progressive trends in financial performance objectives.

(Rs. in lakhs)



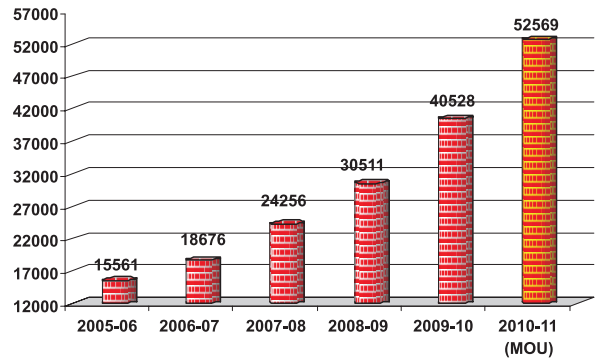
VALUE OF PRODUCTION

(Rs. in lakhs)



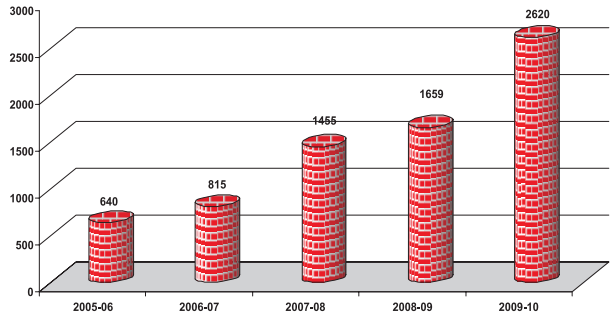
PROFIT AFTER TAX

(Rs. in lakhs)



RESERVES AND SURPLUS

(Rs. in lakhs)



DIVIDEND

7.71 GSL has also taken a number of steps to improve its environmental protection responsibilities through proper disposal of scrap, adoption of energy conservation measures, biogas conversion, solar lighting etc.

Hindustan Shipyard Limited (HSL)

7.72 Hindustan Shipyard Ltd. (HSL) at Visakhapatnam was set up in 1941 by the Scindia Steam Navigation Company, and later taken over by Ministry of Shipping in 1952 and eventually became a government enterprise in July 1961. HSL is one of the oldest and largest public-sector shipyards for shipbuilding & ship-repairs, and is an accredited BS EN ISO 9001-2008 company. It has so far built 163 ships, including 11 offshore structures, and repaired nearly 1850 ships of various types. The shipyard has also built Offshore Patrol Vessels and Inshore Patrol Vessels for Indian Navy and Drill Ship, Offshore Platform and support vessels for the oil sector.

7.73 In order to modernize the shipyard and prepare HSL to undertake the construction of highly sophisticated Naval vessels such as landing platform decks, conventional submarines and state-of-the-art special vessels for the Indian Navy, a massive programme is being prepared by the Department of Defence Production in consultation with Indian Navy and DRDO.

7.74 In the commercial vessels sector, the first of the 53,000 DWT Diamond series bulk carrier "M.V.Good Pride" -- the biggest bulk carrier built by HSL -- was delivered on April 12, 2010.

7.75 HSL continues to be environment-friendly and socially responsible company. It is committed to meet all stipulated standards for maintaining and protecting the environment.

M.V.JALSUDHAK, (Oil Recovery-cum-Pollution Control Vessel) Visakhapatnam Port Trust

M.T. ISWARI

M/s Goodearth Maritime Limited

M.V. Good Pride

Mazagon Dock Limited (MDL)

7.76 Mazagon Dock Limited is a leading defence shipyard involved in the construction of frontline warships and submarines for the Indian Navy and Coast Guard. The yard is presently constructing state-of-the-art stealth frigates, missile destroyers and Scorpene submarines, and is striding forward in attaining self-reliance goals in the construction of warships and submarines.

7.77 MDL was incorporated as a defence PSU on May 14, 1960 and celebrated its Golden Jubilee this year. Its Value of Production (VOP) has risen from Rs. 2.47 Cr in the year of its inception to a targeted VOP of Rs. 3,000 Cr. for the year 2010-11.

7.78 MDL's production efforts resulted in the launch of a missile destroyer Chennai on April 1, 2010 using "Pontoon Assisted technique", enabling launch of the vessel at an advance state of outfitting at weight almost double of which would be possible through conventional launching methods. MDL also successfully launched a multi-support vessel being built for export on June 15, 2010. Its most significant achievement this year has been the delivery of a state-of-the-art stealth frigate and its subsequent commissioning into the Indian Navy as INS Shivalik on April 29, 2010.

7.79 MDL has also embarked upon an ambitious modernization programme with an estimated outlay of Rs. 1495 Cr. The programme aims at induction of modern shipbuilding techniques such as modular construction, construction of a new additional wet basin to accommodate more ships for fitting-out, a new cradle shop for submarine production and other infrastructure development. On completion of this modernization programme, MDL will have a state-of-the-art shipbuilding infrastructure that can be compared to the best shipyards in the world.

INS Shivalik

Delivery of DCIL Dredger

Launching of MSV II

BEML Limited (BEML)

7.80 M/s BEML Limited (BEML) , established in 1964, is a Mini-Ratna (Category-I) multi-location, multi product Company engaged in the design, manufacturing, marketing and after sales service of a wide range of Defence products, Mining & Construction equipment, and Rail and Metro-rail products.

7.81 The Corporate Headquarters and the Central Marketing Division of BEML are located at Bangalore. The Company has 4 manufacturing complexes with 9 production units located in Bangalore, Mysore, Kolar Gold Fields and Palakkad. The company has 4 overseas offices in Malaysia, Brazil and China and Indonesia. BEML's International Business covers over 56 countries.

7.82 The Company also owns a subsidiary – **Vignyan Industries Ltd. (VIL)** located at Tarikere, Karnataka, which produces steel castings.

7.83 **Production and R&D Programmes:** The Company primarily operates in following three distinct business segments:-

(i) Defence Business

(ii) Mining & Construction Business

(iii) Rail & Metro Business

7.84 **R&D:** The major activities of R&D of BEML include design and development of new products and aggregates for products such as Dozers, Dumpers, Excavators, Loaders and other Defence and Railway Products, Technology absorption, Indigenization, Company standardization activities etc..

7.85 The company has earmarked 2.5% of its sales turnover for R&D expenditure for the year 2010-11. During 2010-11, BEML

developed indigenously built Standard Gauge Metro Car and Overhead Inspection Equipment for DMRC.

7.86 **Diversification/ Joint Venture:** BEML has set up the Aero Space Manufacturing Division for manufacture and supply of Ground Handling Equipment, toolings and components for aerospace application. The company has also forayed into manufacture of Dredgers and a new Division is being created.

7.87 To cater to the growing market needs of high technology underground mining products, a consortium of BEML, CIL & DVC has acquired the West Bengal-based sick PSU, namely, M/s Mining and Allied Machinery Corporation (MAMC), with an investment of Rs. 100 Cr..

7.88 Some of BEML's achievements are as follows:-

(i) As part of Company's capacity augmentation programme, the green field project at Palakkad, Kerala was set up with a planned outlay of Rs. 260 Cr.. The new complex started production since May 2010. The complex manufactures High Mobility Tatra Trucks, Pontoon Bridges, Sarvatra Bridge and Railcoach aggregates/parts.

(ii) The Company has recently signed an MoU with Government of Karnataka to set up a Green Field Project in Aero SEZ near the Bangalore International Airport with an investment of Rs. 316 Cr. over the next five years.

(iii) Despite global recession, the Company has successfully made a foray into new markets in countries like Nigeria, Brazil etc., and has exported equipments over Rs. 660 Cr. in the last three years.

(iv) The prestigious MOU and SCOPE Award for Excellence and Outstanding Contribution to Public Sector Management to CPSEs has been bestowed on BEML by the Prime Minister on December 15, 2010.

Bharat Dynamics Limited (BDL)

7.89 Bharat Dynamics Limited (BDL),a Miniratna Category – I company, was incorporated in the year 1970. A pioneer in the manufacture of Anti-Tank Guided Missiles, BDL is now manufacturing ATGMs of later generations, surface-to-air weapon systems, strategic weapons, launchers, under water weapons, decoys and test equipment. The quest for technological excellence has been the guiding principle of the organization so as to be recognized as "THE FORCE BEHIND PEACE'. The Company has three units, which are located at Kachanbagh (Hyderabad), Bhanur (Medak) and Vishakapatnam, in Andhra Pradesh and is in the process of acquiring land for setting up new manufacturing units.

7.90 Besides producing indigenously developed Prithvi Missile (Surface to Air) BDL is engaged in the production of Konkurs – M and Invar (3UBK-20) Anti Tank Guided Missiles (ATGMs) in collaboration with KBP, Tula (Russia) and Rosoboronexport (Russia) respectively and Milan-2T with MBDA, France.

BDL is also increasing the production capacity as there is large requirement of Konkurs-M missiles for the Army. BDL has also taken steps to enhance the production capacity of Invar Missiles as per the requirements of the Army. In-house developed CMDS (Counter Measure Dispensing System) has already been accepted by the Indian Air Force for Jaguar and LCA. BDL is presently working on adaption of the system to a variety of Aircraft Platforms and also developing Radio Frequency controlled ATGM.

7.91 BDL has been nominated as the lead integrator for Akash Missile for Army. BDL is also supplying the missile portion of Akash to BEL, who is the lead integrator for Akash Missile for Air Force. BDL was associated with the development of Akash Missile by DRDO from the beginning and has started production as per requirements of the services.

7.92 The Armed Forces require a state-of-the-art surface to Air Missile system for protection of vital assets. DRDO will develop the weapon system and BDL has been nominated as the

Akash Missile

Prithvi

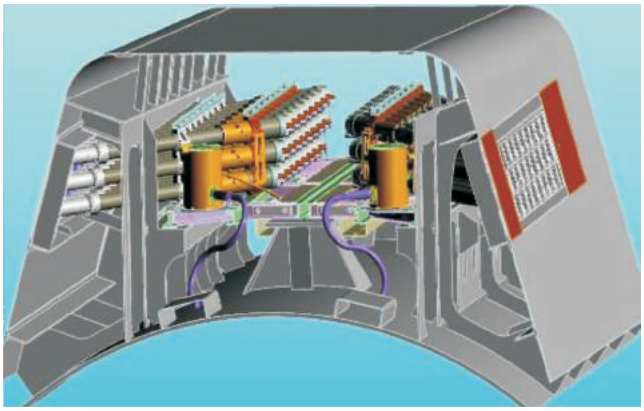
Konkurs-M ATGM

INVAR (3UBK-20) ATGM

Advanced Light Weight Torpedo (TAL)

Milan 2-T ATGM

SUBMARINE FIRED DECOY (SFD)

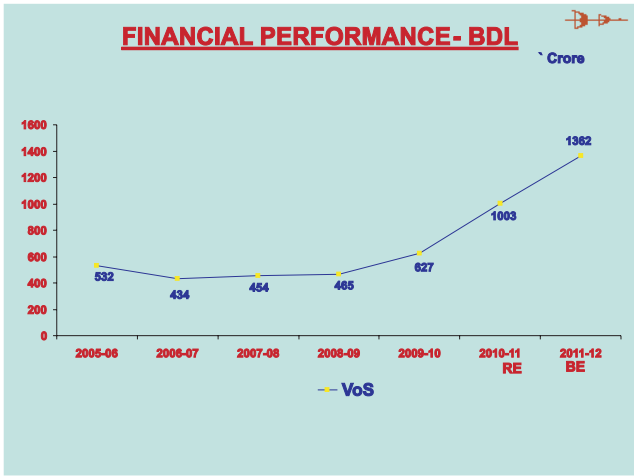


C303 Anti-Torpedo Dispensing Decoy System

Lead Integrator. BDL has already taken steps for putting infrastructure in place for development and production of SRSAM.

7.93 The Company has instituted quality systems to international standards i.e ISO 9001:2008 in all its manufacturing divisions. The company has also implemented Quality System certification to international standards in critical areas like information Technology.

7.94 The BDL is growing rapidly. There has been a significant increase in the turnover of the company in the past few years. The company achieved 35% increase in turn over in the year 2009-10 over the last year.



7.95 The Company implemented various economy measures for efficient performance and to reduce the cost of production without sacrificing the quality by switching to solar water heating. BDL's Vizag unit Administrative building, which is under construction, is registered for Silver Lead rated building (Green Building).

7.96 Due to de –notification of existing firing range at Shameerpet by the State Government, a new Firing Range is sought to be acquired.

Mishra Dhatu Nigam Limited (MIDHANI)

7.97 Mishra Dhatu Nigam Limited (MIDHANI), a mini-ratna Category-I company, was established in November 1973 to achieve self-reliance in the manufacture of a wide range of super alloys, titanium alloys, special purpose steels etc., primarily for defence and strategic sectors.

7.98 MIDHANI has made significant contributions during the last three decades in developing, productionising and supplying high-performance metals and alloys for programmes of national importance in defence, space and atomic energy. High-technology materials needed in light combat aircraft, and MIG aircraft engines; rocket-motor casing for space applications, missile programmes and special steels for nuclear reactors are provided by MIDHANI.

7.99 MIDHANI has achieved "Excellent" MOU rating for the last seven years and received the MOU Excellent award for the year 2008-2009 from the Prime Minister.

7.100 Significant R&D achieved during 2010-11 include development of directional solidified C247A turbine blades for aero engines; development of ferritic martensitic T92, Ni-based super alloy C214 and Ni-based super alloy Superni 617 for nuclear applications, and development of special stainless steel for space applications.

7.101 While achieving a CAGR of 24% over the last 5 years, the value of production during the current financial year is likely to cross Rs 400 Cr. MIDHANI is also implementing a massive modernization programme that includes induction of an additional 6.5 T vaccum induction melting furnace, electric discharge-cutting machine, band-saw cutting machine, 800 dia thread rolling machine, universal testing machines, NH22-2000 lathe machines, 10 T vaccum arc melting furnace, ring rolling mill, 6000 Ton forge press, wide plate mill, electric arc melting furnace with VD/VOD facilities and electronic beam melting furnace. On completion of this modernization programme at an estimated cost of Rs. 650 Cr., the capacity of MIDHANI is likely to go up by 300%.

While achieving a CAGR of 24% over the last 5 years, the value of production of MIDHANI during the current financial year is likely to cross Rs 400 Cr.

7.102 Achieving customer satisfaction through increasing supply of value-added products and development of new products and search for newer applications for existing products, and innovations and R&D initiatives in process-related parameters to meet the increasing stringent specifications demanded by customers are some of the thrust areas perceived during the year. Strategic customers contribute about 82% of total order booking with MIDHANI.

DIRECTORATE GENERAL OF QUALITY ASSURANCE (DGQA)

7.103 The Directorate General of Quality Assurance (DGQA) is an Inter-Service Organisation under the Department of Defence Production that is responsible for quality assurance of all defence equipment and stores for the Army and Navy (excluding Naval Armaments) as well as common use items for the Air Force. DGQA provides technical guidance to manufacturers and users

and is also responsible for technical evaluation and final acceptance of specified products. The organization also acts as the Authority Holding Sealed Particulars (AHSP) and provides technical assistance to the Armed Forces in several areas such as formulation of GSQR and RFPs, technical evaluation of tenders, conduct of defect investigations, assessment of users' satisfaction etc.

DGAQA is responsible for quality assurance and final acceptance of military aircraft, accessories and other aeronautical stores.

7.104 The Organization consists of 10 technical directorates, each of which is responsible for a specified range of equipment. Each directorate has three functional tiers at the Headquarters, Controllerates and Quality Assurance Establishments in the field. In addition, DGQA also operates proof establishments for armaments for carrying out proof firing of weapons and ammunition. The details of stores for which quality assurance services were provided by DGQA during the last three years are given below:

Value of Stores Inspected (Rs. in Cr.)

2008-09	2009-10	2010-11 (upto Oct. 2010)
17,410	13,825	9,271

DIRECTORATE GENERAL OF AERONAUTICAL QUALITY ASSURANCE (DGAQA)

7.105 The Directorate General of Aeronautical Quality Assurance (DGAQA) is an organisation under the Department of Defence Production that is responsible for quality assurance and final acceptance of military aircraft, accessories and other aeronautical stores. The organization provides technical guidance to ensure quality assurance during all stages such as design, development, production, overhaul and repairs.

7.106 DGAQA also plays an important role in providing technical guidance to the Service Headquarters and manufacturers during various stages of procurement of aeronautical stores. The organisation has put in place quality management systems to ensure that the stores procured meet the required specifications and performance parameters.

7.107 The Headquarters of the organisation is in New Delhi and there are 34 field establishments in different parts of the country. The total value of stores, for which quality assurance coverage was provided during 2009-2010, was Rs. 12546 Cr.. A number of quality audits were also conducted on critical products and accessories for ensuring compliance with the specifications. The organization is also taking part in a number of investigations and joint studies with the Service Headquarters for improving the quality and reliability or aeronautical stores.

DIRECTORATE OF STANDARDISATION (DOS)

7.108 The primary objective of the Directorate of Standardisation is to establish commonality

in equipment and components among the three Services so that the overall inventory of the Defence Services is reduced to the minimum. The objective is sought to be achieved through:

(a) Preparation of various Standardisation documents;

(b) Codification of Defence Inventory; and

(c) Entry Control

7.109 The achievements vis-à-vis targets of these three major activities are given below:

(a) **Standardisation:** The target set for the year 2010-11 is 792 for standard documents, against which 710 have been prepared till November 30, 2010. 4,784 Standardisation documents have been formulated till November 30, 2010.

(b) **Codification:** Codification target for the year 2010-11 is 60,096, against which 43,350 items have been codified till November 30, 2010 thereby making the total number of items codified till date to be 4, 49,179.

(c) **Updation:** Updation target for the year 2010-11 is 25,215 against which 7914 items have been updated till November 30, 2010.

7.110 **Provision of Foreign Standards:** The mandate of this Directorate is to be the central repository for all National and International standards. This Directorate has received a number of requests for foreign standards from various Departments/organisations under the Ministry of Defence.

7.111 It has been decided to procure the highest demanded foreign standards like ASTM, ISO and BS from the concerned Standards Developing Organisations (SDOs). These standards will be dispensed to Defence users free of cost.

DIRECTORATE OF PLANNING & COORDINATION

7.112 The Directorate of Planning & Coordination was set up in 1964 with the primary objective of preparing overall plans for the production of defence equipment in the country. The Directorate functions as an attached office of the Department of Defence Production.

7.113 The Directorate also deals with major production programmes for armoured vehicles, arms, ammunition, shipbuilding and communication, as well as international cooperation and offsets.

DEFENCE EXHIBITION ORGANISATION (DEO)

7.114 The main function of DEO is to organise and co-ordinate Defence exhibitions in India and abroad, primarily with a view to promote the export potential of defence oriented products and services, developed and manufactured by the Indian Defence Industry.

7.115 DEO maintains a permanent Defence Exhibition at the Defence Pavilion, Pragati Maidan, New Delhi. Defence Public Sector Undertakings (DPSUs), Ordnance Factory Board (OFB), Defence Research and Development Organisation (DRDO), Directorate General of Quality Assurance (DGQA) and Directorate General of Aeronautical Quality Assurance (DGAQA) have displayed their products, innovations and services in this Exhibition.

7.116 **India International Trade Fair (IITF):** The Defence Pavilion also participates at the India International Trade Fair (IITF) held every year at Pragati Maidan, New Delhi during November 14 – 27, 2010. The Defence Pavilion has been awarded 8 Gold, 4 Silver, 3 Bronze and one Special Appreciation during the last 26 years.

7.117 **International Exhibitions in India:** To provide a platform for the Indian Defence industry to showcase its capabilities, DEO organises two biennial international exhibitions in India, namely, the Aero India and the Defexpo India.

7.118 While Aero India is dedicated to aerospace and aviation industry, the focus of Defexpo India is on land and naval systems.

DEO organises and co-ordinates Defence exhibitions in India and abroad, primarily with a view to promote the export potential of defence oriented products and services, developed and manufactured by the Indian Defence Industry.

7.119 **AERO INDIA:** Aero India, first begun in 1996, has already carved a niche for itself as a premier aerospace and aviation exhibition in the international arena.

7.120 The Eighth edition of Aero India was organised from February 9 to 13, 2011 at the Air Force Station, Yelahanka, Bengaluru and has shown a growth of 40% in net area used by exhibitors over its previous edition with a participation of record number of 660 companies including 360 foreign companies.

7.121 **DEFEXPO INDIA:** Conceived as a complementary exposition to Aero India, the Defexpo India was launched in 1999. The sixth edition of Defexpo India was held from February 15-18, 2010 at Pragati Maidan, New Delhi. 31 countries with more than 300 foreign companies and 350 domestic companies had participated.

7.122 **International Exhibitions Abroad:** With a view to provide an impetus to export potential to Indian Defence Industry, DEO organizes "India Pavilion" for major defence products manufactured by them in the international exhibitions abroad. During the year, India participated in the Berlin Air Show- 2010 to promote Aero India – 2011. India participated in the Africa

Aerospace & Defence exhibition (AAD-2010) which was held from September 21-25, 2010 at Cape Town, South Africa. Participation in AAD-2010 overall was a great success.

National Institute for Research and Development in Defence Shipbuilding (NIRDESH)

7.123 Modern Naval platforms are complex and technology intensive and hence it is imperative that the country has the technological base and skill sets within, to design and develop them.

7.124 The Government has, therefore, set up the National Institute for Research and Development in Defence Shipbuilding (NIRDESH) to take the country towards self-reliance in this crucial area of defence technology. NIRDESH has been established as a Society under the Societies Registration Act and will be a part of the Department of Defence Production. NIRDESH will be funded by the Ministry of Defence and all the Defence Shipyards in the country.

7.125 Raksha Mantri laid the foundation stone on January 4, 2011 for NIRDESH at Chaliyam, near Kozhikode (Calicut), Kerala.

7.126 Raksha Mantri will head the Board of Governors as the President, with representations from the Ministry of Defence, Indian Navy, Coast Guard and Chairmen of Defence Shipyards as members.

INVESTMENT

(Rs. in Cr.)

Name of PSUs	2008-09		2009-10	
	Equity	Govt. loans	Equity	Govt. loans
HAL	120.50	-	120.50	-
BEL	80.00	-	80.00	-
BEML	41.77	-	41.77	-
MDL	199.20	-	199.20	-
GRSE	123.84	-	123.84	-
GSL	29.10	-	29.10	-
BDL	115.00	-	115.00	-
MIDHANI	137.34	-	183.34	44.20
HSL	301.99	149.87	301.99	149.87
Total	**1148.74**	**149.87**	**1194.74**	**194.07**

WORKING RESULTS
VALUE OF PRODUCTION AND SALES

(Rs. in Cr.)

Name of the PSUs	2008-2009		2009-2010		2010-11(up to 30.12.10)	
	Value of Production	Value of Sales	Value of Production	Value of Sales	Value of Production	Value of Sales
HAL	11810.85	10373.38	13489.59	11456.70	9433.00	7058.84
BEL	5273.68	4624.09	5247.88	5219.77	3208.86	3267.00
BEML	3294.19	3013.47	3708.66	3557.67	2704.62	2460.67
MDL	2568.93	5.49	2856.13	3150.94	5.41	5.41
GRSE	672.69	740.62	870.74	424.27	644.46	333.39
GSL	508.01	476.85	866.48	472.89	562.44	273.19
BDL	523.06	464.82	631.61	627.23	384.42	426.08
MIDHANI	364.03	309.11	373.24	371.21	327.00	294.95
HSL	460.13	395.81	608.43	618.96	438.41	438.81
TOTAL	**25475.57**	**20403.64**	**28652.76**	**25899.64**	**17708.62**	**14558.34**

VALUE OF PRODUCTION AND SALES OF OFB

(Rs. in Cr.)

2008-2009		2009-2010		2010-2011(upto Dec, 10)	
Value of Production	**Value of Sales**	**Value of Production**	**Value of Sales**	**Value of Production**	**Value of Sales**
10610.40	7229.31	11817.89	8715.26	9038.78	6359.00

Profit After Tax

(Rs. in Cr.)

Name of the PSUs	2008-09	2009-10
HAL	1739.86	1967.41
BEL	745.76	720.87
BEML	268.84	222.85
MDL	270.73	240.19
GRSE	51.65	114.81
GSL	81.96	130.72
BDL	47.67	33.77
MIDHANI	41.06	44.62
HSL	-140.01	2.32
TOTAL	**3107.52**	**3477.56**

8

DEFENCE RESEARCH AND DEVELOPMENT

BrahMos Missile

DRDO has transformed into a highly professional and mature Organisation with strong technology base and management systems to undertake indigenous development of state-of-the-art Defence systems in a comprehensive manner including design, development, integration and production

BACKGROUND

8.1 The Defence Research & Development Organisation has come a long way since its modest beginning in 1958. Starting with only 10 laboratories, DRDO has grown multi-dimensionally and has evolved to be a core research organisation with a vast network of 52 laboratories and establishments spread across the country. With a vision to empower India with cutting-edge technologies and equip our Services with internationally competitive systems, DRDO has proven its competence to produce state-of-the-art strategic and tactical military hardware and related technologies in diverse disciplines such as Aeronautics, Armaments, Combat Vehicles, Combat Engineering, Electronics, Missiles, Life Sciences, Materials and Naval Systems. At the core of this technological strength of DRDO is its expertise in system design, system integration, testing and evaluation and project management built over the last five decades, which has enabled it in developing indigenous capabilities in weapons and their delivery systems.

8.2 Today DRDO has transformed into a highly professional and mature Organisation with strong technology base and management systems to undertake indigenous development of state-of-the-art Defence systems in a comprehensive manner including design, development, integration and production. DRDO has made the country proud through achievement of technological self-reliance in a number of critical areas including ammunition, armoured systems, surface-to-surface missiles, sonar systems, electronic warfare systems, NBC defence and advanced computing.

8.3 DRDO plays significant roles, like providing scientific and technological advice to the Ministry of Defence in support of defence policy; as evaluator of defence equipment for the military operational requirements; and generating new technological knowledge to be transferred for development of state-of-the-art weapon systems by the defence industries. The Organisation also advises the Government to make technical assessments of international security threats and the military capabilities of both current and potential adversaries.

ORGANISATIONAL STRUCTURE

8.4 DRDO has a mission mode structure headed by the Scientific Advisor to Raksha Mantri (SA to RM) who is also Secretary to the Government of India. He is assisted by the Chief Controller of Armaments, Combat Vehicles and Engineering (ACE); Naval Systems, Materials & Human Resources (NS, M & HR); Missile Systems & Low Intensity Conflicts (MS & LIC), Strategic Systems (SS); Aeronautics & Services Interactions (Ae & SI); Life Sciences (LS); Electronics & Computer Sciences (ECS); Resources & Management (R&M); and Micro-Electronic Devices & Management Information System and Technology (MED & MIST). The Organisation has two tier system, viz. the Technical and Corporate Directorates at DRDO HQrs, New Delhi; and laboratories/ establishments, regional centers, field stations, etc. located at different stations all over the country.

DRDO Headquarters

8.5 Technical Directorates include Directorates of Aeronautics; Armaments; Combat Vehicles and Engineering; Electronics and Computer Sciences; Micro-Electronic Devices & Management Information System and Technology; Materials; Interaction with Services for Business; International Cooperation; Industry Interface and Technology Management; Missiles; Naval Research and Development; Life Sciences; Civil Works and Estates; and Technical Examination Cell. These Directorates act as 'single window' to facilitate laboratories and establishments functioning under them, in obtaining approvals of new projects from the Government, facilitate in monitoring and review of ongoing projects and also to co-ordinate with other laboratories and directorates. Besides these, Scientific Advisors to Chief of the Army Staff (COAS), Chief of the Air Staff (CAS), Chief of the Naval Staff (CNS) and Deputy Chief of Integrated Defence Staff (DCIDS) also act as Technical Directors.

8.6 Corporate Directorates, like Directorates of Personnel; Human Resource Development; Materials Management; Planning & Coordination; Management Services; Rajbhasha and Organisation & Methods; Budget, Finance & Accounts; Security & Vigilance; Extramural Research & Intellectual Property Rights; and Public Interface assist laboratories in improvement of their infrastructure, creation of new facilities, induction of manpower, answering Parliament Questions and points raised by the Parliamentary Committees, co-ordinating with other ministries/departments, etc. and also in getting Government approvals for taking up projects in their respective areas.

DRDO Laboratories/ Establishments

8.7 DRDO has mission to design, develop and lead to production the state-of-the-art, complex and strategic defence systems and technologies; to provide technological solutions to the Armed Forces in order to optimize their combat readiness; to build a strong, indigenous technology base; and to foster quality workforce. A number of projects are being undertaken/ executed through a

network of various laboratories/ establishments, Field Stations, Regional Centres of Military Airworthiness (RCsMA), etc located at different stations all over the country. These are engaged in R&D activities in the field of aeronautics, armaments, missiles, combat vehicles, advanced computing & networking, electronics, engineering systems, life sciences, advanced materials and composites; underwater sensors/ weapons, warship technology, low intensity conflict technology, etc. These laboratories interact with academia and industries to execute projects in their areas.

PROGRAMMES AND PROJECTS

8.8 DRDO has empowered the country with cutting-edge technologies and equiped our Services with internationally competitive systems. Over the past five decades, it has enabled our Armed Forces to progressively enhance their combat effectiveness through development of state-of-the-art weapon systems and technologies. A number of systems, technologies and equipment have been developed, productionised and inducted into Services during the past. These are broadly categorized into major disciplines, like missiles, aero-systems, electronic systems, combat vehicles, armaments, naval systems, advanced materials, and life sciences. Brief descriptions on some of the leading programmes and projects are given in the following paragraphs.

DRDO has empowered the country with cutting-edge technologies and has enabled our Armed Forces to progressively enhance their combat effectiveness through development of state-of-the-art weapon systems and technologies.

8.9 **Missile Systems:**

Prithvi Missile : Surface-to-Surface tactical battlefield missile, Prithvi, has three versions of ranges 150 km, 250 km and 350 km. All versions have been inducted into Armed Forces. Four tests of Prithvi-II Missile have been undertaken by the user in collaboration with DRDO.

Dhanush Missile System : It is a Naval version of Prithvi missile with a range of 250 Km. Two flight tests have been undertaken by the user in collaboration with DRDO.

Akash Missile System : It is a medium range surface-to-air missile. It has multiple target handling capability with digitally coded command guidance system. Air Force has placed order for six squadron of Akash Missile System. Akash weapon system has been reconfigured to meet the specific requirement of Army

Nag Missile System : It is a third generation, anti-tank missile with "top attack" and "fire and forget" capabilities. Validation trials have been completed in summer 2010 against moving/ static targets under various operating conditions. The range of Nag missile system has been further improved.

Astra Missile

Akash Missile System

Astra Missile : Astra is an air-to-air missile, being indigenously designed and developed to engage and destroy highly maneuvering supersonic aerial targets. Two successful flight trials, with stiffened wing configuration and two simulated guided flight trials from ground launcher have been undertaken.

Long Range Surface to Air Missile (LR-SAM) : It is a joint development programme of DRDO, Indian Navy and IAI, Israel. It has a range of 70 km using dual pulse rocket motor and active radar seeker in terminal phase and inertial/ mid-course update for guidance. First Ballistic Control flight test has been successfully conducted at Israel.

BrahMos Supersonic Cruise Missile : The Missile has twin roles against sea, and land based targets. It can be fitted on multiple platforms viz ships, submarines, aircraft and mobile ground platforms. BrahMos has supersonic speed with a range of 290 km with a speed of more than 2.8 Mach number. The Block-III version of the missile for Army was demonstrated, which enables trajectory maneuvers and steep dive with multiple waypoints using advanced guidance system and software. The weapon system with vertical launchers for Indian Navy has been commissioned on Indian Naval Ship. The weapon systems are progressively being installed on other ships. Integration of BrahMos Air version on Su-30 MK-I is being progressed for the Indian Air Force for flight trials by 2012.

LCA (Navy) NP-I (Trainer) was rolled out on July 6, 2010.

Computerized Wargaming System (Sangram-II) : Computerized wargames are scientific and cost effective means of training for tactics, planning and strategy development for our Services. Sangram-II is a wargaming software, designed and developed jointly by DRDO and user. It provides a computerized combat training environment for divisional level wargaming. It is designed to train commanders and staff from battalion to divisional level in combined arms environment.

DRDO has established Computerised Facility for Combat Training in Indian Army at Western Command, Chandimandir.

8.10 Aeronautical Systems:

Light Combat Aircraft (LCA), Tejas: It is India's indigenous, Multi-role, 4-5 generation fighter aircraft designed and developed by Aeronautical Development Agency (ADA), Bengaluru. Full Scale Engineering Development (FSED) Phase-II is in progress and more than 1500 flights have been completed so far. Initial trials of missile firing, cold weather testing, hot weather testing, weapon drop testing, sensor integration, Chef & flare release have been completed. Two seater LCA Trainer had its maiden flight and is undergoing further trials. Development of LCA MK-II with powerful engine has also been initiated. Raksha Mantri , in a function organized on January 10, 2011 at Bengaluru, formally handed over to Chief of Air Staff the "Release to Service Certificate" which is related to Initial Operational Clearance (IOC).

5 LCA Tejas in formation flight

Light Combat Aircraft (LCA) for Navy: Naval version of LCA is designed and developed by ADA, Bengaluru. LCA Navy is a variant of LCA Tejas and will operate from Aircraft carrier with a concept of ski-jump take-off, but arrested recovery. Aircraft gets airborne over a ski-jump in about 200m and lands in 90m using an arrester hook engaging an arrester wire on the ship. LCA (Navy) NP-I (Trainer) was rolled out on July 6, 2010 in the presence of Raksha Mantri and the Chief of the Naval Staff. It is expected to have its maiden flight during first half of 2011.

LCA (Navy) Roll out

Kaveri Engine for LCA : Gas Turbine Research Establishment (GTRE), Bengaluru is developing Kaveri Aero engine to meet the requirements of the indigenous LCA. GTRE has so far developed 9 prototypes of Kaveri engines and 4 prototypes of Kaveri Core (Kabini) engines. About 1975 hours of testing have been conducted on Kaveri and its Core engines at ground and altitude conditions. One of Kaveri engine prototypes (K8) was subjected to simulated altitude and Mach number at Central Institute of Aviation Motors (CIAM), Russia for 73 hours at ISA, Sea Level Static (SLS) and ISA

+ 15 deg. C conditions in addition to a number of flight conditions across the flight envelope. Kaveri engine prototype (K9) has also been integrated with IL-76 aircraft at M/s. Gromov Flight Research Institute (GFRI), Russia. After adequate Engine Ground Runs (EGR) and taxi trials, the maiden flight test of Kaveri engine with IL-76 aircraft for over one hour has been successfully completed on November 3, 2010 followed by 3 more flight tests. This flight test covered 6 km altitude and a speed of 0.6 mach. This is a great achievement in the aerospace community of the country, when the first ever indigenously developed fighter aircraft engine was subjected to flight testing.

Kaveri Engine for Naval Ship : Kaveri Marine Gas Turbine (KMGT) is a spin-off of the Kaveri aero-engine project. This technology demonstration of marine engine was conducted at Naval Dockyard, Vishakapatnam with 12 MW of Power. A proposal for Kaveri marine "Sagar Shakthi" engine project has been initiated.

Airborne Early Warning & Control (AEW&C) System: DRDO's indigenous AEW&C System assures early warning and control to Indian Air Force. It acts as a force multiplier. It is based on Embraer EMB-145 Aircraft platform. The Preliminary Design Review and Critical Design Review of most of the sub-systems have been completed. The project is in progress with close association with IAF team. System Testing and Integration Rig (STIR) for Ground Integration and Testing of Mission Avionics subsystem of AEW&C has been commissioned and inaugurated by Raksha Mantri and ground integration of the sub-systems is in progress. Fuselage junctions of all three aircraft has been completed.

Electronic Warfare Suite for Fighter Aircraft (EWSFA) : DRDO has successfully completed development of new generation integrated EW Suites (Radar Warning Jammers) for MiG-27 upgrade aircraft and the LCA Tejas. Two MiG-27 aircraft are integrated with this EW Suite and the aircraft are undergoing User Evaluation Trials at Bengaluru. Thirty eight aircraft have been modified to accept this new generation EW Suite and Bharat Electronics Limited has been identified as the system level production agency. Tejas – PV1 aircraft modification is under progress. System integration and flight evaluation is scheduled in 2011.

Internal Electronic Warfare Suite for MiG-29 Aircraft : Design and development of new Internal EW System for installation and integration on MiG-29 upgrade aircraft is in process. As part of Phase-I of the project, structural modification of 6 numbers of MiG-29 aircraft for mechanical integration is under progress at RAC MiG, Russia. System simulator for ICD verification is under development at Defence Avionics Research Establishment (DARE), Bengaluru. The Phases-II of the project i.e. development of Active Antenna Array Unit and Central Processor – IO is under progress.

Medium Altitude Long Endurance (MALE) Unmanned Aerial Vehicle (UAV) Rustom-1 : It is being developed by Aeronautical Development

Establishment, Bengaluru, the first UAV with conventional take-off and landing capability. It completed its maiden flight on October 16, 2010. The aircraft was flown exactly as planned, up to a height of 3,000 feet and remained airborne for 12 minutes and completed all mission requirements. It can carry payloads up to 75kg, has an endurance of 12-15 hrs and an altitude ceiling of 25,000 ft. Armed Forces have shown interest in the UAV.

Pilotless Target Aircraft (PTA), Lakshya : It is used as a target for weapon systems like radar guided and heat seeking Surface-to-Air Missiles (SAMs), Air-to-Air Missiles (AAMs), shoulder launched missiles and land & ship based anti-aircraft guns. Support for 7 flights was given to the users along with additional flight expendables. Additional 20 flights are anticipated by mid-2011 as per the schedule given by Users.

Lakshya-2 : It is an advanced digital version of Pilotless Target Aircraft (PTA) Lakshya having autonomous flight capabilities. Phase-V flight trials of Lakshya-2 were completed in April 2010. Phase-VI flight trials were conducted at Integrated Test Range (ITR), Balasore during December 22-23, 2010 and demonstrated programmed low level flight at 25m with clear air configuration 150m with towed configuration and autonomous way point navigation with GPS updates.

Medium Sized Aerostat 2000m3 "Akashdeep": It was flown to an attitude of 1 km with COMINT and EO payloads during demonstration held on December 25, 2010. RFP for 146 nos. P-7 duck drop system for IL-76 has been floated for production. Bulk production of 159 heavy drop systems for AN-32 is under progress at OFB.

Man Portable Fixed Wing Micro Air Vehicle (MAV) : DRDO is developing small fixed wing air vehicles in collaboration with National Aeronautical Laboratories (NAL), Bengaluru. Three configurations viz., Black Kite, Golden Hawk and Pushpak were designed developed and test flown. As a part of solution for low intensity conflicts, a 2 kg class of MAV has been designed and is being test flown currently.

8.11 Electronic Systems:

Extra Vision 2004 Radar : It is a multi-mode surveillance radar system that can search and detect sea surface and airborne targets. The Radar has additional weather and beacon modes. Imaging modes, like Range Signature (RS) and Inverse Synthetic Aperture Radar (ISAR) are incorporated. The multi-platform radar has the potential for use by all the three Services. The radar has been tested on Advanced Light Helicopter, Kamov-25 and Dornier platforms.

Two Dimensional Low Level Light Weight Radar – Bharani : It is a battery powered and compact sensor mounted on quadripod. It is mule transportable in the difficult mountainous terrain. It provides 2D surveillance solution to alert Army Air Defence Weapon Systems mainly in mountainous terrain against hostile aerial targets, like UAVs, RPVs, helicopters and fixed wing aircraft flying at low and medium

altitudes. Three phases of user trials and confirmatory trials have been completed successfully and acquisition for 16 systems has been cleared by Ministry of Defence.

Three phases of user trials and confirmatory trials of Two Dimensional Low Level Light Weight Radar – Bharani, have been completed successfully and acquisition for 16 systems has been cleared by Ministry of Defence.

Three Dimensional Low Level Light Weight Radar – Aslesha : This 3D Radar has been developed to meet air space surveillance in mountainous area including intruding objects, like aircraft, helicopters and UAVs for the Air Force. The light weight radar typically meets the operational requirements, like transportation, quick deployment and decamp, low energy consumption and performs in tough weather conditions including high speed winds. User trials have been completed and recommended for induction.

Primary Radar for Airborne Early Warning and Control System : Primary Radar is to be installed on Embraer 145 class aircraft. It has electronically steerable active array antenna with a range of over 300 km. The primary role of the radar is to provide surveillance for air defence, early warning, capability in aiding in tactical missions against intruding enemy aircraft or in deep penetration offensive strikes. Critical technologies have been developed and a scaled down version of the antenna is in advanced stage of realisation. Action has been initiated for realisation of complete system.

Medium Power Radar (MPR) – Arudhra : The objective of this project is to develop 4D Medium Power Radar (MPR) as a sophisticated multi-mode sensor for modern fast changing battle fields. MPR proposes to use advanced active array technology, digital processing technologies - Digital Beam Forming and Programmable Signal Processing - to meet operational requirements of air space surveillance covering 100 m to 30 km altitude and 300 km range. The S-band solid state active aperture radar will detect and track any airborne target including helicopter, UAVs, and slow speed low Radar Cross Section (RCS) air targets up to 100 km. The radar will have rotating phased array antenna covering 360° with steering mode with electronic scanning in Azimuth & elevation providing range, direction, height and Doppler velocity information of the aerial targets under tracking. Initially 8 numbers of indigenous MPRs will be inducted by the Indian Air Force.

Low Level Transportable Radar (LLTR) – Ashwini : LLTR, a state-of-the-art 4D active array technology based radar, is being developed by LRDE to provide airspace awareness about high maneuverable targets in high target density and intensive EW battlefield environment, specially for Indian Air Force. LLTR will automatically detect and track all airborne targets up to 200 km depending on target size. For 360° surveillance, LLTR will use rotating active

phased array antenna with electronic azimuth and elevation scanning. Steerable multibeam technique with 3X3 pattern will provide higher dwell time for better Doppler resolution and clutter rejection. It will be capable to detect fighter aircraft at altitudes from 30m to 15 km.

Active Electronically Scanned Array (AESA) Radar : For Tejas and other fighter Aircraft, DRDO has started development of Airborne Active Array Radar in X-Band. This high-end technology based Radar will be of unprecedented reliability and superior performance compared to mechanically rotating Weapon Control Radar.

Net Centric Operation (NCO) : DRDO has identified critical technologies that need to be developed to support the realization of Information grid of Armed Forces. Development of these technologies is under execution through seed projects. These seed projects have been mapped into the Program Proposal Net Centric Operation .

Communication Secrecy : DRDO has developed various Communication Security Solutions to meet the critical requirement of the services, such as Link Encryptor, Subscriber End Encryption Device (SEED), Secure Data Adaptor, etc. These Security Solutions have been supplied to IB, Indian Army, Indian Navy and Strategic Command Forces.

Software Defined Radio : Development of Software Defined Radio (a critical item for Network Centric Operations) to meet the requirements of Navy is being pursued in a consortium approach with CDAC, WESEE, CAIR and BEL as the partners. Design work has been completed and the development of proto-baseband and RF sub-system is in progress. Lab model of SDR with legacy waveform is scheduled to be available by mid- 2011.

Electro-Optical Fire Control System for Navy (EON-51) : First production unit of EON-51 has been installed on INS Shivalik. Harbor and sea acceptance trials have been carried out. Two more units for INS Satpura and INS Sahyadri are under testing.

Light-weight Laser Target Designator cum Imager (LLTD-I) : It was realized and offered for user trials. Designation at 10 Km range during day and 5 Km range during night, as required, has been successfully achieved.

Integrated Multifunction Sight (IMFS): IMFS (hand held thermal imager with laser range finder) has been realized in 3.5 Kg weight and offered for user trials at Leh.

Army has placed an indent for 124 MBT Arjun on Heavy Vehicles Factory, Avadi and so far, more than 100 tanks have been handed over to Army.

8.12 **Combat Vehicles and Engineering:**

Main Battle Tank (MBT) Arjun MK-I : Army placed an indent for 124 MBT Arjun on Heavy Vehicles Factory, Avadi. So far, more than 100 tanks have been handed over to Army. Balance tanks are under

various stages of production and Joint Receipt Inspection (JRI). All the 124 tanks against the present indent are expected to be issued to Army by mid 2011. Operational trials for MBT Arjun Mk-I tanks along with T-90 tanks were held during February 19, 2010 to March 12, 2010 in four phases successfully. The four phases include subsystem checks, medium fording checks, '150 km automotive running and firing of one squadron of tanks' and "150 km automotive running with 3 tanks".

Main Battle Tank (MBT) Arjun MK-II : Army has initiated proceedings for placement of indent for 124 Nos of MBT Arjun MK-II. Defence Acquisition Council (DAC) has cleared the proposal for placement of indent along with Engineering Support Package and training aggregates. Placement of indent by Army on OFB is being further processed. Configuration of MBT Arjun MK-II has been finalized between DGMF and DRDO on April 19, 2010. The finalized configuration was discussed in detail during tenth steering committee meeting held on July 29, 2010. The development and production is planned in two Phases. DRDO has already commenced work on the improvements required for MK-II tanks and about 20 improvements have already been completed. User trials for the major improvements are scheduled during June 2011 and June 2012 for validating Phase-I and Phase-II improvements, respectively. The first batch of MBT Arjun MK-II Phase-I tanks are expected to be ready during 2013-14.

Carrier Command Post Tracked (CCPT) Vehicle: The objective of CCPT is for accomplishing all tactical/technical fire control functions to achieve effective deployment of Self-Propelled (SP) Artillery guns. The importance of this project is that it is the first of its kind with tracked chassis housing Artillery Combat Command and Control Systems for accomplishing fire control functions of all the versions of Artillery guns, both towed and self-propelled versions, the Indian Army presently equipped with. Hence, CCPT serves as a common platform for command post functions of all the Indian Artillery guns. The confirmatory check trials of CCPT was conducted during August 2010 in which all the observations of Users, DGQA and MET were successfully demonstrated.

Carrier Command Post Tracked Vehicle – CCPT

Combat Improved (CI) Ajeya Tank : The project has been completed and after that users' evaluation was carried out. Subsequently, Army has placed order on HVF, Avadi for productionization of 692 Nos. of CI Ajeya tank with add-on features viz. ERA, GPS, IFDSS & SGD. To effect the productionization, TOT has been imparted to the production and

DGQA agencies. All the required Zero based Drawings and documents have been handed over to DGQA and HVF and thus AHSP role transferred and TOT has been completed successfully. Productionisation is going on at HVF. So far, 757 vehicles have been rolled out.

Combat Improved Ajeya Tank

Bridge Layer Tank (BLT) T-72 : It has a T-72 tank derivative chassis, which incorporates newly introduced major engineering features such as re-designed top deck, additional structure of the bridging systems, integrated Power-Take-Off (PTO) for the hydraulic system, improved cooling system and several other value additions for improved ergonomics, effective operation and maintainability. Limited Series Production (LSP) order for 12 nos. has already been realised and handed over to Army. Now, Indian Army has placed an indent for the series production of 135 Nos. of BLT T-72 with OFB. CVRDE, Avadi is the agency responsible for transferring the technologies for the quality production and utilization of Chassis Automotive System of the equipment to user satisfaction. TOT is being transferred to OFB. All the required Zero based Drawings and documents have already been handed over to DGQA and HVF for production.

Bridge Layer Tank T-72

Armoured Amphibious Dozer (AAD) : Army has placed LSP Order for six AADs based on BMP-II chassis. Vehicles Research and Development Establishment (VRDE) is executing the order through OF, Medak. Pilot AAD vehicle was realised and offered for User confirmatory trials. Shortcomings were raised by the trial team. Reconfigured AAD has been re-engineered and AAD Mk-I has been completed.

Armoured Amphibious Dozer (AAD)

Counter Mine Flail (CMF) on T-72 : CMF is the equipment for creating a vehicle safe lane in a minefield by disintegrating anti-tank mines. User trials have been carried out on CMF

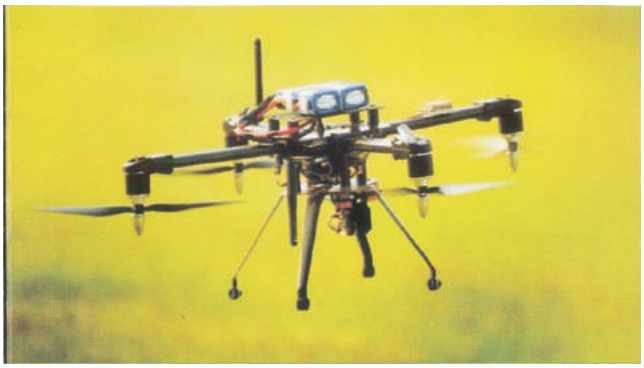
prototype. Most of the functional parameters of the equipment have been successfully proved.

Mine Field Marking Equipment Mk-II : The system is used for quickly erecting a perimeter-fence around a minefield. Subsequent to completion of design reviews, the prototype is presently under realization.

Self Propelled Mine Burier (SPMB) : This equipment is used to create a minefield by burying anti-tank mines. It was fielded for user's trial at Jaisalmer/ Jodhpur. Design to improve reliability has been completed. Prototype is in final stages of integration and user trials are planned in first half of 2011.

Remotely Operated Vehicle (ROV) "Daksh" : It is a remotely operated vehicle for handling Improvised Explosive Devices. After successful trials, Army has released an LSP Order for 20 nos, which is under progress. First Production Model has undergone Confirmatory Trials.

Unmanned Aerial Vehicle (UAV) "Netra" : A prototype has been developed for aerial surveillance in counter insurgency/counter terrorism operations. It can be operated from a back-pack based controller. It can take-off vertically and can be controlled from a distance of 1.5 km. A project for developing engineered prototypes is in progress.



UAV Netra

Mobile Autonomous Launcher (MAL) System : MAL is the main element of BrahMos Weapon System. It is single vehicle weapon system mounted on specially designed 12x12 carrier vehicle. MAL can transport and launch three missiles in vertical condition. All functional operations can be performed in autonomous mode. All support systems required for the launch of the missile are mounted on the same vehicle.

Shore Based Test Facility : For LCA (Navy), it is being built up for certification and training purposes at INS Hansa. The facility simulates the Aircraft carrier's restraining-gear, ski-jump and arrester-gear for take-off and landing. Presently, the ski-jump foundation concreting, the reinforcement for restraining-gear completed and factory-acceptance testing of Arresting Gear System has been completed.

Shore Based Test Facility (SBTF)

Hyperbaric Chamber : It is basically a simulation chamber where underwater conditions are simulated in order to administer treatment to diving casualties. One such chamber, designed and commissioned at INSH, Asvini, Mumbai

, is in operation and more than 100 patients have been treated so far. The chamber is being handed over permanently to Indian Navy.

Avalanche Hazard Mitigation Scheme for Approach Road to Rohtang Tunnel : In order to improve the highway condition and increase the road opening period in snow bound avalanche prone areas, Government of India approved the construction of Rohtang Tunnel across Rohtang Pass on Manali-Leh road axis. Snow and Avalanche Study Establishment (SASE), Manali has carried out detailed study of each avalanche site, which included planning and designing of avalanche hazard mitigation scheme after identification and registration of avalanche sites affecting the road axis. There are 13 major avalanches towards South Portal side of the tunnel and 5 on the North Portal side. SASE has designed the avalanche hazard mitigation scheme for all the avalanches on the approach road to both the portals of the Rohtang Tunnel.

8.13 **Armament Systems:**

Under Barrel Grenade Launcher (UBGL) : UBGL for INSAS and AK-47 rifle has been introduced into service. Para Military Forces have placed an indent for 100 nos on OFB. GS has placed order for 10604 nos on OFB/OFT. Bulk Production clearance (BPC) has been accorded . First batch of UBGL was realised at OFT, Trichy.

Instant Fire Detection & Suppression System for BMP-2/2K : It is state-of-the-art microcontroller based system which provides

Multi Barrel Rocket Launcher – PINAKA

protection against fire to troops and engine compartment. The system can detect, fight and totally suppress fire within 150 milliseconds in troops compartment and within 10 seconds in engine compartment. Successful user trials were conducted at Mechanised Infantry Regimental Centre (MIRC), Ahmednagar. IFDSS has been accepted by Army and inducted into Services. Production order has been released by Army to BEL, Kotdwara for production of 2551 sets of the system.

Automatic Fire Detection and Suppression System (AFDSS) for CCPT- BMP : It protects CCPT- BMP from fire. Two sets of CCPT have been developed and evaluated. User Trials and Maintainability Evaluation (ME) trials were conducted successfully.

Emergency Escape Chute : It is useful and efficient equipment for evacuating the persons trapped in high rise buildings. This equipment, made of strong fire resistant Kevlar fibre which

is kept extended by incorporation of aluminium alloy rings in the net at an interval of one meter up to the length of 50-meter was developed which can bear the load of at least 5 ton. This product can also be used for ascending and descending the rescue operators.

Light Weight Fire Protective Suits : Two types of multilayer fire approach and fire proximity suits based on blended synthetic fabric were developed which met the requirement of national and international standards and provide protection against radiant, conductive and convective heat at 1120ºC up to four minutes at a distance of three meter from the fire source of 50 litre aviation fuel.

Influence Munition MK-II "Adrushya" : The development of the Mk-II version was undertaken for incorporating additional features as required by GS. Major requirement for this munition over the Mk-I version is that it should withstand the blast of CLMC (v) at 2.5 m distance. To meet these requirements, active sensor has been designed and to accommodate active sensor, hardware design has been modified. Integration of fresh hardware and active sensor fuse has been successfully completed. Effectiveness of the fuse against tank T-55 & T-72 and CLMC (V) has been evaluated with fresh hardware. An indent for 20,000 mines at a cost of Rs. 124 Cr. has been placed by Army on OFB. ARDE is in ToT stage with private firms helping OFB for supply of critical items.

Power Cartridges : Sixty four types of escape aid and power cartridges have been developed for variety of aircraft used by the Air Force and Navy. In view of the extremely high degree of reliability, low installed life and small quantity requirements at a time, the Users insist on production and supply of power cartridges by ARDE itself. Total 3582 nos. of Power Cartridges have been productionised till date.

Monolith FAE Bomb Warhead : 500 kg FAE bomb consisting of nose case, canister, grenade ejection unit, retarding tail unit, thermal battery and sequencer was static tested for aerosol formation and detonation. The required performance parameters in terms of blast peak over pressure and anti tank mine clearance was achieved in these trials. Carriage & Release trials using live bombs are proposed in December 2011 and user demonstration trials will be conducted in March 2012.

84 mm High Temperature Suffocating Smoke (HTSS) Rounds for Army : 84 mm HTSS round is a multi purpose round. It is optimized for close combat in urban as well as field operations. It is effective against lightly protected fortifications, brick walls and wooden structures. The round, after penetrating target, creates high temperature (incendiary) and suffocating smoke effects. The composition fragments burn with high temperature, setting on fire combustibles and spews out smoke that suffocates human beings. The combined effects can force the enemy to abandon safe hiding place and be captured.

81mm Anti Thermal Anti Laser Smoke Grenade: DRDO has developed red phosphorus based 81 mm smoke grenade, capable

of obscuring the Visual & Infrared region. The grenade is launched through the grenade launcher mounted on MBT, and burst open instantaneously as it lands on the ground or in air as the case may be. Smoke is capable of defeating night vision devices like thermal imagers, low light intensity devices, image intensifiers. The smoke screen is also effective against laser range finder.

Non-Lethal Riot Control Plastic Bullets: These are less lethal plastic bullets developed and put in use by various Para Military Forces, State Police for controlling riots and unruly mobs. The said bullets are in regular production in Ordnance Factory, Khamaria and in Ordnance Factory, Varangoan.

8.14 **Naval Systems:**

Submarine Sonar – USHUS : It is an integrated submarine Sonar system. Based on the utilization of the system, one more USHUS System has been ordered with production agency, M/s Bharat Electronics. A simulator for training ASW operators and maintainers is under development for effective utilization of the System.

New Generation Hull Mounted Sonar HUMSA – NG : It is an advanced Active cum Passive Integrated Ship Sonar system with intercept capabilities to be fitted on a variety of surface ships. The HATs of the first system is completed and the system SATs is in progress. ToT for the P15 class ship has been completed. The first system is getting ready for fitment after FATs.

Low Frequency Dunking Sonar (LFDS) : This is an airborne acoustic system consisting of a LFDS and Sonics processing system using Sonobuoys. During the year 2010, development and airborne certification phase was completed and the System installed onboard Advanced Light Weight Helicopter at M/s Hindustan Aeronautics Ltd (HAL), Bengaluru. Initial AFCS flight trials have been completed and sea trials are progressing at Kochi.

AdvancedTorpedo Defence System (ATDS), Maareech : It is a complete package for surface ships against vintage and modern torpedoes. The development work has been completed and trials have been conducted. ToT for the system has also been completed. Two Production Grade Systems will be manufactured for fitment in 2 platforms for extensive trials, with partial funding from Navy.

Sanjeevani : Sanjeevani is a technology spin-off device for detecting life under the debris of earthquakes or collapsed buildings. Under DRDO guidance, fifteen numbers of gadget has been delivered to Gujarat Civil Defence Authorities through production agency M/s Keltron.

Autonomous Underwater Vehicle (AUV) : A Technology Demonstrator project for the development of heavy weight AUVs of 1500 kg weight capable of carrying a 500 kg payload and reconfigurable for multi-mission roles has been taken up. The project envisaged assembly and integration of three prototype test vehicles and one technology demonstrator vehicle for proving stability, maneuverability, controllability and autonomy of the vehicle.

Five phases of field trials have been successfully completed for proving and fine tuning of AUV stability, controllability and manoeuverability.

8.15 Advanced Materials and Composites:

Ultrahigh Strength, High Fracture Toughness Low-Alloy Steel : Defence Metallurgical Research Laboratory (DMRL) has undertaken a comprehensive research programme to arrive at a cost-effective, low-alloy steel equivalent of 250-grade maraging steel for booster motor applications. Extensive basic studies have led to the development of a new NiSiCrCoMo low-alloy steel, designated as DMR-1700, possessing strength-toughness combination quite comparable to highly alloyed 250-grade maraging steel. Bulk production of DMR-1700 steel has been established through MIDHANI. Proof as well as burst pressure testing of Akash motor casing, fabricated with one-to-one replacement of maraging steel, has revealed that DMR-1700 steel casing meets design requirements. As a logical extension, technology development for fabrication of large size (2.0 m) booster motor casing has been undertaken. The casing has been successfully pressure tested and found to meet the design parameters in terms of proof as well as burst pressure.

Naval Steels : DMRL has developed production technology for AB class steels ABA and AB2 in association with SAIL and the indigenised versions are designated as DMR-249A and DMR-249B, respectively. The salient features of the production technology are (i) continuous casting to make the steels cost effective and (ii) controlled rolling of DMR-249A steel to get the required properties in the as-rolled condition itself, obviating the need for heat treatment and thereby eliminating size limitation of plates of thickness up to 20 mm arising from infrastructure limitation. So far, more than 30,000 tonnes of DMR-249A grade steel and about 750 tonnes of DMR-249B grade steel have been supplied to various shipyards.

Armour for Mi-17-1V Helicopter : Light-weight composite armour for Mi-17-IV Helicopter of the Indian Air Force has been developed. One set of prototype armour panels has undergone successful integration and flight trials on the helicopter and to the satisfaction of the users and certification authorities. Significant weight reduction could be achieved through the use of the composite armour as compared to the imported armour.

Investment Cast High Pressure Turbine Blades for NTPC : DMRL entered into an MoU with NTPC to develop production technology for one of the complex components i.e., high pressure turbine blade. Accordingly, engineering drawings and CAD models of the blade were developed through reverse engineering. As committed, 125 blades have been successfully cast and processed meeting the dimensional and other requirements stipulated by NTPC.

Low Emissivity Coating (LEC) for Ground Based Military System : Field trial evaluation in thermal IR band for Low Emissivity Coating (LEC) was carried out in Lunawas area, 50 Km away from Jodhpur. The LEC skirting was deployed on BMPs and its IR camouflaging

efficacy has been investigated at different ranges, different time-of- the-day in SW-, MW- and LW-IR bands. The effectiveness in actual field has been demonstrated to DGMF.

Infrared Human Target : For regular firing exercises in Services at night time, IR imaging target of soldier is a strategic requirement as it exhibits thermal signature of the actual one. DRDO has developed an infrared human target, which expresses the combat posture of the soldier with eleven different thermal zones to simulate the actual temperature profile of human body. This target can be activated by a single power source in a voltage range from 12 to 24V.

NBC Water Purification System : In NBC emergency scenario, the water sources are likely to get contaminated. Purified water is required by personnel for drinking, washing, vehicles, and for decontamination. NBC Water Purification System (WPS), conceptualized as per Army GSQR, caters to such situations. It is robust, mobile system mounted on a Stallion vehicle and having its own power source. The system is based on state-of-the-art Reverse Osmosis (RO) membranes and has capacity to provide 2000 L/hr of treated water. Bulk Production Clearance has been accorded under the Limited Series Production order of Army for 10 systems.

Online Fluoride Removal Water Purifier : The online fluoride removal water purifier (capacity 40 lph) is capable to remove suspended impurities, color, odor and microbiological impurities like bacteria by ultra filtration membranes and excess fluoride by selective resin from the contaminated water to the permissible limits as per BIS standards. The plant is capable to give 2500 lit (Input F- : 10 ppm) and 6000 lit (Input F- : 3 ppm) with fluoride less than 1 ppm before regeneration. The provision for online regeneration of the exhausted fluoride removal resin is also provided.

Low Temperature Curing Polymer Concrete Composites for Rapid Repair of Runways : The title composites have been developed using Methylmethacrylate (MMA) based resin system, comprising of a cross-linking agent (TMPTMA, Trimethylolpropane trimethacrylate), initiator (BPO, Benzoyl peroxide) and accelerator (DMT, Dimethyl toluidine). They can be prepared at ambient temperatures ranging from $+10^0$C to -20^0C using locally available sand and aggregate as fillers. A User's Trial has been successfully conducted at Air Force Station, Leh at $-8\ ^0$C.

Mobile Nuclear Contamination Analysis Station (NUCAS) : A container based Nuclear Contamination Analysis Station (NUCAS) has been designed & developed for analysis/ measurement of contaminated samples, which will be collected by NBC Recce vehicle after any nuclear eventuality from affected zones. The collected samples by NBC Recce Vehicle (NBC RV) will be transferred to NUCAS in a sample box from the back side of container. NUCAS has been handed over to Army in May, 2010.

Radiation Detection Module: Gamma Radiation Detection Module (RDM) is a semiconductor based Hybrid Circuit for detection of Gamma Radiation using silicon PIN diode in the dose range of 1 mR/h to 1000 R/h. This module has been developed to replace the imported Geiger Muller tubes which are widely used in the Radiation Measuring Instruments.

Instant Alert Chemical Dosimeter: The technology for fabrication of instant alert radiation dosimeter card from 10 cGy to 400 cGy has been established. More than hundred number of credit card size dosimeters were fabricated and tested in radiation field. The results were found satisfactory.

8.16 **Life Sciences Systems/ Products:**

Deoxy-D-Glucose (2DG) : The safety and efficacy of 2-Deoxyglucose (2-DG) as the optimal radiosensitizer through cell lines, animal and human trials has been established. The glucose anti-metabolite, 2-deoxy-D-glucose (2-DG), is a glycolytic inhibitor that significantly depletes the energy in cancer cells, thereby compromising their ability to repair the damage and resist therapy. This results in a selective increase in damage caused by radiation and chemotherapeutic drugs in tumors, while reducing the same in normal tissues. It has been found clinically useful in recurrent neuroblastoma, one of the most radioresistant tumor with practically no chances of survival. Phase – III clinical trials have been successfully completed and DCGI clearance is awaited for launch in the market.

Integrated Life Support System (ILSS) – On Board Oxygen Generation System (OBOGS) : It has been designed and developed to administer required quantities of oxygen at various altitudes to pilots of fighter aircraft on long endurance missions thus eliminating the burden of re-charging the oxygen cylinders. The system provides 95-96% oxygen to pilots in case of ejection from the fighter aircraft, protects the pilots from losing consciousness due to acceleration forces (G forces) and also gives a combat edge to the pilot by enhanced endurance. After technology demonstration, airworthy units are under fabrication for further trials for integration in LCA (Tejas).

Permafrost : A Permafrost germplasm and vegetable storage facility has been established in Ladakh to serve as a safety net for food security in an era of global warming and climate change. Permafrost Storage would be a national facility which will preserve germplasm at -4 to -20 degree Celsius temperature inside the structure with 10-20 per cent moisture. This seed storage facility would allow the survival of valuable living seeds for long term which is an economically viable possibility that allows germplasm preservation of valuable and endangered plants.

Biodigester : It has been developed for human night soil degradation through microbial reaction converting it into biogas in a cylindrical structure of mild steel or fibre reinforced plastic. The biodigesters are being used in Army transit camps, Siachen glaciers, Partapur and other high altitude cold regions, being further developed for use in

railway coaches, tourist buses and are under installation in Lakshadweep islands and other plain areas. Technology has been transferred to industry. This is an eco-friendly technology for disposal of human waste at glacier, other low temperature areas and soil bound cold regions, etc.

Attracticide : An "attracticide" for control of Dengu and Chikungunya vector mosquito (Aedes Egypti) population has been developed containing a mosquito egg laying attractant pheromone and an insect growth regulator to lure the mosquitoes for enhanced egg laying and then to kill the mosquitoes by arresting their development from larvae to adult forms. The technology has been transferred for productionisation after successful trials.

Combat Free Fall Oxygen System : A system with protective clothing and equipment has been developed to meet the high altitude paratrooper's mission requirements of providing oxygen on demand during breathing for 30-40 minutes after bailout and 60 minutes of supply for pre-breathing on board the aircraft for 6 personnel. It protects the paratrooper during free fall from 30,000 ft against adverse conditions.

8.17 **Right To Information (RTI) Act:** The RTI Act – 2005 was introduced to promote transparency and accountability in the working of public authorities. This enabled the citizens of India to access information under control of the authorities. DRDO has been placed in the second schedule of the RTI Act – 2005 exempting it from the application of the general provisions of the Act except for the issues of Human Rights violation and corruption. Accordingly, DRDO has evolved the following system to promote the flow of information. The organization has appointed Public Information Officers (PIOs) in each of its laboratories/ establishments to deal with the cases of the RTI. DRDO HQrs also has a PIO and a Chief Public Information Officer (CPIO). Guidelines on the RTI Act, as applicable to DRDO, have been evolved by the Organization which act as reference document for all the PIOs of the organization. The Organization has also launched a RTI specific website namely www. drdo-rti.com.

9

INTER – SERVICE ORGANISATIONS

School of Foregin Languages

The Inter-Service Organisations are responsible for developing and maintaining resources and services which are common to the three Services in order to economise on costs and cater for better services

9.1 The Inter-Service Organisations are responsible for developing and maintaining resources and services which are common to the three Services in order to economise on costs and cater for better services.

9.2 The following inter-Service Organisations function directly under Ministry of Defence:

(i) Military Engineer Services

(ii) Armed Forces Medical Services

(iii) Directorate General Defence Estates

(iv) Office of the Chief Administrative Officer

(v) Directorate of Public Relations

(vi) Army Purchase Organisation

(vii) Services Sports Control Board

(viii) Armed Forces Films and Photo Division

(ix) National Defence College

(x) School of Foreign Languages

(xi) History Division

(xii) College of Defence Management

(xiii) Defence Services Staff College

(xiv) Ministry of Defence Library

MILITARY ENGINEER SERVICES

9.3 Military Engineer Services (MES) provides support to the three Services at Strategic and Operational level. The organisation has expertise in a wide range of civil works ranging from conventional buildings and factories to specialized projects such as airports, runways, marine works and utility services.

9.4 The MES functions under the overall control of Engineer-in-Chief at the Army Headquarters, who is also the advisor to the Ministry of Defence and the three Services on infrastructure development projects and related policy issues. MES has an annual budgetary workload exceeding Rs. 10,000 Cr.. MES is responsible for providing dedicated support to the Armed Forces during war, peace and in counter-insurgency operations in all types of

terrain and climatic conditions, to improve the combat effectiveness of our Armed Forces. MES is also supporting military diplomatic initiative of Government of India by creating infrastructure abroad for friendly foreign countries.

Military Engineer Services has expertise in a wide range of civil works ranging from conventional buildings and factories to specialised projects such as airports, runways, marine works and utility services.

9.5 Major works taken up by the Military Engineer Service during the year are :

(a) **Manekshaw Centre, Delhi Cantt:** The prestigious project was completed recently and was inaugurated by the President of India on October 21, 2010.

(b) **Military Hospital, Bareilly:** 495 bedded Military hospital sanctioned for an amount of Rs. 51.03 Cr. in March, 2005, was completed in August, 2010.

(c) **Officers Institute including Swimming Pool and Sport facilities at Jaipur:** The work for Officers Institute, for an amount of Rs. 5.40 Cr., was completed on July 10, 2010.

(d) **Army Public School, Chandimandir:** The work for Army Public School amounting to Rs. 7.64 Cr. was completed recently and has been handed over to the users.

(e) **Improvement of Habitat in High Altitude Areas (HAA):** The work includes construction of different types of habitats including utility services and use of solar energy. The main project will cover habitations for troops for platoon size strength in HAA, wherein each shelter will be self contained with heating, running water and bio-digester using new and renewable energy sources.

(f) **Runway Works:** Work on 13 runways {Phalodi, Srinagar, Sulur, Maharajpur, Bhisiana, Ambala, Leh, Jorhat, Agra, Bamrauli, Kalaikunda, Adampur (Extension) and Halwara} is under progress. Four works are under tender action (Thanjavur, Bhuj, Bidar and Tambaram) and five works are under planning this year (Nal, Jaisalmer, Gorakhpur, Gwalior and Awantipur).

9.6 **Married Accommodation Project (MAP):** The Married Accommodation Project (MAP) has been undertaken for providing adequate married accommodation for Defence Services' personnel. Under the project, a total of 1,98,881 Dwelling Units (DUs) are proposed to be constructed.

9.7 Presently Phase-I of the project involving construction of 57,875 Dwelling Units is under execution and 52,613 units have been completed. Construction of 69,992 Dwelling Units at an estimated cost of Rs. 13,681 Cr. under Phase-II of the project has also started. Its probable date of completion is March 31, 2012. The Cabinet has also given the go ahead for MAP Phase-III and Phase – IV on August 9,

2010 for remaining 71,014 Dwelling Units.

ARMED FORCES MEDICAL SERVICES (AFMS)

9.8 The Armed Forces Medical Services (AFMS) consist of the Medical Services of the Army, Navy and Air Force and a Directorate General, Armed Forces Medical Services. Each Medical Service is under a Director General Medical Service (DGMS) in the rank of Lt General or equivalent. The Director General, Armed Forces Medical Services is the medical advisor to the Ministry of Defence and is also the Chairman of the Medical Services Advisory Committee. The personnel of the Armed Forces Medical Services (AFMS) include officers of the Army Medical Corps (AMC), Army Medical Corps (Non-tech), the Army Dental Corps (ADC) and the Military Nursing Services (MNS). There are 130 Armed Forces Hospitals. The authorized strength of Medical officers, Dental officers and MNS officers is 6,283; 617 and 3,878 respectively.

9.9 The Armed Forces Medical Services provide healthcare to Armed Forces personnel and their families including personnel of para military organizations, while posted in the field and other Central Police/ Intelligence forces operating in the disturbed areas of the country, besides providing medical care to the ex-servicemen and their dependents and needy civilians within the country and abroad, to the extent possible.

The Armed Forces Medical Services provide healthcare to Armed Forces personnel and their families and to the ex-servicemen and their dependents.

Army Doctors Managing Wounded Flash Floods Casualty 153 GH, LEH on August 6, 2010

Important Policy decisions/ activities during the year

9.10 (I) **Commission in AFMS**

(a) **SSC from civil sources:** 182 doctors from civil sources including 32 women, granted Short Service Commission (SSC) in 2010.

(b) **Commission to AFMC cadets:** 96 cadets from AFMC have been granted commission during the year 2010 as under:

(i) PC - 63(including 12 women)

(ii) SSC - 33(including 6 women)

(c) **Departmental Permanent Commission (PC):** 54 SSC officers were granted Permanent Commission (including 11 women officers).

(d) **Departmental PC (AMC/NT):** 10 SSC officers of AMC (NT) have been granted Permanent Commission during the year 2010.

(e) **PC/SSC in AMC (NT) to PBOR:** The following commissions were granted to PBORs in AMC (NT) against the vacancies for the year 2009:-

(i) PC - 7
(ii) SSC - 9

(f) SSC in MNS to MSc/BSc (Nursing Graduates): 391 Msc/BSc (N) nursing graduates, trained from civil have been selected for grant of SSC in MNS.

(II) **Annual Acquisition Plans:** Medical set up and hospitals are modernized with the latest technology and equipment. Annual Acquisition Plans (AAPs) have been placed resulting in provisioning of modern medical equipment for most of the hospitals in a planned and phased manner. Procurement under previous AAP has been completed with an annual budget of Rs. 90 Cr.. This financial year, the DGLP funds allotted to medical services is Rs. 480.60 Cr. and ECHS fund is Rs. 358.00 Cr..

(III) **Medical team to UN Missions:** Medical teams are providing medical care in Congo, Lebanon, Sudan, Golan Heights and Afghanistan.

(IV) **AFMC Admission 2010:** 130 students (105 boys and 25 girls) were admitted for the MBBS course at AFMC, Pune for the year 2010. In addition, 5 sponsored candidates were also admitted from friendly neighbouring countries.

(V) **Enhancement of training capacity of Post Graduation (PG) courses in AFMS:**

(a) **Upgradation of Schools of Nursing:** Sanction has been accorded for up-gradation of School of Nursing Command Hospital (EC) Kolkata to College of Nursing Command Hospital (EC) Kolkata with annual intake of 30 students and School of Nursing INHS Asvini to College of Nursing INHS Asvini with annual intake of 40 students.

(b) **Recognition of Institute of Paramedical Sciences, AMC Centre & College, Lucknow by Directorate General of Health Services (DGHS), Government of India:**

(i) The Institute of Paramedical Sciences (IPMS), AMC Centre and College, Lucknow, along with the training hospitals/ Institutions are imparting training to all AMC Personnel Below Officers Rank (PBOR) of Soldier Technical Category.

(ii) DGHS, Min of Health & Family Welfare has granted approval to IPMS, AMC Centre & College, Lucknow to be the nodal agency to award Degree/

Diploma/ Certificate in respect of paramedical courses being conducted at all training institutes and hospitals of Army Medical Corps. With the award of a recognized qualification, these paramedics will be able to find employment commensurate with their training and experience in Government and private sector, after retirement.

(c) **Project 'Gyandeep':** 2,827 PBORs from AMC have been registered for award of Associate Degree from IGNOU under Project 'Gyandeep'.

(VI) **Raising of New Hospitals:**

(a) Government has sanctioned the raising of a 75 bedded hospital at Gopalpur and 250 bedded hospital at Hissar.

(b) **Command Military Dental Centre:** Government sanction has also been accorded for a Command Dental Centre at Jaipur.

(VII) **Projects for Modernisation of Infrastructure of Military Hospitals:** Proposal for modernization of 46 Military Hospitals housed in old and dilapidated buildings by afresh construction in a modern and scientific manner, has been approved 'in principle', by the Government. Similar proposal for upgrading the command Hospital (AF) Bangalore has also been agreed to.

(VIII) **Honours & Awards:** Maj L Jyotin Singh, Medical Officer posted to Indian Medical Mission, Kabul Afghanistan was awarded Ashok Chakra, the highest peace time gallantry award, posthumously.

DIRECTORATE GENERAL DEFENCE ESTATES

9.11 The Directorate General Defence Estates, New Delhi, has advisory and executive functions in matters relating to management of Defence Lands and Civic Administration in 62 Cantonments. The Directorate General presently functions through six Principal Directorates at Jammu, Chandigarh, Kolkata, Lucknow, Pune and Jaipur. The Principal Directorates, in turn, supervise a number of field offices, such as offices of the Defence Estates Officers, Assistant Defence Estates Officers and Cantonment Boards. These field offices are entrusted with the day to day management of Defence Lands and Cantonment Boards across the length and breadth of the country.

The Ministry of Defence owns approximately 17 lakh acres of land throughout the country which is managed by the three Services and other Organizations like Ordnance Factories Board, DRDO, DGQA, CGDA etc.

9.12 The Ministry of Defence owns approximately 17 lakh acres of land throughout the country which is managed by the three Services and other Organizations like Ordnance Factories Board,

DRDO, DGQA, CGDA etc. The Army has the maximum of the land holdings under its control and management i.e. 13.79 lakh acres followed by Air Force 1.51 lakh acres and Navy 0.37 lakh acres. The defence land inside the notified Cantonments is approximately 2 lakh acres and the remaining around 15 lakh acres lie outside the Cantonments.

9.13 The Directorate General is in the process of modernizing the land holding data. For this purpose, software has been designed in association with National Informatics Centre (NIC).

9.14 The Defence Estates Department also undertakes hiring of residential accommodation and hiring/ requisitioning of land for the Armed Forces.

9.15 Directorate General Defence Estates is also responsible on behalf of the Ministry of Defence to control, monitor and supervise the Civic Administration in Cantonments. There are 62 Cantonments in India. These are located in 19 States including National Capital Territory of Delhi. The Cantonment Boards are 'bodies corporate' functioning under the overall control of the Central Government under the provisions of the Cantonments Act, 2006. Half of the members of the Cantonment Boards are elected. The Station Commander is the President of the Cantonment Board. Supervision and control over the working of these bodies is exercised through the General Officers Commanding-in-Chief and Principal Directors, Defence Estates at the intermediate level and by the Central Government through Directorate General Defence Estates at the apex level. Presently elected Boards are in place in all the 62 Cantonments.

9.16 The resources of the Cantonment Boards are limited as the bulk of the property in the Cantonment is owned by the Government on which no tax can be levied. Boards, however, receive payment of service charges in respect of Central Government properties. The Central Government provides financial assistance to certain extent by way of grants-in-aid to balance the budget of some of the Cantonment Boards which are financially deficit. During the financial year 2010-2011, Rs. 68.41 Cr. was paid to the deficit Cantonment Boards upto December 31, 2010.

The office of the Chief Administrative Officer (CAO) provides civilian manpower and infrastructural support to the Services Headquarters and the Headquarter Offices of Inter-Service Organisations (ISOs) under the Ministry of Defence.

OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER

9.17 The office of the Chief Administrative Officer (CAO) provides civilian manpower and infrastructural support to the Services Headquarters and the Headquarter Offices of Inter-Service Organisations

(ISOs) under the Ministry of Defence. Joint Secretary (Training) also discharges the functions of the Chief Administrative Officer (CAO) and Director (Security).

9.18 The functions of the CAO's Office are carried out by the following six Divisions:

(a) **Administration Division:** The Division provides administrative cover to about 12,000 civilian personnel employed in the Services Headquarters and Inter-Service Organisations.

(b) **Personnel Division:** The Personnel Division provides civilian manpower to the Services Headquarters and Inter-Service Organisations and deals with their personnel management functions.

(c) **Manpower Planning and Recruitment Division:** The Division is responsible for recruitment to various categories of the AFHQ Cadre/ Ex-Cadre posts, compassionate employment, framing/ amendment of recruitment rules for various grades, re-verification of character and antecedents of employees working in sensitive organisations, Cadre Review/ Restructuring of AFHQ civilian cadres and work related to Pay Commissions etc.

(d) **Finance and Material Division:** This Division provides material support to the ISOs which includes procuring and provisioning of office equipment, stores, furniture, stationery and IT equipment.

(e) **Estates and Works Division:** This Division performs the Estate functions for residential accommodation of Service Officers posted at the Armed Forces HQ and coordinates the Major Works Programmes at the Defence Headquarters.

(f) **Training, Coordination and Welfare Division:** Training requirements of civilian personnel posted in the Services Headquarters and in the Inter-Service Organisations are looked after by the Defence HQ Training Institute (DHTI), functioning under the aegis of the CAO. During the year, DHTI has conducted 65 courses, imparting training to approximately 1,303 Civilians and Service Personnel.

9.19 **Chief Security Office:** The Chief Security Officer, Ministry of Defence functioning under the aegis of JS (Trg) & CAO, is primarily responsible for physical security, access control and prevention of breaches of security and fire within the Defence Headquarters Security Zone.

DIRECTORATE OF PUBLIC RELATIONS

9.20 The Directorate of Public Relations (DPR) is the only authorised agency for the dissemination of information to the media and the public about the important events, programmes, achievements and major policy decisions of the Ministry, Armed Forces, Inter-Service Organisations and Public Sector Undertakings under the Ministry of Defence.

The Directorate, with its headquarters in New Delhi and 25 regional offices across the country, is responsible for providing media support to ensure wide publicity in the print and the electronic media.

9.21 As in the previous years, the Directorate conducted Defence Correspondents' Course for media persons to enhance their knowledge about Defence matters. Thirty-one journalists, including five women, from print and electronic media from all over the country attended the course.

9.22 The Directorate brings out a fortnightly journal, Sainik Samachar for the Armed Forces in 13 languages. The Broadcasting section of the Directorate coordinates and produces a 40 minute programme 'Sainikon Ke Liye' that is broadcast daily on All India Radio for the Armed Forces personnel. The Photo Section of the Directorate provides photo coverage to important events related to Defence. Efforts are on to digitise the Photo Archives of the Photo Section.

9.23 Media publicity for the major events is arranged by DPR. Coverage was also arranged in the form of photographs and news reports for various military exercises and assignments including those abroad. Visits of the Raksha Mantri and Armed Forces Chiefs abroad and the visits of foreign dignitaries to India were also prominently covered. Major decisions of the Union Cabinet and the Ministry of Defence including the Armed Forces were also widely publicized.

9.24 The DPR conducts media tours to various places across the country for major events and familiarization of visits. This Directorate also arranges all media facilities related to the Republic Day Celebrations and brings out a commentary for the parade on the Rajpath. Other important calendar events such as the Independence Day celebrations at Red Fort, Combined Commanders' Conference and NCC Rally addressed by the Prime Minister and Defence Investiture Ceremonies at Rashtrapati Bhawan were also accorded due publicity.

ARMY PURCHASE ORGANISATION (APO)

9.25 Army Purchase Organisation (APO) is entrusted with the responsibility of procurement and timely supply of dry food rations for the consumption of Defence Forces. APO procures rice and wheat through the Food Corporation of India and sugar is allotted by the Directorate of Sugar out of levy quota allocated to various sugar mills. Other items like pulses, animal ration, edible oils & vanaspati and milk products are procured from the Central and State Public Sector Undertakings and National/ State level Cooperative Consumer/ Marketing Federations. Whole milk powder, butter and ghee are procured from the members of the National Cooperative Dairy Federation of India. Tea and tinned items like vegetables, fruits, jams, milk, meat and fish, coffee, egg powder, Meal Ready to Eat (MRE), etc. are procured from registered suppliers including private parties. APO also procures vegetables

and chicken curry in retort pouches for the Armed Forces from registered suppliers having the technology.

SERVICES SPORTS CONTROL BOARD (SSCB)

9.26 **Services Championships:** Services Sports Control Board (SSCB) conducts and co-ordinates various sports activities in the three Services. Inter-Services Championships comprising four teams (Army Red, Army Green, Indian Navy and Air Force) are conducted under the aegis of SSCB in 19 Sports. Trials were conducted in 10 disciplines to select the Services team for participation in the National Championship/ Games.

9.27 **Best Services Sportsman and Team:** MCPO-II QA3 Sanjeev Rajput, having won a silver medal at World Shooting Championship at Sydney this year followed by an individual and team Gold with a new meet record at Common Wealth Shooting Championship in Delhi, was adjudged "Best Services Sportsman" for the years 2009-10. On August 29, 2010 he received the Arjuna Award for being the Best Shooter. Army Red, having scored the maximum points in the Inter-Services Championships, was awarded the 'Defence Services Overall Championship Trophy' 2009-10.

9.28 **National Championships :** During the year, the Services fielded senior teams in 26 National Championships and junior teams in four such disciplines. Services Teams won eight National Championships i.e. Archery, Teakwondo, Rowing, Triathlon, Weight lifting, Fencing, Kayaking & Canoeing and Aerobics and were runners up in Athletics, Wrestling and Handball. The Services team also won Junior National Championship in two disciplines i.e. Boxing and Weight Lifting.

International Championships

9.29 **19th Commonwealth Games:** Services Sports Control Board was awarded the Rashtriya Khel Protsahan Purushkar in two categories of promoting budding young talent and proving employment to sportsmen of India.

9.30 The Armed Forces have provided support firstly, by contributing approximately 30% sportsmen to the Indian contingent in the men's category for Aquatics, Archery, Athletics, Boxing, Cycling, Hockey, Rugby, Shooting, Weightlifting and Wrestling. In numerical terms, out of the 170 strong Indian Men's contingent in the above sports, 60 athletes and officials have been contributed by the Indian Armed Forces. These Services sportsmen have contributed 27% of the Gold Medals to the Nation's overall tally, which indeed is a major contribution and a moment of great pride for the Armed Forces. Services sportsmen won 13 Gold (6 individual and 7 team), 6 Silver (4 individual and 2 team) and 6 Bronze (5 individual and 1 team) medals in Commonwealth Games, 2010.

9.31 **Asian Games, Guangzhou:** Services sportsmen won 3 Gold, 8 Silver and 5 Bronze

medals in Asian Games held at Guangzhou from November 12 to 27, 2010.

9.32 **Other International Championships:** A total of 52 sportsmen/ officials were selected from the Services by various Sports Federations for representing the country in International Championships/ Tournaments in Weight Lifting, Athletics, Volleyball, Boxing, Rowing, Equestrian, Body-Building, Triathlon, Basketball, Kabaddi and Wrestling. They won 1 Gold, 4 Silver and 6 Bronze medals in these championships.

ARMED FORCES FILMS & PHOTO DIVISION (AFFPD)

9.33 The Armed Forces Films & Photo Division (AFFPD) is primarily 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, art work etc. to meet the needs of training, weapon trials, Security, defence research, intelligence, records and photo & video Coverage of ceremonial functions of the Ministry of Defence.

9.34 The Central Defence Film Library (CDFL) of this Division is responsible for distribution of training films to various units/ formations/ training establishments/ commands, to meet their specific training requirements. The Library holds 587 titles in 35 mm sizes, 1,165 titles in 16 mm sizes, 241 titles in VHS format, 272 titles in U-matic format, 34 titles in VCD format and 48 titles in DVD format.

9.35 The Mobile Cinema Unit (MCU) of this Division also procured/ distributed documentary films/ news magazines of information of cultural and family welfare values to the troops in the forward areas.

NATIONAL DEFENCE COLLEGE

9.36 The National Defence College is a premier training institution of the Ministry of Defence which has established a name for itself as a centre of excellence on matters pertaining to National Security and Strategic Studies. Selected Armed forces officers of the rank of Brigadier/ equivalent from Indian and Foreign Armed Forces and Civil Services officers of equivalent status of Director and above are nominated for training at the college. The officers undergo an eleven months programme with focus on National Security, covering all dimensions of domestic, regional and international issues to equip future policy makers with background necessary to get a broad understanding of the multifarious economic, political, military, scientific and organizational aspects essential for planning of National Strategy.

9.37 The 50th NDC Course consisted of 99 officers comprising Army (39), Navy (6), Air force (12), Civil Services (17) and Friendly Foreign Countries (25). The Course concluded on November 26, 2010.

SCHOOL OF FOREIGN LANGUAGES

9.38 The School of Foreign Languages (SFL) has been the pioneer in foreign language

teaching in India, since 1948. The School is engaged in imparting training in 18 foreign languages to personnel of the three Services of the Indian Armed Forces. It also caters to the needs of the other ministries and departments of the Government of India, such as the Ministry of External Affairs, the Cabinet Secretariat, Central Police Organisation viz, BSF, CRPF, ITBP, etc. Besides civilian students are also admitted for Certificate of Proficiency, Advanced Diploma and Interpretership Courses.

9.39 The courses offered by the SFL are Certificate of Proficiency Course, Advanced Diploma (Intensive) Course, Interpretership Course and Short-term Course/ Capsule Course.

9.40 The SFL is the controlling organization for other Defence institutions where foreign languages are taught, viz National Defence Academy, Pune and Army Education Corps Training Centre and College Pachmarhi. It conducts examinations and issues diploma to the successful candidates. For the IFS probationers, it is obligatory to qualify the Advanced Diploma(IFS) examination conducted by the Institute. The SFL conducts examination in Regimental Languages, viz, Nepali at various Service units all over the country.

HISTORY DIVISION

9.41 The History Division, earlier known as Historical Section was established on October 26, 1953 to compile the histories of the military operations conducted by the Indian Armed Forces since the independence. Till now, it has compiled and published 19 volumes including the History of Operations in Jammu & Kashmir 1947-48, Operation Polo, Operation Vijay (Goa), Military Costumes of India, Stories of Heroism, etc. The operations conducted by the Indian Armed Forces on UN Peace Keeping Missions have also been compiled and these include the History of Indian Armed Forces in UN Operations in Congo, CFI or The Indian Troops in Korea 1953-54, Operation Shanti (Indian Troops in Egypt) and Terrific Responsibility (The Battle for Peace in Indo-China). Presently, the Division is working on two titles, viz. Stories of Heroism Vol. III and War Memorials of the India.

9.42 The History Division also functions as the research, record and reference office of the Ministry of Defence and the Indian Armed Forces. The Division is presently engaged in the digitization of records.

9.43 The Division also runs a Fellowship scheme under which two research fellowships are granted every three years to encourage research in military history. So far seventeen research fellows have benefitted under the scheme.

9.44 The Heraldic Cell of the Division assists the three Services Headquarters and the Ministry of Defence in all ceremonial matters such as naming of new establishments and

Library of History Division

acquisitions, designing of crests and badges and coining of suitable mottoes.

COLLEGE OF DEFENCE MANAGEMENT (CDM)

9.45 The College of Defence Management is a Tri-Service category "A" training establishment in existence for over four decades now. It is entrusted with the responsibility of instilling contemporary management thoughts, concepts and practices in the senior leadership of the Armed Forces. It is possibly the only institution, which imparts exclusive and quality training in Defence management in the developing nations.

9.46 Osmania University recognizes the core course of CDM, namely the Higher Defence Management Course for the award of the Master of Management Studies (MMS) degree.

9.47 College of Defence Management conducts Higher Defence Management Course (HDMC), Senior Defence Management Course (SDMC), Management Development Programme (MDP), Defence Management Course and External Capsules.

DEFENCE SERVICES STAFF COLLEGE (DSSC)

9.48 The Defence Services Staff College (DSSC) is one of the oldest military institutions

in India. It was established in 1905 in Deolali and has been functioning at Wellington since 1950. The DSSC imparts training to middle level officers of the three Services besides a few civilian officers and officers from friendly foreign countries. The college conducts a 45 week training programme from June to April every year. The Staff Course at DSSC aims at imparting training in operational and staff functions in an Inter-Service as well as Joint Service environment.

MINISTRY OF DEFENCE LIBRARY

9.49 The Ministry of Defence library provides literature on subjects relevant to planning and policy formulation in the Ministry of Defence, three Service Headquarters, Inter-Service Organisations and other allied Defence Establishments located in Delhi. It specializes in Defence and related subjects, besides catering to the needs of general readers. During the year, the library added 1,250 books, subscribed to 133 Journals/ Periodicals and 24 Newspapers.

10

RECRUITMENT AND TRAINING

CPL holder under trainee Pilots at CGAS Daman

Recruitment to the Armed Forces is voluntary and open to all citizens of India irrespective of caste, class, religion and community and a large number of training institutions in Defence Sector work in coordination with one another to train the recruited force

RECRUITMENT IN THE ARMED FORCES

10.1 The Armed Forces epitomize the ideals of service, sacrifice, patriotism and composite culture of the country. Recruitment to the Armed Forces is voluntary and open to all citizens of India irrespective of caste, class, religion and community, provided the laid down physical, medical and educational criteria are met. Service in the Armed Forces provides one of the best career options for the youth.

10.2 **Recruitment of Commissioned Officers in the Armed Forces through UPSC:** Commissioned Officers in the Armed Forces are recruited mainly through the UPSC which conducts the following two All India Competitive Examinations:

(a) **National Defence Academy (NDA) and Naval Academy (NA):** The UPSC holds entrance examination twice a year for entry into the NDA and Naval Academy. Candidates on completion of 10+2 examination or while in the 12th standard are eligible to compete. Having cleared UPSC written examination, the eligible candidates undergo Service Selection Board (SSB) interview. On being selected, successful candidates join the NDA or Naval Academy as per their option of service exercised at the time of applying. On completion of the course, they are sent to the respective Service Academies for pre¬-commission training.

(b) **Combined Defence Service Examination (CDSE):** CDSE is conducted by the UPSC twice a year. University graduates or those in final year of graduation are eligible to appear in the examination. Successful candidates join the Indian Military Academy/ Air Force Academy and Naval Academy for Permanent Commission and Officers Training Academy (OTA) for Short Service Commission.

ARMY

10.3 **Recruitment of Commissioned Officers in the Army Through Non-UPSC Entries:** Apart from the UPSC entries, the commissioned officers are also recruited in the Army through the following Non-UPSC entries:

(a) **University Entry Scheme (UES):** Final/ Pre-Final year engineering

degree course students in the notified engineering disciplines are eligible to apply for Permanent Commission in the Technical Arms of the Army as Commissioned Officers under the UES. Eligible candidates are selected through a campus interview by the Screening Teams deputed by the Army Headquarters. These candidates are required to appear before SSB and Medical Board. Successful candidates undergo one year pre-commission training at the Indian Military Academy (IMA), Dehradun.

(b) **Technical Graduates Course (TGC):** Engineering graduates from notified disciplines of engineering/ post graduates with minimum second division aggregate marks in notified disciplines for Army Education Corps and MSc in Agriculture/ Dairy for Military Farms are eligible to apply for Permanent Commission through this entry. After the SSB and the Medical Board, the selected candidates are required to undergo one year pre- commission training at the IMA, Dehradun, before being commissioned.

(c) **Short Service Commission (Technical) Entry:** The Short Service Commission (Technical) Entry Scheme provides avenues to eligible technical graduates/ post graduates for recruitment in Technical Arms. After SSB and Medical Board, the selected candidates are required to undergo approximately 49 weeks pre-commission training at OTA, Chennai. On completion of training, they are inducted as Short Service Commissioned Officers. Cadets through this entry are also entitled to one year ante-date seniority on commissioning. Terms and conditions of other short service Commissioned officers are applicable.

(d) **10+2 Technical Entry Scheme (TES):** Candidates who have qualified 10+2 CBSE/ ICSE/State Board Examination with minimum aggregate of 70% marks in Physics, Chemistry and Mathematics are eligible to apply for commission under the 10+2 (TES). On being successful in the SSB and being declared medically fit by the Medical Board, they undergo one year basic military training at IMA, Dehradun and thereafter undergo three years engineering degree course in respective streams before getting Permanent Commission. On being commissioned, they are further put through one year of post commissioning training for the Arm/ Service into which they are commissioned.

(e) **Short Service Commission (Women):** Women are offered Short Service Commission in three streams, viz. Non-Technical Graduate, Technical, Post Graduate/ Specialist for a period of ten years, extendable by additional

four years purely on voluntary basis. The duration of training is 49 weeks at Officers Training Academy, Chennai. For Short Service Commission (Women) (Technical) Entry, candidates who have passed or are appearing in final year/ semester of B.E/ B.Tech in notified streams are eligible to apply. The applicants for Non-Technical stream are required to apply through UPSC. Candidates who qualify for the written examination conducted by the UPSC come up for SSB interview. 20% allotted seats from Non-Technical stream have been reserved for NCC 'C' Certificate holder women candidates with minimum 'B' grade and 50% aggregate marks in graduation examination. For Judge Advocate General Branch, applications are invited from Law Graduates with minimum 55% marks for direct SSB interviews. Widows of Defence Personnel who meet the laid down eligibility criteria are granted four years age relaxation and 5% seats in each course (2.5% each in Technical and Non-technical course) are reserved for them. They are exempted from written examination and apply directly to Additional Directorate General of Recruiting, Integrated Headquarters of Ministry of Defence (Army). Recently, Government of India has granted option for Permanent Commission for officers in Army Education Corps and Judge Advocate General Branch after completion of 10 years of service.

University graduates possessing NCC 'C' Certificate with minimum 'B' grade and 50% aggregate marks in graduation examination are eligible to apply for Short Service Commission through NCC (Special Entry Scheme).

(f) **NCC (Special Entry Scheme):** University graduates possessing NCC 'C' Certificate with minimum 'B' grade and 50% aggregate marks in graduation examination are eligible to apply for Short Service Commission through this entry. Such cadets are exempted from written examination conducted by the UPSC and are directly put through the SSB interview followed by a Medical Board. Candidates meeting the qualitative requirements have to apply through NCC Group Headquarters, Directorate at the State level. After screening by respective Group Headquarters, Directorate General of NCC forwards the applications of eligible cadets to the Recruiting Directorate of Integrated Headquarters of Ministry of Defence (Army).

(g) **Judge Advocate General Entry:** Law graduates with minimum 55% aggregate marks in LLB, who are within the age between 21 to 27 years of age can apply for Judge Advocate General Branch. Eligible candidates are called for direct SSB interview and thereafter for medical test. It is a Short Service Commission

Entry wherein suitable candidates can opt for Permanent Commission.

(h) **Service Entries:** Recruitment of Personnel Below Officers Rank (PBOR) into officers cadre is done through Service Selection Boards in the following manner:

(i) **Army Cadet College (ACC) Entry:** The eligible Other Ranks (OR) in age group of 20-27 years having minimum two years of service, with 10+2 pass qualification, can apply for Regular Commission. After qualifying the written examination conducted by the Additional Directorate General of Recruiting, Integrated Headquarters of Ministry of Defence (Army), the aspirants are screened by SSB and the Medical Board. Successful candidates are trained at Army Cadet College Wing, Dehradun, for three years, followed by one year pre-commission training at IMA, Dehradun.

(ii) **Special Commissioned Officers (SCO) Scheme:** Under this entry, JCOs/ NCOs/ ORs in the age group of 28-35 years, with a Senior School Certificate Pass (Class 10+2 Pattern) qualification, are eligible for Permanent commission after screening by SSB and Medical Board. They have to undergo pre-commission training of one year duration at IMA, Dehradun. These officers are employed as sub unit commanders/ Quarter Masters and on various Extra Regimental Employment appointments up to the rank of Major. They retire at the age of 57 years after serving for a period of about 20-25 years as officers. The scheme not only improves the career prospects of the PBORs but also helps in making up the deficiency in the support cadre officers in the Army to some extent.

(iii) **Permanent Commission (Special List) [PC (SL)]:** Under this entry, JCOs/ NCOs/ORs up to 42 years of age having 10 years of service, with a Senior School Certificate Pass (Class 10+2 Pattern) qualification are eligible for commission after screening by SSB and Medical Board. They are granted PC (SL) after successful completion of four weeks orientation training at the IMA, Dehradun.

10.4 **Intake:** Intake of candidates for pre commission training as officers during the year (till December 31, 2010) is given in Table 10.1.

10.5 **Recruitment of Personnel Below Officers Rank (PBORs):** In the Army, there are eleven Zonal Recruiting Offices, two Gorkha Recruiting Depots, one Independent Recruiting Office and 59 Army Recruiting Offices in addition to 47 Regimental Centres

Table 10.1

S. No	Academy	Entry	Inducted
(1)	NDA	Army	409
		Navy	78
		Air Force	132
		Total	**619**
(2)	IMA	IMA (Direct Entry)	275
		ACC	82
		SCO	26
		PC (SL)	20
		Total	**403**
(3)	OTA	SSC(NT)	216
		SSCW	207
		NCC	79
		JAG	07
		Total	**509**
(4)	Tech Entries	UES	83
		SSC (Tech)	156
		10+2 TES	227
		TGC	178
		Total	**664**
Grand Total			**2195**

which carryout recruitment through rallies in their respective areas of jurisdiction.

10.6 Recruitment of Personnel Below Officers Rank (PBORs) is carried out through Open rally system. The recruitment of PBORs commences with the preliminary screening of aspiring candidates at rally site followed by document checking, physical fitness tests, physical measurements, and medical examination. This is followed by a written examination for the candidates who are found eligible in all respects. Finally, selected candidates are dispatched to respective Training Centres for training. Efforts are made so that each district of the country is covered once, if not twice by recruitment rallies in a recruitment year.

In the Army, there are eleven Zonal Recruiting Offices, two Gorkha Recruiting Depots, one Independent Recruiting Office and 59 Army Recruiting Offices in addition to 47 Regimental Centres which carryout recruitment of PBOR through rallies.

Trainee pilot during phase-II of flying training

10.7 Some of the important decisions taken in the recent past/major developments in the area of recruitment of PBORs in the Army are given in the following paras:

(a) **Interactive Voice Response System (IVRS):** IVRS at Headquarter Recruiting Zones, Chennai, Jaipur, Jalandhar, Lucknow and Kolkata have been successfully installed. This provides information on telephone through Interactive Voice Response System on recruitment rally programme, Qualitative Requirement (QR) for enrolment, result etc. Installation of the system in remaining Zones is in progress.

(b) **Automation of Recruiting Organisation (OR):** Automated Recruiting rallies have been introduced in all Army Recruiting Offices (AROs) of Recruiting Zones Chennai, Jalandhar, Lucknow, Pune, Kolkata and Shillong. This ensures streamlining of procedures, reduces manual interface, impersonation due to biometric devices (thumb print recorder) and digital photographs; increases transparency, produces error free results and ensures appreciable saving of effort and time.

(c) **Computer Based Entrance Test (CBET):** A CBET software has been developed to replace the 'paper pencil' based Common Entrance Examination (CEE) presently being followed. A trial of the test on raw recruitment was demonstrated. The trial was found to be successful. The advantages of CBET are:

(i) Complete Transparency;

(ii) User friendly;

(iii) Invigilation and evaluation board of officers are not required, thus saving on precious manpower;

(iv) Prevents impersonation;

(v) Instant results; and

(vi) RTI complaint.

NAVY

10.8 Recruitment in the Navy is carried out on an all-India basis. The number of uniformed personnel recruited/ inducted, depends on the number of eligible applicants (men and women) who are able to qualify in the written test, Services Selection Board (SSB) interview, medical examination and their relative position in the merit list. No distinction is made on the basis of gender/ religion/ caste/ creed either during recruitment or at any point of time.

Recruitment of Officers in Indian Navy

10.9 The recruitment system of the Navy is streamlined, transparent, expeditious and candidate friendly. There are two modes of induction in the Indian Navy, viz. UPSC Entry and Non-UPSC Entry.

10.10 **UPSC Entry:** The UPSC holds a bi-annual examination for entry into the National Defence Academy (NDA) and Indian Naval Academy (INA) as Permanent Commission (PC) officers. Candidates are eligible to compete on completion of the 10+2 (PCM) Examination or while in the 12th standard. UPSC short-lists candidates after written examinations. Thereafter, the candidates are sent to the Services Selection Boards located at Bangalore, Bhopal and Coimbatore. Results of qualified candidates are forwarded to UPSC for making the final merit. Medically fit candidates, who are in the merit, are appointed by Additional Director General (Recruitment)/ IHQ of MoD (Navy) for appointment to NDA/ Indian Naval

Academy. Successful candidates join the NDA or Indian Naval Academy as Naval cadets. On completion of the NDA/ INA training, they are sent to the training ships at Kochi for Naval Sea Training. For the Graduate Special Entry, the UPSC holds Combined Defence Services Examination (CDSE), twice a year. University graduates are eligible to appear in the examination. Successful candidates join the Indian Naval Academy at Ezhimala, Kerala for the Naval Orientation Course (NOC).

10.11 **Non-UPSC Entry:** The non-UPSC entries are for both Permanent Commission (PC) and Short Service Commission (SSC) cadres. For such entries, the applications are invited and short-listed at Integrated Headquarters of the Ministry of Defence (Navy) [IHQ of MoD (Navy)]. The short-listed candidates are then sent for SSB interviews. Thereafter, a merit list, comprising qualified candidates, is prepared as per the availability of vacancies. Recruitment for the Non-UPSC entries is made through Service Selection Board interviews for the following Branches/ Cadres of the Navy:

In Navy, Commissioned Officers are recruited through Non-UPSC entries for Permanent Commission and Short Service Commission cadres through Service Selection Board interviews.

(i) **10+2 (Cadet) Entry Scheme:** This scheme provides an avenue for permanent commission in the Executive, Engineering and Electrical branches of the Indian Navy. Under the scheme, candidates with 10 +2 (PCM) qualifications, after selection through the Services Selection Board, are sent to the Indian Naval Academy for the B Tech Course. On successful completion of the course they are granted Permanent Commission in the Executive, Electrical and Engineering branches of the Navy.

(ii) **Executive:** Short Service Commission for Air Traffic Control/ Law/ Logistic/ Naval Armament Inspectorate (NAI)/ Hydro cadres/ Pilot/ Observer and also Permanent Commission for Logistic/ Law/ NAI Cadres.

(iii) **Engineering (Including Naval Architects):** Short Service Commission through University Entry Scheme (UES), Special Naval Architects Entry Scheme (SNAES) and SSC (E) Schemes. Permanent Commission is through 10+2 (Cadet) Scheme.

(iv) **Electrical Engineering:** SSC entry is through UES and SSC(L) Schemes. Permanent Commission is through 10+2 (Cadet) Scheme.

(v) **Education Branch:** Permanent Commission and Short Service Commission schemes exist for this branch.

(vi) **University Entry Scheme (UES)**: Under UES, final and pre-final year Engineering students are eligible for induction into the technical Branches/

Cadres of the Navy. Naval selection teams from the IHQ of MoD (Navy) and Command Headquarters visit AICTE approved engineering colleges, across the country, to short-list the candidates. The short-listed candidates, based on All India Merit, are called for interview at the Services Selection Board. Successful candidates are, thereafter, put through medical tests. Final selection is based on all India merit, on the basis of marks obtained in the SSB interviews.

10.12 **Recruitment through NCC:** University graduates possessing NCC 'C' certificate, with minimum 'B' grading and 50% marks in the graduation degree examination, are inducted in the Navy as regular commissioned officers. These graduates are exempted from appearing in the CDSE conducted by the UPSC and are selected through the SSB interview only. They join the Indian Naval Academy for Naval Orientation Course (NOC) along with the CDSE cadets.

10.13 **Special Naval Architecture Entry Scheme:** The Government has recently approved the induction of 45 Naval Architect officers into the Naval Architecture Cadre of the Engineering Branch of the Indian Navy, as Short Service Commission Officers, under a special scheme of 'Special Naval Architects Entry Scheme' (SNAES). An empowered Naval team visits IIT Kharagpur, IIT Chennai, Cochin University of Science and Technology (CUSAT) and Andhra University, where B Tech (Naval Architecture) course is conducted to select candidates through campus interviews. The selected candidates undergo medical examination at the nearest Military Hospital and, if found fit, are selected for training.

Recruitment of Sailors

10.14 **Method of Recruitment:** Recruitment into the Navy is carried out on "All India basis on state-wise merit of the eligible recruitable male population", as per the number of vacancies available. The number of personnel recruited from a particular state depends on the number of eligible applicants who are able to qualify in the written examination, physical fitness test and medical examination and their relative position in the merit. There is no quota of vacancies based on caste/ creed or religion. Advertisements are published in all leading National and Regional newspapers and Employment News, inviting applications from eligible volunteers. Recruitment of sailors in the Navy is carried after the process of a written examination, physical fitness test and medical examination.

10.15 **Types of Entries:** The various entries, for recruitment of sailors, are as follows:

(a) Artificer Apprentices (AAs) – 10+2 (PCM).

(b) Direct Entry (Diploma Holders) [DE(DH)]– Diploma in Mechanical/ Electrical/ Electronics/ Production/ Aeronautical/ Metallurgy/ Shipbuilding.

(c) Senior Secondary Recruits (SSR) – 10+2 (Sc.).

(d) Matric Entry Recruits (MR), for recruitment of Cooks, Stewards and Musicians – Matriculation.

(e) Non Matric Recruit (NMR), for recruitment of Topass Sailors (Safaiwala) – Class VI.

(f) Direct Entry Petty Officer (Outstanding Sportsmen).

AIR FORCE

Recruitment of Officers in the Indian Air Force

10.16 The policy for selection of officers in Indian Air Force is strictly on the basis of merit and is open to all citizens of the country. Indian Air Force, being a technologically intensive service, continues to maintain its high standards for induction of personnel.

10.17 **Induction of officers:** Induction to National Defence Academy (NDA) and Combined Defence Service Examination (CDSE) entries are through UPSC. The non-UPSC entries for induction into the officer's cadre are: SSC(Men & Women) Flying, NCC Entry (PC for men), ASC (PC for Men), GDOC (Non Tech) (PC for Men), Airmen Entry (PC for Air Warriors), SSS (Technical) (Men & Women), and SSC (Non Tech) (Men & Women).

(a) **Recruitment through Service Selection:** Recruitment through Service Selection Boards/ Air Force Selection Boards is made for the Flying (Pilot), Aeronautical Engineering (Electronics), Aeronautical Engineering (Mechanical), Education, Administration, Logistics, Accounts and Meteorology branches of the Air Force.

(b) **University Entry Scheme:** Final/ pre-Final year students in engineering disciplines are eligible for induction into the technical branches of Air Force as Permanent Commissioned Officers under the University Entry Scheme.

(c) **Service Entry Commission:** Under this entry, serving personnel with minimum 10 years of service (of technical and non-technical trades) of the rank of Sergeant and above between the age of 36 and 42 years and minimum educational qualification as 10+2, are eligible for Commission after screening at unit level followed by Air Force Selection Board selection tests and medical examination. Service personnel of technical trades are inducted in the Technical Branch and personnel from Non-¬technical trades are inducted in the Ground Duty Branches.

(d) **Recruitment of Women Officers:** Eligible women are recruited as Short Service Commissioned Officers in the Flying, Aeronautical Engineering (Electronics), Aeronautical Engineering (Mechanical), Education, Administration, Logistics, Accounts and Meteorology branches of the IAF. However, women having joined training commencing in

January, 2009 in education, Accounts and Admin (Legal) branches in the IAF would be eligible for grant of Permanent Commission subject to vacancies available, demonstrated performance and service requirements.

(e) **Recruitment through National Cadet Corps (NCC):** University graduates possessing NCC 'C' Certificate with minimum 'B' grading and 60% marks in graduation are inducted in the IAF as Regular Commissioned Officers by way of selection through the Service Selection Boards.

10.18 **Officers Selection:** Intake of cadets for officers from January 1, 2009 to December 31, 2009 is 236 in Flying Branches, 226 in Technical Branches and 134 in Ground Duty Branches.

Recruitment of Personnel Below Officers Rank (PBORs)

10.19 The selection of candidates for Personnel Below Officers Rank (PBORs) is carried out through a centralized selection system on All India basis in which Central Airmen Selection Board (CASB) assisted by 14 Airmen Selection Centres (ASCs) located at different parts of the country, carries out the recruitment.

In Indian Air Force, selection of candidates for PBORs is carried out through a centralized selection system on All India basis in which Central Airmen Selection Board (CASB) is assisted by 14 Airmen Selection Centres (ASCs) located at different parts of the country.

COAST GUARD

10.20 **Recruitment of Officers:** The officers are recruited into Coast Guard bi-annually. The recruitment of Assistant Commandant is advertised in Employment News and leading National dailies. Five years age relaxation for SC/ ST candidates and three years for OBC candidates is admissible for recruitment. The officers are recruited in the following streams:

(a) **General Duty:** Male/ Female candidates possessing bachelor's degree with mathematics and physics as subject upto 12th standard of 10+2+ 3 scheme of education and between the age group of 21-25 years are eligible to apply for officers in General duty branch.

(b) **General Duty (Short Service Appointment Scheme) for Women:** Women candidates having bachelor's degree with mathematics and physics as subject upto 12th standard of 10+2+3 scheme of education and between the age group of 21-25 years are eligible to apply for officers in General duty branch. The initial engagement period is for eight years which is extendable upto 14 years.

(c) **General Duty (Pilot/ Navigator):** Male/female candidates having bachelor's degree in mathematics and physics as subject during graduation and between age

group of 19-27 years are eligible to apply for officers in General duty (Pilot/ Navigator) branch.

(d) **General duty (CPL Short Service Entry):** Male/Female candidates having passed 12th class in the 10+2+3 scheme or equivalent and possessing current commercial pilot license (CPL) on the date of submission of application and between age group of 19-27 years are eligible to apply for officers in CPL Short Service Entry. In this scheme the engagement period is for eight years which is extendable upto 14 years.

(e) **Technical Branch:** Male candidates with degree in engineering (Naval Architecture/ Marine/ Mechanical/ Electrical/ Tele-communication & Electric/ Design/ Production/ Aeronautical/ Control Engineering) or equivalent qualification and between age group of 21-30 years are eligible to apply for officers in Technical stream.

10.21 **Selection of Officers:** The selection of officers (General Duty/General Duty (Pilot/ Navigator)/ CPL Holders (Short service appointment), Women SSA and Technical Branch is made through Coast Guard Selection Board.

10.22 **Induction of Sub- Officers as Officers:** The outstanding Sub-Officers upto the age of 48 years are inducted as Assistant Commandant in General duty and Technical branch as per the selection procedures.

10.23 **Recruitment of Personnel below Officers Rank (PBORs):** The PBORs, known in general as 'Enrolled Personnel (EPs)' are recruited into Coast Guard bi-annually. The vacancies for PBORs in Coast Guard are advertised in Employment News and all leading newspapers, in the month of November/ December and May/ June. Five years relaxation of age for SC/ ST and three years for OBC is admissible for recruitment. The PBORs are recruited in the following streams:

(a) **Yantrik:** Male candidates having passed matriculation with three years diploma in Mechanical/ Electrical/ Electronic Engineering and between the age group of 18-22 years are eligible to apply as Yantriks.

(b) **Navik (General Duty):** Male candidates having passed intermediate (10+2) with mathematics and physics and between age group of 18-22 years are eligible to apply as Navik (General duty).

(c) **Navik (Domestic Branch):** Male candidates having passed matric and between age group of 18-22 years are eligible to apply for Navik (Domestic Branch).

TRAINING FOR DEFENCE SERVICES

10.24 A large number of training institutions in the Defence Sector work in coordination with one another. The important ones are described in the following paragraphs:-

SAINIK SCHOOLS

10.25 The Sainik Schools were established as a joint venture of the Central and State Governments. These are under the overall governance of Sainik Schools Society. At present, there are 24 Sainik Schools located in various parts of the country. Sainik Schools at Rewari (Haryana) is the latest one started in March 2009.

There are 24 Sainik Schools located in various parts of the country. Sainik School at Rewari (Haryana) is the latest one started in March, 2009.

10.26 The objectives of Sainik Schools include bringing quality public school education within the reach of the common man, all round development of a child's personality and to remove regional imbalance in the officer's cadre of the Armed Forces. The Sainik Schools have shown an upward trend in the number of cadets joining the National Defence Academy in keeping with the primary aim of establishing of Sainik Schools to prepare boys academically, physically and mentally for entry into the National Defence Academy.

10.27 Sainik Schools admit boys into classes VI and IX. Their age should be 10 – 11 years for classes VI and 13 – 14 years for class IX as on 1st July of the year in which admission is sought. Admissions are made strictly in the order of merit on the basis of an All India Entrance Examination held in January each year.

10.28 The Sainik Schools Society has taken a number of measures to achieve academic excellence which have also resulted in achieving record higher board and NDA results. As on date more than 8,000 officers of the Defence Forces are alumini of Sainik Schools Every year at least two Sainik School Teachers are selected for the National Award conferred by the Hon'ble President on Teacher's Day.

RASHITRIYA MILITARY SCHOOLS

10.29 The five Rashtriya Military Schools affiliated to CBSE are functioning at Ajmer, Bangalore, Belgaum, Dholpur and Chail. The Military Schools admit boys in Class VI, based on the results of an all India Entrance Examination. While 67% seats are reserved for the wards of JCOs/ORs called 'entitled category' out of 33% non-entitled category seats, 20% are reserved for wards of service officers.

NATIONAL DEFENCE ACADEMY (NDA)

10.30 The National Defence Academy (NDA) is the country's premier inter-service training institution. It has the unique distinction of being one of the first institution in the world to impart combined training to officer cadets of the Armed Forces.

10.31 The three years course at the NDA is covered in six semesters during which a bond of friendship and respect for each other's service develops. On conclusion of this

training, the cadets proceed to their respective Service Academies for further training before being commissioned as officers in the Armed Forces.

Around 100 lady officers now get commissioned from OTA, Chennai every year in Army Service Corps, Army Education Corps, Judge Advocate General's Department, Corps of Engineers, Signals and Electrical and Mechanical Engineers.

RASHTRIYA INDIAN MILITARY COLLEGE (RIMC)

10.32 The Rashtriya Indian Military College (RIMC) was founded on March 13, 1922, with the objective of providing the necessary preliminary training for boys of Indian birth or domicile, wishing to become officers in the Armed Forces of India. The institution now serves as a feeder institute to the National Defence Academy.

10.33 Selection for RIMC is through a written examination cum viva voce conducted through the State Governments. Seats for respective States are reserved based on population. The intake into the RIMC is biannual, in January and July. The maximum strength of RIMC is 250. The intake is at Class VIII for boys in the age groups 11 to 13 years. The college runs classes in science stream on 10+2 CBSE pattern.

INDIAN MILITARY ACADEMY (IMA), DEHRADUN

10.34 Founded in 1932, Indian Military Academy, Dehradun aims at the fullest development of intellectual, moral and physical qualities of persons joining the Army as officers.

10.35The 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 qualify the Union Public Service Commission Exam and get through the Service Selection Board.

(d) For Technical Graduate's Course. (TGC)

(e) Under University Entry Scheme (UES) for engineering college students in Final/ Pre-Final year of studies.

(f) Through 10+2 Technical Entry Scheme (TES)

10.36 The IMA also imparts training to Gentlemen Cadets from friendly countries.

OFFICER TRAINING ACADEMY (OTA), CHENNAI

10.37 Established in 1963, the officers Training School (OTS) was re-designated as Officers Training Academy (OTA) from January 1, 1988 on completion of 25 years of its existence. Its main task, before 1965 was to train Gentlemen

Cadets for grant of Emergency Commission. From 1965 onwards, the Academy trains cadets for Short Service Commission.

10.38 With the entry of women officers in the Army since September 21. 1992, around 100 lady officers now get commissioned from OTA every year in Army Service Corps, Army Education Corps, Judge Advocate General's Department, Corps of Engineers, Signals and Electrical and Mechanical Engineers.

10.39 OTA imparts pre-commission training for the following :-

(a) Short Service Commission (Non Technical) for Graduates.

(b) Short Service Commission (Technical) for Graduates.

(c) Short Service Commission (Woman) for Graduate/ Post Graduate Lady Cadets.

OFFICERS TRAINING ACADEMY(OTA), GAYA

10.40 The Cabinet Committee on Security (CCS),on December 3,2009 has approved setting up of second Officers Training Academy (OTA) at Gaya, Bihar. The Academy is likely to commence training from June, 2011. Initially a strength of 135 Gentlemen cadets will be trained at the academy and the capacity will be progressively built up to a strength of 750 Gentlemen cadets.

ARMY WAR COLLEGE, MHOW

10.41 Re-designated as the Army War College from January 15, 2003, the earlier College of Combat was created out of Infantry School and established as an independent institution on April 1, 1971. A premier all arms tactical training institution for officers, the AWC performs the important functions of evaluation of new concepts and doctrines in the fields of tactics and logistics.

JUNIOR LEADERS WING (JLW), BELGAUM

10.42 The Junior Leaders Wing at Belgaum is training junior officers, JCOs and NCOs in Sub Unit Level Tactical and Special Mission Techniques to enable them to carry out assigned operational missions in varied terrain under severe stress and strain and be able to command and administer their Sub-Units effectively in war and peace. It trains officers and NCOs of Army, Para Military Forces, Central Police Organisations and friendly foreign countries in commando type of operations and makes them capable of either forming part of special mission groups or leading independent missions in all types of terrain and operational environment.

JUNIOR LEADERS ACADEMY (JLA), RAMGARH

10.43 Considering the need for more training facilities, it was decided to raise another JLA at Ramgarh in Bihar in 2001. The JLA Ramgarh has been organized on the same lines as JLA Bareilly. The institution has been imparting training from February 2003 to 648 candidates every year.

HIGH ALTITUDE WARFARE SCHOOL (HAWS), GULMARG

10.44 The aim of the School is to train selected personnel in all aspects of high altitude (HA) mountain warfare and develop techniques for fighting in such terrains. HAWS conducts two series of courses, viz, Mountain Warfare (MW) and Winter Warfare (WW) at Sonamarg and Gulmarg respectively for officers, JCOs and NCOs. The training periods broadly run from January to April (WW Series) and May to October (MW Series). Personnel from the School have scaled some of the important peaks in the world including Mt. Everest, Mt Kanchenjunga and Mt. Mckinley in the USA.

COUNTER INSURGENCY & JUNGLE WARFARE SCHOOL (CIJW), VEIRANGTE

10.45 The CIJW conducts courses for Officers, JCOs/NCOs in counter insurgency techniques, language courses in Assamese, Bodo, Nagamese, Manipuri/Tangkhul as also imparts Pre-induction Training (PIT) for all units prior to induction into insurgency areas.

COUNTER INSURGENCY PRE INDUCTION TRAINING BATTLE SCHOOLS

10.46 Since the capacity of CIJW School was limited and on account of peculiar operational situation and administrative problems of movement of Units, it was considered necessary to impart training to units at places closer to their areas of operation, more Corps Battle Schools from within the resources of the Army have been established at Kheru, Sarol and Bhalra for units moving into Northern Command and at Thakurbari for units moving into Assam and Meghalaya. Besides training for counter insurgency, these schools especially in the Northern Command are training units for their role along the line of control and high altitude.

INFANTRY SCHOOL, MHOW

10.47 The Infantry School is the largest and oldest military training institution of the Indian Army. Courses conducted at Infantry Schools are Young Officers Course, Platoon Weapon Course, Mortar Course, Anti Tank & Guided Missile Course, Medium Machine gun & Automatic Grenade launcher (J/N) Course, Section Commanders Course, Automatic Data Processing Course, Sniper Course and Support Weapon Course. The institution is training Officers, JCOs and ORs of not only infantry but other arms and services also, besides Para Military Forces and Civil Police Organisations. The institution is at present training more than 7,000 officers, JCOs and NCOs in a year.

COLLEGE OF MATERIALS MANAGEMENT

10.48 The College owes its lineage to Indian Army Ordnance Corps (IAOC) School of Instruction established at Kirkee in October, 1925. The School was later re-designated as IAOC Training Centre in February, 1939 and

shifted to its present location at Jabalpur. In January, 1950, the IAOC School became the Army Ordnance Corps (AOC) School. The AOC School was renamed as College of Materials Management (CMM) and affiliated to the University of Jabalpur (Rani Durgavati Vishwa Vidhyalaya) in 1987. The CMM attained an autonomous status in 1990. The College is also registered as a 'Government College' with the University Grants Commission. It also has the approval of All India Council of Technical Education (AICTE).

10.49 The National Assessment and Accreditation Council (NAAC), an autonomous body constituted under the UGC Act has awarded Five Star (Highest) Accreditation to the College. The college imparts necessary institutional training to all ranks of AOC and civilians entrusted with management of Ordnance support in the Indian Army. It also imparts training in handling unit administration and material management to selected Officers, JCOs and ORs of all arms and services.

SCHOOL OF ARTILLERY, DEOLALI

10.50 The School of Artillery, Deolali, the academic centre for various sub-disciplines of the science and methodology of artillery warfare imparts technical training to Officers, JCOs and NCOs on artillery weapons and systems including training of pilots for Air Observation Post duties. Besides, the review of doctrines, study and trials of artillery equipment, both Indian and foreign, is also carried out.

10.51 Apart from a large number of Officers, JCOs and NCOs of the Indian Army, the school has also trained several officers and personnel from friendly foreign countries during the year.

ARMY AIR DEFENCE COLLEGE, GOPALPUR

10.52 The Army Air Defence College (AADC) earlier functioned as a wing of School of Artillery, Deolali till October, 1989, when it was moved to Gopalpur before separation of Air Defence Artillery from the main branch of Artillery. The college trains personnel of Air Defence Artillery, others arms and armed forces personnel of friendly foreign countries in Air Defence related subjects.

10.53 The AADC conducts a number of courses. Some of the courses are Long Gunnery Staff Course (Officers), Young Officers Course, Electronic Warfare Course, Senior Command Air Defence Course, Long Gunnery Staff Course, Junior Commissioned Officer/Non Commissioned Officer, Technical Instructors Fire Control Course, Aircraft Recognition Course, Unit Instructors and Crew Based Training and Automated Data Processing Course.

ARMY SERVICE CORPS (ASC) CENTRE AND COLLEGE, BANGALORE

10.54 Army Service Corps Centre (South) and Army School of Mechanical Transport were merged with ASC Centre at Bangalore

to establish Army Service Corps Centre and College at Bangalore on May 1, 1999. It is a premier training institute imparting basic and advanced training in multifarious disciplines viz logistics management, transport management, catering, automated data processing etc to Officers, Junior Commissioned Officers, Other Ranks and recruits of Army Service Corps as well as other arms and services.

10.55 Since 1992, the ASC College has been affiliated to Rohilkhand University, Bareilly for award of diplomas/ degrees in Logistics and Resource Management.

ARMY EDUCATION CORPS TRAINING COLLEGE AND CENTRE, PACHMARHI

10.56 The AEC Training College & Centre, Panchmarhi is a Defence Seat of Excellence in Educational Training in the Armed Forces. Only one of its kind, it is both a Category 'A'. It is also an Autonomous College affiliated to Barkatullah University, Bhopal with academic and administrative powers to design, conduct, test and award its own courses and degrees.

10.57 The Department of Map Craft runs a ten week long Map Reading Instructors Course for AEC Officers and Personnel Below Officer Rank (PBOR) of all Arms and Services of Indian Army, Para Military Forces personnel and personnel from friendly foreign countries.

10.58 The 12-week long Unit Education instructors (UEI) Course trains ORs from all Army and Services of the Indian Army to be effective instructors in their units.

10.59 The Foreign Language Wing (FLW), which is one of the three Divisions of the AEC Training College & Centre, a premier node of foreign language training, not only in the Armed Forces but also in the national academic environment has two digitized language labs, each with a capacity of 20 students.

MILITARY MUSIC WING, PACHMARHI

10.60 The Military Music Wing (MMW) raised in October, 1950 under the patronage of the then C-in-C Gen (later Field Marshal) KM Cariappa, OBE as a part of the AEC Training College & Centre, Pachmarhi has a rich treasure of more than 200 musical compositions to its credit and has also excelled in maintaining the standard of military music in India through a diverse range of courses designed to train the recruit bandsmen, pipers and drummers.

REMOUNT AND VETERINARY CORPS CENTRE AND SCHOOL, MEERUT

10.61 The Remount and Veterinary Corps (RVC) Centre and School, located in Meerut, aims at training officers and PBORs of all Arms and Services on animal management and veterinary aspects. Eleven courses for officers and six for PBORs are conducted. The total strength of students being trained is 250.

ARMY SPORTS INSTITUTE (ASI), PUNE

10.62 With a view to producing prospective medal winners at international sporting events, the Army Sports Institute at Pune has been set

up alongwith Army Sports Nodes in selected disciplines at various places in the country. Appropriate funds have been earmarked for state-of-the-art infrastructure and equipment coupled with food, habitat, foreign exposure and training under foreign coaches.

ARMY SCHOOL OF PHYSICAL TRAINING, PUNE

10.63 Army School of Physical Training (ASPT) a premier institution imparting systematic and comprehensive instruction to personnel of the Army regarding the conduct of physical training in units and sub units, also imparts basic training in Sports and Games with a view to improving the standard in the Army and complement physical training through recreation in games and sports. These courses are attended by Officers, JCOs and ORs of the Army, Para Military Forces and service personnel from friendly foreign countries. In collaboration with National Institute of Sports ASPT has started six allied sports in Boxing, Volleyball, Basketball, Swimming and Life Saving, Judo and Yoga Courses for PBORs.

COMBAT ARMY AVIATOR TRAINING SCHOOL (CAATS), NASIK ROAD

10.64 Combat Army Aviator Training School (CAATS) raised at Nasik Road in May 2003 aims to train aviators in aviation skills and handling of aviation units in various operations of war, to train aviation instructors to develop Standard Operating Procedures (SOPs) and also to assist Army Training Command in development of Aviation Tactical Doctrine in Synergy with ground troops. The courses identified to be run in the School are Pre-Basic Pilot Course, Basic Army Aviation Course, pre-Qualified Flying Instructor Course, Aviation Instructor Helicopter Course, Helicopter Conversion on type, Flight Commanders Course and New Equipment Course.

COLLEGE OF MILITARY ENGINEERING (CME), PUNE

10.65 The College of Military Engineering at Pune is a premier technical institution conducting training for personnel of the Corps of Engineers, other Arms and Services, Navy, Air Force, Para Military Forces, Police and Civilians. Besides, personnel from friendly foreign countries are also trained. CME is affiliated to Jawaharlal Nehru University (JNU) for the award of B.Tech and M. Tech degrees. All India Council for Technical Education (AICTE) also recognizes the graduate and postgraduate courses run by the CME. The College trains on average 1500 officers and 800 PBORs every year.

MILITARY COLLEGE OF ELECTRONICS AND MECHANICAL ENGINEERING (MCEME), SECUNDERABAD

10.66 The role of MCEME is to provide technical education to all ranks of EME, including civilians, in various disciplines of

engineering, weapon systems and equipment with special reference to their maintenance, repairs and inspection and to provide training in management and tactics at senior, middle and supervisory levels. The MCEME is designed to train 1760 personnel (all ranks). It conducts 13 courses for officers and 61 different courses for PBORs.

10.67 As part of the continuous up-gradation of the existing training infrastructure training bays have been renovated and tubular models of Sub-Systems/Sub Assemblies of equipment have been placed. Certain integrated bays for equipment with all training aids have also been established.

10.68 Computer Based Training Packages (CBTs) and digitized charts have been developed which contain exhaustive technical information on the functioning, repair, maintenance, servicing aspects and the correct usage of the electrical and electronics portion of equipment being taught at MCEME.

CORPS OF MILITARY POLICE CENTRE AND SCHOOL, BANGALORE

10.69 The role of the School is to train officers and PBORs on military and police duties in law, investigation, traffic control etc. Four courses for officers and fourteen courses for PBORs are being conducted. The total strength of students being trained is 910.

ARMY AIRBORNE TRAINING SCHOOL (AATS), AGRA

10.70 The Army Airborne Training School (AATS) was previously designated as Army Air Transport Support School (AATSS). In response to the need to concentrate all Airborne Training under one single agency, the Army Air Transport Support School was redesignated as Army Airborne School with effect from January 15, 1992.

MILITARY COLLEGE OF TELECOMMUNICATION ENGINEERING (MCTE), MHOW

10.71 MCTE, Mhow trains signal Officers in Combat Communication, Electronic Warfare, Communication Engineering, Computer Technology, Regimental Signal Communications and Cryptology. Besides, the five Training Faculties and Wings, the College has a Department of Administration to provide administrative and logistic support to the staff and the students, a Conceptual Studies Cell to evolve communication doctrines and produce training material, a modern and well-stocked library, and an in house printing press. Trainees are provided with an opportunity to study and train in a formal setting to equip them with the requisite skills, knowledge and abilities for current as well as future tasks.

MILITARY INTELLIGENCE TRAINING SCHOOL AND DEPOT (MINTSD), PUNE

10.72 The Military Intelligence Training School and Depot (MINTSD) is a premier establishment responsible for imparting training on Intelligence Acquisition, Counter Intelligence and Security aspects to all ranks of the Indian Army, Navy, Air Force, and Para Military Forces and personnel of friendly foreign countries. Civilian officers of the Department of Revenue Intelligence are also trained at this establishment. The School has the capacity to impart training to 90 officers and 130 Junior Commissioned Officers/ Non Commissioned Officers of all the arms at a time. The School trains approximately over 350 Officers and 1100 Junior Commissioned Officers/Non Commissioned Officers every year.

ELECTRONIC AND MECHANICAL ENGINEERING SCHOOL (EME), VADODARA

10.73 The EME School conducts postgraduate level courses for officers and diploma and certificate level courses for PBOR. A number of foreign officers and PBOR from friendly foreign countries have been attending various courses conducted at EME School.

INSTITUTE OF MILITARY LAW, KAMPTEE

10.74 The Institute of Military Law was established at Shimla. In 1989, the institute was shifted to Kamptee. The charter of duties of the School includes a comprehensive system of legal education for officers of all arms and services of the Army. The School undertakes wide-ranging research, development and dissemination work in the field of Military and allied laws.

ARMOURED CORPS CENTRE AND SCHOOL, AHMEDNAGAR

10.75 In 1948, the Training Wings, the Recruits Training Centre and Armoured Corps Depot and Records were shifted to Ahmadnagar where the fighting Vehicles School was already functioning and they were all amalgamated to form the Armoured Corps Centre and School and Armoured Corps Records. It has six wings namely School of Armoured Warfare, School of Technical Training, Basic Training Regiment, Driving and Maintenance Regiment, Automotive Regiment and Armament and Electronics Regiment for Specialised training in these disciplines.

FOREIGN TRAINING

10.76 With the interest of foreign armies for training in Indian Army establishments increasing considerably, the Army personnel from neighboring countries, South East Asia, Central Asian Republics (CAR), African continent and a few developed countries are being trained in India.

10.77 Under the Indian Technical and Economic Cooperation (ITEC) programme of Ministry of External Affairs, the Government of India provides assistance to the developing and under developed nations. Courses are also availed by Nepal and Bhutan under Special Aid Programme of the Ministry of Defence. Under this programme, personnel from developing countries get training in service institutions either free of cost or at subsidized rates. Developed western countries also send their officers for training in these institutions on reciprocal and self -financing basis by paying cost of training and other related charges

11

RESETTLEMENT AND WELFARE OF EX-SERVICEMEN

Participating in DEFEXPO-2010 showcasing availability of a vast pool of skilled human resource of Ex-Servicemen

The Department of Ex-servicemen Welfare (ESW) formulates various policies and programmes for the welfare and resettlement of Ex-servicemen (ESM) in the country

11.1 The Department of Ex-Servicemen Welfare (ESW) formulates various policies and programmes for the welfare and resettlement of Ex-sservicemen (ESM) in the country. The Department has two Divisions viz., Resettlement and Pension, and it has 3 Attached offices namely Secretariat of Kendriya Sainik Board (KSB), Directorate General (Resettlement) (DGR) and Central Organisation, Ex-servicemen Contributory Health Scheme (ECHS). The KSB is responsible for the welfare of Ex-Servicemen and their dependents and also for the administration of welfare funds. The KSB is assisted in its task by 32 Rajya Sainik Boards and 361 Zila Sainik Boards, which are under the administrative control of respective State Governments/ Union Territory Administrations. The office of Directorate General of Resettlement implements various policies/ schemes/ programmes like pre and post retirement training, re-employment, self employment etc. The DGR is assisted in its task by 5 DRZs at each of the 5 Commands. ECHS takes care of the health and medical needs of Ex-Servicemen and their dependents.

RE-SETTLEMENT

11.2 The main thrust of the Department of Ex-Servicemen Welfare is on resettlement/ re-habilitation of Ex-Servicemen and their dependents. This is sought to be achieved through:

(a) Equipping Ex-Servicemen for suitable employment by imparting necessary training.

(b) Facilitating re-employment of the ESM in the corporate/ Government/ Quasi Government Sectors and Public Sector Undertakings and also through Self Employment ventures.

11.3. DGR is entrusted with the responsibility of preparing retiring service personnel for a second career in civil life. Hence the course modules have been revised to cater for the requirements of the public and private sectors. DGR organizes short term courses of one to three months duration and a few courses of up to six months duration for Ex-Servicemen Officers. These courses have

The main thrust of the Department of Ex-Servicemen Welfare is on resettlement/ re-habilitation of Ex-Servicemen and their dependents.

received an overwhelming response from the officers and have resulted in good job placements. 874 Officers have taken up various courses during 2010-11 up to December 31, 2010.

11.4 Resettlement Training Programmes for Junior Commissioned Officers/ Other Ranks are conducted in diversified fields for varying durations in government, semi-government and private institutes, spread all over the country. Management courses of 24 weeks duration in renowned management institutes, have also been started for PBORs. 18696 JCOs/ ORs and equivalent have completed various courses upto December 31, 2010 during 2010-11.

11.5 The scheme for Ex-Servicemen training is meant for those Ex-Servicemen who could not avail the facility of resettlement training while in service. It is also extended to the widow/ one dependent of an ESM, irrespective of whether his death is attributable to military service or not. 911 Ex-Servicemen have undergone training upto December 31, 2010 during 2010-11.

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

11.7 **Reservation in Government Jobs:** The Central Government has provided for the following reservation for ESM:

(a) 10% in Group 'C' posts,

DG(R) with service officers undergoing Management course at Amity

(b) 14.5% in Group 'C' and 24.5% in Group 'D' posts in Public Sector Undertakings and Nationalized Banks.

(c) 10% posts of Assistant Commandants in paramilitary forces.

(d) 100% in Defence Security Corps.

Most of the State Governments also provide reservations to Ex-Servicemen in Government jobs.

PLACEMENT

11.8 Persistent efforts of the Department for increasing awareness amongst the Corporate Sector on the availability of trained Ex-Servicemen have borne fruit and now major demands are coming from the Corporate Sector/ PSUs. During the year 2010-11(upto December 31, 2010) 52,271 ESM have gained employment. The major placement has been in the field of security work through DGR sponsored security agencies, to various Central Public Sector Undertakings (PSUs) and industries in the private sector. The scheme offers good self-employment opportunities to Ex-Servicemen in a field where they have sufficient expertise. During the year 2010-11, 250 Security Agencies have been empanelled, 45856 Ex-Servicemen have been employed and in addition 740 Ex-Servicemen (Officers) have been placed gainfully so far.

During the year, 52,271 ESM have gained employment.

SCHEMES FOR SELF-EMPLOYMENT

11.9 **Allotment of Army Surplus Vehicles:** Ex-Servicemen and widows of defence personnel, who died while in service, are eligible to apply for allotment of Army Surplus Class V-B Vehicles. The figures for registration and allotment of Army Surplus vehicles for the year 2010-11 are 1066 and 768 respectively.

11.10 **Coal Transportation Scheme:** This scheme is in operation for the last 30 years. At present 89 Ex-Servicemen Coal Transportation Companies are in operation and through them 267 Ex-Servicemen officers and approximately 3000 retired PBORs have benefited.

11.11 **Coal Tipper Scheme:** This is a welfare scheme for widows/ disabled soldiers linked to the coal transportation Scheme. At present 450 widows/ disabled soldiers are the beneficiaries of this scheme.

11.12 **Allotment of Oil Product Agency:** Ministry of Petroleum and Natural Gas has reserved 8% of Oil Product Agencies i.e (LPG Distributorship, Petrol Pumps and Superior Kerosene Oil Distributorship etc.) for the defence category applicants who comprise of war/ peace time widows and disabled soldiers. Eligible applicants are sponsored by DGR for the purpose. During the year 2010-11, 532 Eligibility Certificates have been issued.

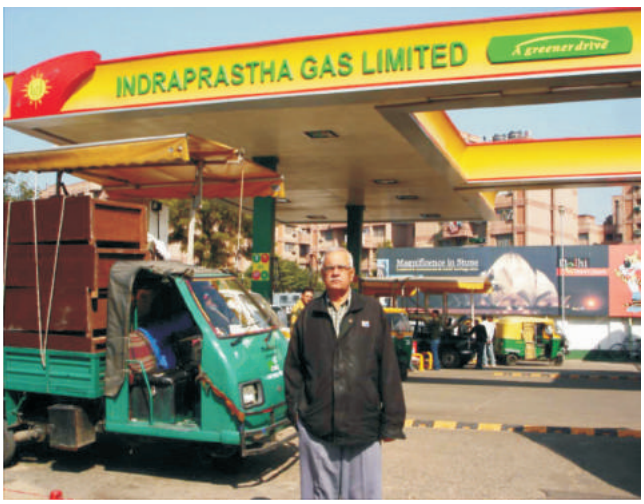
11.13 **Mother Dairy Milk Booths and Fruit & Vegetable (Safal) shops:** This is a time-tested remunerative self-employment scheme for Ex-Servicemen PBORs. DGR sponsors eligible Ex-servicemen for this purpose to Mother Dairy.

The scheme has now been extended to other cities of NCR viz Gurgaon, NOIDA, Faridabad and Ghaziabad. A total of 873 PBORs have benefited from this scheme so far. During 2010-11, 188 and 97 ESM have been selected for running milk booths and Fruit and Vegetable shops respectively.

11.14 **COCO retail outlets of IOC and BPCL:** Employment is being provided by these two States-owned petroleum companies to Ex-Servicemen officers for managing their retail outlets under COCO scheme. Ex-Servicemen officers are sponsored by DGR as per demands of the companies. During 2010-11, 283 Ex-Servicemen officers have been sponsored.

During 2010-11, 102 Ex-Servicemen have been provided Rs. 285 lakh as loan under SEMFEX-II scheme and 49 Ex-Servicemen have been provided Rs. 248 lakh as loan under the SEMFEX-III scheme.

11.15 **Management of CNG Station by ESM (Officers) in NCR:** This scheme was operative only in the National Capital Territory of Delhi earlier which has now been extended to cover entire NCR including NOIDA, Faridabad and Gurgaon. So far 68 Ex-Servicemen officers have benefited from this scheme, and during 2010-11, 66 Ex-Servicemen Officers have been sponsored.



CNG Station operated by ESM(O) in NCR

ENTERPRENEUR SCHEME

11.16 As a resettlement measure, the DGR has been facilitating entrepreneurship of Ex-Servicemen in micro and small scale industries as a viable resettlement option, with help of subsidy/ soft loan available under various Government Schemes. During 2010-11, 102 Ex-Servicemen have been provided Rs. 285 lakh as loan under SEMFEX-II scheme and 49 Ex-Servicemen have been provided Rs. 248 lakh as loan under the SEMFEX-III scheme.

AWARENESS GENERATION

11.17 Wide publicity of policies and various schemes for welfare of Ex-Servicemen is of paramount importance. This is done by means of publication of periodical magazines like **Sainik Punarvas News Fliers, Brochures, Leaflets, articles in Sainik Samachar and Baatcheet,** exhibitions/ seminars and Ex-Servicemen rallies.

WELFARE

11.18 **Kendriya Sainik Board (KSB):** The Kendriya Sainik Board (KSB) is the nodal

agency under this Department, to look after the welfare of Ex-Servicemen and their families in cooperation with Rajya Sainik Boards/ Zila Sainik Boards. The welfare schemes of KSB are administered through the Armed Forces Flag Day Fund (AFFDF). Financial assistance is provided to institutions which are engaged in welfare related activities of Ex-Servicemen/ widows and their wards. Financial assistance is also provided to individual Ex-Servicemen and their families for specific purposes, like daughter's marriage, children's education, funeral allowance for widows, assistance to orphan daughters, medical treatment etc.

Under Prime Minister's Scholarship Scheme, a total of 4000 scholarships are available annually.

11.19 **Raksha Mantri Discretionary Fund (RMDF):** A portion of the earnings of Armed Forces Flag Day Fund is set apart as RMDF, which is used to provide financial assistance to needy Ex-Servicemen, widows and their wards for various purposes as enumerated in the above para. Up to September 30, 2010 during this year, an amount of Rs. 3.47 Cr.s has been disbursed among 2571 beneficiaries.

Raksh Mantri contributing towards AFFD Fund

11.20 **Prime Minister's Scholarship Scheme:** This scheme was announced on August 15, 2006. Under this scheme, a total of 4000 scholarships are available annually. The aim of the scholarship is to encourage the wards of Ex-Servicemen/ Widows to go for higher technical/ professional education. Wards of Coast Guard personnel are also eligible. The scholarship is provided for the entire duration of the course @ Rs. 1250 per month for boys and Rs. 1500 for girls, paid annually. Since inception, an amount of Rs. 29.9 Cr. has been disbursed.

11.21 **Seats in Medical/ Dental Colleges:** Seats are reserved in Medical/ Dental colleges for wards of deceased/ disabled personnel and gallantry award winners, which are allotted by KSB in consultation with Ministry of Health and Family welfare. The scheme is operative since 1996. During the current academic year, 28 eligible students have benefited.

11.22 **Education grants:** Educational grants are given to the wards of dead/ disabled soldiers, living in 35 war memorial hostels, to pursue their studies. Details are given below:

(a) **Cases Attributable to Military Service:** Upto class XII, Educational Grant of Rs. 990/- per month per child is provided to the wards of war widows/ war disabled and personnel whose death/ disability is attributable to military service. An amount of Rs. 18.3 lakhs has been disbursed upto December 31, 2010.

(b) **Cases Non Attributable to Military Service:** Upto class XII, Rs 450/- per month per child is provided to the wards of personnel whose death/ disability is non attributable to military service, peace time casualties (died in harness) to enable them to pursue their studies. An amount of Rs. 5.95 lakhs has been disbursed upto December 31, 2010.

EX-SERVICEMEN CONTRIBUTORY HEALTH SCHEME

11.23 The Ex-Servicemen Contributory Health Scheme was started on April 1, 2003, which aims to provide quality medicare to its beneficiaries including Pensioners and their dependents. Under the scheme 227 Polyclinics across the country have been operationalised. At present, the total number of beneficiaries is 35 Lakh comprising of 11 lakh Ex-servicemen and 24 Lakh dependents.

The Government has approved expansion of ECHS network through addition of 199 additional Polyclinics and 15 new Regional Centres.

11.24 **Empanelment of Hospitals:** At present 1377 Hospitals/ Diagnostic Centres/ Dental Centres and 3 Hospices have been empanelled all over the country in addition to Military/ Government Hospitals/ Medical Colleges.

Treatment at Empanelled Hospital

11.25 **Expansion of Ex-servicemen Contributory Health Scheme:** The Government has approved expansion of ECHS network through addition of 199 additional Polyclinics and 15 new Regional Centres in the year 2010-11. Besides this, the Government has recently approved extension of ECHS facilities to Nepal Domiciled Gorkha ESMs, who were out of this scheme so far.

COMMONWEALTH WAR GRAVES COMMISSION (CWGC)

11.26 The Department of Ex-Servicemen Welfare is responsible for liaisoning with the CWGC which maintains graves, memorials etc. of soldiers of 145 countries who died during the two World Wars. The Department releases Government of India's annual contribution to the CWGC for maintenance of these memorials and graves. As a member of the Commission, India's contribution for maintenance of these graves and memorials during year 2010-11 was approximately Rs.5.00 Cr.s.

PENSION

11.27 **Disbursement of Pension to Armed Forces Personnel:** Pension to an estimated number of 17.49 lakh Armed Forces pensioners

is disbursed through branches of the 27 Public Sector Banks, 4 Private Sector Banks viz. HDFC Bank, ICICI Bank, AXIS Bank and IDBI Bank, 640 Treasuries, 61 Defence Pension Disbursing Offices (DPDOs), 2 Post Offices and 5 Pay and Accounts Offices (PAOs) scattered all over India. For the Armed Forces pensioners residing in Nepal, disbursement of pension is done through 3 Pension Payment Offices (PPOs).

11.28 **Retiring/ Service Pension:**

(i) Linking of full pension with 33 years of Qualifying Service is dispensed with w.e.f. January 1, 2006. The retiring pension of Commissioned Officer retiring/ invaliding out of service w.e.f. January 1, 2006 will now be calculated at 50% of emoluments last drawn or reckonable emoluments drawn during last 10 months.

(ii) Weightage of 5 years has been restored for computation of retirement gratuity/ death gratuity in r/o PBOR retiring/ dying in harness on or after January 1, 2006.

11.29 **Disability Pension:**

(i) The rates of Disability Pension for 100% disability of pre 1.1.06 have been revised w.e.f. January 1, 2006 as under:

Rank	Revised
Commissioned Officers and Honorary Officers	Rs.5800/- p.m.
Junior Commissioned Officers	Rs.4300/- p.m.
Other ranks	Rs.3510/- p.m.

(ii) The rates of disability element for 100% disability for various ranks post 1.1.2006 shall be 30% of emoluments last drawn, to be reduced proportionately for lesser disability.

(iii) Armed Forces Personnel who are retained in service despite disability, which is attributable to or aggravated by Military Service and have foregone lump sum compensation in lieu of that disability, may be given disability element/ war injury element at the time of their retirement/ discharge (on or after January 1, 2006) whether voluntary or otherwise in addition to Retiring/ Service Pension or Retiring/ Service Gratuity.

11.30 **Recent Improvements:**

(i) The enhanced rate of ordinary family pension shall be payable for a period of 10 years, without any upper age limit, from the date following the date of death of the personnel who dies in service. There will be no change for the period for payment of enhanced family pension to the family in the case of death of a pensioner i.e. 7 years from the date of death or till attaining age of 67 years whichever is earlier.

(ii) The childless widow of a deceased personnel shall continue to be paid ordinary family pension even after her remarriage subject to the condition that the family pension shall cease, once her independent income from all other sources is equal to or higher than the minimum prescribed family pension in the Central Government.

(iii) The dependent disabled siblings of defence service personnel have also been made eligible for grant of family pension for life.

(iv) The Ex-gratia awards payable in the event of invalidment of Cadets (Direct) on medical grounds or death due to causes attributable to or aggravated by military training have been revised post 6th CPC w.e.f. January 1, 2006 to Rs. 3500/- p.m. Ex-gratia award for 100% disability is Rs. 6300/- pm during the period of disability.

(v) In case of Death of Cadet (Direct) Ex-Lump sum ex-gratia award is Rs. 5.00 lakhs and monthly ex-gratia of Rs. 3500/- pm to next-of-kin (NOK) in addition.

The ex-gratia awards mentioned in (iv) and (v) above are admissible in case of invalidment/ death of cadets (Direct) occurring on or after January 1, 2006. The benefit of revised monthly ex-gratia is also admissible to pre-1.1.2006 cases as well, with financial effect from September 1, 2008.

11.31 The Pending Enquiry Award equivalent to Ordinary family pension shall be admissible to the Next-of-kin (NOK) of missing PBOR after a period of one year from the date of lodging of FIR.

11.32 With the implementation of recommendation of 6th CPC, additional quantum of pension has been granted to pensioners/ family pensioners at the under mentioned rates:

Age of the pensioners/ family pensioners	Additional quantum of pension
From 80 years to less than 85 years	20% of revised basic pension/ family pension
From 85 years to less than 90 years	30% of revised basic pension/ family pension
From 90 years to less than 95 years	40% of revised basic pension/ family pension
From 95 years to less than100 years	50% of revised basic pension/ family pension
100 years or more	100% of revised basic pension/ family pension

11.33 Committee set up under the Chairmanship of Cabinet Secretary to look into the issue of One Rank One Pension (OROP) and other related matters made seven recommendations. All the recommendations have since been implemented by issue of Government letters dated October 30, 2009, January 19, 2010, January 20, 2010 and March 8, 2010. These letters are available on the website of CGDA & PCDA (P) Allahabad at www.cgda.nic.in and www.pcdapension.nic.in.

11.34 Fixed Medical allowance of Rs.100/- pm has been increased to Rs. 300/- pm w.e.f. September 1, 2008.

11.35 Six Defence Pension Adalats were held during the period January to December 2010 at Mathura (U.P), Shimla (H.P), Pathankot (Punjab), Bangalore (Karnatka), Alwar (Rajasthan) & Jorhat (Assam).

11.36 **Recent Initiatives taken by the Department of Ex-Servicemen Welfare:**

(i) Providing computer hardware to all Rajya Sainik Boards and Zila Sainik Boards that were hitherto not provided with the same, (21 out of 32 RSBs and 184 out of 361 ZSBs were thus additionally provided for).

(ii) Initiating a project for Computerized Grievances Redressal for the Department through National Informatic Centre Services Inc. (NICSI).

(iii) Entering into a contract with the Consultant identified by Consultancy Development Centre under the Ministry of Science and Technology to develop IT- based solutions for the Department.

(iv) The present pattern of sharing expenditure between the Centre and the States for running of Rajya Sainik Boards and Zila Sainik Boards is 50:50. This was decided upon in 1962 and for various reasons required a change. The Ministry of Defence has now decided to enhance the Central share to 75% in respect of special category States and 60% for other States.

(v) Signing of an MoU with Doordarshan to have a multi dimensional programme produced for Ex-Servicemen to place in perspective the positive role played by them in nation building.

(vi) Funds from Armed Forces Flag Day Fund (AFFDF) are spent on duly considered and approved welfare schemes for Ex-Servicemen and their families/ wards. While the provisions enable the corpus to be increased from various sources, this has not met with much success earlier. It has now been decided with the approval of competent authority that from the current financial year, the 3 Services will make a regular total annual contribution of Rs.10 Cr.s, to be proportionately shared by them in accordance with the strength of their personnel.

(vii) Exemption has been granted on January 4, 2011 to the donations received towards Armed Forces Flag Day Fund (AFDF) under Section 80G(5)(iv) of the Income Tax Act, 1961. This exemption is valid for the period from assessment year 2011-12 onwards. This is expected to boost the corpus of AFFDF, used for various welfare programmes for Ex-Servicemen and their families/ dependents.

(viii) An initiative was taken to take joint action together with the Department of Financial Services to ensure pension disbursement to Ex-Servicemen in

respectofthe6thCPCrecommendations, with the help of the print media.

(ix) In order to enable Defence pensioners to know their correct entitlement as a result of various Government orders, the Controller General of Defence Accounts (CGDA) has developed a software called 'Suvigya'. With some basic inputs, this software facilitates calculation/ computation of pension. The Department of Ex-Servicemen Welfare has, together with CGDA, taken the initiative of having the software installed at all RSBs/ ZSBs and training the concerned officers, in order that the facility is available at a decentralized level.

12

COOPERATION BETWEEN ARMED FORCES AND CIVIL AUTHORITIES

Operation Leh – a foreigner being rescued by IAF

Apart from the main responsibility of defending the borders of the country, the Armed Forces render timely assistance to civil authorities for the maintenance of law and order and/ or essential services as also in rescue and relief operations during natural calamities

12.1 Apart from the main responsibility of defending the borders of the country, the Armed Forces render timely assistance to civil authorities for the maintenance of law and order and/ or essential services as also in rescue and relief operations during natural calamities. The details of assistance provided by the Armed Forces during the period are given in the succeeding paragraphs.

ARMY

12.2 During the period under review, 385 columns and 16 Engineer Task Forces were deployed in Aid to Civil Authorities. Assistance was provided in Flood Relief/ Flash Floods, Rescue and Relief – Train Accident / Collapse of a Building, Maintenance of Essential Services, Maintenance of Law and Order and Assistance for Commonwealth Games – 2010. Details of some of the important activities undertaken are covered in succeeding paragraphs.

12.3 **Operation CLOUDBURST (Leh Flash floods):** Cloud burst and incessant rains on August 4 and 5 2010 led to flash floods and mudslides in the Leh region. Considerable loss of life, damage to property and breakdown of road and telecommunication infrastructure took place in the region. Besides restoring essential communication and infrastructural

Medical Aid for needy

Footprints of calamity

Building the Nation

Clearing way to new horizon

facilities, the Army through its untiring efforts, rendered major assistance and material aid to the people of the region. Details of assistance provided is given in Table 12.1.

12.4 **Assistance During Commonwealth Games 2010:** Assistance in the following forms was provided to the civil administration during the CWG – 2010:

(a) **Construction of Bridge:** Following the collapse of an under construction over bridge, a **foot over bridge was constructed at Jawahar Lal Nehru Stadium** on request of the civil administration.

(b) Provision of **Air Defence cover** in conjunction with the Air Force for the duration of the Games.

(c) **Chemical, Biological, Radialogical, Nuclear (CBRN) Cover.** To react to any CBRN attack, the following measures were taken:

(i) Provision of Quick Reaction Teams/ Quick Reaction Medical Teams.

Table 12.1

FOOD DISTRIBUTION

Location	Number of Persons
Leh & Choglamsar	11,600
Bazgo, Nhey & Nimu	600
Phyang Village	10,500
Lamayaru & Handangbrok	200
Along National Highway	200
Pang, Sarchu, Patsio TC	600
Hanuyogma	400

CLOTHING AND TENTAGE

Items	Quantity
Blankets	5,300
Mattresses	2,248
Sleeping Bag	1,780
Boot DMS	400
Tarpaulines	395
Dangris	120
Tents	80

ARMY AVIATION HELICOPTER SUPPORT

Civilian Casualty Evacuated	**19 (10 Foreigners)**
Civilians Rescued	**29 (Nine Foreigners)**

Bridge of Friendship

(ii) Earmarking of 50 beds each in Research and Referral Army and Base Hospital, Delhi for treatment of CBRN casualities.

(iii) Decontamination arrangements in various stadia on October 3 and 14, 2010.

(d) Bomb Disposal Teams with dogs.

(e) Special Forces team for immediate response to any act of sabotage/ terror strikes.

(f) Provision of Flexible Duckboards and night vision equipment for the Games Village.

12.5 **Flood Relief:** During September 2010, consequent to the floods caused by incessant rain, civil administration of the states of Uttarakhand and Uttar Pradesh requisitioned for assistance of the Army for evacuation of the affected people. Accordingly columns were deployed in Deoli (Almora), Haridwar, Laksar, Hastinapur, Badayun, Hardoi, Shahjahanpur, Farrukhabad, Unnao and Kannauj for rescue and relief operations and to provide immediate succor to the affected people.

Army columns were deployed in Deoli (Almora), Haridwar, Laksar, Hastinapur, Badayun, Hardoi, Shahjahanpur, Farrukhabad, Unnao and Kannauj for rescue and relief operations and to provide immediate succor to the affected people.

12.6 **Recovery of Trapped Persons:**

(a) **Almora:** One column was launched for rescue operations when a building

Flood Relief Operation in Kannauj

collapsed in Almora Distt trapping a number of people inside. 12 dead bodies and 2 alive recovered from September 18 to 21, 2010.

(b) **Paricha:** An accident involving a chimney collapse occurred at Parichha Thermal Power Plant at approximate 1345 hour on May 24, 2010. One column was employed to recover trapped personals.

12.7 **Kumbh Mela 2010:** Two Columns were deployed from January 2010 to April 2010.

12.8 **Strike by Punjab Electricity Board:** 1101 Railways Engineer Regiment (TA), located at Chandigarh provided assistance to Punjab Civil Administration by deploying Locomotive operators at Guru Govind Singh Super Thermal Plant (GGSSTP), Ropar (Punjab), from April 14 to 17, 2010. The column ensured uninterrupted unloading of box'en (goods wagons) resulting in continuous functioning of the Thermal Plant.

12.9 **Employed of Bomb Disposal Team:**

(a) On August 15, 2010, Bomb Disposal team neutralised an IED near Kore Nala, located near Anantnag. An Aluminium pitcher of approx 20 ltr capacity with IED inside, one pistol, 15 rounds and 2 detonators were recovered.

(b) **Independence Day Function:** One Bomb Disposal team was deployed in Delhi for security duties during the Independence Day functions. The team was deployed from August 1 to 16, 2010

INDIAN NAVY

12.10 **Response to the sinking of MSC *Chitra* Incident:** Consequent upon the collision between MSC *Chitra* and MV *Khalija* III; *Alleppey* and *Jamuna* were tasked with 'OP PATH FINDER' from August 8 to 31, 2010, during which specialised equipment was extensively deployed at Mumbai harbour to locate and identify submerged containers and mark them by divers of Navy. A total of 192 vessels were safely escorted in and out of harbour during the operation.

12.11 **Flood Relief Teams:** As an aid to civil administration, the Western Naval Command positioned nine Rescue teams at various naval locations for providing immediate assistance for flood relief in Mumbai. Additionally, six Diving teams were also deployed to provide assistance on an 'as required basis'.

12.12 **Diving Assistance:** On many occasions naval diving teams from Mumbai, Goa and Karwar have provided assistance to civil authorities at short notice for search and rescue missions involving recovery of drowned personnel and boats in distress.

12.13 **Baglihar Dam(J&K):** A team of MARCOS successfully salvaged an MI – 17 helicopter at Baglihar dam, 20 km from Doda from October 31 to November 12, 2009, in difficult terrain and unfavorable diving conditions.

12.14 **Diving Support in Andhra Pradesh:** A team of MARCOS was deployed for Search and Rescue (SAR) operation to recover five bodies of students drowned at Thotla Konda beach in Andhra Pradesh.

12.15 **Diving Operation in Bheemunipatnam:** Two Prahars were deployed for Search and Rescue operations for local personnel suspected to have drowned at Bheemunipatnam beach.

12.16 **Diving Operation in Tiruttani:** Diving assistance was provided by IN Ship Rajali diving team at Tiruttani town on September 28, 2010 for recovering a civilian from a well.

12.17 **Medical Camp for Villages:** Free medical camp was conducted for civilians of Mangamaripeta village on November 27, 2009. Pulse Polio Immunization was carried out on January 10 and February 7, 2010 at MI Room and SOS Village, Visakhapatnam. A total of 246 doses of Polio drops were given to children under five years of age. Free eye screening camp was conducted for civilians and service personnel and their families on July 31, 2010 at IN Ship Kalinga. A total of 194 patients attended. Free spectacles were issued to 70 patients

AIR FORCE

12.18 **Assistance to CRPF Deployment for Anti Naxal Movement:** On April 7, 2010, two An-32 aircrafts were deployed to airlift 64 mortal remains of CRPF personnel from Jagdalpur.

12.19 **Aid to J&K Government:** During the month of April, 2010, one IL-76 was deployed to airlift 280 passengers (civil) from Srinagar to Leh, who were stranded due to heavy snowfall in valley.

12.20 **Aid to Manipur:** During the month of May 2010, one IL-76 and one An-32 were deployed to airlift 68 tonnes of ration/medicine and 80 tonnes fuel to Manipur. In the month of August 2010, one An-32 was deployed to airlift 249 troops from Dimapur to Imphal & 172 troops from Imphal to Dimapur in support of the state govt.

12.21 **Assistance to CRPF Deployment at J&K:** On August 3, 2010, two IL-76 and two An-32 aircraft were deployed to airlift 495 CRPF personnel and 18.32 tonnes load from Adampur to Srinagar to aid the State Government in maintaining law and order situation.

12.22 **Landslide Relief in Leh:** IAF was prompt in undertaking relief operations to Leh. A total of 410 tonnes of relief load was airlifted and 1368 persons were evacuated from Leh to mainland. 100 prefabricated shelters were also airlifted from Mumbai to Leh during the month of October/ November, 2010.

13

NATIONAL CADET CORPS

Campaign by NCC Cadets for Save Planet Earth Programme

The NCC strives to provide the youth of the country opportunities for all round development with a sense of commitment, dedication, self-discipline and moral values, so that they become useful citizens

13.1 The National Cadet Corps (NCC) was established under the NCC Act, 1948. It has completed 62 years of existence. The NCC strives to provide the youth of the country opportunities for all round development with a sense of commitment, dedication, self-discipline and moral values, so that they become useful citizens. The motto of NCC is "Unity and Discipline".

13.2 The total sanctioned strength of NCC cadets is 15 lakh. This includes 2 lakh NCC cadet strength sanctioned this year, which will be absorbed in a phased manner in the new NCC units to be raised over a period of five years. The NCC's presence extends to 615 districts of the country, covering 14,544 institutions.

13.3 The wing-wise distribution of present enrolled cadet strength of 13 lakh is as under:

(a)	Army Boys Wing	-	8,18,727
(b)	Army Girls Wing	-	3,16,937
(c)	Air Wing	-	62,132
(d)	Naval Wing	-	61,660
	Total	-	12,59,456

MAJOR ACHIEVEMENTS

13.4 **Sanction of additional cadet strength and new raisings:** This year, two lakh additional cadet strength has been sanctioned by the Government alongwith an additional service manpower of 140 Officers, 465 JCOs and 1025 NCOs. These will be absorbed annually by raising of 1 Gp HQr, 10 Army Units, 1 Naval Unit, 1 Air Unit and 40,000 cadets every year, for the next five years.

13.5 **Increase in Girls' Representation:** The current representation of girl cadets is 25.16 %. During the year, induction of girl cadets has grown by 19,137. This is an encouraging trend and NCC aims to increase the representation of girl cadets to 33% in the next few years. In all, six Girls Battalions are being raised in the 1st Phase of two lakh cadet strength increase. This step will motivate more girls to join the Armed Forces.

13.6 **Increase in NCC coverage:** Total number of institutions covered by NCC upto March 31, 2010 was 14,544 as against 14,291 last year, registering an increase of 253 institutions. Also, the districts covered by NCC are 615 as compared to 611 last year.

13.7 **Raising of NCC Remount & Veterinary Squadrons:** Two new NCC Remount & Veterinary Squadrons – one each at Bhatinda (Punjab) and Panaji (Goa) - have been raised this year.

13.8 **Raising of new NCC Group Headquarter:** A new NCC Group Headquarter has been raised at Dehradun (Uttarakhand).

The camps help in developing camaraderie, team spirit, dignity of labour, self confidence and the most important aspect of Unity and Discipline.

TRAINING OF NCC CADETS

13.9 Training in NCC comprises the following important facets:

(a) Institutional Training

(b) Camp Training

(c) Adventure Training

(d) Social Service and Community Development Activities

13.10 **Institutional Training:** Institutional training covers basic military training in Army, Navy and Air Wing, including exposure to camps. The aim of this training is to expose the youth to a regimental way of life and inculcate in them the values of discipline, personality development and orderliness.

13.11 **Camp Training:** Camp Training is an important part of NCC curriculum. The camps help in developing Camaraderie, Team Spirit, Dignity of Labour, Self-Confidence and the most important aspect of Unity and Discipline. NCC has also introduced classes on Human Values as part of Personality Development Programme for its cadets. Various types of camps conducted in NCC are listed below:

(a) **Annual Training Camps (ATC):** Annual Training Camps are conducted at State Directorate level so as to ensure that a minimum of 50% Junior Division/ Wing (JD/JW) cadets and 100% Senior Division/Wing (SD/SW) cadets, numbering approximately 8.5 lakh, attend at least one camp per year. Approximately 1700 such camps are conducted every year.

(b) **National Integration Camps (NIC):** A total of 37 NICs are conducted every year. 24,200 cadets from all States and Union Territories participate in these NICs. 27 NICs have been conducted this year in different parts of the country. In addition, Special NICs have been conducted at the following places:

Sl. No.	Place where SNIC conducted	Period	No. of participants
(i)	Speical NIC, Srinagar	July 19 – 30, 2010	271
(ii)	Special NIC Pungalwa (Nagaland)	May 22 to June 2, 2010	600
(iii)	Special NIC Badabagh (Jaisalmer)	October 20 – 31, 2010	300
(iv)	Special NIC Peddapuram (Kakinada)	October 7 to 18, 2010	300

(c) **Vayu Sainik Camp (VSC):** Every year an All India Vayu Sainik Camp for Air

Wing SD/SW cadets is organised at Jakkur Airfield (Bangalore) for a period of 12 days. This year the camp was conducted from October 20 to 31, 2010. 600 SD/ SW cadets from all 17 State NCC Directorates participated in this camp.

(d) **Nau Sainik Camp (NSC):** This camp is also organized once a year for 12 days. This year the camp was conducted at Visakhapatnam from November 10 –21, 2010. **590 SD/ SW cadets took part in this camp from all 17 State NCC Directorates.**

(e) **Thal Sainik Camps (TSC):** Two concurrent TSCs, one for SD boys and for SW girls were conducted from October 23 – November 3, 2010. Alongside TSC, the Inter Directorate Shooting Competition (both for boys and girls) involving 561 cadets is also conducted. 1360 cadets from all 17 State NCC Directorates participated in this camp.

(f) **Leadership Camps:** Four Advance Leadership Camps (ALCs), one each for Senior Division, Junior Division, Senior Wing, Senior Division(Navy) and three Basic Leadership Camps, one each for Senior Division, Senior Wing and Junior Wing are organised every year. **3373 cadets attended these camps from May 2010 to January, 2011.**

(g) **Rock Climbing Camps:** Four Rock Climbing camps are held at Gwalior in Madhya Pradesh and another four camps at Neyyar Dam near Thiruvananthapuram in Kerala every year. **This year 1080 cadets attended these camps from May to December 2010.**

(h) **Republic Day Camp – 2011:** Republic Day Camp-2011 was conducted from January 1 – 29, 2011 at Delhi. **The Camp was attended by 1950 cadets** from all over India, besides cadets of friendly foreign countries, with whom NCC has an ongoing Youth Programme.

(i) **Republic Day Parade:** Two NCC marching contingents and two NCC bands participated in the Republic Day Parade on Rajpath on January 26, 2011.

13.12 **Attachment Training:** The NCC cadets derive first hand experience by attachment to the Armed Forces units. During the year, attachments conducted were as under:

440 officers and 20,000 cadets attended the attachment training with regular army units including the women officers and 560 Senior Wing cadets.

(a) 440 officers and 20,000 cadets attended the attachment training with regular Army units, including the women officers and 560 SW cadets.

(b) 120 SD cadets underwent attachment training at Indian Military Academy, Dehradun and 48 SW cadets were attached to Officers Training Academy, Chennai. Both attachments were for a duration of two weeks each.

(c) 1000 SW cadets were attached with various Military Hospitals.

(d) 100 Air Wing NCC cadets (38 SD and 12 SW) underwent attachment training with Air Force Academy, Dundigal.

(e) 60 NCC Officers and 560 SW Cadets of Army Wing underwent attachment training with various Army units.

(f) 200 Air Wing cadets (SD) underwent Air Force attachment training at different Air Force stations this year.

13.13 **Gliding and Microlite Flying:** Microlite/ Gliding facilities are provided at 47 NCC Air squadrons. NCC Air squadrons have carried out 700 launches during the year. A total of 2400 hours of microlite flying was undertaken.

NCC Boys & Girls Cadets flying Microlight

13.14 **Naval Ship Attachment:** 300 Cadets of Naval Wing embarked on Naval ships at Mumbai, Kochi and Visakhapatnam for sea training and attachment for a period of 12 days.

13.15 **Foreign Naval Cruises:**

(i) Nine Cadets visited Colombo, Mauritius and Seychelles from October 6 - November 3, 2010 on board Indian Naval Cadet training ships.

(ii) 10 Cadets visited Chittagong, Yangoon and Phuket from January 31 - March 3, 2010 onboard Naval ships INS Tir and INS Krishna.

13.16 **All India Sailing Regatta at Chilka:** 51 SD and 51 SW Cadets from all NCC Directorates participated in All India NCC Sailing Regatta conducted at INS Chilka from November 24 – December 1, 2010. One officer and six cadets from Bangladesh NCC also attended the Regatta.

13.17 **Sailing Expedition:** Each NCC Directorate plans and executes at least one sailing expedition for a period of 12 days covering a total distance of 400 to 500 Kms. 40 to 60 cadets from each Directorate participate in the event. Total 15 expeditions were conducted by different NCC Directorates.

13.18 **Naval Academy Attachment Training:** This year, the camp was conducted at INS Zamorin in Naval Academy, Ezhimala from December 9 to 20, 2010. 170 SW and 25 SD cadets participated in this camp/ attachment.

13.19 **Advance Leadership Camp (ALC):** Every year ALC with naval base is conducted at Thoothukudi (Tuticorin). This year the camp was conducted from December 22, 2010 to January 2, 2011. A total of 150 SD cadets participated in the camp.

13.20 **Technical NCC Camp for Naval Wing:** 150 SD/ SW cadets from Engineering Colleges at Chennai attended the Annual Technical Camp from May 24 to June 7, 2010. The cadets were taken to Naval Engineering Establishments at INS Shivaji/ INS Valsura and Naval Dockyard at Visakhapatnam for study tour.

ADVENTURE TRAINING

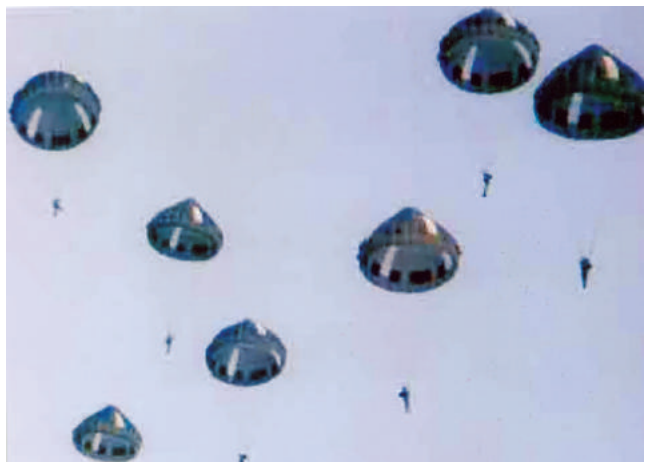
13.21 **Mountaineering Courses:** NCC selects volunteers from SD / SW cadets from all NCC Directorates to attend various courses at Nehru Institute of Mountaineering, Uttarkashi, Himalayan Mountaineering Institute, Darjeeling, JIM & WS Nunwan Pahalgam and Directorate of Mountaineering and Allied Sports, Manali every year. 344 nominated cadets attended various courses during the training year.

13.22 **Mountaineering Expeditions:** This year the boys team undertook an expedition to Gangotri-I Peak (6672 M) in May/July 2010 and the girls team ventured to scale Rudugaira Peak (5819 M) in September/ October 2010, however due to bad weather the expedition was called off on instructions from local Army Formation.

13.23 **Trekking Expedition:** 10 trekking expeditions with participation of 10,000 cadets, were conducted during the year.

13.24 **Para Sailing:** Para sailing is conducted at each Group level as a part of adventure activity for SD/ SW cadets of NCC. During the year, 4425 cadets were exposed to this activity. Five para sailing nodes have been estabilshed at Delhi, Kolkata, Bangalore, Sholapur and Kamptee to train the trainers.

13.25 **Para Basic Courses:** 40 SD and 40 SW cadets underwent the Para basic course for 24 days at the Army Aviation Training School, Agra.



Para Jumping by NCC Cadets

13.26 **Slithering Demonstration:** 10 SD and 10 SW cadets took part in the slithering demonstration during PM's Rally at RDC - 2011.

13.27 **Desert Camel Safari:** Two officers and 10 cadets from Singapore and one officer and six cadets from Kazakhstan along with 20 Indian Cadets participated in Desert Safari held at Jaisalmer from November 9 – 20, 2010.

13.28 **Hot Air Ballooning:** Hot Air ballooning node is being established in Bhopal. Hot Air ballooning was also conducted by Delhi Directorate on November 4, 2010 in which 194 cadets participated.

YOUTH EXCHANGE PROGRAMME (YEP)

13.29 **Out - Going YEP Visits:** 7 outgoing YEP visits were undertaken as per the following details:

S.No	Country	Officers	Cadets
(a)	Singapore (Air Wing)	1	4
(b)	Singapore (Naval Wing)	1	4
(c)	Russia	2	10
(d)	Sri Lanka	1	10
(e)	Maldives	1	4
(f)	Bangladesh	1	12
(g)	Singapore	2	09
	Total	**09**	**53**

13.30 **Incoming YEP visits:** The following incoming YEP visits by foreign delegations were undertaken/are planned during the year:

S.No.	Country	Officers	Cadets
(a)	Singapore and Kazakhstan NCC (Desert Safari)	3	16
(b)	Bangladesh (Sailing Regatta)	1	6
(c)	Delegations from 09 foreign countries attended RDC 2011 including Russia, Kazakhstan, Turkmenistan, Bangladesh, Nepal, Srilanka, Singapore, Bhutan and Vietnam.	15	74

NCC has adopted community development programmes involving adult education, tree plantation, blood donation, visit to Old Age Homes, Blind Children Schools, Orphanages, slum clearance, village upliftment and various other social schemes.

SOCIAL SERVICE AND COMMUNITY DEVELOPMENT

13.31 NCC has adopted community development programmes involving adult education, tree plantation, blood donation, visit to Old Age Homes, Blind Children Schools, Orphanages, slum clearance, village upliftment and various other social schemes. NCC cadets participated in the following community development activities:

(a) **Tree Plantation:** This year, NCC cadets alongwith National Green Corps (NGO) created a world record under

Young NCC Cadets engaged in a Cleanliness Drive

NCC-NGC Go Green Action Plan of Andhra Pradesh Government by planting 2.4 million saplings in one day.

(b) **Blood Donation:** This year as, part of NCC Day Celebrations "Blood Donation Drive" was conducted by all NCC State Directorates in various towns and villages where NCC cadets voluntarily donated blood.

(c) **Old Age Homes:** Old Age Homes in various states of the country were patronized and regularly visited by NCC cadets, to provide a helping hand.

Rescue & Relief Operation by NCC Cadets during the tragic Jnaneswari Express train accident

(d) **Disaster Relief:** During the year, the NCC cadets extended helping hand during floods in Andhra Pradesh, Jnaneshwari Express Accident in West Bengal and Oil Spill along Mumbai Coast.

(e) **AIDS Awareness Programme:** NCC cadets participate actively in the AIDS/ HIV awareness programmes throughout the country. Lectures and interactive sessions on HIV/ AIDS are also conducted during various camps.

(f) **Anti Dowry and Anti Female Foeticide Pledge:** NCC cadets all over the country took a pledge on Anti Dowry and Anti Female Foeticide. Rallies and seminars were conducted to generate awareness amongst masses as also to sensitise the NCC cadets themselves.

(g) **Anti Drug Rally:**Anti drug rallies were organized by NCC cadets in major cities and towns in all states.

(h) **Pulse Polio Immunisation:** NCC cadets have also participated in numerous Polio eradication programmes launched by the Government all over the country as per National schedule.

(i) **Adult Education:** NCC cadets visited remote areas, villages and underdeveloped areas to emphasize the need for education and to assist in the conduct of the Adult Education Programme.

(j) **Anti Leprosy Drive:** NCC cadets have launched anti-leprosy drive throughout the country and are helping various voluntary/ Government Organisations in this field.

(k) **Cancer Awareness Programme:** NCC Cadets actively participated in Cancer awareness programmes organised in various cities. Cancer Care India (CACI) a NGO and NCC joined hands to launch

Cancer Awareness Programmes (CAPs) throughtout the country.

(l) **Anti-Tobacco Drive:** NCC cadets from all Directorates actively participated in **'No Tobacco Day'** observed on May 31, 2010. On this day all State NCC Directorates organized numerous Rallies/Street Shows/ Plays by NCC cadets to spread awareness among masses about ill effects of Tobacco.

(m) **Senitisation on Civic Sense and Rules:** NCC cadets regularly participate in Traffic rules awareness weeks organized in various cities. During this period, the cadets man various traffic check posts and supplement the resources of local traffic police.

(n) **New Initiatives:** During the year, the NCC launched the following campaigns to generate awareness on contemporary issues, which are now part of regular NCC social and community development activities.

(i) **Save Energy Campaign:** In a country wide campaign, the NCC cadets launched an awareness drive to avoid wastage of precious electrical power. The pan-India campaign was launched on August 15, 2010. To generate awareness, various rallies and street shows were organized in cities and towns of all States.

(ii) **Promotion of use Non Conventional/Alternate sources of Energy:** NCC launched campaign to promote use of alternate sources of energy. NCC cadets are motivated to use solar and bio-energy appliances during various NCC Camps.

(iii) **De-Pollution of Rivers:** Rallies and Street shows to generate awareness and cleaning of banks of river Ganga, were organized from Haridwar (Uttarakhand) to Munger (Bihar) by various NCC Directorates.

SPORTS ACTIVITIES AT NATIONAL LEVEL

13.32 The NCC cadets also participated in the following sports activities conducted at the national level:

(a) **Jawahar Lal Nehru Hockey Cup Tournament:** NCC teams in sub junior boys and junior girls categories participated in the prestigious Jawaharlal Nehru Hockey Tournament 2010. Sub Junior NCC team qualified for quarterfinal league.

(b) **Subroto Cup Football Tournament:** Three teams from NCC are fielded in the prestigious Subroto Cup football tournament every year where they participate in the sub junior/junior category. This year, two teams

qualified for the semifinals. Seven NCC footballers have been selected for the prestigious Subroto Scholarship, besides a cash prize of Rs. 45,000/- for the teams.

(c) **All India GV Mavlankar Shooting Championship (AIGVMSC):** This year 35 NCC shooters have been selected for 54th National Shooting Competition Championship. NCC shooting team won following medals in GV Mavlankar Shooting Championship:-

(i)	Gold	–	07
(ii)	Silver	–	04
(iii)	Bronze	-	04

13.33 **Commonwealth Games – 2010:** NCC provided 2500 cadets as volunteers to be deployed during Delhi Commonwealth Games – 2010. NCC cadets were deployed on Gate/ Spectator Management duties, Team welcome ceremony at Games Village, Adieu ceremony during Games closing ceremony and as Maids of Honour.

13.34 **Career Counseling for NCC cadets:** NCC organises "Career Counseling Programmes" for NCC cadets on regular basis. Service Officers, Whole Time Lady Officers (WTLOs) and Associated NCC Officers (ANOs) who are taken from the academic faculty, have been trained by professionals to give basic career counseling to cadets. These 'Trainers' would subsequently counsel (train) the cadets in the diverse Units/Sub-units of the NCC all over the country. During the training year, 13 Career Counseling Cadres have been conducted in which 413 Officers have been trained and approximately 24,000 cadets counseled.

14

DEFENCE COOPERATION WITH FOREIGN COUNTRIES

Indian and Russian Armies conducted anti-terrorism exercise Indra-2010 at Chaubattia in Uttarakhand

Defence cooperation encompasses all contacts and exchanges undertaken by the Ministry of Defence, including the Armed Forces, to avoid hostilities and to build and maintain trust in the interests of mutual security

14.1 Defence Cooperation with friendly foreign countries is an important component in the conduct of a country's foreign policy and security affairs and is an important tool in strengthening bilateral relations with various countries. It encompasses all activities undertaken by the Ministry of Defence and the Armed Forces to avoid hostilities, build and maintain trust and make significant contribution towards conflict prevention and resolution. Defence diplomacy initiatives with friendly countries have been in the form of high level defence related visits, training exchanges, Service to Service Talks, supply/acquisition of military equipment, holding of joint exercises and other forms of cooperation.

14.2 During the year, India continued to support **Afghanistan** in its efforts to stabilize its political and security situation. Our assistance includes training courses for Afghan National Army (ANA) personnel, medical treatment of ANA personnel in India, establishment of Indian Medical Missions in five locations, supply of equipment etc. General Sher Muhammad Karimi, Chief of General Staff of the Afghan National Army visited India from October 20-22, 2010.

14.3 Defence relations with **Bangladesh** continued in the form of participation in training courses, high-level exchanges, visits, etc. General Md Abdul Mubeen, Chief of Army Staff of Bangladesh visited India from March 15-19, 2010. Lt General Abdul Wadud PSO Armed Forces Division, Bangladesh visited from October 31 to November 6, 2010. The 2nd Army to Army Staff Talks were held at Dhaka from December 20-23, 2010. An Indo-Bangladesh Joint Exercise SANDHI-2010 was conducted at Jorhat from November 3-14, 2010. The Bangladesh Navy participated in Indian Naval Exercise MILAN 2010, held in February 2010. 16 War Veterans of the Indian Armed Forces, along with spouses witnessed the Victory Day Celebrations-2010 from December 15-20, 2010.

14.4 India has had historically close relations with **Bhutan** extending also to the defence and security sphere. An Indian Army Training team assists the Royal Bhutanese Army in meeting some of its training requirements. General V.K Singh, Chief of Army Staff visited Bhutan from June 8-10, 2010.

14.5 Defence cooperation between India and **Maldives** is marked by frequent high-level visits

between the two countries. General Deepak Kapoor, Chairman COSC & COAS visited Maldives from February 11-14, 2010. Major General Moosa Ali Jaleel, Chief of Defence Force Maldives visited India from October 21-22, 2010. Mr Uz Mohamad Muiz Adnan, Minister of State for Defence and National Security visited India for the formal taking over of MNDF CGS Huravee, on completion of its re-fit at Vishakapatnam from February 10-12, 2010. Mr Ameen Faisal, Minister of Defence and National Security visited from March 28 to April 5, 2010. On the requests of Maldives Government, Indian Naval ships undertook maritime surveillance operations around Maldives in February, June, September and December 2010. Surveillance was also carried out by Indian Navy aircraft in August and October, 2010.

14.6 Defence cooperation is an important aspect of the India-**Myanmar** bilateral relationship. The past few years have witnessed the strengthening of the defence relationship between both countries, in tune with the overall development of bilateral ties. Vice Admiral Nyan Tun, C-in-C of Myanmar Navy visited India from February 20-25, 2010.

14.7 India enjoys a special military relationship with **Nepal**. A substantial number of Nepal Army (NA) personnel undergo training in Indian military institutions every year. India's defence ties with Nepal include slots in training courses, supply of equipment, high level visits etc. General Chhatra Man Singh, Chief of Army Staff, Nepal was conferred the honorary rank of General of the Indian Army during his visit to India from December 12-18, 2009. General V.K Singh, Chief of Army Staff visited Nepal from December 20-23, 2010 and as a reciprocal measure, he was conferred the honorary rank of General of the Nepalese Army.

14.8 India-**Sri Lanka** defence ties strengthened after the improvement of the internal security situation in Sri Lanka. Mr Gotabaya Rajapakse, Defence Secretary, Sri Lanka visited India from August 26-30, 2010. Vice Admiral Thisara Samarasingse, Commander of the Sri Lankan Navy visited India from October 19-27, 2010. Admiral Nirmal Verma, Chief of Naval Staff visited Sri Lanka on a goodwill visit from June 28 to July 1, 2010 and again on December 9, 2010 for the 60th anniversary celebrations of the Sri Lankan Navy. General V.K Singh, Chief of Army Staff visited Sri Lanka from September 6-8, 2010. The 2nd Air Force Staff Talks were held at Colombo from September 13-15, 2010. A high level delegation led by Shri Pradeep Kumar, Defence Secretary visited Sri Lanka from December 27-29, 2010.

14.9 Defence ties with **Indonesia** have remained strong. The 2nd India-Indonesia Joint Defence Cooperation Committee meeting was held in New Delhi from June 17-18, 2010. The Indian delegation was led by Shri Pradeep Kumar, Defence Secretary and the Indonesian delegation was led by Air Marshal Eris Herryanto, Secretary General, Ministry of Defence, Indonesia. The Indian Navy and the Indonesian Navy regularly carry out

Coordinated Patrols (CORPAT). The 16th CORPAT was held in November, 2010.

14.10 India's defence ties with **Japan** have been strengthening over recent years. Exchange of high-level visits and training courses have been the highlights of India-Japan defence cooperation. The 6th Military to Military Talks with Japan were held in Tokyo from April 8-9, 2010. Mr. Toshimi Kitazawa, Minister of Defence of Japan paid an official visit to India from April 29 to May 1, 2010. The 2nd India-Japan Defence Policy Dialogue (DPD) was held in New Delhi on July 7, 2010. Shri Pradeep Kumar, Defence Secretary co-chaired the meeting from the Indian side and Mr. Kimito Nakae, Administrative Vice Minister of Defence, co-chaired from the Japanese side. Air Chief Marshal P.V Naik, Chief of Air Staff visited Japan from September 27-30, 2010. The inaugural Army to Army Staff Talks between the Indian Army and JSDGF were held in India from September 28 to October 1, 2010.

14.11 Defence relations with **Malaysia** have been cordial. The 8th Malaysia-India Defence Cooperation Meeting (MIDCOM) was held in New Delhi on March 17, 2010. Shri Pradeep Kumar, Defence Secretary and Mr. Dato Sri Abu Bakar bin Haji Abdullah, Secretary General, Ministry of Defence, Malaysia co-chaired the meeting. The 3rd IAF-Royal Malaysian Air Force (RMAF) Staff Talks were held from August 3-5, 2010 in New Delhi.

14.12 India's relations with **Republic of Korea** (RoK) saw an upswing during 2010. Raksha Mantri visited Republic of Korea from September 2-4, 2010. During the visit, a Memorandum of Understanding (MoU) on

The Defence Minister of Japan, Mr. Toshimi Kitazawa and Raksha Mantri at delegation level talks, in New Delhi in April 2010.

Defence Cooperation and another MoU on Defence Research & Development (R&D) Cooperation were signed.

14.13 Defence relations between India and **Singapore** have been growing steadily in recent years. The year 2010 saw many high level interactions between India and Singapore in the field of defence. The 5th Army to Army Staff Talks were held in Singapore from January 13-15, 2010. Prof. Koo Tsai Kee, Minister of State for Defence, Singapore visited India and witnessed the joint exercise Bold Kurukshetra (Armoured Ex) at Babina from March 26-27, 2010. The 2nd India-Singapore Defence Procurement and System Development Working Group (DPSDWG) meeting was held in India on April 26, 2010. Shri S.K. Sharma, Director General (Acq) led the Indian side while the Singapore side was led by Mr. Soh Kok Pheng, Chief Executive, Defence Science & Technology Agency (DSTA). The 7th Navy to Navy Staff Talks were held in Singapore from August 17-18, 2010. The 5th India-Singapore Defence Working Group meeting was held in New Delhi on August 24, 2010. The 6th meeting of Defence Technology Steering Committee was held in Singapore on September 23, 2010. Mr. Teo Chee Hean, Deputy Prime Minister and Minister of Defence, Singapore visited India from October 1-5, 2010. The Indian Air Force and the Republic of Singapore Air Force held joint training during December 2-17, 2010 at Kalaikunda, West Bengal.

14.14 The 3rd Navy to Navy Staff Talks with **Thailand** were held in Bangkok from January 15-17, 2010. MAITREE-10, a joint exercise in Counter Insurgency/Counter Terrorism was conducted in India from September 16-29, 2010.

14.15 India-**Vietnam** relations have been traditionally friendly. The 5th India-Vietnam Security Dialogue was held in New Delhi on June 24, 2010. The Indian delegation was led by Shri Pradeep Kumaar, Defence Secretary, while Lt Gen Nguyen Chi Vinh, Deputy Minister of Defence led the Vietnamese side. General V.K Singh, Chief of Army Staff visited Vietnam from July 26-29, 2010. Raksha Mantri visited Vietnam to attend the inaugural ASEAN Defence Ministers Meeting - Plus (ADMM-Plus) from October 11-13, 2010 and held discussions with his Vietnamese counterpart.

14.16 India and **Australia** enjoy good relations as members of the Commonwealth and as countries sharing a democratic political set up and similar legal, financial and public institutions. General V.K Singh, Chief of Army Staff visited Australia from August 23-26, 2010. The inaugural India-Australia Defence Policy Talks (DPT) were held in New Delhi on December 8, 2010. Shri R.K. Mathur, Additional Secretary and Mr. Peter Jennings, Deputy Secretary, Strategy, Ministry of Defence, Australia co-chaired the Talks.

14.17 A delegation led by Shri R.K Mathur, Additional Secretary visited **Egypt** from April 10-11, 2010 to participate in the 3rd Indo-

Egypt joint Defence Committee Meeting. The Egyptian side was led by Brig General Mohammad Masry, Chief of Planning Branch, Armed Forces Authority, Egypt. The agreed activities include visits to each others' training institutions, ship visits, exchange of experts etc.

14.18 Defence relations with **Israel** have been cordial. Vice Adm Eliezer Marom, Commander–in-Chief of the Israeli Navy visited India from January 18-21, 2010. Major Gen (Retd) Ehud Shani, Director General of the Israeli Ministry of Defence visited India during DEFEXPO-2010 held in New Delhi from February 15-18, 2010. Shri S.K Sharma Director General (Acq) visited Israel to co-chair the 5th India-Israel Sub Working Group on Defence Procurement, Production and Development (SWGDPPD) on May 2, 2010. The 5th IAF-Israel Air Force Air Staff Talks (AST) were conducted at Tel Aviv, Israel from November 1-3, 2010.

14.19 India maintains cordial defence relations with **Oman**. Mr. Mohd. Bin Nasser Al-Rasby, Under Secretary for the Ministry of Defence of Oman visited India during DEFEXPO-2010 held in New Delhi from February 15-18, 2010. The 4th Air Force to Air Force Staff Talks were held in New Delhi from March 15-16, 2010. The 4th Joint Military Cooperation Committee (JMCC) meeting with Oman was held on May 17, 2010 in Muscat. The Indian side was led by Shri Pradeep Kumar, Defence Secretary. Raksha Mantri undertook an official visit to Oman from May 18-19, 2010.

Raksha Mantri inspecting a Guard of Honour during his visit to Oman.

14.20 Relations with **Qatar** have remained cordial. The inaugural meeting of the India-Qatar Joint Committee on Defence was held in Doha from February 24-25, 2010.

Russia is the only country with which India has an institutionalized annual defence cooperation mechanism at the level of Defence Ministers of the two countries.

14.21 India's long standing defence relationship with **Russia** is based on mutual trust and understanding. Russia remains an important supplier of defence equipment to India. It is the only country with which India has an institutionalized annual defence cooperation mechanism at the level of Defence Ministers of the two countries.

14.22 Mr. Sergei Semyonovich Sobyanin, Deputy Prime Minister of Russia visited India during DEFEXPO-2010 held in New Delhi from February 15-18, 2010.

14.23 The 3rd meeting of the India-Russia High Level Monitoring Committee was held in New Delhi on June 1, 2010. The meeting was co-chaired by Shri Pradeep Kumar, Defence Secretary and Mr. M.A. Dmitreiv, Director, FSMTC, Russia. An India-Russia Technical Workshop (TW) was held in New Delhi from June 3-4, 2010 to discuss issues relating to After Sales Support for Russian origin defence equipment with a view to streamline the procedures for speedier and reliable after sales support. Shri R.K. Mathur, Additional Secretary, and Mr. V.K. Dzirkaln, Deputy Director, FSMTC, Russia co-chaired the Technical Workshop. The Meeting of the India-Russia Working Group on Shipbuilding, Aviation and Land Systems (SLAS WG) was held in New Delhi from September 9-10, 2010. Shri R.K Singh Secretary (DP) co-chaired it from Indian side. The Working Group on Military Technical Cooperation (MTC WG) was also held during the same period and Shri S.K Sharma, Director General (Acq) co-chaired it from the Indian side.

14.24 The 10th meeting of the India-Russia Inter-Governmental Commission on Military Technical Cooperation (IGIRC-MTC) was held in New Delhi on October 7, 2010. The meeting was co-chaired by Raksha Mantri and Mr. A E Serdyukov, Defence Minister of Russia. The Defence Ministers of both countries signed a Protocol at the conclusion of 10th IRIGC-MTC meeting.

14.25 INDRA 10, a joint army exercise in Counter Insurgency/Counter Terrorism exercise was conducted in India from October 15-24, 2010. General N E Makarov, Chief of General Staff of the Russian Armed Forces visited India from December 7-9, 2010.

14.26 Our bilateral relations with **Mongolia** have been cordial. Our defence cooperation with Mongolia includes high-level visits, training cooperation and joint exercises. Gen TS Byambjav, Chief of General Staff, Mongolia visited India during DEFEXPO-2010 held in New Delhi from February 15-18, 2010. The 3rd India-Mongolia Joint Working Group meeting

was held in Ulaanbaatar, Mongolia on March 29, 2010. A joint Army exercise namely Ex-NOMADIC ELEPHANT was conducted in India from December 6-19, 2010.

India's defence relations with USA are an important element of the broader strategic partnership between the two countries.

14.27 The 15th session of the Joint Committee on India-**Bulgaria** Defence Cooperation (JCIBDC) was held in New Delhi from October 21-22, 2010. The meeting was co-chaired by Shri. R.K. Mathur, Additional Secretary, and Mr. Evgeny Angelov, Deputy Minister of Economy, Energy and Tourism, Bulgaria.

14.28 India's defence relations with **USA** are an important element of the broader strategic partnership between the two countries. Bilateral defence cooperation has been pursued through regular conduct of military cooperation activities, exchange of experts, high level visits etc.

14.29 The 8th India-US Defence Production and Procurement Group (DPPG) meeting was held in Washington from May 19-20, 2010. Shri S. K Sharma, Director General (Acq), Ministry of Defence, co-chaired the meeting from Indian side and Vice Admiral Jeffrey Wieringa, Director, Defense Security Cooperation Agency (DSCA), US Department of Defense, co-chaired from U.S side.

14.30 The 6th India-US Senior Technology Security Group (STSG) meeting was held in New Delhi from May 24-26, 2010. Shri Ajoy Acharya, Special Secretary (Defence Production) co-chaired from Indian side and Mr. James Hursch, Director, Defence Technology Security Administration (DTSA) from US side.

14.31 Dr. Robert M Gates, Secretary of Defence, USA visited India from January 19-21, 2010. Admiral Gary Roughead, Chief of Naval Cooperation, US Navy, visited India from April 10-14, 2010. General James Jones, National Security Adviser, USA visited India from July 14-16, 2010. Admiral Mike Mullen, Chairman of US Joint Chiefs of Staff visited India from July 22-24, 2010. Ms Michele Flournoy, Under Secretary of Defence for Policy, USA visited from August 9-10, 2010. Admiral Robert Willard, Commander, US PACOM visited from September 7-11, 2010.

14.32 Raksha Mantri visited USA from September 27-28, 2010 and held extensive discussions on bilateral defence relations and security issues with Dr. Robert Gates, Secretary of Defence, Dr. Hillary Clinton, Secretary of State, and General James Jones, National Security Adviser, USA.

14.33 A delegation led by General Ton Van Osch, Head of the **European Union** (EU) Military Staff visited India from June 22-24, 2010. Major General Buster Howes, EU, Operation Commander of Operation EUNAVFOR-ATLANTA visited India from November 30 to December 2, 2010.

14.34 India and **France** continue to share cordial and mutually beneficial defence relations. The 13th India-France High Committee on Defence Cooperation (HCDC) meeting was held in France from November 18-19, 2010. Shri Pradeep Kumar, Defence Secretary and Mr Laurent Collet Billon, Chief Executive of DGA (Armament Directorate), France co-chaired the meeting. The Military Sub-Committee and the Sub-Committee on Defence Equipment, Production and Research & Training (R&T) meetings were held on November 17 and November 16-17, 2010 respectively. The India-France Services Staff Talks were held during November 15-16, 2010 in Paris. Admiral Edouard Guillaud, Chief of Defence Forces, France visited India from October 15-20, 2010.

Indian and French Navies conducted joint exercise Varuna-2010 in the Arabian Sea

14.35 The defence relationship with **Germany** has been growing steadily. A delegation led by Shri Pradeep Kumar, Defence Secretary visited Germany from April 15-16, 2010 to attend the 4th India-Germany High Defence Committee (HDC) meeting. The German side was led by Mr Rudiger Wolf, State Secretary of Defence, Germany. The 5th India-Germany Defence Technical Sub-Group meeting was held in Munich, Germany from April 12-14, 2010. The 4th India-Germany Military Cooperation subgroup meeting was held in Berlin from February 16-18, 2010.

14.36 India-**Italy** defence relations have been warm and cordial. The 8th India-Italy Joint Defence Committee (JDC) meeting was held from January 14-15, 2010 in New Delhi. The JDC meeting was co-chaired by Shri Pradeep Kumar, Defence Secretary from the Indian side and Lt Gen Aldo Cinelli from the Italian side.

14.37 The 1st India- **Sweden** Joint Defence Committee meeting was held in New Delhi from December 14-15, 2010. The Indian side was led by Mr. Satyajeet Rajan, Joint Secretary (Electronic Systems), Department of Defence Production. The Swedish delegation was led by Brig Gen Hakan Espmark, Special Adviser to Ministry of Defence, Sweden.

14.38 Bilateral defence cooperation with **UK** has been growing steadily. There are regular exchange of high-level visits, training, experts and joint projects for defence production between the two countries. Dr. Liam Fox, Secretary of State for Defence, U.K. visited India from November 21-24, 2010.

14.39 The 2nd India- **Mozambique** Joint Defence Cooperation Committee meeting was held in New Delhi on June 16, 2010. From the Mozambique side, Maj Gen (Retd) Teofilo

Joao, Permanent Secretary, Ministry of Defence led the delegation.

14.40 Defence ties with **Seychelles** gained momentum during the year. A delegation led by Brig Leopald Payet, Chief of Defence Forces Seychelles visited India from April 11-16, 2010. A high level delegation led by Raksha Mantri visited Seychelles from July 19-20, 2010 to discuss bilateral defence cooperation.

14.41 The 1st India-**Brazil** Joint Defence Committee meeting was held in India on August 25, 2010. Shri R.K. Mathur, Additional Secretary (M) co-chaired the meeting from the Indian side and Admiral Gilberto Max Roffe Hirschfeld, Secretary of Logistics, Mobilization, Education, Science and Technology (SELOM), Ministry of Defence co-chaired from the Brazilian side. Mr Nelson Jobim, Defence Minister of Brazil visited India on March 11, 2010.

14.42 India endeavours to reinforce and strengthen defence relations with friendly foreign countries through various activities with the objective of creating an environment of peace and stability and to contribute towards global peace and harmony.

15

CEREMONIAL AND OTHER ACTIVITIES

Prime Minister addressing the nation on Independence Day, 2010

The Ministry of Defence encourages and promotes both academic and adventure activities through autonomous institutions

15.1 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 Pahalgam.

15.2 The important activities of these institutions during the period under review are enumerated in the succeeding paragraphs.

INSTITUTE FOR DEFENCE STUDIES AND ANALYSES (IDSA)

15.3 The Institute for Defence Studies and Analyses (IDSA), established in November 1965, is a registered body under the Registration of societies Act III of 1860 (Punjab Amendment Act 1957) as amended from time to time. IDSA's mandate is to undertake studies and research on issues of national security and the impact of defence policies on economic, political and social spheres. A set of initiatives have been taken in recent years to encourage high quality research at the Institute viz. the institution of K. Subrahmanyam Award and the President's Award for Excellence. To further enhance the quality of research, the scheme of inviting eminent academics and strategic thinkers to serve as Distinguished Fellows at the Institute, has been initiated in the last few years. As part of the international outreach programme designed to enhance the Institute's global visibility, two schemes for hosting foreign scholars and analysts have been launched recently viz. the Visiting Fellowships for SAARC Countries and the Visiting Fellowships for International Scholars. A number of important conferences, Seminars, Round Tables, Lectures and Dialogues with other think tanks on issues of national and international significance were held throughout the year.

15.4 **International Conferences/ Seminars/ Dialogues:** The 12th Asian Security Conference (February 11-13, 2010), an annual event, was organised on the theme "Asian Strategic Futures 2030: Trends, Scenarios and Alternatives". The Conference covered an array of topics including Economic Growth, Globalisation, Poverty and Equity, Transformational Technologies and

their Impact on Society, Geopolitics in Asia, etc.

15.5 The Institute conducted the 4th South Asian Conference on November 2-3, 2010 on the topic "The Common Challenge of Terrorism in South Asia and Prospect of Regional Cooperation".

15.6 The IDSA-PRIO (Peace Research Institute Oslo) Conference on Climate Change: Political and Security Implications in South Asia, was held on November 22-23, 2010 at Kathmandu. This conference examined the interface between state security, societal or human security and climate change in South Asia.

15.7 The IDSA hosted a four-day workshop on India's National Strategy in New Delhi on December 20-23, 2010. This workshop focused on questions concerning India's national security strategy, both at the conceptual and prescriptive level.

15.8 The Institute also organized some National Conferences during the year. The first of these, "The Future of Nuclear Non-Proliferation Treaty: Implications for India" was held on March 22-23, 2010. A one-day conference on "Afghanistan: the Way Forward" was jointly organized by IDSA & ICWA at Sapru House on May 17, 2010.

15.9 IDSA, in collaboration with the Yashwantrao Chavan Pratishthan (Mumbai), hosted the inaugural lecture in memory of Mr. Y.B. Chavan on November 22, 2010. Professor

Inaugural Y B Chavan Memorial Lecture

Sunil Khilnani, Starr Foundation Professor and Director of the South Asia Studies Program at the Paul H Nitze School of Advanced International Studies, Johns Hopkins University delivered the lecture. The Y.B. Chavan Memorial Lecture has special significance for the Institute keeping in view that Mr. Chavan was the founding President and patron of IDSA.

15.10 An important part of the Institute's outreach is the relationship that it has forged and continues to foster with prestigious Institutions and think tanks of international repute from around the world. During the year, the institute hosted the second bilateral seminar on March 2-3, 2010 with the Norwegian Institute for Defence Studies, Oslo. Another bilateral interaction with the International Institute of Strategic Studies London, on Nuclear and Radiological Security was conducted at IDSA on March 9, 2010. The 9th IDSA-BESA (Begin-Sadat Centre for Strategic Studies) Bilateral Dialogue was held at IDSA on April 13, 2010. The IDSA, in collaboration with the Institute for Political and International Studies (IPIS), Tehran organized a two day Bilateral Dialogue on July 5-6, 2010 at the IDSA.

15.11 IDSA's important publications during the year 2010 were "China's Path to Power: Military and the Politics of State Transition by Jagannath P Panda; Environmental Security: New Challenges and Role of Military" by P.K. Gautam and some edited books like "Asia 2030: The Unfolding Feature" by Ajay Lele, Namrata Goswami, and Rumel Dahiya; "South Asia: Envisioning a Regional Future" by Smruti S. Pattanaik, "Documents on North East India by Jaideep Saikia; India and New Zealand: Emerging Challenges" by Rajaram Panda and Pankaj Kumar Jha; "India Russia Strategic Partnership: Common Perspectives" by P. Stobdan; "India's Border Management: Select Documents" by Pushpita Das; "In Search of Congruence Perspectives on India-US Relations under the Obama Administration" by Thomas; and "The Future of War and Peace in Asia" by N.S. Sisodia and S. Kalyanaraman.

15.12 **Training Programmes:** IDSA also continued with its short-duration training programmes for civilian and military officials of the Government of India, in which the Institute's scholars as well as selected outside experts provided lectures on a range of issues relating to national, regional and international security. Some of the Training Programmes conducted were: Intelligence Orientation Course for HQ IDS; Lectures held for the Defence and Security Module for IFS Probationers; Vertical Interaction Course for IPS Officers on "Strategic and Security Issues Relating to the Country" and training programmes for Senior BSF officers.

Raksha Mantri in 45th IDSA Foundation Day Lecture

15.13 The year concluded with the 45th IDSA Foundation Day Celebration on November 11, 2010. Raksha Mantri and President IDSA delivered the Presidential Address and presented the4th K Subrahmanyam Award and Presidential awards for Excellence. The 4th K Subrahmanyam Award was conferred on Dr Srikanth Kondapalli, currently Professor at the Centre for East Asian Studies, School of International Studies, Jawaharlal Nehru University. Raksha Mantri also gave raway the Presidents' Award for Excellence to three IDSA Scholars namely, Dr. Namrata Goswami, Dr. Anand Kumar and Col. (Retd.) Pradeep Kumar Gautam. Dr Kaushik Basu, Chief Economic Adviser, Government of India delivered the Foundation Day Lecture on Game Theory and Strategic Foreign Policy.

MOUNTAINEERING INSTITUTES

15.14 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

Uttrarakhand and Jawahar Institute of Mountaineering & Winter Sports (JIM), Pahalgam in J&K. These Institutes are run as Registered Societies and have been conferred the status of autonomous bodies. While Raksha Mantri is President of these Institutes, the Chief Minister of the respective State acts as Vice-President of the Institute. The Institutes are governed by Executive Councils consisting of members elected by General Bodies of each Institute, nominees from amongst donors and/or persons who are keen to promote the cause of mountaineering, and representatives of Central and State Governments.

15.15 These Institutes provide an impetus to mountaineering as a sport, give boost to mountaineering and inculcate the spirit of adventure in youth. The broad objectives of the Mountaineering Institutes are :

(a) to impart theoretical knowledge 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.

15.16 These Institutes conduct courses in the Basic and Advanced Mountaineering, Method of Instruction (MOI), Search & Rescue (S&R) and Adventure. Trainees to these courses comprise personnel from Army, Air Force, Navy, ITBP, BSF, NCC and Indian citizens as well as foreigners. The syllabi, duration, grading and other details for admission to courses are available on the website of these Institutes which are : www.hmidarj@gmail.com, and www.nimindia.net for HMI and NIM respectively.

15.17 **Regular Courses:** The regular courses conducted by the Institutes and number of men and women trained in these courses from April to December 2010 are given in Table 15.1.

15.18 Special Courses: HMI also conducted seven special Courses for 423 men and women from ITBP, Sainik School and others.

15.19 NIM conducted 21 Special Courses for various organizations in which 785 men and women were trained.

Table 15.1

Institute	Basic Course		Advanced Course		Adventure Course		MOI Course		S&R Course	
	No. of Courses	No. of Trainees	No. of Courses	No. of trainees	No. of Courses	No. of Trainees	No. of Courses	No. of Trainees	No. of Courses	No 0f Trainees
HMI	5	301	3	73	1	51	-	--	--	--
NIM	5	331	3	79	5	300	1	10	1	25
JIM	5	158	-	-	2	45	-	--	--	--

15.20 JIM conducted 33 Special Adventure courses for 992 men and women and one Basic Para-Gliding course for 33 men.

CEREMONIALS, HONOURS AND AWARDS

15.21 The responsibility for organising National functions like the Republic Day Parade, Beating Retreat Ceremony, Martyr's Day and Independence Day rests with Ministry of Defence. The Ministry also organises the Defence Investiture Ceremonies for presentation of Gallantry and Distinguished Service Awards at Rashtrapati Bhawan in association with the President's Secretariat. The Ceremonial functions organised during 2010-2011 are detailed in the following paragraphs.

15.22 **Independence Day Flag Hoisting Ceremony:** The celebration of Independence Day began with singing of patriotic songs in different Indian languages by the School children's choir at Red Fort. The three Services and Delhi Police presented the Guard of Honour to the Prime Minister. Thereafter, the Prime Minister unfurled the National Flag on the Ramparts of the Red Fort to the accompaniment of the National Anthem played by the Services Band. A 21 Gun Salute was presented on the occasion. After the Prime Minister's Address to the Nation, the ceremony concluded with the singing of National Anthem by school children and the NCC cadets followed by release of balloons. Later, during the day, the President laid wreath at the Amar Jawan Jyoti at India Gate to pay homage to those who sacrificed their lives for the freedom of the motherland.

MoD organises National functions like the Republic Day Parade, Beating Retreat Ceremony, Martyr's Day and Independence Day.

15.23 The Gallantry awards announced on the eve of the Independence Day-2010 are given in Table 15.2.

Table 15.2

Award	Total	Posthumous
Ashok Chakra	1	1
Kirti Chakra	2	2
Bar to Shaurya Chakra	2	-
Shaurya Chakra	19	5
Bar to Sena Medal (G)	2	-
Sena Medal (G)	80	5
Nao Sena Medal (G)	3	-
Vayu Sena Medal (G)	5	-

15.24 **Vijay Divas:** Vijay Diwas was celebrated on December 16, 2010. On this occasion, the Raksha Mantri laid wreath at the Amar Jawan Jyoti at India Gate.

15.25 **Amar Jawan Jyoti Ceremony, 2011:** The Prime Minister laid a wreath at the Amar Jawan Jyoti of India Gate in the morning of January 26, 2011. Two minutes silence was observed for paying homage to those who laid down their lives in safeguarding the integrity of our nation.

15.26 **Republic Day Celebrations, 2011:** The unfurling of the National Flag

at the Rajpath marked the beginning of the Republic Day Parade. The President's Body Guards presented the National Salute followed by the National Anthem played by the Service Bands and a 21 gun salute. The President of the Republic of Indonesia His Excellency, Dr. H. Susilo Bambang Yudhoyono was the Chief Guest on the occasion. In an Investiture Ceremony, the President of India conferred Ashok Chakra posthumously to the next-of-kin of the awardee Major Laishram Jyotin Singh.

15.27 Mounted columns of 61 Cavalry, mechanised columns comprising of Tank T-90 (Bheeshma), BrahMos launcher System, Nuclear Biological Chemical Recce Vehicle, Integrated Network Platform, fly past by Advanced Light Helicopters etc., marching contingents and bands of Services, Para Military Forces, Delhi Police, NCC, NSS etc. were part of the Parade. The DRDO equipment column included 'Tejas' trainer aircraft, Naval underwater weapons, Long Range Solid State Active Phased Arrary Radar etc.

15.28 Out of the 23 children conferred with National Bravery Awards, two were posthumous. Twenty one National Bravery Award winner children seated in decorated Army Jeeps participated in the Parade. Tableaux of States, Central Ministries and Departments and cultural items presented by school children were the other attractions of the parade. 23 tableaux and 5 children items reflected the cultural diversity of the nation. The parade concluded with a motorcycle display by the jawans of Army Signal Corps followed by a Fly Past by Indian Air Force Aircraft.

15.29 The Gallantry and Distinguished Service Awards announced on the Republic Day are given in Table 15.3.

Table 15.3

Award	Total	Posthumous
Gallantry Award		
Kirti Chakra	5	1
Shaurya Chakra	21	5
Bar to Sena Medal/Nao Sena Medal/Vayu Sena Medal (Gallantry)	5	-
Sena Medal/Nao Sena Medal/		
Vayu Sena Medal (Gallantry)	140	13
Distinguished Awards		
Param Vishisht Seva Medal	28	-
Uttam Yudh Seva Medal	4	-
Ati Vishisht Seva Medal	51	-
Yudh Seva Medal	4	-
Bar to Sena Medal (Devotion to duty)	2	-
Sena Medal/ Nao Sena Medal/		
Vayu Sena Medal(Devotion to duty)	60	-
Bar to Vishisht Seva Medal	2	-
Vishisht Seva Medal	118	-

15.30 **Beating Retreat Ceremony, 2011:** Beating Retreat is a centuries old military tradition practised by troops at the time of disengaging from battle at sunset. The Beating Retreat Ceremony denotes departure of the troops assembled at Delhi for participating in the Republic Day Celebrations. The ceremony was organised at Vijay Chowk on January 29, 2011, which brought the curtain down on the Republic Day festivities. Bands of the three

Services participated in this Ceremony. The conclusion of the ceremony coincided with illumination of the Rashtrapati Bhawan, North Block, South Block, Parliament House and India Gate.

15.31 **Martyrs' Day Ceremony, 2011:** On January 30, 2011, the President laid wreath at Mahatma Gandhi's Samadhi at Rajghat. The Vice President, the Prime Minister, the Raksha Mantri, Raksha Rajya Mantri and other dignitaries also paid floral tributes. This was followed by observance of two minutes' silence at 1100 hours to pay homage to those who sacrificed their lives in India's struggle for freedom.

OFFICIAL LANGUAGE DIVISION

15.32 The Official Language Division has been entrusted with the responsibility of implementing the official language policy in the Ministry of Defence (Sectt.) as well as the three Services HQrs., Inter Service Organisations and Defence Undertakings. The Division ensures implementation and compliance of the provisions of Official Language Act, 1963 and the rules made there under and the directions received from time to time from the nodal Department of Official Language, Ministry of Home Affairs. The work relating to official language implementation is monitored through discussion and review in the periodical meetings of two Hindi Salahakar Samitis under the chairmanship of Raksha Mantri and two departmental Official Language Implementation Committees.

15.33 **Annual Programme:** Efforts continued to achieve the targets laid down in the Annual Programme for the year 2010-11 issued by the Department of Official Language, Ministry of Home Affairs. The main thrust was on the targets regarding Hindi correspondence, compliance of the provisions of the Section 3(3) of the Official Language Act as also of Rule 5 of Official Language Rules, operation of various incentive schemes to do more and more official work in Hindi, training of Hindi, Hindi stenography and Hindi typing to the officers/ staff of Ministry of Defence. The progress in this regard was reviewed in quarterly meetings of Official Language Implementation Committees on a regular basis. The following steps were also taken for increasing the use of Hindi in official work:

(a) Organising Hindi workshops on a regular basis. These workshops were aimed at motivating the officials to use Hindi in their official work.

(b) Holding quarterly meeting of two departmental Official Language Implementation Committees in the Ministry of Defence i.e. one for the Department of Defence, Department of Defence Research and Development and Department of Ex- Servicemen Welfare and the other for the Department of Defence Production regularly in which representatives of various offices located at New Delhi participated.

(c) Conducting joint official language inspections of various Headquarters/ subordinate offices of the Ministry.

15.34 **Translation Work:** In compliance with the provisions of Section 3 (3) of the Official Language Act, the staff of the Division remained engaged in translating VIP references, Cabinet Notes, answers to Parliament Questions and Assurances, Audit Paras, material relating to Standing Committees on Defence and Consultative Committee on Defence, Annual Report of the Ministry and miscellaneous material received from various offices/ sections in the Ministry.

15.35 **Committees relating to Official Language:** The proposal regarding reconstitution of Hindi Salahakar Samiti of Deptt. of Defence, Deptt. of Defence Research & Development and Deptt. of Ex-Servicemen Welfare of the Ministry has been finalised and now a notification in this regard is to be issued. The proposal regarding reconstitution of the Hindi Salahakar Samiti of Deptt. of Defence Production is also on the anvil and a notification reconstituting the Samiti will be issue. Four meetings each of the two Official Language Implementation Committees were held.

15.36 **Incentive schemes for writing books originally in Hindi on subjects relating to defence and in-house journals/ magazines published by the subordinate offices of the Ministry of Defence:** The Ministry has been implementing an award scheme for books written originally in Hindi on defence subjects for the last many years. Awards for the scheme of block years 2005-07 have already been finalised. Thereafter, scheme for the block years 2007-09 has been implemented under which a total of 13 entries have been received. It is a biennial scheme.

15.37 **Hindi Pakhwara:** Hindi Pakhwara was organised in the Ministry of Defence(Sectt.) in the month of September, 2010. During the Pakhwara, competitions for Hindi noting & drafting, essay writing, Hindi typing, Hindi stenography and Hindi Prashnottary, etc. were held. A total of 11 competitions were held in the Ministry during the Pakhwara and 100 personnel were awarded cash prizes/ gifts.

15.38 **Inspections of defence organisations by the Committee of Parliament on Official Language:** This year also, First Sub-Committee of the Committee of Parliament on Official Language carried out inspections of 17 defence offices located at various stations and provided guidance to the offices under inspection and suitable action was ensured to fulfil the assurances given by the heads of organisations concerned.

WELFARE OF PERSONS WITH DISABILITIES

15.39 The representation of persons with disabilities in Group 'A', 'B', 'C' and 'D' posts in Ministry of Defence (excluding Department of Defence Production) and in Attached and Subordinate Offices under Department of Defence Production is presented in Table No. 15.4 and Table No. 15.5 respectively

Table No. 15.4

Annual Statement showing the representation of the persons with disabilities in services (As on January 1, 2010)

Group	No. of employees				
	Total	In identified posts	Visually handicapped	Hearing handicapped	Orthopaedically handicapped
Group A	13521	4005	2	3	55
Group B	20723	6068	17	13	143
Group C	147805	11295	141	254	1023
Group D	105414	14194	197	235	367
Total	**287463**	**35562**	**357**	**505**	**1588**

Table No. 15.5

Annual Statement showing the representation of the persons with disabilities in services in Attached and Subordinate Offices under Department of Defence Production (As on January 1, 2010)

Group	No. of employees				
	Total	In identified posts	Visually handicapped	Hearing handicapped	Orthopaedically handicapped
Group A	1096	10	0	0	2
Group B	8197	229	6	11	130
Group C	41530	1537	107	176	731
Group D	3350	266	19	28	82
Total	**54173**	**2042**	**132**	**215**	**945**

15.40 **Armed Forces:** Provisions enshrined under Sections 33 and 47 of the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act 1995, lay down safeguards for persons with disabilities in the matter of recruitment and retention in the Service. However, keeping in view the nature of duties performed by the Armed Forces personnel, all combatant posts have been exempted from the applicability of the Sections ibid by virtue of special Notifications issued by the Ministry of Social Justice and Empowerment.

All combatant posts are exempted from Section 33 and 47 of the Persons with Disabilities (Equal Opportunities, Protection of Rights and Full Participation) Act, 1995.

15.41 **Department of Defence Production:** All Public Sector Undertakings under the Ministry of Defence have been following the provisions of the Persons with Disabilities (Equal opportunities, Protection of Rights and Full participation) Act 1995 in order to enable persons with disabilities to avail the benefits of reservation. Several concessions and relaxations in addition to

those prescribed by the Government, are also extended to the Persons with Disabilities.

15.42 **Defence Research and Development Organisation (DRDO):** DRDO is committed to implement the Government policies and instructions relating to Welfare of the persons with disabilities. The 3% reservation in the recruitment and promotion is being provided to the persons with disabilities as per the Government instructions.

15.43 **Department of Ex-Servicemen Welfare:** A number of soldiers become disabled during action or due to accidents and other causes and are invalided out from service. These Ex-Servicemen (ESM) are provided special medical care and training to become self- reliant. The care and rehabilitation is undertaken in specialized institutions which are supported financially by Kendriya Sainik Board (KSB).

(a) **Supply of Motorised Tricycles to ESM Paraplegics:** KSB provides motorized tricycle to the disabled ESM, subject to disability of more than 50% or recommendation of medical authorities.

(b) **Tool Kit for ex-servicemen Technicians:** Out of Armed Forces Flag Day Fund, tool kits are provided to ESM technicians for an amount not exceeding Rs. 2,000/-

(c) **Grant to War Memorial Hostels:** Each regimental centre was provided non-recurring grant for construction and functioning of War Memorial Hostels to provide shelter to the children of war widows, war disabled, attributable and non-attributable cases. Recurring grants are also provided to the War Memorial Hostels for wards of Defence personnel @ Rs. 900/- p.m. and Rs. 450/- p.m. for attributable and non-attributable cases respectively by KSB.

Disabled Ex-Servicemen are provided special medical care and training to become self-reliant.

(d) **Grant to Paraplegic Rehabilitation Centre:** The Paraplegic Rehabilitation Centres at Krikee and Mohali look after paraplegic and tetraplegic ESM inmates, who lost their limbs while in active service. Annual Grants are being provided by KSB to these PRCs. Grants are provided by KSB @ 14,600/- per annum per inmate.

(e) **Grant to Cheshire homes:** Cheshire homes look after leprosy, mentally handicapped, chronic spastic/ paraplegic and TB patients @ 9,000 per annum per inmate.

(f) **Grant to St. Dunstan after care Organisation, Dehradun:** St. Dunstan's Organisation for blinded Soldiers, Sailors and Airmen provides psychological support to overcome the shock of blindness as well as impart vocational training to enable the blinded ESM to find a place in society and also provides after care service.

(g) An additional 149 centres across the country under ECHS have been empanelled to supply artificial limbs to disabled veterans.

15.44 **Pensions/ Gratuity to Disabled Armed Forces Personnel:** The Armed Forces personnel who become disabled or are injured during service including those cadets who are released on medical grounds are entitled to different pensionary and other benefits at enhanced rates as under :

(a) **Disability Pension:** A person who is released/discharged from service with a disease or injury, which is attributable to or aggravated by military service, is entitled to disability pension if the disability assessed by the Medical Board is 20% or more. Disability pension consists of two elements viz., service element and disability element. The rate of disability element is 30% of the reckonable emoluments for 100% disability proportionately reduced for lower percentage. Where an individual with 20% or more disability, is retained in service despite disability, he is paid a lump-sum compensation in lieu of disability element equal to the capitalized value of disability element on the basis of disability actually assessed (and not the disability computable on invalidment).

(b) **War Injury Pension:** War injury pension is granted to the personnel who sustain injury or disability during war or war like situation or action against extremists, anti-social elements etc. It consists of service element and war injury element. War injury element is payable equal to reckonable emoluments last drawn for 100% disablement. In case of retention despite war injury, the individual has an option either to draw lump-sum compensation in lieu of war injury element foregoing war injury element or to draw war injury element at the time of retirement/ discharge.

(c) **Invalid Pension:** Invalid Pension is admissible where an individual is invalided out of Military service with a disability neither attributable to nor aggravated by military service, in case the service actually rendered is 10 years or more. Invalid gratuity is paid when the service rendered is less than 10 years. Invalid Pension is equal to the service element of disability pension that would have been admissible in case the causes were attributable to or aggravated by military service and invalid gratuity is equal to half a month's reckonable emoluments for each six monthly period of qualifying service.

(d) **Ex-gratia Award in cases of Death of Cadets (Direct):** Ex-gratia awards are payable in the event of invalidment of cadet (Direct) on medical grounds due to causes attributable to or aggravated by military training at the following rates:

(i) Monthly ex-gratia of Rs.3500/- per month

(ii) Ex-gratia disability award @ Rs.6500/- per month for 100% disability. The amount is reduced proportionately from the ex-gratia disability award in case the degree of disablement is less than 100%.

16

ACTIVITIES OF VIGILANCE UNITS

The Vigilance Division reviews procedures and initiates other measures with a view to combat corruption

16.1 The Vigilance Division in the Ministry of Defence has been entrusted with the task of dealing with complaints regarding corrupt practices, misconduct, irregularities, etc. in respect of employees of Ministry of Defence and various units under it. It serves as a nodal point for interaction on behalf of the Ministry of Defence with the Central Bureau of Investigation (CBI), Central Vigilance Commission (CVC) etc. on vigilance related issues and complaints. The Vigilance Division reviews procedures and initiates other measures with a view to combat corruption.

16.2 For administrative convenience, the vigilance work in respect of the Department of Defence (including Department of Defence Research and Development and Department of Ex-servicemen Welfare) and Department of Defence Production is being looked after by their respective Chief Vigilance Officers.

16.3 In accordance with the directives of the Central Vigilance Commission, all Departments/ Organisations/ Units under Ministry of Defence observed Vigilance Awareness Period from October 25 to November 1, 2010 with the intention of emphasizing the importance of enhanced security and spreading awareness against corruption.

The vigilance work in respect of the Department of Defence (including Department of Defence Research and Development and Department of Ex-servicemen Welfare) and Department of Defence Production is being looked after by their respective Chief Vigilance Officers.

DEPARTMENT OF DEFENCE

16.4 In keeping with the highest traditions of the Services, sensitization against corrupt practices is carried out right from the training stage and also on a regular basis across the entire stratum of the Armed Forces.

16.5 During the year, five officials were given major penalty and six officials were given minor penalty. Twenty nine complaints received from CVC were investigated and brought to a logical conclusion.

DEPARTMENT OF DEFENCE PRODUCTION

16.6 **Ordnance Factory Board(OFB):** The vigilance

set up is headed by Chief Vigilance Officer (CVO). Periodic Vigilance Inspections of Factories are conducted and investigations on specific complaints are carried out. Complaints being an important information source for vigilance action are meticulously studied and analyzed to identify actionable points for vigilance investigation and action. However, special emphasis is given to complaints received through CVC & CBI which are thoroughly investigated. Based on the findings of this investigation, necessary vigilance action including disciplinary proceedings, preventive administrative measures, instructions for system improvement are initiated.

16.7 In addition to the preventive vigilance action and disciplinary measures, certain system improvement initiatives have been undertaken, so as to reduce the scope for irregularities and malpractices. In compliance with CVC directives, Officers & Staff looking after sensitive areas in Factories are being rotated to non-sensitive areas as well as from one station to another on a regular basis. Instructions issued by CVC on Anti-corruption Measures are being disseminated to all levels of employees and its implementation is monitored. Close Liaison & co-ordination is maintained with CVC and CBI for effective functioning and follow up action.

Defence Public Sector Undertakings

16.8 **Hindustan Aeronautics Limited (HAL):** With a view to improve Vigilance Administration, the Company has ensured that all tenders/ contracts/ purchase orders and details of payments made to various suppliers/ contractors are published periodically on the website of the Company. Finance Department has ensured implementation of Integrity Pact wherein the Company has appointed Independent External Monitors. CVO is constantly monitoring the process/ progress of implementation of Integrity Pact. In compliance of the directives of the CVC, the Vigilance Dept is in the forefront advocating implementation of e-Procurement with a view to increasing transparency, fairness thereby to reduce scope for corruption. Vigilance Department of the Company has come out with a New Vigilance Manual comprising four aspects, viz. 'Organization and Policy', 'Punitive Vigilance', 'Technical Issues' and 'Compendium of Circulars'. This is aimed at providing meaningful anti-corruption services in a more effective and efficient manner. IT enabled payments are put in place in the Company in the form of e-Payments which is primarily aimed at cutting delays and also to remove the disadvantages/ difficulties experienced in manual/ cheque payments. The Vigilance Department through its structured programmes conducts sensitization sessions on vigilance matters for all its workforce at various levels. During the period a total of 197 Surprise Checks and 880 Routine Inspections were carried out from preventive vigilance angle.

16.9 **Bharat Electronics Limited (BEL):** The performance of Vigilance Department during 2009-10 has been satisfactory. 1189 Purchase Orders/ Contracts including 536 high value

Orders/ Contracts have been reviewed/ scrutinized during the year and found to be in order. As per the CVC/ CTE Guidelines, 2 teams for Inspection of Works Contracts and 2 teams for Inspection of Purchase Orders have been constituted. During the year 225 Executives and 10 Non-executives have taken part in Vigilance Awareness Training Programme. 35 Executives & 50 Non Executives working in sensitive areas for 3 years and above have been transferred to different posts. BEL has implemented Integrity Pact in compliance with CVC guidelines. In terms of CVC's guidelines the following information has been made available on the BEL website:

(i) Application forms for Registration of Subcontractors/Vendors online for being included in the Approved Vendors List.

(ii) Details of awarded Contracts/ Purchase Orders valuing more than Rs.10 lakhs in respect of works contracts, service contracts, capital items and non production items.

(iii) Details of awarded Contracts/Purchase Orders issued on nomination/single tender basis for value exceeding Rs.5 lakhs.

(iv) Details of awarded Purchase Orders/ Sub Contract Orders for production items with a threshold value of Rs.100 lakhs and above.

(v) Vendors Payments Information system.

16.10 **BEML Limited:** Central Technical Examiner (CTE) Type in-house inspection teams carried out intensive Examination of 1 Civil Work Contract and 3 High Value Purchase Contracts. Wherever there were Procedural deviations, concerned departments have been advised to take corrective action. Central Technical Examiner (CTE) conducted System Study on ERP implementation in BEML in January 2010. A technical committee comprising of CTE, TE, ATE and representatives from Centre for Railway Information System visited BEML and conducted the study. Based on CTE's observations, corrective action has been taken in many aspects and in respect of remaining points necessary follow up is being made.

16.11 **Mazagon Dock Limited (MDL):** As a part of the activities, CTE type (i.e. as conducted by Central Technical Examiner, CVC) intensive examination of Purchase/ Subcontract Service orders are taken to verify compliance of prescribed procedures and statutory norms/ regulation. Until December 2010, 7 such CTE examinations have been carried by Vigilance Department for overall system improvement. Surprise Spot checks are also being conducted by Vigilance Department. Upto December 31, 2010, 10 Spot checks/ inspections have been conducted.

16.12 **Goa Shipyard Limited (GSL):** The thrust during the year, as in the past, was on the preventive vigilance and creating awareness all around. A number of regular inspections and surprise checks were carried out in various areas with the aim to prevent lapses and violations

of instructions/ guidelines of the CVC and to suggest measures for streamlining systems and procedures. The overall objective of vigilance has been to encourage transparency in the organization and instill confidence amongst the citizens in the dealings of the organization as a public sector enterprise in pursuit of good corporate governance. As a result of directions of the CVC, the company has begun making extensive use of its website to meet the objective.

16.13 **Garden Reach Shipbuilders & Engineers Limited (GRSE):** The main purpose of carrying out vigilance is to reaffirm the commitment to the cause of fighting corruption. Workshops were organized on two days during the period from October 25, 2010 to November 1, 2010 which was observed as Vigilance Awareness Period. On October 25, 2010, the workshop was organized for Senior Officers and some other selected officers who are posted in sensitive posts. On this occasion, the steps required to be taken to check corrupt practices and the need to deal with vigilance cases with utmost promptness were discussed. A separate workshop was arranged for junior level officers on October 28, 2010 when the officers were made aware of the Whistle Blower's Resolution, the role of CVC, CBI and CVO. As directed by CVC, process has been initiated to install a dedicated toll-free hot line number to receive complaints against corruption from general public.

16.14 **Hindustan Shipyard Limited (HSL):** The Vigilance Dept. acts as an arm of the CVC in the Company. It tries to ensure integrity among the company's officers and promotes transparency and fairness in various activities of the company such as procurement, recruitment etc. All purchase and outsourcing tenders are placed on company website for transparency. Purchase & Outsourcing is being done through ERP and the purchase procedure approved by the Board complies with CVC guidelines. Efforts are being made to implement e-procurement and reverse auction.

16.15 **Bharat Dynamics Limited (BDL):** Main objective of the Vigilance Department in the year 2010 had been to improve the functioning at various areas by issuing the Systemic Improvement Reports, to focus on preventive/ proactive vigilance management, to assist management to obtain approval for IEMs and to introduce e-payments. There had been substantial improvement in number of e-reverse auctions in BDL in comparison with previous year. There is a lot of savings through e-reverse auction. Based on continuous Pursuance/ insistence of Vigilance, systems of e-payments have been introduced and as on date 91% of payments are being done through e-payment mode. Periodically, systemic improvements are being made to improve the overall system and to reduce the risk of corruption.

16.16 **Mishra Dhatu Nigam Limited (MIDHANI):** Vigilance Awareness Period was observed from October 25 to November 1, 2010. Discussions were organized by eminent vigilance professionals, which benefited

the company's employees in applying their suggestions in day to day functioning. A team of vigilance officials interacted with different departments and clarified several doubts from vigilance angle and quoted appropriate CVC guidelines. Preventive vigilance advices and suggestions on system improvements were given on the lapses noticed during surprise/ routine checks.

DEPARTMENT OF DEFENCE RESEARCH AND DEVELOPMENT

16.17 The main activities of the Vigilance Units in Department of Defence Research and Development Organisation(DRDO) during the year were as under:

- Sensitization of all officers and staff on vigilance aspects at various levels.
- Inspections of laboratories/ establishments to ensure that standing instructions and orders are being implemented.
- Conducting confidential inquiries against malpractices and bringing the errant to book.
- Processing vigilance cases/ inquiries and preparations of documents for charge sheets.
- Investigating vigilance cases brought to the notice of the department by CVC, CBI and other agencies.

17

EMPOWERMENT AND WELFARE OF WOMEN

Woman Air Force officer leading the flight as Flt Cdr at the AF Day Parade

With the induction of women in various non-combatant branches of the Armed Forces like logistics and law, a larger role is envisaged for them

17.1 The role of women has been increasing steadily in the field of national defence. Women are employed in Defence Production Units, Defence Research & Development Laboratories and as Doctors and Nursing Officers in the Armed Forces. With the induction of women in various non-combatant branches of the Armed Forces like logistics and law, a larger role is envisaged for them.

INDIAN ARMY

17.2 **Women Officers in the Army:** Women officers have been serving in the Armed Forces for about 80 years, first inducted in the Military Nursing Service in 1927 and then in the Medical Officers cadre in 1943. In the Armed Forces Medical Services there are both permanent and Short Service Commission Officers.

17.3 Women officers join as Short Service Commission Officers in the Corps of Engineers, Corps of Electrical and Mechanical Engineers, Army Air Defence, Corps of Signals, Army Service Corps, Army Ordnance Corps, Intelligence Corps, Army Education Corps and Judge Advocate General's Department.

17.4 In a significant step which would attract more women in the Army, the tenure of Women Officers in Short Service Commission has been increased from 10 years to 14 years of service. Besides, their promotional avenues have been substantially enhanced. Earlier, they were eligible for only one promotion, viz., to the rank of Major after 5 years of service. As per recent decision of the Government, Women Short Service Commission Officers in the Army are granted time-scale substantive promotions to the rank of Captain, Major and Lt. Colonel Rank after 2, 6 and 13 years of reckonable service respectively. This is at par with the promotions available to the Permanent Commission Officers. In addition, with a view to ensuring gender equality, the training period of women officers in the Army in Short Service Commission has been increased from 24 weeks to 49 weeks, to be at par with male Short Service Commission Officers.

17.5 The Government has approved grant of Permanent Commission to Short Service Commission (women) Officers prospectively in select branches/ cadres of the three Services viz., Judge Advocate General (JAG) Department and Education Corps of the three Services, Accounts Branch in Air Force and Naval Constructor in Navy.

INDIAN NAVY

17.6 **Women Officers:** Women are being inducted into the Navy, as Short Service Commission (SSC) officers in the Executive (Observer, ATC, Law & Logistic Cadres), Education Branch and the Naval Architecture Cadre of the Engineering Branch.

17.7 **Permanent Commission to Women Officers:** The Ministry of Defence has introduced grant of Permanent Commission prospectively to the Short Service Commission women officers of the Executive Branch (Law Cadre), Education Branch and Engineering Branch (Naval Architecture Cadre), in accordance with provisions contained in the Article 203, Chapter IX of the Regulations for the Navy Part III.

17.8 **Training to Girl Apprentices:** Three girl apprentices of Naval Dockyard (Mumbai) have successfully completed training in May 2010. Four girl apprentices in two trades will appear for the final exam in end October 2010. Twenty two girl apprentices are undergoing training in 5 trades and will complete their training in 2011.

17.9 Women officers have been commissioned into various cadres of the Navy since 1991 and have successfully integrated into the Naval work-force over the past two decades. The Navy is also offering Permanent Commission to Short Service Commission women officers of the Education, Law and Naval Constructor Cadres prospectively.

17.10 It has been Navy's endeavour to encourage participation of women officers in all activities of the Navy and provide equal opportunities, at par with their male counterparts. There is no discrimination in terms of training profile and women officers carry out all duties that male officers are entrusted with; except that women officers are currently not employed onboard ships due to limitations of infrastructure onboard. Women officers in the Navy have proved their mettle by excelling in all fields.

17.11 The various benefits extended to women officers in the Navy are as follows:

(i) Maternity Leave for 180 days.

(ii) Women officers are co-located with their spouses to the extent feasible, to ensure better family life, education and welfare of their children.

17.12 Regulations have been laid down regarding sexual harassment of women employees at work places.

17.13 **Women Officers in Air Force:** Women officers are part of officers' cadre in the IAF and no separate cadre exists for them. The present ceiling for SSC officers without gender bias is 20% of establishment in Flying and AE branches and 25% in Non-Tech Ground Duty Branches.

17.14 The number of women officers held on strength as on November 1, 2010 including medical officers is 975. Women are not inducted in Personnel Below Officers Rank (PBOR) category in the IAF.

17.15 Till the 1990s, women could be inducted into IAF in the Medical or Dental branches. In 1991, the Government of India approved induction of Women officers through Short Service Commission (SSC) in the ground duty non-tech branches, and subsequently in 1992-93 for Technical and Flying branches (Transport and Helicopter stream) as well. At present, women are employed in all branches in the IAF in the SSC cadre, except the fighter stream.

17.16 The Government had cleared grant of Permanent Commission on September 26, 2008, prospectively to women SSC officers of the IAF in three branches viz., Accounts, Education and Administration (Legal). The first such batch was inducted in January, 2009.

17.17 **Employment of Women Officers in IAF (Flying Branch) Transport Pilots:** Women are presently employed as pilots in the IAF in the Transport, Helicopter, and Navigator stream only. Aircraft flown by them are AN-32, Avro, IL-76, Dornier and Chetak/ Cheetah fleets. Employment and placement profile for women is similar to that of their male counterparts. They are also employed in the navigation stream with the present intake of four women.

17.18 **Technical Branches:** Women are employed in all facets of technical competencies in the IAF that include aircraft systems, ground weapons and other aerial and ground based systems. Placement profiles are similar to their male counterparts.

Women Pilots in Dornier 228

17.19 **Non Technical Branches:** Women are employed in all non-technical branches like Administration, Air Traffic Control, Fighter Control, Logistics, Accounts, Education, Meteorology, Medical and Dental. Employment and placement pattern for women is similar to their male counterparts

17.20 **Implementation of Judgment of Hon'ble High Court of Delhi Dated March 12, 2010 on Grant of Permanent Commission to Short Service Commission (SSC) Women Officers:** The judgment of Hon'ble High Court of Delhi was applicable to following categories of serving/ retired women officers:

(a) Women officers in service, recruited before the issuance of HRP 21/2006 dated May 25, 2006 and those who had opted for Permanent Commission , at par with the male SSC officers.

(b) Women officers who had approached the Hon'ble High Court of Delhi by filing the petitions and retired during the course of pendency of those petitions.

17.21 A total of 41 women officers, including retired officers from AE(L), Logistics, Administration, Accounts and Education branches were granted Permanent Commission in 2010, on the basis of the above judgement.

17.22 Over 83% of all women officers married to serving IAF officers are co-located with their husbands. Women officers are employed on light duties during the ante-natal period.

17.23 **IAF Women Skydiving Team:** IAF skydiving Women's Team participated in the 35th World Military Parachuting Championship held at Buochs, Switzerland in July, 2010. This was the first ever representation of Indian women's team in any event in Military Games.

INDIAN COAST GUARD

17.24 **Women Officers in Coast Guard:** Women officers are being inducted in Indian Coast Guard as Assistant Commandant since 1997. The women candidates can join Indian Coast Guard in the General Duty (Permanent), General Duty (Pilot/ Navigator) and General Duty (Law) branches. The Short Service Appointment for women officers in General Duty and General Duty (CPL Holders) branches has also been introduced to increase the intake of women officers in the service. The selection process for women is similar to that of male candidates. The women officers are posted in non seagoing appointments.

The women officers in Indian Coast Guard have the option to serve till superannuation,

Women Coast Guard Officers at training

Women Coast Guard undertrainee pilots

except for the officers appointed under short service scheme. At present, there are 22 women officers in Coast Guard.

DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION

17.25 DRDO is sensitive to the need with regard to empowerment and welfare of its women employees. Government instructions and directives issued on the subject are being followed in both letter and spirit. It is ensured that women employees are accorded equal opportunities for enhancement of their skills and knowledge, fulfillment of their potential, and advancement of the organizational objectives is appreciated and duly recognized by the management. As per Government Orders, laboratories and establishments of DRDO have been instructed to set up Women's Cell to look after the welfare of women employees. A similar Cell has also been constituted in DRDO HQrs for the purpose.

DRDO ensures that women employees are accorded equal opportunities for enhancement of their skills and knowledge and fulfillment of their potential, and their contribution towards advancement of the organizational objectives is appreciated.

17.26 Similarly, various welfare measures have also been undertaken for the women employees in the Organisation. Crèches have also been opened as welfare measures in various laboratories/ establishments in DRDO located all over the country.

DEPARTMENT OF DEFENCE PRODUCTION

17.27 **Bharat Electronics Limited (BEL):** BEL has around 2400 women employees across the Company in various Units/ Offices. In the light of the Hon'ble Supreme Court's Directions on prohibition of sexual harassment of women employees at work place a "Complaints Committee" constituted and headed by a senior woman Executive is functioning in all BEL units/ offices.

17.28 **Garden Reach Shipbuilders and Engineers Limited (GRSE):** GRSE sponsored 12 lady employees for the 20th National Meet of Forum of Women in Public Sector, which operates under the aegis of SCOPE and promotes growth and development of women in PSUs. Suitable amendments have been incorporated in the CDA Rules for Officers and Certified Standing Orders for unionized

staff, prohibiting sexual harassment to women employees. A series of sensitization workshops have been organized to sensitize employees on their rights and responsibilities for maintaining a gender-just work place.

17.29 **Goa Shipyard Limited (GSL):** Empowerment of women has been given prime importance at GSL. Women employees have been selected and posted in hardcore production activities of building ships and repairing, in addition to traditional trades like electronics, IT, finance and personnel, thus ensuring greater gender equality. A representative of women is mandatory in all the unions/ associations and they are being consulted before taking any decision that affects the women employees. Women employees and women members of employees' families are given specialized training for self-employment. They are also trained in health aspects.

17.30 **Hindustan Shipyard Limited (HSL):** A gender budgeting cell has been constituted in HSL with four women officers to act as Nodal Agency for all gender-responsive budgeting initiatives, and to ensure effective implementation of general development programmes for women employees such as training, advancement of skills, and provision of welfare amenities like maintenance of creches, health, water and sanitation at workplace. HSL has encouraged representation of women as part of their empowerment process by including them in various participative fora at management/ functional levels.

17.31 **Mazagaon Dock Limited (MDL):** In order to ease work pressures on its women employees, MDL established a children's "Crèche". In addition, regular training workshops, motivational programmes, training for safety at workplace etc. have been organized with a special focus on its women workforce.

17.32 **Bharat Earth Movers Limited (BEML):** The total strength of women employees (including officers) in BEML as on October 31, 2010 is 319. The Company has constituted Women Cells in all the Production Units including Corporate Office to redress the grievances of the women employees in line with Supreme Court directives on sexual harassment.

17.33 **Bharat Dynamics Limited (BDL):** There are 278 women employees working in BDL. The company made rules and incorporated a chapter on "Prohibition of Sexual Harassment of Women Employees at Work Place", which is treated as misconduct. A Committee headed by a senior woman officer has been constituted for this purpose. Women executives and non-executives are also posted in all-important areas of work. To encourage women employees, the Company accords necessary facilities for participation in the conferences/ programs organized by the CPSU forum i.e., Women in Public Sector (WIPS) and celebrates International Women's Day. Special empowerment programs are being organized/ offered to the women employees.

DEPARTMENT OF EX-SERVICEMEN WELFARE

17.34 Department of Ex-servicemen Welfare, it deals with the rehabilitation and welfare of

about 27 lakh ex-servicemen including widows of former Armed Forces personnel and their families. Welfare schemes are also available for widows. A special dispensation has been made to provide more benefits to the women/ girls in schemes such as Coal Tipper and Prime Minister's Scholarship Scheme.

MATTERS DEALT WITH BY THE DEPARTMENTS OF THE MINISTRY OF DEFENCE

A. DEPARTMENT OF DEFENCE (Raksha Vibhag)

1. Defence of India and every part thereof including preparation for defence and all such acts as may be conducive in times of war to its prosecution and after its termination to effective demobilization.

2. The Armed Forces of the Union, namely, the Army, the Navy and the Air Force.

3. Integrated Headquarters of the Ministry of Defence comprising of Army Headquarters, Naval Headquarters, Air Headquarters and Defence Staff Headquarters.

4. The Reserves of the Army, Navy and Air Force.

5. The Territorial Army.

6. The National Cadet Corps.

7. Works relating to Army, Navy and Air Force.

8. Remounts, Veterinary and Farms Organisation.

9. Canteen Stores Department (India).

10. Civilian Services paid from Defence Estimates.

11. Hydrographic Surveys and preparation of navigational charts.

12. Formation of Cantonments, delimitation/ excision of Cantonment areas, local self-government in such areas, the constitution and powers within such areas of Cantonment Boards and authorities and the regulation of house accommodation (including the control of rents) in such areas.

13. Acquisition, requisitioning, custody and relinquishment of land and property for defence purposes. Eviction of unauthorized occupants from defence land and property.

14. Defence Accounts Department.

15. Purchase of food stuffs for military requirements and their disposal excluding those entrusted to Department of Food and Public Distribution.

16. All matters relating to Coast Guard Organisation, including:-

    (i) Surveillance of maritime zones against oil spills;

    (ii) combating oil spills in various maritime zones, except in the waters of ports and within 500 meters of off-shore exploration and production platforms, coastal refineries and associated facilities such as Single Buoy Mooring (SBM), Crude Oil Terminal (COT) and pipelines;

(iii) Central Coordinating Agency for Combating of Oil Pollution in the coastal and marine environment of various maritime zones;

(iv) Implementation of National Contingency Plan for oil spill disaster; and

(v) undertaking oil spill prevention and control, inspection of ships and offshore platforms in the country, except within the limits of ports as empowered by the Merchant Shipping Act, 1958 (44 of 1958).

17. Matters relating to diving and related activities in the country.

18. Procurement exclusive to the Defence Services.

B. DEPARTMENT OF DEFENCE PRODUCTION (Raksha Utpadan Vibhag)

1. Ordnance Factory Board and Ordnance Factories.

2. Hindustan Aeronautics Limited.

3. Bharat Electronics Limited.

4. Mazagon Docks Limited.

5. Garden Reach Shipbuilders & Engineers Limited.

6. Goa Shipyard Limited.

7. Bharat Dynamics Limited.

8. Mishra Dhatu Nigam Limited.

9. Defence Quality Assurance Organizations including Directorate General of Quality Assurance and Directorate General of Aeronautical Quality Assurance.

10. Standardisation of defence equipment and stores including Directorate of Standardisation.

11. Bharat Earth Movers Limited.

12. Development of aeronautics industry and co-ordination among users other than those concerned with the Ministry of Civil Aviation and the Department of Space.

13. Indigenisation, development and production of defence equipment and participation of the private sector in the manufacture of defence equipment.

14. Defence exports and international cooperation in defence production.

C. DEPARTMENT OF DEFENCE RESEARCH & DEVELOPMENT (Raksha Anusandhan Tatha Vikas Vibhag)

1. Apprising, assessing and advising Raksha Mantri on the influence on National Security of emerging developments in Science and Technology.

2. Rendering advice to Raksha Mantri and to the three services and inter-services organizations on all scientific aspects of weapons; weapon platforms; military operations; surveillance; support and logistics in all likely threats of conflict.

3. To function, with the concurrence of the Ministry of External Affairs, as the nodal

co-ordinating agency of the Ministry of Defence on all matters relating to Instruments of Accord with foreign Governments relating to the acquisition of technologies whose export to India is the subject of national security related controls of foreign Governments.

4. Formulation and execution of programmes of scientific research and design, development, test and evaluation, in fields of relevance to national security.

5. Direction and administration of agencies, laboratories, establishments, ranges, facilities, programmes and projects of the Department.

6. Aeronautical Development Agency.

7. All matters relating to certification of the design air worthiness of military aircraft, their equipment and stores.

8. All matters relating to the protection and transfer of technology generated by the activities of the Department.

9. Scientific analysis support and participation in the acquisition and evaluation proceedings of all weapon systems and related technologies proposed to be acquired by the Ministry of Defence.

10. To render advice on the technological and intellectual property aspects of the import of technology by production units and enterprises manufacturing, or proposing to manufacture, equipment and stores for the Armed Services.

11. To deal with reference made under section 35 of the Patents Act, 1970 (39 of 1970).

12. Financial and other material assistance to individuals, institutions and bodies corporate, for study and for the training of manpower on aspects of Science and Technology that bear on national security.

13. In consultation with the Ministry of External Affairs, international relations in matters connected with the role of Science and Technology in national security including :-

    (i) matters relating to relations with Research Organizations of other countries and with Inter-governmental agencies, particularly those which concern themselves, *inter alia*, with the scientific and technological aspects of national security.

    (ii) Arrangements with Universities, educational and research-oriented institutions or bodies corporate abroad to provide for foreign scholarships and the training of Indian scientists and technologists under the administrative control of the Department.

14. Execution of works and purchase of lands debitable to the budget of the Department.

15. All matters relating to personnel under the control of the Department.

16. Acquisition of all types of stores, equipment and services debitable to the budget of the Department.

17. Financial sanctions relating to the Department.

18. Any other activity assigned to, and accepted by the Department through understandings or arrangements with any other Ministry, Department, Agency of the Government of India whose activities have a bearing on the scientific and technological aspects of national security.

D. DEPARTMENT OF EX-SERVICEMEN WELFARE (Poorva Senani Kalyan Vibhag)

1. Matters relating to Armed Forces Veterans (Ex-Servicemen) including pensioners.

2. Armed Forces Veterans (Ex-Servicemen) Contributory Health Scheme.

3. Matters relating to Directorate General of Resettlement and Kendriya Sainik Board.

4. Administration of:-

   (a) the Pension Regulations for the Army, 1961 (Parts I and II);

   (b) the Pension Regulations for the Air Force, 1961 (Parts I and II);

   (c) the Navy (Pension) Regulations, 1964; and

   (d) the Entitlement Rules to Casualty Pensionary Awards to the Armed Forces Personnel, 1982.

E. DEFENCE(FINANCE) DIVISION (Raksha Vitta Vibhag)

1. To examine all Defence matters having a financial bearing.

2. To render financial advice to the various functionaries of Ministry of Defence and the Service Headquarters.

3. To act as integrated Finance Division of Ministry of Defence.

4. To assist in the formulation and implementation of all schemes/proposals involving expenditure.

5. To assist in the formulation and implementation of Defence Plans.

6. To prepare Defence budget and other estimates for the Defence Services, Civil Estimates of Ministry of Defence, estimates in respect of Defence Pensions and to monitor the progress of the scheme against the budget.

7. To exercise post-budget vigilance to ensure that there are neither considerable shortfalls in expenditure nor unforeseen excesses.

8. To advise heads of branches of the Armed Forces Headquarters in the discharge of their financial responsibility.

9. To function as the accounting authority for Defence Services.

10. To prepare the Appropriation Accounts for the Defence Services.

11. To discharge the responsibility for payments and internal audit of Defence expenditure through the Controller General of Defence Accounts.

MINISTERS, CHIEFS OF STAFF AND SECRETARIES WHO WERE IN POSITION FROM JANUARY 1, 2010 ONWARDS

RAKSHA MANTRI

Shri A. K. Antony — *From October 24, 2006 onwards*

RAKSHA RAJYA MANTRI

Shri M.M. Pallam Raju — *From May 28, 2009 onwards*

DEFENCE SECRETARY

Shri Pradeep Kumar
From July 31(AN), 2009 onwards

CHIEF OF ARMY STAFF

General Deepak Kapoor,
PVSM, AVSM, SM, VSM, ADC
From September 30 (AN), 2007 to March 31(AN), 2010

General VK Singh,
PVSM, AVSM, YSM, ADC
From March 31(AN), 2010 onwards

SECRETARY DEFENCE PRODUCTION

Shri R.K.Singh
From July 31(AN), 2009 onwards

CHIEF OF NAVAL STAFF

Admiral Nirmal Verma,
PVSM, AVSM, ADC
From August 31(AN),2009 onwards

SECRETARY EX-SERVICEMEN WELFARE

Smt. Neelam Nath
From June 1, 2009 onwards

CHIEF OF AIR STAFF

Air Chief Marshal PV Naik,
PVSM, VSM, ADC
From March 31(AN), 2009 onwards

SECRETARY (DR&D) AND SCIENTIFIC ADVISOR TO RAKSHA MANTRI

Dr. V.K. Saraswat
From August 31(AN), 2009 onwards

SECRETARY DEFENCE FINANCE

Smt. Indu Liberhan
From April 15, 2009 to May 31, 2010

Smt. Nita Kapoor
From June 1(FN), 2010 onwards

SUMMARY OF LATEST COMPTROLLER & AUDITOR GENERAL (C&AG) REPORT ON THE WORKING OF MINISTRY OF DEFENCE

Report No. 12 of 2010-11: Union Government (Defence Services) Army and Ordnance Factories

II Ministry of Defence

Para 2.1: Defective Import of SMERCH Multi Barrel Rocket Launcher System

Forty two numbers of 'SMERCH' Multi Barrel Rocket Launcher System were procured between July 2007 and May 2009 from a Russian Firm at a total cost of Rs 2633 Cr.. The exploitation of the weapon conducted in October/November 2008 by a Rocket Regiment revealed critical defects in its various sub-systems. Besides, the Buyer Furnished Equipments (BFE) required to operationalise the SMERCH weapon system could not yet (November 2009) be procured in the absence of approval of War Establishment (WE) of the units. Thus, the SMERCH weapon system procured at a cost of Rs. 2633 Cr. proved defects prone and could not be fully operationalised for one to three years.

Para 2.2: Procurement of low capability missiles

The Ministry procured outdated Anti Tank Guided Missiles (ATGM) of 1970s vintage valuing Rs. 587.02 Cr. in 2008 from M/s Bharat Dynamics Ltd. (BDL) by compromising the Army's requirement. The Army wanted ATGM of guided range as 2000 meters to meet the need of modernization of forces and to avoid risk of exposure. The ATGM having guided range of 1850 meters were procured from BDL, which were not only unable to achieve desired range but also did not meet the Army's objective of acquiring third generation missiles already available in global market.

Para 2.3: Non-replacement/ rectification of imported ammunition

The ammunition 'A' was designed to be fired from T-72 Tanks. Indigenous and imported ammunition valuing Rs. 273.75 Cr. reported defective was awaiting repairs for over five to eight years. Although the imported ammunition was under warranty and the seller was contractually bound to either replace or rectify the defects free of charge, Army HQ did not make efforts to get it rectified/ replaced from the supplier. Delay in making the ammunition fit for use is inexplicable.

III Army

Para 3.1: Non-inclusion of Pre-Despatch Inspection

Pre-despatch inspection (PDI) by the Directorate General of Quality Assurance or ultimate

consignee in the contract for spares valuing more than Rs. 3 Cr. was made mandatory by the Army HQ to ensure receipt of correct spares of prescribed quality. Violating their own instructions, Army HQ concluded a contract in May 2007 with a foreign firm for procurement of spares for L-70 Guns without incorporating the PDI Clause. Receipt of stores without PDI had resulted in import of non-compatible spares worth Rs. 4.99 Cr., which were neither repaired nor replaced by the firm for two years.

Para 3.3: Irregular procurement of short life drug

Simultaneous procurement of a drug, (Injection Anti Lymphocyto Globulin ALG) centrally by the DGAFMS and locally by the Commandant AFMSD Delhi Cantonment resulted in its over stocking. Consequently, 2121 vials costing Rs. 2.13 Cr. remained unconsumed during shelf life. Besides, 1078 vials valuing Rs. 1.08 Cr. were procured locally by the Commandant AFMSD violating the spirit of delegated financial powers.

Thus, there was no coordination between the DGAFMS and the Commandant AFMSD Delhi Cantonment with regard to purchase of medicines.

IV Works and Military Engineer Services

Para 4.1: Irregular sanction and construction of accommodation for a Golf Club

Inspite of highlighting misuse of financial powers by the General-Officer-Commanding-in-Chief, Western Command for purchase of golf carts and unauthorised use of Defence land by a Golf Course without payment of rent in the earlier Audit Report, Commanders of a Corps HQ and an Independent Sub Area got constructed unauthorised new accommodation for a Golf Club at Ambala Cantonment under the guise of special repairs to existing buildings.

Para 4.2: Avoidable extra liability due to delay in revision of administrative sanction

Delay and lack of diligence both in Engineering wing in the QMG branch at Army Headquarters and Ministry of Defence in revision of administrative approval resulted in avoidable extra liability of Rs. 2.95 Cr. due to cost escalation. There was no system in place to ensure that the Approximate Estimates (AE) was based on the new standard schedule of rates (SSR) and to monitor the timely preparation and approval of the revised AE.

V Border Roads Organisation

Para 5.1: Hasty procurement of segregators

Director General Border Roads procured six segregators for Rs. 4.55 Cr. without conducting economic feasibility study, ensuring availability of natural aggregates and making available site after obtaining clearance from Forest Department and Pollution Control Board which resulted in wasteful expenditure without any gainful use.

Para 5.2: Misappropriation of Government stores

Non-verification of credentials including financial status, business ethics, market standing of contractor before awarding contract and the absence of co-ordination between different Project authorities of BRO, resulted in misappropriation of bitumen worth Rs. 1.67 Cr. intended for transportation to BRO units under two separate contracts.

VI Defence Research and Development Organsiation

Para 6.1: Injudicious creation of assets

Defence Research and Development Organisation (DRDO) incurred an expenditure of Rs. 8.92 Cr. on establishing a sub station to draw power from a State Power Supply Corporation without assessing the Corporations ability to supply stable and uninterrupted power for operation of highly sensitive equipments. After commissioning of power supply, the imported equipments procured for R&D activities did not function properly due to variation in voltage with frequent interruption in power supply. As a result, DRDO had to procure DG Sets for Rs. 3.57 Cr. for operation of equipments. As such the expenditure of Rs. 8.92 Cr. incurred on establishing a sub station to support the 66 KV line was rendered infructuous.

Departmental View and Present Status : DRDO agree with the observation that the 66kVA electrical sub-station at the cost of Rs. 8.92 Cr. was built at Kolar. Due to erratic & poor quality 'power supply' by M/s KPTCL, power supply from this power station was not useful. Separate DG sets were purchased to use as source of power supply to K1 & K3 sites. As the quality of power received at substation was poor, not meeting the standards, the utilization of power was reduced and the 66 kV sub-station was not useful to its full extent. Presently sub-station is used to supply power to K2 residential area, street lighting and for all civilian application. Action Taken Note (ATN) has been forwarded to Audit on 20 Oct 2010 for vetting.

Para 6.2: Loss due to damage to imported equipment

DRDO suffered a loss of Rs. 6.91 Cr. on account of damage to the imported equipment due to mishandling by the consolidation agent. The amount of loss could not be recovered from the consolidation agent for over two years and claim has also been raised against the transporting agency.

Departmental View and Present Status: DRDO partially agree with the facts included in the paragraphs. The designated Air Consolidation Agent (ACA) for DRDO subcontracts the work to outside agencies for delivery of the consignment to the customer site. This results in subcontractor handling the delicate and sensitive consignments without prior experience to handle such equipments and without proper tools required for such consignments. Negotiation for the settlement of insurance claim has already been carried

out with the ACA and Rs. 2.50 Cr.s has to be recovered from him. The insurance company has assessed Rs. 20 lakhs as the salvage value of the damaged equipment. The receipt of the settlement amount payment is awaited. Action Taken Note (ATN) on the Audit Para is in the process of approval by competent authority for submission to Audit.

Para 6.3: Avoidable expenditure due to poor planning of a work service

Poor planning of a work service by the Programme Director and Chief Construction Engineer, led to an additional expenditure of Rs. 1.39 Cr. towards payment of compensation to the contractor.

Departmental View and Present Status : DRDO partially agree with the audit conclusions that there was poor planning of the work services by PD, System Test & Integration Rig(STIR) or CCE(R&D) or their offices and that there was failure on their part in the shifting of the 66kV HT line. Ample evidence has been submitted which proves beyond doubt that immediate and quick actions were taken to ensure timely execution of the task by both their offices. This being a multi-departmental activity, including the Karnataka State Electricity Board, NAL & HAL which are not under the control of DRDO. Added to this, the technical difficulties of the project due to the soil condition made the proposal to change from Under Ground (UG) to Over Head (OH), etc, resulted in the delay in the execution of the project. It may also be noted that payment was for cost-escalation of the raw materials and not for the compensation. Action Taken Note (ATN) has been forwarded to Audit on December 9, 2010 for vetting.

Para 6.4 Loss due to lack of coordination in procurement of a life saving item

An expenditure of Rs. 93.09 lakh incurred on procurement of drugs proved infructuous as the drugs could not be issued to users within their shelf life. Although the life saving item was accepted in September 2004 for use in the Army, it remained undistributed for nearly five years predominantly due to the lack of coordination between the developer and the user.

Departmental View and Present Status : DRDO partially agree with the facts included in the paragraphs. A sum of Rs. 93.09 lakh spent on production of drug cartridges of Atropine Sulphate and PAM Chloride should not be taken as loss. The issue of drug being not used due to non availability of shelf life is not correct since there was some shelf life available in July 2006 during the issue of drug to the Army though not the stipulated 75% and besides the drug was available with DRDE Gwalior before issue to the Army, for in case of emergency i.e. nerve agents attack. Also the replaced drug was not rejected by DGQA as the same was referred to DGAFMS who cleared the drug since the observation was of minor nature. Subsequently Army, DGQA and DRDO jointly inspected the AJIs in September 2009 and it was passed for use. Action Taken Note (ATN) has been forwarded to Audit on October 20, 2010 for vetting.

VII Ordnance Factory Organisation

Para 7.2: Injudicious sanction of Ordnance Factory Korwa Project

The project for establishment of a new ordnance factory at Korwa, Amethi at an estimated investment of Rs. 408.01 Cr. by October 2010 to meet an operationally urgent need for acquisition of new generation carbines was sanctioned without finalization of new generation carbines to be produced in the factory. This coupled with selection of inappropriate site and inadequate monitoring resulted in slow progress of the project. The project is likely to be delayed very badly, thereby delaying the supply of urgently required carbines to the Army.

Para 7.10: Suspected fraud in reimbursement of Customs duty to suppliers

Two private firms got "reimbursement" of Customs Duty of Rs. 1.19 Cr. from Ordnance Equipment Factory Kanpur for supply of machines, by producing documents, suspected to be forged to claim the re-imbursement. Audit examination revealed that the one firm did not pay Customs Duty and another firm undervalued the cost of machines to pay lower rate to the Customs and managed to obtain reimbursement of higher rate of Customs Duty from the factory.

Brief on the Performance Audit Report on Supply Chain Management of Rations in Indian Army

(C&AG of India's Report No. 6 of 2010-11)

The performance Audit was carried out in the Ministry of Defence, Northern, Eastern, and Western Commands of the Army which are operationally active and where the supply chain mechanism are more complex because of terrain conditions and dispersal of troops. The documents were examined at Supplies and Transport Branch of the Commands and selected Corps Headquarters, Supply Depots and ASC Battalions in those Commands. At the Central level, records were examined at the Director General, Supplies and Transport, Army Procurement Organisation and the Ministry.

Dry Rations:

Annual Provisioning is carried out on normative basis rather than on real data. Lack of reliable data on actual opening stock balance and feeding strength created significant risks of loss and wastage in the supply chain of dry rations.

Except for Sugar and Jam, in all other items, there were significant under procurements. In fact, in most of the cases, the actual quantity procured was so much at variance with the provisioned quantity that the whole exercise of the provisioning was rendered largely infructuous. While only in the case of Dal and Tea, the shortage were made up to some extent through local procurement by the Depots, in other items the significant shortages were never made up.

In case of Sugar, there was excess procurement over and above the provisioned requirement for two years. During 2006-07, 11944 MT of Sugar was procured in excess of the provisioned quantity i.e. an excess of 25% over the requirement. In case of Tea and Dal, there was consistent shortfall in procurement in all the three years. In 2005-06, there was shortfall of 22,615 MT (48%) in central procurement of Dal and even after local procurement there was a shortfall of 33%. Even during 2006-07 and 2007-08 there was a shortfall of 11% and 25% respectively.

Food items issued after the expiry of estimated storage life

Estimated storage Life (ESL) of a food item is the period for which the food item is likely to remain fit for human consumption, under normal storage conditions. According to the DGST technical instructions the Supply Depots are to ensure that food items are issued in accordance with their storage life (ESL). In special circumstances, ESL may be extended to a maximum of three months.

Audit found that out of the 11,346 samples of rations sent to the three Central Food Laboratories for extension of ESL, extension was granted in respect of 11,330 cases. Thus, almost in all the cases, extension was granted. It was noticed that the CFLs (Composite Food Laboratories) in Mumbai and Delhi adhered to the DGST instructions, of not extending the life of rations beyond three month of expiry of the prescribed ESL. However, CFL, Jammu which covers the whole of Northern Command and some parts of Western Command granted extensions well beyond three months of the prescribed ESL, in some cases even upto 28 months. It was found that Atta, Sugar, Rice, Tea, Dal, Edible Oil and raisins were consumed even six to 28 months after the expiry of their normal ESL.

Fresh Rations:

Serious absence of competition was noticed in procurement of fresh rations. In three Commands, among the cases checked in Audit, 82% of the procurement was based on less than three quotations. 36% was based on single quotations.

In all three years, in Delhi only one vendor viz. Mohd Iqbal & Company purchased the tender documents for the supply of meat and chicken and the contract was awarded to them. Similarly, in Chandimandir, only two vendors responded for meat and chicken during tendering in 2005-06. The contract was awarded to M/s Moneesh & Company. In the next two years only M/s Moneesh & Company responded and bagged the contracts with annual orders value of Rs. 2.34 Cr..

During Audit, it was noticed that in all cases of fresh rations, the accepted rates were way below the Average Local Market Rates (ALMR) determined by the Army authorities. In fact, the Reasonable Rates determined by the same authorities were much below the level of ALMR, which rendered it grossly unrealistic. Some of low rates: Orange at Rs. 11 per kg in

2007-08; Mausambi Rs. 12 per Kg (In Delhi), Orange and Mausambi at Rs. 1-2.11per Kg in Binagudi and Bengdubi; Capsicum at Rs. 5.50 per Kg. Significant difference was noticed between the contracted rates for Supply Depot, where supplies were meant for soldiers and Base Hospital Delhi where supplies were meant for patients, even though specifications were same on paper.

Unusual and inexplicable variations in prices in adjacent locations were also noticed. Broiler dressed in Amritsar was contracted at Rs. 47 per Kg in 2006-07 but in Ludhiana it was Rs. 62 per Kg. In Kolkata, meat dressed was Rs. 108 per Kg but in Dumdum which is close by, the price was Rs. 69 in 2007-08.

Audit also found that the quantities received by the consuming units were different from what was shown to have been issued to the units by the Supply Depots. Certain varieties of vegetables shown to have been issued by the Supply Depot and received by the consuming units were not even procured by the Supply Depots on those particular days.

In the Northern Command alone, Rs. 1.92 Cr. worth of rations remained untraceable as of March 31, 2008. Of this, Rs. 1.20 Cr. worth of rations was issued during 2005-06, the receipt of which was yet to be traced.

An analysis of the feedback reports received from the units indicated that in 68% of such reports the quantity of rations was graded as satisfactory and below, in 31% the grading was good and in only one percent the grading was excellent.

Brief on the Performance Audit Report on Canteen Stores Department

(C&AG of India's Report No. 14 of 2010-11)

The Canteen Stores Department (CSD) is responsible for providing the service personnel and their families with household goods at rates cheaper than the market rates. The operations of CSD are carried out from its Head Office in Mumbai and 5 Regional Offices. The CSD through its chain of one Base Depot in Mumbai and 34 Area Depots services as the wholesaler. The retail operations through which the stores reach to the Service personnel and their families are carried out through the Unit Run Canteens (URCs), which are under the control of the local Armed Force authorities.

The rules for setting up of the URCs and their day-to-day management are laid down by the Ministry of Defence and Army Headquarters. CSD transfer money from Consolidated Fund of India (CFI) to URCs in the form of 'Soft Loans' at the subsidized rate of interest of 4.5% to 6.5% per annum towards setting up of these URCs and to keep sufficient inventory and quantitative discount which tantamount to distribution of stores free of cost to the URCs.

Transfer to Non-Public Fund through Quantitative Discount (QD)

CSD provides quantitative discount in the form of free stores to all the URCs. It was noticed in Audit that the benefit of such QD was not passed on to the customers and added to the profits of the URCs. The incentive in the

form of QD, therefore, could not be viewed as 'Trade Discount' as reflected in the CSD Proforma Accounts. It was in fact, transfer from Consolidated Fund of India (CFI) to Non-Public Fund without conforming to the provisions of GFRs. During the last six years from 2002-03 to 2007-08 Rs. 883.46 Cr. was transferred in the form of QD. Such transfer in the form of 'Trade Discount' also affected adversely the profitability of the CSD and resultantly, Government revenues.

Denial of access to the records of URCs

Despite such assistance through CSD from CFI and being the interface between the CSD and the consumers, the URCs continue to remain outside the purview of the Parliamentary financial oversight, as they are considered to be regimental institution. Neither the Budget documents nor the proforma accounts of CSD reflect the operations of the URCs. URCs are also not subject to the accountability regime for operations funded by the CFI.

Audit was denied access to the records of the URCs by the Army Headquarters in spite of repeated request. Even taking up the matter at the highest level in the Ministry of Defence could not ensure access of the Audit to the URCs.

Amount of Rs. 539 Cr. under Grants-in-Aid transferred to the Non-Public Fund

Ministry of Defence had been reflecting approximately 50% of the profit of the CSD in Demand for Grants as 'Contribution' (earlier these amounts were being reflected as Grants-in-Aid) and disbursing them to the Services and other bodies as Grants-in-Aid. These grants were mostly transferred to the Non-Public Funds maintained by the Services. During 2002-03 to 2008-09, a sum of Rs. 601.88 Cr. was appropriated in this manner from the CFI. Out of this, Rs. 63.05 Cr. was distributed to the various beneficiaries. The balance amount of Rs. 538.83 Cr. was shared by Services, which were transferred to the Non-Public Fund. Such Non-Public Fund, commonly known as 'Regimental Funds' are maintained by Armed Forces authorities.

Creation of new expenditure head without consulting the C&AG of India

In 2005-06 Ministry of Defence created a new object head "Contribution" to disburse these profits. The new accounting practice further diluted the financial controls, as under the General Financial Rules the utilization certificates could be insisted only for Grants-in-Aid. A significant change like this in the accounting of the financial transaction was made without any consultation with the C&AG of India as was required under the Constitution of India. This change in the accounting treatment took away the audit jurisdiction of the C&AG over utilization of these disbursements by the recipients. On being pointed out in Audit, the Board of Control, Canteen Services (BOCCS) in 2010 replied that the requisite utilization certificates were obtained before sanction of the Grants-in-Aid for the next year.

Incorrect application of pricing policy in several cases

During audit, several cases of incorrect application of pricing policies were noticed. While in some cases CSD made undue profit at the cost of URCs and in turn of the customer, there were cases where CSD also incurred losses. Of particular significance was erratic implementation of provisions of Value Added Tax (VAT).

Excess drawal of liquor

Evidence in audit indicated that several units under jurisdiction of five Area Depots were drawing liquor in excess of that authorized on the basis of the strength of the unit. CSD and the Army authorities allowed excess drawal of concessional liquor worth Rs. 7.82 Cr.. The market value of the excess liquor was Rs. 19.45 Cr..

Inability of Area Depots to supply all the items indented by the URCs

It was seen in audit that most of the Area Depots were not supplying the full range of items to the URCs under their jurisdiction. The inability of the Area Depot in issuing the item as demanded by the URC is termed as "Denial". In nine Area Depots, during 2004-05 to 2008-09, denials ranged from 4.48 per cent to 33.21 per cent. The denials were particularly severe in Kirkee, Delhi, Jaipur, Dehradun and Bangalore areas.

Defence Services (Air Force & Navy)

Summary of Important observations by C&AG of India

Report No. 16 of 2010-11 (Air Force and Navy)

I Inordinate delay in fruition of Kaveri engine

Nearly two decades after the commencement of the programme and 13 years after the original probable date of completion with an expenditure of Rs. 1892 Cr., Gas Turbine Research Establishment (GTRE) is yet to fully develop an aero-engine which meets the specific needs of the Light Combat Aircraft. The fate of the Kaveri project is highly uncertain as GTRE is now considering a proposal of co-development and co-production dependent upon a Joint Venture with a foreign vendor.

(Paragraph 5.1)

Departmental View and Present Status : DRDO partially agree with the facts included in the paragraphs. Few elements of Kaveri project viz. Altitude testing & flying test bed trials were not taken in to account. It was mainly due to lack of aero engine development knowledge & expertise in the country and non willingness of other countries to share their development experience. It is a fact that the project has been delayed by about 12 years, but during the period 1989 -2010, Kaveri, indeed, made a considerable progress, attaining technical maturity and establishing technology base by completing high altitude testing of Kaveri. Though the project cost is enhanced to Rs. 2839 Cr. (FE Rs 1730 Cr.), only Rs. 2105 Cr. was authorized for interim flight trials of Kaveri (first phase), keeping balance Rs. 734 Cr. for final version Kaveri engine (which has not been authorized to be utilized so far). Action Taken

Note (ATN) has been forwarded to Audit on December 21, 2010 for vetting.

II Undue favour to a foreign vendor in procurement of fleet tankers

Indian Navy awarded a contract for acquisition of a fleet tanker to a foreign shipyard even though the steel to be used by the shipyard in construction did not meet Indian Navy technical specifications. Commercial negotiations with the foreign vendor for procurement of a fleet tanker, despite being protracted and delayed, did not address the issue of reasonability of pricing adequately. Excess provisioning of spares of Rs. 30.44 Cr. and under-realisation of offset benefit to Indian industry were also noticed in the procurement of the tanker worth Rs. 936 Cr..

(Paragraph 2.1)

III Import of radars by a PSU against indigenous manufacture order

Bharat Electronics Limited (BEL) was awarded a contract for supplying 22 surveillance Radar Element radars at a cost of Rs. 870 Cr.. The contract was signed by the Ministry under special dispensation of the Defence Procurement Procedure on the premise that BEL would be able to manufacture the radars indigenously as they had absorbed the technology transferred from the Original Equipment Manufacturer (OEM). BEL violated this intent by procuring 60 percent radars in Completely Knocked Down form from the OEM at a lower cost. As a result, BEL earned unwarranted additional returns of Rs. 10 Cr.. Supplying completely knocked down radars instead of indigenously manufactured ones also resulted in premature delivery before finalization of associated works services with no benefit to the Indian Air Force.

(Paragraph 2.2)

IV Undue benefit to HAL on account of pricing policy

Hindustan Aeronautics Limited follows a Fixed Price Quotation (FPQ) Policy for the pricing of the supplies and services made to Indian Air Force. Delay of four years in finalising the base year to be used for the FPQ Policy resulted in Indian Air Force incurring extra expenditure of Rs. 400 Cr.. Further, notwithstanding Government instructions to the effect that no budgetary support for wages increase would be provided separately and that resources for funding the increased cost on account of wage revision have to be generated by the company internally, Indian Air Force reimbursed arrears on account of wages and gratuity to the extent of Rs. 315 Cr..

(Paragraph 2.4)

V Abnormal delay in integration of Recce Pods onboard an aircraft

The Ministry of Defence procured an aerial reconnaissance system costing Rs. 640.70 Cr. from M/s IAI Elta, Israel without fully evaluating the system as per Defence Procurement Procedure. Despite spending Rs. 611 Cr. and

delay of over one year, the system is yet to be proven.

(Paragraph 3.1)

VI Under utilisation of infrastructure created

The sanction for a Blade manufacturing facility at a cost of Rs. 72 Cr. was taken based upon the consumption levels of the required blades in 1999-2000 and not on actual force levels which would prevail at the time when the Blade Manufacturing Unit would be operational, between 2007 and 2018. The actual requirement for these blades was only 50.62 per cent of the original projection in 2009. Since the facility is likely to be completed only by September 2010, its utility would be further limited in view phasing out of the aircraft for which this facility has been created.

(Paragraph 3.3)

VII Injudicious expenditure on procurement and overhaul of helicopter engines

Despite knowing the facts that two Kamov 25 helicopters with the Navy were old and in a poor material state with virtually no product support, Ministry of Defence concluded contracts with a foreign firm for their overhaul at a cost of Rs. 10.38 Cr.. Not only was the quality of the overhaul poor but expenditure amounting to Rs. 8.14 Cr. became unfruitful as flying operations on these two helicopters were discontinued due to sever defects in their engines. Related procurement of spare KA 25 engines also became wasteful as the engines could not be utilised.

(Paragraph 4.1)

VIII Mid Life Upgrade of Mine Sweeper ships

The Midlife Update (MLU) of Indian Navy's four minesweepers envisaged upgradation of the Mine Counter Measure capability by providing them with a state-of-the-art Mine Counter Measure System Suite (MCMS). The MLU has been completed in the case of three ships after a delay of about two years without the fitment of vital MCM suite and weapon systems valuing Rs. 170 Cr.. Advantages accruing from the subsequent installation of the equipment will be off-set by the limited residual life of the ships.

(Paragraph 4.4)

IX Procurement of shipborne Electronic Warfare System

Despite an on-going indigenous programme for development of Electronic Warfare systems, Indian Navy spent Rs. 472 Cr. on import of seven Electronic Warfare systems, on the grounds of operational emergency. The timeline of nine weeks given by the Raksha Mantri was over-shot considerably and it took 176 weeks to finalise this contract. The expenditure, thus, could not meet the urgent operational requirement.

(Paragraph 2.6)

X Inordinate delay in development of Air Bases

The Ministry sanctioned the establishment of an airbase at Phalodi in 1985 and an Air Force station in South India in 1984. Even after two decades both are yet to be commissioned. As on date, the utility of the air base and station has not been determined, given the constantly vacillating position of the Indian Air Force on their future use. In the case of Phalodi, the Indian Air Force intends to use the base for helicopter operations though the base was envisaged as a strategic forward base airfield. In the second case, the intended air cover over sensitive installations remains elusive in the absence of an active and operational air base.

(Paragraph 2.7)

XI Injudicious procurement of pumps

Naval authorities ordered 44 pumps worth Rs. 4.56 Cr. without adequate user trials. Subsequent to delivery, the pumps could not be installed on-board the ships they were meant for due to fitment problems. Thus these ships, even six years after many of the pumps being declared Anticipated Beyond Economical Repair (ABER), continue to operate with the old pumps rendering the entire expenditure infructous.

(Paragraph 4.3)

XII Unfruitful expenditure on submarine rescue facility

Owing to poor planning, lack of need assessment and absence of a conclusive time bound agreement with US Navy, there was an inordinate delay in commissioning the Indian Navy submarine rescue facility. The expenditure of Rs.3.35 Cr. incurred could not serve its objective as by now 75 per cent submarines of Indian Navy have already completed three fourths of their estimated operational life.

(Paragraph 2.5)

XIII Irregular commercial exploitation of Santushti Shopping Complex

Ministry of Defence and Air Force authorities violated rules and regulations in managing the Santushti commercial shopping complex established on Government land. Irregular allotment of shops has defeated essentially welfare role of providing assistance to ex-service personnel or family members of bereaved service personnel like war widows, disabled pensioners etc. Further, the Ministry's decision to suspend the eviction process without taking any action for more than two and a half years has allowed unauthorised occupants to retain possession of these shops for more than 13 years. Delay in revision of licence fee and irregular crediting of revenue to non-public fund by Indian Air Force authorities in violation of Ministry's directives and Government orders has deprived the Exchequer of revenue amounting to Rs.9.75 Cr..

(Paragraph 2.3)

XIV Excess procurement of Electronic Warfare Systems

Indian Navy did not properly take into account the phase-out schedule of its Tu-142M aircraft while placing orders for the AES-210 and Homi Electronic Warfare (EW) systems leading to the excess procurement of one AES-210 system and one Homi System. This resulted in infructuous expenditure of Rs. 19.19 Cr. on EW systems for non-existent or already phased out aircraft. Besides, given the phase out schedule of the aircraft fleet, two AES-210 systems and three HOMI systems procured for Tu-142 M aircraft would be exploited for less than 50 per cent of their useful life.

(Paragraph 4.2)

XV Financial irregularities in organising Military World Games 2007

Approval for funding for the Military World Games (MWG) 2007, organised by the Services Sports Control Board, was taken from a lower competent financial authority for Rs.50 Cr. even though expenditure was estimated to be Rs.138 Cr. by omitting certain works from the proposal. The financial arrangements have resulted in unspent balances lying outside of Government account, foregoing of revenue and diversion to non-public funds. Ministry failed to monitor the expenses incurred on MWG and the unspent amount has not yet been credited to Government Account.

(Paragraph 2.8)

XVI Irregularities in the procurement of Microlight Aircraft

Indian Air Force did not adhere to the procedures prescribed for tendering, price negotiation and release of funds while procuring the Composite Technology Short Wing Microlight Aircraft. Instead, actions and decisions were regularised subsequent to placement of the order.

(Paragraph 3.2)

XVII Avoidable expenditure on repair of an aero-engine under warranty

An Indian Air Force Equipment Depot failed to exercise the contractual terms and conditions and thus a repair task which was to be undertaken under warranty free-of-cost was taken up as a regular task on payment basis. This resulted in an avoidable expenditure of Rs.1.09 Cr..

(Paragraph 3.4)

XVIII Foregoing of revenue due to non-revision of licence fee rates for residential accommodation

Non-adherence of the procedure by Ministry for revising licence fee rates for accommodation occupied by service personnel, every three years, resulted in foregoing of revenue worth Rs. 13 Cr..

(Paragraph 3.5)

XIX Injudicious transportation of containers for UN Mission

Ministry of Defence authorised overseas transportation of containers in excess of that

prescribed by the United Nations Peacekeeping Force for the purpose of claiming reimbursement. As a result, the Indian Government incurred avoidable extra expenditure to the extent of Rs. 38.96 lakh.

(Paragraph 3.6)

XX Loss in procurement of petroleum products

Indian Navy did not take advantage of 'prompt-payment' discount and also could not negotiate discount on account of high volumes leading to a loss of Rs. 136.39 Cr..

(Paragraph 4.5)

XXI Lack of due care in passing claims of vendors

Naval officials did not exercise required care in passing claims of vendors or in availing the benefit of exemption from excise duty. As a result, Indian Navy incurred an expenditure of Rs. 1.61 Cr., out of which Rs. 1.40 Cr. could be recovered at the instance of Audit.

(Paragraph 4.7)

XXII Delay in fruition of Online Examination System of Navy

Although Indian Navy decided to migrate to an online computer-based examination system in 2004, flaws in the tendering process led to delay in awarding a contract and commencing the Indian Navy Online Examination System. As of June 2010, despite an expenditure of Rs. 97.92 lakh, the Indian Navy will not be able to conduct all planned examination online even by 2013.

(Paragraph 4.6)

XXIII Recoveries/ savings at the instance of Audit

An amount of Rs. 3.40 Cr. was recovered/ saved in two cases in respect of Air Force and Rs. 2.30 Cr. in three cases in respect of Navy after having been pointed out by Audit.

(Paragraph 3.7, 4.7 and 4.8)

Report No. 7 of 2010-11

I. operation and Maintenance of Mi series Helicopters in IAF

Helicopters are a key component of defence capability as they make a unique contribution to a wide range of operations. India is a vast country with long borders and possesses some of the world's most inhospitable terrain, be it high mountains in the north, dense jungles in the north-east, deserts of Rajasthan or the Rann of Kutch. Many of these areas are not accessible by road or any other means. It has been the helicopter fleet of the IAF that has provided communication, logistics to these remote areas and played its part in combat role too.

Almost 60 per cent of this fleet comprises of Mi series helicopters. A performance audit of Mi series helicopter fleet's operation and maintenance was conducted. The review revealed that, operationally, there are gaps in

the existing force levels since the Indian Air Force (IAF) is operating with only 74 per cent of the helicopters against its current operational requirements. Besides, a large proportion of the helicopter fleet will reach the end of their operational life in the near future. Further, despite availability of funds and a specific acquisition programme, IAF was unable to induct even a single helicopter between 2002 and 2007. Although IAF's own needs were not being met, 25 helicopters were sent abroad for participation in UN missions and seven helicopters were modified for VIP role without approval of the Government. Efficiency of fleet operations, as indicated by achievement of flying tasks, was an area which requires improvement.

On the repair and maintenance side, audit noted that there were delays in creating repair and maintenance facilities for newly acquired helicopters. At the facilities created, i.e. the designated Base Repair Depot, a large number of allotted overhauls tasks could not be completed due to shortage of spares on account of delayed and inadequate provisioning. Consequently, 210 engines had to be sent abroad for overhaul at a cost of Rs. 68.49 Cr.. Quality of work done by the depot was a matter of concern as several engines overhauled by it had to be prematurely withdrawn. The sub-optimal performance by the maintenance agency, ageing fleet, non-availability of spares also resulted in reduced serviceability and lowered flying efforts at unit level. In fact, the serviceability levels fluctuated between 45 to 75 per cent while shortfalls in achievement of flying tasks ranged from 47 to 67 per cent for the period 2003 to 2009 in respect of medium lift helicopters. The BRD also utilised 42 per cent excess man hours in overhaul of aero engines in comparison to prescribed standard man hours.

All in all, the Mi fleet is performing its tasks in a commendable manner despite the ageing of fleet and numerous challenges in maintaining serviceability. In light of the deficiencies noted, certain recommendations have been made by audit in the report to complement Ministry of Defence and IAF's efforts in ensuring that its helicopter fleet retains its operational edge.

II. Functioning of the Aviation Arm of the Indian Navy

The Aviation Arm of the Indian Navy was established in May 1953 with the commissioning of INS Garuda, a Naval Air Station at Kochi. History of Naval aviation, spanning over half a century, has been an illustrious one and today, the Indian Navy is one of the few navies in the world which can boast of an aircraft carrier alongwith a multi-faceted fleet in terms of platforms and technologies. The Naval Aviation Arm contributes to combat capability through carrier-borne strikes against maritime targets in areas beyond the reach of conventional land-based Air Force aircraft, air defence of the fleet, reconnaissance and anti-submarine warfare.

The Aviation Arm holds the key to achieving the "blue water" aspirations of the Indian Navy.

As such, a Performance Audit was conducted into the functioning of the Aviation Arm for the period 2003-08, later updated to December 2009. The review indicated weaknesses in the planning, asset management, operation, repair and maintenance activities. There have been significant delays/ shortcomings in the preparation and finalisation of the long term acquisition plans. Ad hoc planning resulted in the spill-over of a number of schemes originally envisaged in the X Plan (2002-07) to the XI Plan. The fleet being operated by the Indian Navy, at present, is critically short in terms of numbers and even after potential inductions during the period 2007-12, the Aviation Arm is likely to achieve only 26, 33 and 63 per cent of the force levels required in respect on long range reconnaissance, combat and anti-submarine warfare aircraft respectively. Indian Navy's air combat capabilities have been drastically reduce owing to availability of only one carrier, which is almost half a century old and is to be decommissioned in 2012. The Wing is also characterised by ageing and obsolescent assets. Attack capabilities of the already depleted aircraft fleet on-board the carrier have been restricted in the absence of a fully functional radar and limited firing of practice missiles.

Modernisation and upgradation activities have not been as successful as envisaged. Induction of sophisticated equipment to augment capabilities in electronic warfare and provision of Beyond-Visual-Range armament have taken inordinately long periods, first, to be proven and then to be inducted.

Operationally, availability of aircraft has been poor on account of inefficient repair and maintenance as also the need to conserve assets. Serviceability levels were low in comparison to the approved Unit Establishment for combat, ASW and MRSR aircraft and these levels were achieved only by decreasing the flying tasks to ensure that the assets are not stretched rather than increasing efficiency. At any given point in time a large proportion of the aircraft assets were under repair, maintenance or storage. Further, the age of assets itself has implied that repair and maintenance activities need to be functioning at a very high level. During 2003-08, about 80 per cent inspections (repair and maintenance) were delayed at the NAY/ Base Support Facility.

Thus, the Naval Aviation Arm is operating under numerous constraints and the existing fleet is not geared to effectively meet the increasing maritime needs of the Navy. This report has also incorporated certain key recommendations which the Ministry and Navy may consider for implementation.

Brief on the Performance Audit Report – Department of Defence Production

Bharat Electronics Limited

Failure to consider the in-house capacity constraints and current outsourcing cost of modules resulted in a loss of Rs. 5.19 Cr. in the work of supply, installation, commissioning and comprehensive maintenance of 18000 Solar Home Lighting Systems for TREDA.

Para 7.2.1

Hindustan Aeronautics Limited

Acceptance of an unviable delivery schedule coupled with delay in submission of change order resulted in locking up of Rs.95.26 Cr. and consequent loss of interest of Rs. 16.62 Cr..

Para 7.3.1

Failure to include a provision towards full maintenance expenditure of prototype aircraft beyond scheduled Final Operational Clearance in the MOU resulted in avoidable loss of Rs. 5.26 Cr..

Para 7.3.2

Company's failure to enter into a formal contract before accepting the upgrade work of MiG-BiS to MiG-BISON on annual overhaul task with explicit provision for rejections resulted in absorbing extra cost of Rs. 3.81 Cr..

Para 7.3.3

Audit Report No. PA 10 of 2010-11

Hindustan Aeronautics Limited

Production and Supply of Advanced Light Helicopter

The Advanced Light Helicopter (ALH) designed and developed by the Company is a light 5.5 tonne class, multi-role, multi-mission helicopter, fitted with two Turbomeca TM 333 2B2 engines. A sum of Rs. 1,541 Cr. (Rs. 960 Cr. by the defence customer and Rs. 581 Cr. by the Company) was spent till September 2009 on the ALH project. Audit observed the following:

- The design and development of ALH started in 1984. The collaboration agreement entered in 1984 was terminated in 1995 even though certain systems were yet to be developed, validated and integrated. As a result, five prototypes of the basic versions which were to be certified by 1994 were actually flight tested and certified in October 2003.
- Despite more than two decades, the technical requirements finalised in 1979 by Army and Air Force were not fully achieved resulting in flying of the 74 ALH supplied by the Company to defence customers with concessions.
- Taking up Limited Series Production (LSP) of ALH (2001-2003) even while the prototypes were being flight tested (1992-2003) and certified, was premature as large number of design problems were encountered during the manufacturing.
- By not freezing the design of ALH and keeping the development stage open the Company had to accommodate the increasing demand of the customer for latest and additional requirements. This led to 363 modifications in 34 helicopters (total 74 supplied to Defence customers).

- The ALH, which was to be successor to Cheetah/Chetak was found to be unsuitable for the intended multi-role requirements due to excess weight and limited power of the engine. ALH with 'Shakti' (higher-powered engine) which was planned to be certified in December 2006 is yet to be certified even after a delay of three years resulting in postponement of delivery schedule of 20 ALH with Shakti engine from 2008-09 to 2009-10.

- Weapon system integration (WSI) version of ALH has not been developed even after a lapse of 10 years (1998 to 2009). In the absence of clear understanding of the requirements between Navy and the Company, the amount of Rs. 138 Cr. spent on the project has not resulted in any tangible benefit to the customer.

- The Company could not penetrate into the international market in the absence of international certificate in spite of showcasing ALH in the air shows. The Company could not successfully execute even the order received from civil market.

- As against the envisaged indigenisation level of 50 per cent, about 90 per cent of the value of material used in each helicopter is procured from foreign suppliers.

Audit Report No. CA 9 of 2009-10

BEML Limited

The Company incurred an extra expenditure of Rs. 26.62 Cr. by agreeing to the request of the supplier for amending the currency of payment which was in contravention of the terms of the purchase orders.