ANNUAL REPORT
2011-2012

सत्यमेव जयते

Ministry of Defence
Government of India

Joint Army-Air Force Exercise 'Vijayee Bhava'

Front Cover :- (Clockwise)
Contingent of the Para-Regiment at the Republic Day Parade-2012
AGNI-IV Test
IAF's Mi-17 V5 Helicopter
Coast Guard Interceptor Boat ICGS C-153

Annual Report
2011-12

Ministry of Defence
Government of India

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1

SECURITY ENVIRONMENT

IAF SU-30s dominating the air space

The emergence of ideology linked terrorism, the spread of small arms and light weapons(SALW), the proliferation of WMD (Weapons of Mass Destruction) and globalisation of its economy are some of the factors which link India's security directly with the extended neighbourhood

1.1 India has land frontiers extending more than 15,500 kilometres and maritime boundaries overlooking three major shipping lanes. The country is strategically located vis-à-vis both continental Asia and the Indian Ocean Region. It has a landmass of 3.3 million square kilometres and is home to over a billion people with varying ethnic, linguistic, religious and cultural backgrounds.

1.2 The topography of India is diverse, ranging from the snow clad Himalayas with peaks over 28,000 feet to deserts, thick jungles and vast plains. The Siachen Glacier in the North is the world's highest battle-field, with posts located as high as 21,000 feet. India's Western border runs through deserts, fertile plains and thickly forested mountains. The North-Eastern frontier also comprises steep, high ranges and dense tropical forests. To the South, there are ranges close to the sea, inland plateaus interspersed with river valleys, coastal plains, and far-flung island territories such as the Lakshadweep to the West and the Andaman and Nicobar Islands to the East. On three sides, from Gujarat to West Bengal, the country is bordered by the Arabian Sea, Indian Ocean and the Bay of Bengal. The Andaman & Nicobar Islands located 1300 km away from the nearest point on our East Coast assume strategic predominance with respect to the entrance to the Malacca Straits. In the Arabian Sea, the Lakshadweep and Minicoy islands, situated on the sea-lanes of communication running eastwards from the Persian Gulf and the Red Sea are 450 km away from the nearest point on the West Coast. India is, thus, a maritime as well as a continental entity.

1.3 The geographical and topographical diversity, especially on the land borders which we share with seven neighbouring countries (viz., Afghanistan, Bangladesh, Bhutan, China, Myanmar, Nepal and Pakistan) poses unique challenges to our Armed Forces. India's peninsular dimension places it adjacent to one of the most vital sea-lanes of the world stretching from the Suez Canal and the Persian Gulf to the Straits of Malacca through which 55,000 ships and much of the oil from the Gulf region transit each year.

1.4 India's location at the base of continental Asia and the top of the Indian Ocean gives it a vantage point in relation to both Central

Asia and the Indian Ocean Region (IOR). Additionally, India's size, strategic location, trade links and exclusive economic zone (EEZ) links its security environment directly with the extended neighbourhood, particularly with neighbouring countries and the regions of Central Asia, South-East Asia, the Gulf and the Indian Ocean. These strategic-economic factors impose an increasingly larger responsibility on India.

1.5 In the post cold war international scenario, the 9/11 terrorist attack against the USA and terrorist strikes in many other parts of the world have brought about greater international convergence on security issues and challenges. The emergence of ideology linked terrorism, the spread of small arms and light weapons(SALW), the proliferation of WMD (Weapons of Mass Destruction) and globalisation of its economy are some of the factors which link India's security directly with the extended neighbourhood.

1.6 South Asia hosts a diversity of political experiences and systems. The region also faces the menace of terrorism and problems by way of proliferation of arms and drugs. Against this background, India stands as a bulwark against fundamentalism and extremism. It is a centre of economic dynamism in the region and as a plural democracy, a bastion of stability and peaceful coexistence.

The Global Security Environment

1.7 Over the last years, the global balance of power has witnessed new adjustments and the unfolding dynamic transformations are generating new strategic uncertainties. The continuing economic crisis in Europe and the Western world is a major cause of worry for the global economy. Simultaneously, the Asia Pacific region has been acquiring an increasing salience in the economic and strategic balance of power. The rise of countries like India, China, Brazil and South Africa has also been an important development vis-à-vis the established global order.

1.8 As rising nations and non-State actors become more powerful, emerging risks require greater attention. The security environment has become more complex, with asymmetric threats from terrorism, piracy etc. Technology advances in telecommunications and other areas have provided potent force multipliers to boost the capabilities and impact of terrorist activities. Despite international efforts to deal with terrorism, the threat from terrorism remains potent. There is continuing concern over the

Launch of BrahMos from INS Ranvir during the Exercise TROPEX

immediate neighbourhood remaining a hub for international terrorist organisations. The threat of piracy and terrorism to international trade and safety of the sea lanes of communication and the spread of piracy remain cause for concern.

1.9 The international security situation continued to be adversely affected by continuing conflict and violence. The political churning unleashed in West Asia and North Africa by the 'Arab Spring' brought to the fore fresh concerns in the already complex security scenario in the region. The complex and dynamic interplay of economic, diplomatic and military factors in the Asia Pacific also continued to impact the overall security assessment for the region as a whole.

1.10 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 so as to effectively contribute, as a responsible stakeholder, to regional and global peace and stability.

1.11 The developments in the Asia Pacific continue to underline the need for initiatives to build trust and confidence in the region. At the political level, a key development was the establishment of the East Asia Summit forum, of which India is an active member. India has supported efforts 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 address 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 continuing engagement with ASEAN led fora like the ADMM Plus and ASEAN Regional Forum are a part of our progressive and multifaceted bilateral and multilateral partnerships with the ASEAN community. At the same time, India is mindful of the impact that inter-State tensions may have on economic relations and on the military balance in the region and the manner in which these would affect our national interests.

1.12 The developments associated with the Arab Spring were seen as introducing a democratic dynamic in West Asia and North Africa. While these were welcomed universally, there are concerns about the impact of these developments on the security situation in the region and the consequences for the flow of energy supplies. India imports a significant proportion of its energy requirements from countries in the region and in addition, has to also take into consideration

India has strengthened its participation in multilateral institutions and deepened its strategic partnerships with various countries so as to effectively contribute, as a responsible stakeholder, to regional and global peace and stability.

the interests of the almost 6 million Indian workforce in these countries. 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. India continues to pursue defence and security engagements with various countries in the region, including Oman, Qatar and the UAE, on the basis of common concerns including terrorism and the security of the sea lanes of communication in the Western Indian Ocean and the Persian Gulf. India also initiated a substantive defence engagement with Saudi Arabia which will be built on mutuality of concerns and interests.

1.13 India and Iran share historical and cultural ties as well as bilateral trade and cooperation in various spheres. India continues to support a peaceful, diplomatic resolution of the Iran nuclear issue and Iran's continued adherence to its international obligations and commitments. A peaceful resolution of the issue is important for continued peace and stability in West Asia.

1.14 Africa's salience in the international system has been rising. India has traditional historic ties with a number of African countries and seeks to enhance its relationship with many countries in the continent. In addition to the initiatives taken to deepen the economic engagement with these countries through the India-Africa Forum Summits, a strategic dimension has been added to India's relations with many African countries, in view of the emerging security challenges. The most important of these challenges is the continuing threat of piracy in the Western Indian Ocean and the challenge that the activities of Somali pirates continue to pose to the safety of the sea lanes. The linkages between terrorists based in Somalia and trans-national organized crime is also a cause of major concern. 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.

India continues to pursue active and collaborative engagements with her neighbours with a view to promoting mutual understanding and regional peace and stability.

The Regional Security Environment

1.15 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 and regional peace and stability.

1.16 Security concerns vis-à-vis Pakistan continued to be a cause of concern due to the undiminished activities of terrorist organisations functioning on its territory. India has maintained that a strong and prosperous Pakistan is in the best interest of India and has supported dialogue

Rulers of the Desert: An armoured column advancing during the Exercise "Vijayee Bhava"

and engagement with Pakistan. However, the existence of terrorist camps across the India-Pak border and continued infiltrations across the LoC continue to pose a threat.

1.17 The situation in Afghanistan is critical to India and the increase in terrorist attacks in that country are a cause of concern, particularly in the context of a drawdown of international forces in the country. India remains committed to an Afghan-led resolution of the crisis facing the country and continues to support the capacity building of the Afghan security forces to this end. The strategic partnership agreement between India and Afghanistan signals the commitment of both countries to build on the bilateral relationship in all spheres, including security cooperation aimed at enhancing mutual capability in the fight against terrorism and other security challenges faced by both countries.

1.18 Although the unresolved boundary dispute between India and China has been a factor in India's security calculus, India has a strategic and cooperative partnership with China, in which 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's policy has been to engage with China on the principles of mutual trust and respect for each other's interests and concerns. India remains conscious and watchful of the implications of China's military profile in the immediate and extended neighbourhood.

1.19 India shares a unique relationship of friendship and cooperation with Nepal. The bilateral ties have been characterized by open borders and deep-rooted people-to-people contacts of kinship and culture and the security and economic interests of both countries are intertwined. The process of democratic transition in Nepal has gathered momentum

and 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.

1.20 Cooperative relations between India and Bangladesh continued to be a positive factor in the regional security scenario. Both countries share a convergence of views on security matters and on managing border security concerns. Bilateral efforts are been pursued for the settlement of boundary related issues and to enhance border management. The two countries continued to engage in constructive cooperation on matters relating to economic and social development.

1.21 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 cooperation in security matters is also being pursued. The Government of Myanmar has assured that its territory would not be allowed for activities inimical to India.

1.22 India-Sri Lanka relations remain close, cooperative and friendly. Maritime security challenges and the maintenance of peace and stability in the common Indian Ocean region are issues which underpin the convergences in the strategic interests of both countries. India continues to urge Sri Lanka in achieving a national reconciliation and in expeditiously reaching a lasting political settlement where all its citizens can live in peace. India is already working with the Sri Lankan Government in its rehabilitation and reconstruction efforts in Northern Sri Lanka and is pursuing efforts to enhance bilateral cooperation in a range of areas, including defence and security.

1.23 India and Bhutan have a mutually productive and beneficial bilateral relationship, based on mutual trust and understanding. 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.

1.24 The traditional warm and friendly relationship between India and the Maldives has been based on a convergence of views and interests between both countries on strategic issues at the regional and international level. As a maritime neighbour, Maldives occupies an important position in India's security construct and this is reflected in strong bilateral cooperation in defence and security matters, which is based on the mutual interests of both countries.

1.25 The Indian Ocean, spread over an area of 68.56 million square kilometres, is 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. India sits 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. The security of shipping along the sea lanes of communications in the Indian Ocean Region (IOR) is, therefore, of vital interest. India's maritime interests involve the safeguarding of our coastline and island territories and also of our interests in the EEZ, as well as in maintaining open and secure Sea Lanes of Communication.

1.26 The increased incidence of piracy, gun running and terrorism in the IOR continue to remain issues of serious concern. Despite the presence of naval warships of many countries for patrolling operations in the Gulf of Aden, the menace of piracy has not abated. 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 intelligence sharing mechanism has been streamlined through the creation of Joint Operation Centres and multi-agency coordination mechanism. 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 countries in the IOR to tackle common security challenges. The Indian Navy is working in coordination with the Navies of various countries in the Gulf of Aden. India is in favour of strengthening multilateral cooperation under the UN framework to meet the complex challenges of maritime security.

Internal Security Challenges

1.27 India has been facing multifaceted internal security challenges which have included left wing extremism, an ongoing proxy war in Kashmir and militancy in some Northeast states.

1.28 Attempts at infiltration into Jammu and Kashmir by terrorists from Pakistan and Pak occupied Kashmir (POK) are continuing cause for concern, although such attempts are being effectively tackled by the Security Forces. The security situation in the North-Eastern States has continued to improve. The activities of certain militant groups who continue to be engaged in building up capabilities are being closely monitored. In view of the external linkages of some of these insurgent groups, it will be necessary to remain alert and prepared to tackle the problem of militancy in the region.

1.29 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. The country and our defence forces remain fully prepared to tackle all challenges.

2

ORGANISATION AND FUNCTIONS OF THE MINISTRY OF DEFENCE

Chiefs of Staff Committee

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, the 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.

THE MINISTRY AND ITS 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).

(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.

2.6 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 during the period of this report is given in Appendix-II to this report.

HEADQUARTERS INTEGRATED DEFENCE STAFF (HQ IDS)

2.7 HQ IDS came into existence on October 1, 2001 based on the recommendations of Group of Ministers to review "Higher Defence Management". Under the aegis of the Chairman, Chiefs of Staff Committee, the organisation has been working towards achieving the goal of jointness and synergy amongst the Services.

2.8 **Build up of ANC:** Actions were initiated by HQ IDS for infrastructure development and modernization at the Andaman and Nicobar Command (ANC) to ensure the operational and administrative efficiency of ANC.

2.9 **Humanitarian Assistance and Disaster Relief (HADR):** HQ IDS co-ordinated the Armed Forces response to disaster situations, both within and outside the country. Major relief operations coordinated during the year were Humanitarian Assistance to Sri Lanka; Evacuation of Indian Nationals from Libya; Flood Relief Operation in Orissa – 2011 and Earthquake in Sikkim – 2011.

Under the aegis of Chairman, Chiefs of Staff Committee, the organisation has been working towards fully achieving the goal of jointness and synergy amongst the Services.

2.10 **Military Co-operation:** HQ IDS has coordinated the following Military Cooperation Sub Groups

Tri-Services Joint Special Forces Training Camp

(MSGs) meetings:

(a) 5th India-Germany MSG Meeting conducted in New Delhi on January 24-25, 2011.

(b) 7th India-Italy MSG Meeting conducted in New Delhi on March 3-4, 2011.

(c) 11th Indo-US MSG Meeting conducted in New Delhi on April 20-21, 2011.

(d) Indo-France Military Sub Committee Meeting conducted in New Delhi on December 14, 2011.

2.11 **Tri-Services Joint Special Forces Training Camp:** A Joint Special Forces Training Camp was organised by HQ IDS in association with HQ ANC at Carnic, Andaman & Nicobar Islands, from October 4-13, 2011. A total of 90 Special Forces personnel from the three Services participated in the training camp.

2.12 **Defence Services Staff College (DSSC):** To meet the aspirations of officers from three services, action has been initiated to enhance the capacity of the Staff Course to 500 in a phased manner.

2.13 **College of Defence Management (CDM):** For maximising use of IT, modern teaching tools and also for enhancing the intake capacity in the college to meet the requirements of Indian Armed Forces, the following measures have been taken:

(a) Capacity of Higher Defence Management Course (HDMC) increased to 150 participants.

(b) Sharing of the knowledge repository at CDM by placing the contents of case studies, dissertations and project study reports on the College Web Portal.

(c) Quality of course content enhanced by conducting collaborative capsules with Indian Institute of Managements (IIMs) Bengaluru, Indore, and Xavier Institute of Management Education (XIME), Bengaluru and eminent

guest speakers and guest faculty.

2.14 **Indian National Defence University (INDU):** For setting up the University, an MoU between Department of Defence, MoD and Educational Consultants India Limited (Ed.CIL) has been signed on May 31, 2011 for formulation of Detailed Project Report (DPR), Indian National Defence University (INDU) Act & Statutes and Layout Plans for Project INDU. Ed.CIL has already submitted its preliminary report.

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.

2.15 **Policy on Induction and Permanent Commission (PC) of Women Officers in Armed Forces:** On the basis of the policy paper prepared by the High Level Committee and as approved by the COSC, Ministry of Defence has formulated the policy on induction and employment of women in the Armed Forces, in November 2011.

2.16 **Medical Branch:** The newly formed Medical Branch at HQ IDS has initiated action for issuing Health Smart Cards and development of IT for the Armed Forces Medical Services, with special emphasis on Medical Stores and Supply Chain Management web and Telemedicine.

SERVICES HEADQUARTERS

2.17 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.

2.18 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.

ESTABLISHMENT OF ARMED FORCES TRIBUNAL

2.19 The Government has established an Armed Forces Tribunal (AFT) for the adjudication of complaints and disputes regarding 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) to provide for quicker justice to the members of the Armed Forces.

2.20 The Regional Bench at Mumbai has started functioning with effect from June 9, 2011. In addition, the Principal Bench at Delhi and Regional Benches at Chennai, Jaipur, Lucknow, Chandigarh, Kolkata, Kochi and Guwahati are functional.

The Government has established an Armed Forces Tribunal (AFT) for the adjudication of complaints and disputes regarding service matters and appeals arising out of the verdicts of the Courts-Martial of the members of the three Services.

DEFENCE (FINANCE)

2.21 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. It performs an advisory role.

2.22 The Ministry of Defence enjoys enhanced delegated financial powers to facilitate quicker decision making. These powers are exercised with the concurrence of the Finance Division. With a view to ensuring transparency in exercise of these powers in respect of defence procurement matters and compliance with the laid down policy guidelines, the Defence Procurement Procedure and Defence Procurement Manual are updated from time to time.

2.23 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 2009-10 and 2010-11, as also the Revised Estimates for 2011-12 and Budget Estimates for 2012-13 in respect of Defence Services Estimates are given in Table No. 2.1.

2.24 A summary of the latest report of the Comptroller & Auditor General of India on the working of the Ministry of Defence, as furnished by the C&AG, is given in Appendix-III to this Annual Report.

2.25 The position of Action Taken Notes (ATNs) as on 31.12.2011 in respect of observations made in the C&AG Reports/PAC Reports is given as Appendix- IV to this Annual Report.

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

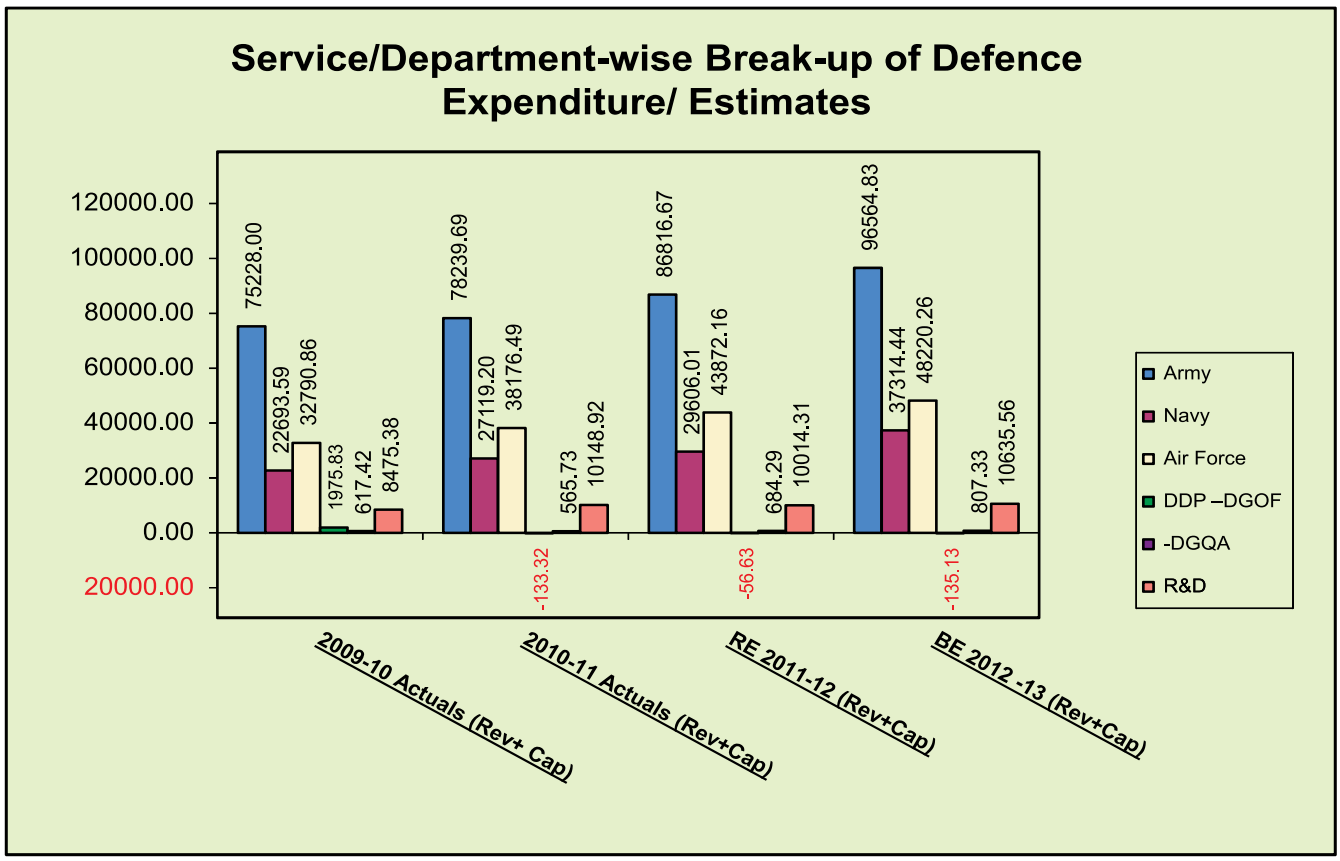
Service/Department		2009-10 Actuals (Rev+Cap)	2010-11 Actuals (Rev+Cap)	RE 2011-12 (Rev+Cap)	BE 2012-13 (Rev+Cap)
Army		75228.00	78239.69	86816.67	96564.83
Navy		22693.59	27119.20	29606.01	37314.44
Air Force		32790.86	38176.49	43872.16	48220.26
DDP	**DGOF**	1975.83	-133.32	-56.63	-135.13
	DGQA	617.42	565.73	684.29	807.23
	Total				
R&D		8475.38	10148.92	10014.31	10635.56
Total		**141781.08**	**154116.71**	**170936.81**	**193407.29**

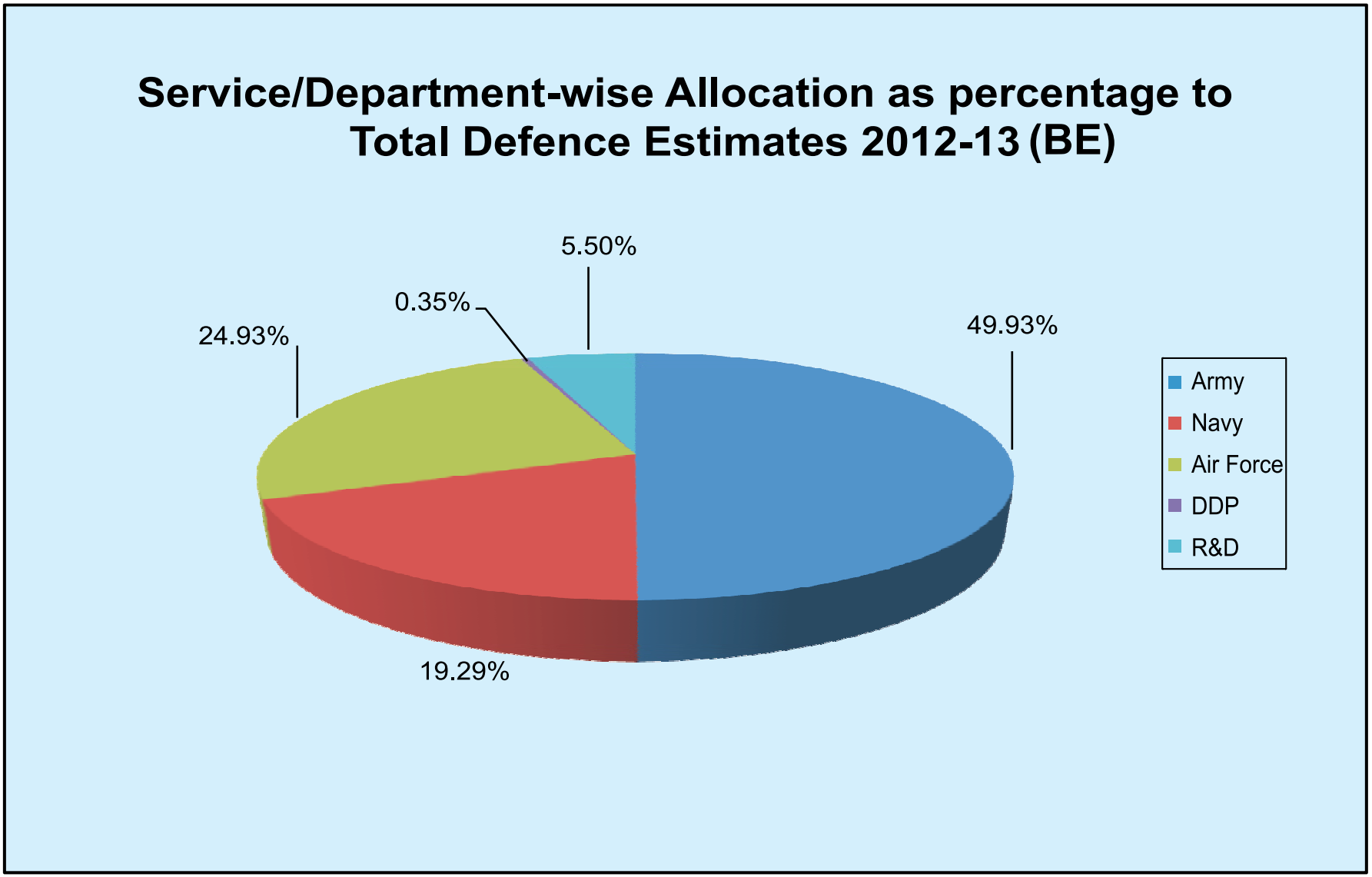
DDP - Department of Defence Production

DGOF - Directorate General of Ordnance Factories

DGQA - Directorate General of Quality Assurance

R&D - Research & Development




Service/Department-wise Allocation as percentage to Total Defence Estimates 2012-13 (BE)
5.50%
0.35%
24.93%
49.93%
19.29%
Army
Navy
Air Force
DDP
R&D

3

INDIAN ARMY

The Foot Soldier Marches on

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 changing global geo-political dynamics presents the Nation with multiple security challenges. While constantly reviewing its operational preparedness/ postures to meet the perceived 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. Also, in times of disaster/ natural calamities, the Indian army is in the forefront, providing aid and succour to the affected populace.

JAMMU AND KASHMIR

3.2 The security situation in J&K has been stable in 2011 with an overall reduction in violence. However, it has the potential to deteriorate at short notice. Pakistan's support to the ongoing proxy war continues unabated, the terror infrastructure, both in Pakistan/ PoK, remains intact. The Pakistan - Terrorist - Separatist nexus continues their attempts to foment trouble with an aim to internationalise the Kashmir issue.

3.3 The Indian Army and other Security Forces have been major contributors in improving the environment through persistent proactive and surgical Counter Terrorist operations. Incident free conduct of Amarnath Yatra, high turnout during the recently held Panchayat Elections and a surge in domestic and foreign tourism are all indicative of the achievements of the Armed Forces in providing conducive and secure environment. Though the situation has improved, there is a need to consolidate the gains.

3.4 **Situation Along the Borders:** The ceasefire on the borders is holding out with a few aberrations. There have been 56 cases of ceasefire violations along the borders during the current year, as compared to 57 in 2010. The incidents of ceasefire violations are being taken up through the established mechanism of DGsMO talks, local level flag meetings and hotlines.

3.5 Strict vigil is being maintained along the borders, Counter Infiltration measures adopted by the Army have been further strengthened.

Infiltration attempts, however, continue. During this year, 16 infiltration bids were foiled in which 15 terrorists were killed.

3.6 **Situation in Hinterland:** In 2011, the Army has killed 95 terrorists and apprehended 35 while suffering 15 casualties. The terrorist leadership has successfully been targeted and a total of 21 terrorist leaders have been neutralised. Incidents of terrorists related violence remains low due to the operational ascendancy achieved by the Army.

3.7 **Amarnath Yatra:** The Amarnath Yatra was conducted from June 29, 2011 till August 13, 2011. The Army was responsible for providing prophylactic security during the Yatra. This year the response to the Yatra was overwhelming and approximately 6,48,000 yatris visited Amarnath. In 2010, approximately 4,54,000 yatris had done darshan of the holy shrine.

3.8 **Panchayat Elections:** The State Government successfully conducted Panchayat elections in J&K in 16 phases to elect 4,130 Sarpanches and 29,719 Panches. The encouraging response of the population (77.73%) to the Panchayat elections, despite a boycott call from the terrorists and separatists, indicates the desire of the populace for peace.

Amarnath Yatra was conducted from June 29, 2011 till August 13, 2011. The Army was responsible for providing prophylactic security during the Yatra. Approximately 6,48,000 yatris visited Amarnath in 2011, while 2010, approximately 4,54,000 yatris had done darshan of the holy shrine.

NORTH EAST

3.9 The prevailing security situation in the North East has stabilised and is under control. Violence levels have subsided significantly as compared to previous years. There is widespread support for peace by all sections of the society thus facilitating progress on developmental projects. Presently, talks/ suspension of operation (SoO)/ cease fire (CF) is underway with 15 major groups. The Army, along with other security forces, has played a pivotal role been in bringing about this welcome change.

3.10 **Assam:** The security situation in the State is peaceful and under control. Relentless operations by the security forces (SF) have significantly reduced violent activities of Under Ground (UG) groups in the State. The Security Forces have established moral ascendancy over the Under Ground operatives.

3.11 Continued pressure by security forces combined with peace initiatives by government has resulted in a large number of United Liberation Front of Assam (ULFA) cadres coming over ground under ULFA chairman Arbinda Rajkhowa. The tripartite talks between Assam Government, Government of India and the pro-

talk faction ULFA is progressing well. The anti-talk faction under Paresh Baruah, however, continues attempts to revive violence and sabotage the peace talks. Over 11 ULFA cadres have been killed, nine have surrendered and 51 apprehended by the SF since January 2011.

3.12 The SoO Agreements with other Under Ground Groups like the National Democratic Front of Bodoland (NDFB) Progressive, both factions of the Dimasa Halam Doagah (DHD) and United Peoples Democratic Solidarity (UPDS) are continuing. The anti - talk faction of NDFB emerged as the most violent group, Army operations against the group have resulted in neutralisation of 148 cadres in this year. The group has been forced to declare unilateral ceasefire with effect from August 1, 2011.

3.13 Social harmony in Dima Hasao, already under stress with renaming of the district, has been witnessing ethnic tensions between the Dimasas and the non-Dimasas. The proactive stance adopted by army has ensured a secure environment and thus reduced the number of potential clashes in the region.

3.14 **Nagaland:** Violence levels in the State have declined. The Inter Factional Clashes between NSCN (IM) and NSCN (K) have also considerably reduced. The ceasefire provisions have also been extended to NSCN (Khole/ Khitovi) faction which emerged after split in NSCN (K).

3.15 The reconciliation process spearheaded by Forum for Naga Reconciliation has gained momentum as the populace desires for peace. The Army and Assam Rifles are keeping the UG groups under check and ensuring adherence of Ceasefire Ground Rules. The demand for Frontier Nagaland state comprising of Mon, Tuensang, Longleng and Kiphire is gaining momentum under guidance of the Eastern Naga Peoples Organisation.

3.16 **Manipur:** Remaining ten members of Autonomous District Council have been elected. The state is gearing up for assembly polls due in February/ March next year. Despite the fact that Manipur continues to be the most disturbed state in the North East, violence levels as compared to 2010 have reduced. Bulk of the violent acts are confined to the de-notified Imphal Valley. Operations by the Army and Assam Rifles are continuing. Six terrorists of various outfits have been eliminated and over 670 apprehended by the Security Forces since January 2011.

3.17 SoO with Kuki and Zomi Under Ground Groups has ushered peace in the Kuki and Zomi inhabited areas and they have been impressed upon to adhere to the SoO ground rules.

3.18 The state underwent the longest blockade which commenced from August 1, 2011. The Kukis demanding a separate Sadar Hills district called off blockade on November 1, 2011 while the Nagas lifted the blockade on November 29, 2011. This blockade caused immense inconvenience to the local populace.

3.19 **Arunachal Pradesh (Tirap and**

Changlang): The situation though under control, remains dynamic as a result of the turf war presently underway between NSCN (IM) and NSCN (Khaplang).

3.20 **Tripura and Mizoram:** The situation is under control, however, the delay in repatriation of Brus/ Reangs from the refugee camps in Tripura to Mizoram remains a future potential flash point.

3.21 **Meghalaya:** Activities of Garo National Liberation Army in the Garo Hills have increased and needs monitoring.

Situation Along the Borders

3.22 **Bilateral Relations with China:** Relations between the two nations have improved over the past few years. Positive engagements at the political and diplomatic level are continuing with limited military to military interactions as well. Both nations have appointed Special Representatives to explore the framework of a boundary settlement from the political perspective of the bilateral relationship.

3.23 China has focused itself towards building its Comprehensive National Power (CNP) by economic development and technical up-gradation, which in turn has provided requisite impetus to modernisation of her Armed Forces and force projection capability. Chinese footprints in India's immediate neighbourhood are increasing progressively due to its proactive diplomacy through political, military and economic cooperation and engagements. China's rising power supported by burgeoning economy is reflected in its increased confidence which will have an impact on regional and international security contours and power equations. Rapid infrastructure development in Tibet Autonomous Region (TAR) and Xinjiang Province has considerably upgraded China's military force projection and application capability against India and improved their overall strategic and operational flexibility.

3.24 **Our Focus:** Indian Army is fully seized of the security needs of the country as well as the requirement of development of infrastructure in the border areas. Necessary steps as required have been initiated for the upgradation of our infrastructure and force structuring to secure the desired national security objectives along the Northern borders. A holistic review of our infrastructural development and military modernisation programme has been undertaken in consonance with the overall Border Areas Development Programme. Strategically important infrastructure requirements along the Line of Actual Control (LAC) have been identified and are being developed in a phased manner.

3.25 **Way Ahead:** India always desires peaceful and cordial relations with all neighbours, including China. To this end, a policy of positive engagement and maintaining peace and tranquility along the LAC is ensured. Concurrently necessary development of infrastructure and military preparedness to include force modernisation continues to meet the present and future security challenges.

ARMS MODERNISATION INITIATIVES

3.26 **Armoured Corps:** The Armoured Corps is undergoing rapid modernization as per the requirements of the modern day battle field. Towards this end, removing night blindness of tanks, equipping them with modern fire control systems and providing them with better power packs is being focused upon. Efforts are also underway to provide an active defence suit to the tanks to enable detection and neutralization of incoming threats. The contract for ARV has been concluded. Schemes for procurement of Digital Control Harness and state of the art fire control systems (TIFCS) are in progress for T-72. Induction of T-90 and Arjun tanks is proceeding as per plans. Other important schemes in advanced stages of procurement are for establishment of Component Level Repair Facilities for T-90 Tanks, procurement of AMK 339 and 3UBK 20 Invar Missiles.

Making foot-prints in desert

3.27 **Mechanized Infantry:** To provide the desired offensive capabilities to Mechanised Infantry, the Army is well on its way to undertake an ambitious programme to modernise the entire fleet of BMPs. The modernisation involves equipping the BMPs with twin missile launchers, modern fire control system and other offensive weapon systems. Procurement of a modern, state of the art Anti Tank Guided Missile is also under process. Uprating of BMP-2 Engine and Integrating the TI Sight with the gun are other weapon procurements being pursued.

Wading through obstacles

3.28 **Artillery:** The focus for procurement of Artillery equipment has primarily been on enhancing surveillance and firepower capabilities. To enhance the surveillance capabilities, in addition to procurement of the Battlefield Surveillance System and Mobile Telescopic Mast for LORROS in the last year, procurement of Heron UAV and WLR for

Artillery breathing fire

plains is in very advanced stages. In terms of firepower, procurement for Pinaka regiments is in very advanced stages and schemes for procurement of 155mm SP Gun (Wheeled) and 155 mm Ultra Light Howitzer are progressing well. Procurement actions for 155mm Towed Gun, one regiment of Brahmos missiles and Vehicle Platform for GRAD BM 21 MBRL are in progress.

3.29 **Infantry:** The modernization of the Infantry soldier is proceeding with the basic aim of enhancing lethality and protection of the individual soldier. Submachine Guns and Assault Rifles for Special Forces are being trial evaluated. Procurement of Bullet Proof Jackets and Ballistic Helmets for use in counter insurgency operations are at advanced stages. Schemes for procurement of advanced and specialist weapons and equipment for Ghatak Platoons of the Infantry battalion are also in advanced stages. In order to enhance the surveillance capability of the Infantry, the proposal to purchase Mini UAV's is also in progress. The procurement of a modern 3rd Generation ATGM is at trial stage.

3.30 **Engineers:** The operational efficiency of the Engineers to operate in an NBC environment is being enhanced with procurement of Automatic Change Detection Agents and Chemical Agent Monitors. The obstacle crossing and bridging capabilities of the Engineers are being enhanced by procurement of bridging systems like the Sarvatra Bridge Systems, 10 m Short Span Bridge and 5 m Short Span Bridge, all of which are in advanced stages.

Bridging all gaps

3.31 **Signals:** The Corps of Signals has undertaken a number of major steps in consolidating the various data and communication networks of the Indian Army. Establishment of Defence Communication Network, a prestigious Tri Service project schemes to improve EW capabilities and Mobile Communications for some of the frontline Corps employed in Counter Insurgency Operations are currently underway.

Communicating through skies

3.32 **Army Aviation:** Procurement action for replacement of existing reconnaissance and surveillance helicopter with a modern helicopter 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 procuring Cheetal Helicopters.

Ready to Fly

3.33 **Army Air Defence:** The Corps of Army Air Defence is taking major strides in upgrading its gun and missile systems. Contract for procurement of Akash Missile System was

Enemy beware

concluded in the last financial year. Actions for up gradation of Self Propelled Air Defence Gun Missile System, Schilka Gun System and L70 Gun are also in progress.

RASHTRIYA RIFLES

3.34 The period saw the execution of multiple surgical operations resulting in

Honing Drills

neutralisation of large number of terrorists, specially the command and control elements, there by breaking the back bone of terrorism in the state. Synergy between the security forces, Intelligence agencies, Police, local government machinery and the public, has been facilitating operations and assisting in ushering back normalcy in the State of Jammu and Kashmir.

3.35 **Modernisation:** To fight terrorism more effectively the need has been felt to constantly upgrade the weapons and equipments of the RR Force in consonance with the latest technologies available in India and the world over. The changes in terrorists weaponry and tactics further necessitates the requirement of modernisation. A total of 42 schemes of RR for modernisation have been approved. The modernisation programme is focused on the following:

(a) Fire Power.

(b) Surveillance and Night Enablement.

(c) Communication.

(d) Protection.

(e) Mobility.

3.36 **Achievements:**

(a) Terrorists Neutralised:

(i)	Killed	63
(ii)	Surrendered	6
(iii)	Apprehended	34

(b) Recoveries:

(i)	Rifles (All Types)	152
(ii)	Pistol	84
(iii)	LMG/UMG	4
(iv)	RL/UBGL	26
(v)	Grenedes	845
(vi)	Improvised Explosive Devices	29
(vii)	Radio Sets	32
(viii)	Explosives	208.75 Kgs
(ix)	Ammunition	32399 Rounds

During 2011, Rashtriya Rifles killed 63 terrorists and apprehended 34 terrorists

New Entrants to the Armed Forces family

TERRITORIAL ARMY

3.37 **Grant of Honorary Commission:** Shri MS Dhoni and Shri Abhinav Bindra were granted the Honorary rank of Lt Col. Dr Deepak Rao, the first Indian to specialise in modern Close Quarter Battle Training (CQB), was granted the Honorary rank of Major.

3.38 **Enrolment of First Woman as OR (Other Rank) in Railway Engineer Regiment (Territorial Army):** 969 Railway Engineer Regiment (Territorial Army) enrolled first

woman as OR in Railway Engineer Regiment (Territorial Army). Sapper Shanti Tigga has been enrolled in Territorial Army on November 15, 2010. She is posted as pointsman in Chalsa Railway Station under DRM Alipurduar (Assam). She underwent Recruit Training Camp w.e.f. November 15 to December 14, 2010 and stood overall first in training and was awarded Best Trainee Award.

EQUIPMENT RELATED

3.39 The Indian Army (IA) has a vision to consolidate itself to a highly motivated, optimally equipped, modernized and operationally ready force. Driven by the motto of 'Logistics is the line between order and disorder', the Indian Army strives to provide adequate logistics and effective engineering support. Towards this end, optimum efforts are being made for effective equipment management. These are as under:

(a) **Indigenous Barrels: Tk T-90:** Indigenous chemistry gun barrels with gun articles were successfully trial evaluated in September 2010 and bulk production clearance has been accorded.

An armoured recovery vehicle

(b) **Overhaul of ARVVT 72b and WZT-3 at 512 ABW:** Case for setting up facilities for overhaul of ARV VT 72B and WZT-3 at 512 ABW is being processed as per para 45 of DPP 2008. AoN has been accorded by SCAPCHC.

(c) **Procurement of UAV Spares:** To reduce dependency on the OEM and the time involved in processing ex import cases, local vendors for tyre, tube, batteries and certain preservatives have been identified and procurement is under progress through them.

A UAV in flight

(d) **Cooking Utensils:** Modernization of cooking utensils in Army has been implemented. Modernized cooking utensils are of SS-304 grade (Salem) which is approved as the food grade material. SS-304 grade has been developed commercially for Army and has a longer life span as compared to the previous SS-20 grade.

(e) **Newly Introduced Items of ECC & E:** Based on recommendation of study, a number of new items have been

introduced. Procurement action for all newly introduced items of ECC&E have been initiated except one (Sun Screen Lotion) of which scaling is being worked out. The newly introduced items of ECC&E are as under:

(i) Vest Thermal.
(ii) Cravats (Scarf Woolen).
(iii) Rucksack.
(iv) Camp Mattress Outer.
(v) Sun Screen Lotion.
(vi) Face Mask.
(vii) Gaiters.
(viii) Spare Glasses for Goggles.

(f) **Installation of Rear View Camera (RVC as Product Improvement in all Vehicles:** The equipment has been recommended to be introduced as product improvement through Staff Equipment Modification Committee (SEMC) route.

(g) **Procurement of Snow Mobiles for Siachen Glacier:** A contract for procurement of Qty 20 Snow Mobiles was signed with M/s BRP, Finland in December 2010. The complete stores were received, inspected by JRI and deployed in the Glacier by March 2011 in a record time frame of three months.

A snow mobile

(h) **Procurement of Socks Woolen for Siachen Glacier:** A contract for procurement of Qty 3,82,914 pairs of socks woolen was signed with M/s Franklin, UK in September 2010 and delivery completed in a record time frame of seven months. Another contract for the same quantity has been signed under the option clause in May 2011 and delivery is likely to be completed by December 2011.

Better socks for glacier

(i) **Procurement of 84mm Rocket Launcher Ammunition:** A contract for procurement of Qty 66,000 rounds of 84 mm Rocket Launcher ammunition with M/s FFV SAAB, Sweden was signed in March 2011. Qty 20,000 rounds are likely to

84 mm Rocket Launcher

be delivered by December 2011 and the balance Qty by November 2012.

(j) **Procurement of 125mm FSAPDS - Ammunition for Tank T-90:** A contract for procurement of Qty 16,000 rounds of FSAPDS ammunition for Tank T-90 was signed with M/s Rosoboronexport, Russia in December 2010. The contract became effective in March 2011 and the complete consignment is likely to be delivered by March 2012.

Tank Ammunition

OPERATIONAL LOGISTICS

3.40 **Defence Passenger Reservation System (PRS):** Defence PRS have been opened at various remote locations and major cantonments in order to provide the facility of computerized rail reservation to defence personnel and their dependents. Presently, there are 72 PRS and one Unreserved Ticketing (UTS) functioning all over the country. In addition, 4 PRS are under installation.

3.41 **Defence Department Quota (DDQ):** Presently there are 7131 Seats as DDQ available in various trains for every day use. These are being utilized by troops moving at short notice. Constant liaison is being made with the Railway authorities for allotment DDQ especially in AC classes.

3.42 **Charter Flights:** Charter Flights ex Delhi to Leh, Thoise and Srinagar as well as between Kolkata and Imphal are being operated for troops of Northern and Eastern commands. These flights have significantly reduced the time spent by troops while transiting in and out of field areas.

3.43 **Increase in scale of Meat/ Chicken (Broiler) Dressed for JCOs/ ORs:** The scale of Meat/ Chicken (Broiler) Dressed for JCOs & OR has been revised from 110 grams to 180 grams per man per day.

3.44 **Procurement of Soft Drinks in lieu of Aerated Water:** Other Ranks of Armoured units and those of other units employed with Armoured Fighting Vehicles have been authorized the under mentioned soft drinks in lieu of aerated water:

Sl. No.	Items	Quantity
(a)	Carbonated soft drinks	300 ml per day
(b)	Lime based soft drinks	250 ml per day
(c)	Fruit juice/ lassi/ coconut water etc	250 ml per day

3.45 **Procurement of Branded Refined Salt:** Government sanction has been obtained for procurement of branded refined salt from reputed vendors.

CENTRE FOR UNITED NATIONS PEACEKEEPING (CUNPK)

3.46 Peacekeeping operations are special operations requiring a doctrine and special techniques from a synthesis of research and experience. To fulfill this need, the Centre for United Nations Peacekeeping (CUNPK), has been set up in New Delhi, drawing on India's vast experience in the field of UN Peacekeeping. The Centre conducts International Training Courses for Military Contingent Officers, Military Observers, and Staff & Logistics Officers. The Centre regularly organizes Seminars, Joint Working Groups and Command Post Exercises at the National and International level. CUNPK is also a repository of information on India's involvement in UN Peacekeeping and is continuing to build and update its research on peacekeeping related issues.

3.47 Since October 2005, CUNPK has taken over the responsibility for the Secretariat of the International Association of Peacekeeping Training Centres (IAPTC). Further information is available on www.iaptc.org.

3.48 **Courses Conducted:** CUNPK has conducted following International and National level courses for Officers of Indian Armed Forces, Officers of Para Military Forces and Officers from friendly foreign Countries earmarked for deployment as MILOBs, Logistic Officers and Contingent Officers for various UN Missions from January 1 to December 31, 2011:

3.49 **International Courses**

(i) UN Staff & Logistics Officers Course.

(ii) UN Military Observers' Course.

(iii) UN Military Contingent Officers Course.

International Seminar: International Seminar on "Protection of Civilians in UN Missions" was held at CUNPK on February 25, 2011. A total of 177 officers (foreign as well as India) from the environment including expert speakers on the topic attended the seminar.

3.50 **National Courses:** Five courses were conducted imparting training to troops being inducted into UN Missions.

Centre for United Nations Peacekeeping regularly organizes Seminars, Joint Working Groups and Command Post Exercises at the National and International level. It is also a repository of information on India's involvement in UN Peacekeeping and is continuing to build and update its research on peacekeeping related issues.

3.51 **International Co-operation:**

(a) **Visit by Foreign Delegations:** Following delegations visited CUNPK :

(i) Vietnam Delegation.

(ii) USA Delegation.

(iii) Russian Delegation.

(iv) US Delegation.

(v) Italian Delegation.

(vi) Mongolian Delegation.

(vii) Visit of DA Ecuador.

(viii) South African Delegation.

(ix) Japanese Delegation.

(x) Malaysian Delegation.

(xi) Ecuador Delegation.

(xii) Indonesian Delegation.

(b) **17th IAPTC Executive Committee Meeting:** The following were attended by representatives from Army:-

(i) The Executive Committee Meeting of 17th International Association of Peacekeeping Training Centres (IAPTC) held at Army War College, Carlisle Penninsylvania, USA from March 27 - 31, 2011.

(ii) Annual Conference of International Association of Peacekeeping Training Centres held at United States Army Peacekeeping and Stability Operations Institute (PKSOI) in conjunction with the United States Army War College and the Centre for Civil-Military Relations, Carlisle, Penninsylvania, USA from November 14 - 18, 2011.

(c) **FSA Demo:** FSAs of 28 countries attended the programme and the total strength of the delegation was 31 (one additional rep from three countries).

(d) **Ex Khan Quest:** A contingent comprising of two officers, three JCOs and 25 troops participated in the exercise which was conducted at Ulan Bator, Mongolia.

3.52 **Training of Contingents:** During the year 2011, all contingent being inducted into UN Missions were trained under aegis of CUN-PK.

INDIAN ARMY IN UN PEACEKEEPING OPERATIONS

3.53 As a founder member of the United Nations, India has been a strong supporter of the ideals and principles of the United Nations. India has been an active contributor to all UN organs since its inception and is one of the largest military and police contributors to UN Peacekeeping Operations. India first deployed its troops in UN peacekeeping operations in 1950 with the deployment of 60 Field Ambulance consisting of 346 personnel in Korea.

3.54 Since 1950 India has participated in 45 UN missions out of the total of 69 UN missions, across the globe. Till date, more than 1,65,000 Indian troops have participated in various UN Missions.

3.55 The most significant contribution of Indian Army has been to ensure peace and stability in Africa and parts of Asia. It has demonstrated a unique capacity of sustaining large troop commitments over prolonged periods. Towards the fulfillment of India's commitment to the UN and peace, 136 Indian soldiers have so far made the supreme sacrifice.

3.56 **Leadership in UNPKO:** India has so far provided 13 Force Commanders in various UN Missions. Lt. General KS Thimayya was the first Indian officer to be appointed as the Chairman of the Neutral Nations Repatriation Commission (NNRC) in Korea in 1950. Presently, Lt. General Chander Prakash, SM, VSM is serving

as the Force Commander of MONUSCO in Congo. Besides the Force Commanders, India also had the honour of providing one Division Commander, five Deputy Force Commanders and two Military Advisors to the Secretary General of the United Nations.

3.57 **Our Present Contribution:** India has also contributed a sizeable strength of troops for the UN peacekeeping operations. Presently we have 7099 persons (approximately) in various UN missions. Our present contribution is as follows:

(a) **MONUSCO: Congo (1999 – till date):** India's contribution to MONUSCO commenced with the deputation of military Observers in 1999. With increased demands for troops contribution, India has deployed an Infantry Brigade Group with four Infantry Battalion Groups, Brigade Signal Company and a Level III hospital in Congo since November 2004. An Army Aviation Flt has also been deployed in the mission area w.e.f. 2009. Democratic Republic of Congo (DRC) is the second largest country in the African Continent and has faced protracted period of unrest and instability since its independence in 1960; a period, characterized by two civil wars and ethnic conflicts. The operating conditions for the Indian brigade here are challenging, replete with inhospitable terrain and adverse climatic conditions. The brigade is mandated to carry out protection of civilians which is the primary role. The North Kivu Brigade has contributed significantly towards implementation of the MONUSCO Mandate and is regarded extremely favorable by the international community. The entire infrastructure, security management and activities of MONUSCO in the province are dependent on the Brigade. The formation faced many challenges towards execution of its tasks and achievement of operational goals in terms of protection of civilians, surrenders and area domination. The brigade undertook many operations during this period mainly to ensure protection of civilian and successful conduct of the presidential and provincial elections. Few of the important operations were, OPERATION JUA MUPIA, OPERATION RESTORE HOPE, OPERATION BIRDS EYE AND OPERATION DEVINE FORCE. **OPERATION BLUE FIST** was launched by the brigade to successfully bring to an end the armed group clashes in the area of Kimua. This operation was a huge success and it proved the ability of the Indian soldiers to operate under a multinational environment. The North Kivu Brigade took great initiatives for alleviating the suffering of the local Congolese. Various humanitarian activities were launched, e.g. the Catch them Young activity to positively engage the young minds in the AOR. The Units of the brigade executed many **Quick impact projects** worth about **US$ 73535.00** to facilitate the local population. North Kivu Brigade facilitated surrenders of **398 cadres, 228 child soldiers & 288 dependents** in year 2011 through its bases, thereby encouraging restoration of normalcy in the region.

(b) **UNFIL: Lebanon (1998 – till date):** The Indian Army's contribution to UNIFIL includes one Infantry Battalion Group, one Level I Hospital and Staff Officers. INDBATT Area of Operations (AO) is in the Eastern part of the UNIFIL AO. The Battalion is deployed in mountainous terrain and INDBATT XIV has an AO of approximately 100 sq kms. INDBATT XIV is carrying out intensive operational activities in its AO. INDBATT is holding 10 UN position apart from 9 Temporary Observation Posts

(Ops) along the blue Line, which is the highest number of posts held by a single unit in entire UNFIL AOR, thus dominating the Blue Line against any violation of the line of withdrawal between Lebanon and Israel occupied Cheeba Farms Area, thereby monitoring and reporting promptly any violation. The battalion has been successful in maintaining peace and stability in its AO through relentless patrolling activities which includes a daily schedule of 26 day/ night patrols in the battalion AOR including Counter Rocket Launching Operations (CRLOs) and blue Line Patrols in close coordination with Lebanese Armed Forces. The Indian Army INDBATT-XIV organized a large number of activities to include medical, dental and veterinary camps on regular basis, so as to provide succor and solace to the local population. Due to aid, a close contact and special rapport has been achieved with the local population which further assists in achievement of operational tasks.

(c) **UNMIS: Sudan (April 2005 till July 9, 2011):** Contribution to Sudan was initially in the form of two infantry battalion group, a sector HQ, a Force Signal Company, a Construction Engineer Company, IAF contingent and a Level II Hospital. The mission was closed down in July 2011.

(d) **UNMISS (South Sudan):** The UN Mission in Sudan (UNMIS) was closed down on July 9, 2011 and the UN HQ opened a new mission viz UNMISS (South Sudan). Government of India approved sidestepping the Indian Army contingents which were deployed in UNMIS (Sudan) to UNMISS (South Sudan). The Indian Army contingents have commenced operations in support of the UN Security Council mandate for UNMISS. The mission is presently under stabilization phase. On July 9, 2011, the independent State of Republic of South Sudan (RoSS) was formed in a complex and fragile regional environment. UNMISS intervention resulted in resolution of dispute between SPLA and RMGs undergoing re-integration, regarding retention of weapons. However, there is still significant distrust between the two parties.

(e) **UNDOF: Golan Heights – Israel (January 2006 till date):** In Golan Heights India has deployed a logistic contingent as part of UNDOF which is responsible for providing second line logistic support to the mission. The Indian contingent has been part of UNDOF since 2006 when it replaced the Canadian contingent.

(f) **UNMIT: Timor Leste:** To the Mission in Timor Leste, India has provided only one Staff Officer. Although the contribution is not significantly large, it is consistent.

3.58 Till date 136 Indian peacekeepers have made the supreme sacrifice while serving in UN peacekeeping operations. In recognition of their gallant and distinguished service while serving the noble cause of world peace, members of Indian Army peacekeeping contingents have won the following awards:

(a)	Param Vir Chakra	1
(b)	Maha Vir Chakra	5
(c)	Kirti Chakra	1
(d)	Vir Chakra	19
(e)	Shaurya Chakra	3
(f)	Yudh Seva Medal	4
(g)	Sena Medal	10
(h)	Vishisth Seva Medal	2
	Total	**45**

4

INDIAN NAVY

INS Jyoti , RSS Supreme and INS Kirch

The Indian Navy (IN) has been playing a maritime leadership role in the Indian Ocean Region (IOR) due to its multi-dimensional capabilities and active presence in the region

4.1 The Indian Navy (IN) has been playing a maritime leadership role in the Indian Ocean Region (IOR) due to its multi-dimensional capabilities and active presence in the region. The IN faces an operating environment of ferment, due to a variety of factors which include geo-politics, geo-economics, emerging technologies, changing nature of asymmetric threat and continuously evolving capabilities in our maritime neighbourhood. Consequently, the IN's force planning and operational philosophy is designed to address likely threats and opportunities, with the overall aim of protecting our national maritime interests.

4.2 As India continues its progress on the path of sustained economic growth, there is a growing acceptance of the fact that the maritime domain is the prime facilitator of our development. More than 90% of our trade by volume and 77% by value are transported over the seas. Over 97% of our energy needs of oil are either imported or produced from offshore fields. Consequently, our economic growth is inextricably linked to the seas.

4.3 The IN is being increasingly called upon to address issues pertaining to safety, security and stability in the region. As a responsible nation and a benign maritime neighbour, enforcement of international laws, humanitarian assistance and disaster relief in the Indian Ocean Region would continue to remain in the forefront of our international commitments. The complex maritime security environment in the IOR requires the IN to maintain a high level of operational tempo and readiness at all times. Besides a large number of operational deployments, the IN has successfully undertaken exercises with navies of friendly foreign countries. These exercises have helped in strengthening bilateral relationships, cementing our professional ties and streamlining inter-operability issues.

4.4 Piracy continues to remain a major area of concern in the IOR. During its anti-piracy patrols, the IN has done a commendable job in thwarting a number of attacks on Indian and foreign merchant ships, over the past year. Our continued presence in pirate infested area has demonstrated our commitment and resolve to the maritime world to deal with this threat. The role and responsibility of the IN to protect our maritime interests will continue to grow with the requirement to safeguard our expanding economic interests as also the leadership

responsibilities associated with being a mature and responsible regional maritime power.

4.5 The IN has wholeheartedly supported indigenisation programmes, in consonance with our overall national vision of sustained

Induction of Indigenous Stealth Frigate - INS Shivalik

growth and self-reliance. It is a matter of significant achievement that the modernisation programme of the IN is focused towards indigenous warship construction. Our preferred choice is for inducting ships and submarines through the indigenous route. Consequently, of the 48 ships and submarines presently on order, 44 are being built in Indian shipyards, with the latest P-28 ASW Corvettes planned for an indigenous content of over 90%.

OVERSEAS OPERATIONS

Lending a helping hand to an orphanage at Manila, Phillipines

4.6 **Overseas Deployments:** Overseas Deployments (OSD) are undertaken by IN ships for flag showing, fostering better relations with friendly countries and enhancing foreign cooperation. Important overseas deployments in 2011 included the following:

(i) **Eastern Fleet:** Eastern Fleet ships comprising IN Ships Delhi, Ranvijay, Ranvir, Jyoti and Kirch undertook an OSD to South China Sea and Western Pacific Ocean from March to May, 2011. The ships participated in IN-USN bilateral exercise MALABAR-11 and IN-RSN bilateral exercise SIMBEX-11 during the OSD and also visited Singapore, Philippines, Russia, Vietnam, Brunei, Malaysia, and Indonesia.

(ii) **INS Airavat:** INS Airavat participated in the International Fleet Review (IFR) and Brunei International Defence Exhibition (BRIDEX) at Brunei from July 4 to July 9, 2011. Thereafter, the ship visited the ports of Sihanoukville (Cambodia), Nha Trang and Haiphong (Vietnam) and Port Kelang in Malaysia.

(iii) **First Training Squadron:** Ships of the First Training Squadron comprising IN Ships Tir, Krishna and ICGS Veera were deployed for OSD to Oman, UAE and Saudi Arabia in March, 2011 and to South East Asia (Singapore, Malaysia, Bangkok and Indonesia) in August and September, 2011.

(iv) **Survey Tasks:** INS Sarvekshak was deployed overseas for undertaking hydrographic survey to Mauritius from February to March, 2011 and to Seychelles

and Kenya in November-December, 2011.

4.7 **Operation BLOSSOM:** IN ships Mysore, Jalashwa and Aditya sailed for Non Combatant Evacuation Operations (NEO) of Indian nationals from Libya on February 26, 2011. The ships were thereafter deployed off Tripoli in March, 2011 and evacuated 150 Indian nationals to Malta.

Evacuees boarding INS Jalashwa

4.8 **Deployment of IN Units for SAARC Summit:** On the request from the Government of Maldives, INS Brahmaputra and one IN Dornier were deployed at Maldives during the 17th SAARC summit conducted at Addu Atoll, Maldives from November 10-11, 2011.

4.9 **Anti-Piracy Operations in the Gulf of Aden:** In consonance with the IN's commitment towards anti-piracy operations in the Gulf of Aden, the IN has deployed one warship continuously in the area from October, 2008. This presence has deterred the pirates and provided assurance to the Indian flagged merchant ships transiting through the area. As of date, over 1800 merchant ships of varying nationalities have been escorted safely by the Indian warships. A total of 120 pirates have been apprehended and 73 fishermen and crew rescued in four operations by the IN against pirate mother ships in the East Arabian Sea in 2011.

In consonance with the IN's commitment towards anti-piracy operations in the Gulf of Aden, the IN has deployed one warship continuously in the area from October, 2008.

Anti Piracy Operations in the Gulf of Aden

4.10 **EEZ Surveillance and Anti-Piracy deployments off Seychelles, Mauritius and Maldives:** IN units were deployed to conduct Exclusive Economic Zone (EEZ) surveillance and anti-piracy deployments off Seychelles, Mauritius and Maldives at the request of the host Governments:

MAJOR EXERCISES

4.11 **TROPEX – 11:** The annual Theatre Level Operational Readiness Exercise (TROPEX) was conducted in February, 2011 on the Western Seaboard. The exercise included the Independent Workup Phase, Amphibious Phase, Joint Workup Phase comprising both the

Western and the Eastern Fleets and a Tactical Phase.

Missile Firing

4.12 **AMPHEX – 11:** INS Jalashwa, along with other amphibious units of IN and Indian Army, participated in AMPHEX-11 in January-February, 2011. The exercise validated various facets of interoperability and concepts in the field of amphibious warfare.

Training for Amphibious Ops

EXERCISES WITH FOREIGN NAVIES

4.13 **VARUNA 10:** VARUNA 10 was conducted in January, 2011 on the Western seaboard, off Goa. The French Navy was represented by five units, FNS Charles De Gaulle, FNS Forbin, FNS Tourville and FNS Meuse. The IN was represented by the aircraft carrier INS Viraat, INS Godavari, INS Ganga and INS Shalki.

4.14 **MALABAR-11:** The IN-USN bilateral exercise MALABAR-11 was held off Okinawa in April,2011. The US Navy units USS Sterett, Stethem and Preble, Ronald Reagan, Chancellorsville, Santa Fe, Blue Ridge, Carl Brashear and IN ships Delhi, Ranvir, Ranvijay and Jyoti participated in this exercise.

IN officers on board USS Ronald Reagan

4.15 **SIMBEX-11:** The IN-RSN bilateral exercise SIMBEX-11 was conducted in the South China Sea in March,2011. The RSN units which participated in the exercise included RS Ships Supreme, Formidable, Stalwart, Valiant, Victory, Conqueror, Maritime Patrol Aircraft and RSAF fighter aircraft. The IN units that participated in the exercise were IN Ships Delhi, Ranvijay, Ranvir, Kirch and Jyoti and one IN Maritime Patrol Aircraft (MPA).

4.16 **SLINEX-11:** Ships of the Eastern Fleet participated in the India-Sri Lanka bilateral naval exercise SLINEX-11 in September, 2011. The Sri Lankan side was represented by patrol ships and Fast Attack Craft. This exercise was recommenced after 2005.

4.17 **Disaster Relief Exercise (DIREX):** The inaugural ARF Disaster Relief Exercise (DIREX) was jointly conducted by Indonesia and Japan with participation of ARF members and related international and regional organizations from March 14-19, 2011 at Manado, Indonesia. INS Kesari participated in this exercise along with ships from Indonesia (KRI Tedung Naga, KRI Soeharso, KRI Basarnas), Japan (JMSDF Ohsumi) and USA (USS Harpers Ferry).

4.18 **KONKAN-11:** INS Betwa and INS Shankush participated in the IN-RN bilateral exercise KONKAN-11 in October, 2011 off the west coast. The participating RN units were HMS Turbulent and RFA Diligence.

4.19 **HABUNAG 11:** IN-USN Expeditionary Table Top Exercise (EOTTX) HABUNAG was conducted at Visakhapatnam in October, 2011. The exercise was based on settings aimed at humanitarian assistance and disaster relief. The table top exercise facilitated joint planning and discussions on Humanitarian Assistance and Disaster Relief (HADR).

4.20 **Naseem Al-Bahr:** The biennial naval exercise between the IN and the Royal Navy of Oman (RNO) is scheduled to be conducted off Mumbai in end December, 2011.

4.21 **Coordinated Patrol with Indonesia:** IN and Indonesian Navy undertake coordinated patrol (termed IND-INDO CORPAT) along their International Maritime Boundary Line (IMBL). The 17th IND-INDO CORPAT was conducted from April 6-26, 2011. IN ships Cheetah and Battimalv along with one IN Dornier participated in the CORPAT. The Indonesian side was represented by KRI Pattimura. The 18th IND-INDO CORPAT was conducted from September 25 to October 5, 2011. IN ships Mahish and Baratang along with one IN Dornier participated in the CORPAT. The Indonesian side was represented by KRI Silas Papare.

4.22 **Coordinated Patrol with Thailand:** The 12th Cycle of Indo-Thai CORPAT was held from April 25 to May 3, 2011. INS Tarasa and one IN Dornier participated in the CORPAT. HTMS Long Lom and one Dornier from Royal Thai Navy participated from the Thai side. The 13th Cycle of Indo-Thai CORPAT was conducted from November 9 to 17, 2011.

COASTAL SECURITY

4.23 In 2009, IN was designated as the authority responsible for overall maritime security, which includes coastal security and offshore security of the country. To meet this task, the IN has undertaken brown water operations along with blue water operations to safeguard our coastline from threats. A coordinated effort has been made to strengthen necessary linkages with all Ministries/ agencies and coastal States/ Union Territories to achieve synergy for effective coastal security management. Six of the 15 Fast Interceptor Craft (FIC) planned to be inducted for coastal security have already been inducted in the IN in 2010.

4.24 From January 2009 there has been an increase of 60-80% in the deployment of

IN ships and 100% increase in IN aircraft deployment for coastal security tasking. Surveillance of the ODAs has also been enhanced. Several exercises and coastal security operations have been undertaken so far in support of coastal security. Integration of fishermen as one of the stakeholders of maritime security has been addressed from the grass-root level. So far, 361 awareness campaigns have been conducted with the aim of increasing the awareness of the fishing community to act as eyes and ears for coastal security.

4.25 Better inter-agency coordination has been one of the positive outcomes of the progress made in last few years. This has been facilitated by the conduct of regular coastal security exercises conducted with all maritime stakeholders. Successful joint operations and investigation of a number of illegal vessels off our coastline are a visible result of effective coordination between all concerned agencies.

PRESIDENT'S FLEET REVIEW

4.26 The President's Fleet Review 2011 was held in December, 2011 in Mumbai. It is a time-honoured tradition of the IN that the President of India, as the Supreme Commander of the Armed Forces, reviews the Naval Fleet once during her tenure. Since Independence, ten reviews have taken place.

4.27 The President's Fleet Review (PFR) is a symbolic display of the nation's maritime might. Participating units, which include warships, submarines, auxiliary vessels, Coast Guard ships and merchantmen, are anchored in formation in precise columns. The President

Hon'ble President reviewing the Naval Fleet

of India, embarked on a naval vessel designated the 'President's Yacht', reviews all the ships by cruising past them. Each ship's company renders a salute to the Supreme Commander as the yacht sails past. Simultaneously, aircraft of the Fleet Air Arm fly past in salute overhead. The symbolism is meant to convey reassurance to the Supreme Commander, and to the nation, that the country's maritime forces are fighting fit and ready to meet any eventuality.

4.28 66 ships of the IN, 10 of the Coast Guard and 4 vessels from the merchant marine took part in the PFR. In addition, 47 naval aircraft carried out the traditional fly-past during the PFR.

INTERNATIONAL MEETINGS/ SEMINAR

4.29 The 11th meeting of the North Indian Ocean Hydrographic Commission **(NIOHC)** and International Hydrographic Seminar-cum-exhibition HYDROIND - 2011 were held in March 2011 at New Delhi. **HYDROIND 2011** was inaugurated by the Raksha Mantri.

FOREIGN COOPERATION

4.30 Befitting its status as the pre-eminent maritime power in the region, the IN continues to be a stabilising force in the IOR. Over the

President of Seychelles visiting the Indian Dornier Flight at Seychelles

Raksha Mantri, Minister of Shipping and CNS at the Inauguration of Hydroind 2011

past year, the IN has further consolidated its material and training assistance programme to help in the capacity and capability building of friendly littoral nations in the IOR and beyond.

4.31 **Product Support to MCGS Huravee:** Maldivian Coast Guard Ship Huravee (ex-Tilanchang) was gifted by India on April 16, 2006 to Maldives. As part of product support to the ship, a three month refit is being undertaken at Naval Dockyard (Visakhapatnam) by the IN from October, 2011.

4.32 **Navy-to-Navy Staff Talks:** Navy-to-Navy level interaction in the form of Staff Talks provides an effective forum to develop and implement bilateral cooperation initiatives. Staff Talks were held with Australia, France, Indonesia, Israel, Singapore, Japan, South Africa, Sri Lanka, UK, Thailand and UAE.

4.33 **Training:** Training is one of the best means to achieve interoperability and continues to be an area of focus in the Navy's cooperation matrix. Cooperative frameworks created over the past few years have led to significant increase in the number of trainees being deputed abroad as well as in the number of international students being trained in our institutes/schools. This trend is likely to continue and therefore the training of International trainees has been revitalised to make it more attractive and invite a wider global participation. These efforts have borne fruit with trainees from Papua New Guinea, Timor Leste and Bulgaria availing courses with the IN for the first time in 2011.

4.34 **Indian Ocean Naval Symposium (IONS):** The inaugural symposium of the IONS was conducted at New Delhi in February, 2008 which was attended by representatives of 35 littorals dotting the IOR. The wide participation by the navies at its apex level signified the collective need for such an instrument in our region. The next Symposium (IONS-2010) was held at Abu Dhabi, UAE in May 2010, where the Chairmanship of the IONS was handed over to the Commander of the UAE Navy for the term 2010-12. The third Symposium (IONS-2012) is scheduled at Cape Town in April 2012.

COMMISSIONING AND DECOMMISSIONING

4.35 **Commissioning of New Ships:** Two new fleet tankers, INS Deepak and INS Shakti, constructed at M/s Fincantieri Shipyard in Genova, Italy were inducted in the IN on January 21, 2011 and October 1, 2011 respectively. The second indigenously designed and built stealth frigate of the Shivalik class, INS Satpura was commissioned on August 20, 2011. INS Kabra, Koswari and Karuva were also commissioned in 2011.

The second indigenously designed and built stealth frigate of the Shivalik class, INS Satpura was commissioned on August 20, 2011.

4.36 **Decommissioning of Old Units:** INS LCU 32, LCU 34 and INS Sharabh were

Commissioning of INS Deepak

decommissioned in 2011.

4.37 **Modified Assured Career Progression Scheme (MACPS):** Government has accorded approval for implementation of Modified Assured Career Progression Scheme (MACPS) for sailors w.e.f September 1, 2008. This landmark scheme, will entitle sailors for minimum assured progression in terms of financial upgradation to the next higher grade pay at 8, 16 and 24 years service. Financial upgradation would also be admissible whenever sailors spend 8 years continuously in the same grade pay. Eligibility for MACPS would be decided by a Screening Committee at the Bureau of Sailors, scheduled at six-monthly intervals.

4.38 **Review of Career Profile of Sailors (RECAPS):** The introduction of high technology equipment and platforms has had a consequent impact upon the IN's organisational structure and HR requirements. The IN needs a young, well trained and motivated workforce to shoulder higher responsibilities, in consonance with its transformational plans. Towards this end, the Government has approved the implementation of the Review of Career Profile of Sailors (RECAPS) for upgradation from Leading to Petty Officer rank. The scheme is being implemented over a five year period, which commenced on January 1, 2011 wherein 20% of approved vacancies are being released each year. RECAPS will enhance functional efficiency and improve satisfaction levels, as it would permit all sailors to attain Petty Officer rank within 15 years of initial engagement, subject to qualification criteria.

5

THE INDIAN AIR FORCE

Building its Strategic and Tactical Airlift Capabilities with Emphasis on Special Operations

The Indian Air Force today is well established on the path to becoming a credible aerospace force ready to face the dynamic technological global challenges through modernization and able leadership

5.1 IAF today is well established on the path to becoming a credible aerospace force ready to face the dynamic technological global challenges through modernization and able leadership. It is firm on its commitment of "People First Mission Always" achieved through systematic approach to build up its strategic, tactical and nation building capabilities. As it enters the twelfth Five Year Plan period, the IAF is poised to acquire capabilities that would allow it to conduct network centric enabled operations across the spectrum of conflict. Military technological growth poses new challenges and provides unique opportunities to leverage new and current military capabilities in pursuit of national interests. In pursuance of this strategy, IAF in the current year, has put in place a blueprint for the entire overhaul of the Air Defence network, acquisition of frontline combat aircraft with state of the art precision weapons and other enabling technologies. It has also bolstered its transport and helicopter fleets with the induction of C-130J special operations transport aircraft and Mi-17 V5 medium lift helicopters.

OPERATIONS

5.2 **Building Strategic Capabilities with Network Centric Dimensions:** IAF has significantly enhanced its force projection capabilities in emergent situations, both in Offensive and Defensive operations with the continued induction of Su- 30 MKI aircraft, three Airborne Warning and Control System (AWACS) aircraft and Strategic and Tactical airlift platforms for special missions through its new acquisitions. IAF under the ambit of C4ISR (Command, Control, Communication, Computer, Intelligence, Surveillance and Reconnaissance) is also 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.

VIP Operations

5.3 Air Headquarters Communication Squadron is entrusted with the task of airlifting VVIP/ VIPs, Heads of State and Foreign dignitaries. The transport wing operates the Boeing Business Jet (BBJ) and Embraer E-135 aircraft while the rotary wing operates Mi-8/17 helicopters. The Embraer E-135 Legacy has logged numerous ex- India flights to the Central Asian Republics, ASEAN, SAARC countries and

even as far as Tokyo and Paris. Short notice flights have been undertaken to Afghanistan and Indonesia. Within the country airlift has been provided to otherwise inaccessible places like Kargil, Badrinath etc.

ACQUISITION AND AIRCRAFT UPGRADES

5.4 **C-130J (Hercules):** Induction of C-130J Hercules aircraft has vastly enhanced the special operational capability of the Indian Air Force. The aircraft are capable of operating in all weather conditions.

5.5 **Medium Lift Helicopters:** New helicopter units are being raised with the induction of Mi-17 V5, medium lift helicopters, equipped with state of art avionics along with glass cockpit instrumentation. The aircraft are Night Vision Goggles (NVG) compatible and appropriately protected to facilitate night operations in a hostile environment. The helicopters have multirole capabilities and can be used for Air maintenance, Army support operations in the Tactical Battle Area (TBA) and Special Operations significantly enhancing the operational potential and war waging capability of the IAF. The commencement of raising of units started in September, 2011.

Mi-17 V5 Class, Medium lift Helicopter under Induction by IAF

5.6 **Mirage-2000 H/TH Upgrade:** A contract for upgrade of Mirage-2000 aircraft was signed with the French Original Equipment Manufacturers (OEMs) (M/s Thales and M/s Dassault Aviation) and M/s HAL on July 29, 2011. Two aircraft have been positioned in France for upgrade. The French OEMs would undertake upgrade of two more aircraft at HAL (Bangalore). M/s HAL will carry out series modification of the remaining aircraft at HAL, Bangalore.

5.7 **MiG-29 Upgrade Programme:** MiG-29s were inducted in IAF in 1987 and have been a potent Air Defence Platform since then. Subsequently, an upgrade programme was contracted with the Russians, including complete upgrade of radar and avionics alongwith structural upgrade of aircraft. Following an initial phase of Design & Development (D&D) aircraft, three aircraft are undergoing flight trials at Russia with another three in the final stages of upgrade. The D&D phase would be followed up with series upgrade of aircraft in India.

5.8 **AN-32 Aircraft Upgrade:** AN-32 aircraft were inducted between 1984 to 1991 from erstwhile USSR. After utilising the aircraft for 25 years, potential for utilizing the aircraft upto 40 years was seen due to sufficient availability of residual fatigue life. Along with life extension, noise suppression in cockpit

and upgrade of avionics was also considered, to incorporate certain avionics equipments mandated as per ICAO specifications for transport aircraft. AN-32RE aircraft is re-equipped with new generation equipment meeting ICAO specification for Transport Aircraft.

SU-30 MKI

5.9 **Procurement of Maintenance Shelters:** To provide protection from environmental hazards and boost the morale of aircraft maintenance crew working on tarmac, `portable all-weather maintenance shelters' have been procured for the first time by IAF for SU-30 MKI squadrons. Initially, 27 shelters have been procured for two squadrons and another 50 are in final stage of procurement.

Portable all-Weather Maintenance Shelters for SU 30 MKI

AIR DEFENCE NETWORK

5.10 A large number of inductions have been envisaged, not only to replace the vintage/ old generation sensors with latest state of art technology sensors, but also to procure additional sensors to ensure a robust surveillance capability. The details of these new acquisitions are covered in succeeding paragraphs.

5.11 **Rohini Radar:** IAF is procuring a number of indigenously manufactured Rohini radars. These radars are being produced by BEL and are planned to replace existing Low Level Transportable radars.

Rohini Radar

5.12 **Arudhara Medium Power Radar (MPR):** IAF is also processing of MPRs which would ensure medium and high level surveillance of the airspace. The first radar has been inducted into the IAF for operational use.

5.13 **Surface to Air Guided Weapons (SAGW):** Surface to Air Guided Weapons (SAGW) of IAF mainly comprise of Pechora, OSA-AKM and IGLA. Pechora forms the backbone of IAF's SAGW fleet. They were inducted in early 70s. New inductions are

Arudhara Radar

likely to take place in near future to replace this ageing fleet. Medium Range/ Short Range Surface to Air Missile (MRSAM/ SRSAM), Spyder and Akash would be inducted in near future.

5.14 **Induction of AWACS:** The AWACS contract was signed in the year 2004 for three IL 76 based platforms along with associated ground equipment. The first two AWACS were inducted in the years 2009 and 2010 while the third AWACS along with the associated ground equipment was inducted into IAF in March, 2011.

AEROSPACE SAFETY

5.15 IAF is conscious of the need to maintain high aerospace safety standards. Constant efforts are being 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, in order to prevent recurrence of serious defects, is being ensured. Upgradation of skills of air warriors through a well planned and sustained effort are also in place towards achieving this goal.

5.16 **Accident Statistics:** The IAF has recorded a Cat-1 accident rate of 0.53 (per 10,000 hrs flying) as on date. With a combination of focused strategy and determined efforts, the accident rate has been brought down from a high of 1.84 in the early 70s to the present state.

5.17 The major contributory factors to accidents have been Technical Defects (TD) and Human Error (Aircrew) [HE (A)]. A number of proactive measures have been initiated to reduce accident rate in the IAF. In this regard a few notable achievements are given in succeeding Paras.

5.18 **Major Initiatives:** Some of the major initiatives taken by the IAF towards improving the flight safety environment and incident/ accident records are as enumerated below:-

The first two AWACS were inducted in the years 2009 and 2010 while the third AWACS along with the associated ground equipment was inducted into IAF in March, 2011.

(a) **Environment Management of Airfield Area (EMAA):** All Stations have commenced implementation of Airfield Area Management based on their region specific grid.

(b) **Indigenisation of FOD BOSS Equipment:** FOD BOSS (Aircraft manoeuvring area

sweeping equipment) have been procured for 40 Stations which are proving to be very efficient in keeping the operating surfaces clean.

(c) **Ornithology Cell:** Ornithology Cell at the Directorate of Aerospace Safety established in June, 2007 has till date carried out surveys at 27 Air Force bases in addition to one Indian Navy and two HAL aerodromes. This Cell carries out Bird Hazard Management through scientific surveys of airspace in and around airfields. Ornithology Cell has established liaison for DNA bar coding and finger printing services for various species of birds through other laboratories such as Centre for Cellular and Molecular Biology (CCMB).

INTERNATIONAL TRAINING/ EXERCISE

5.19 Following international Exercises with friendly countries were conducted during the year 2011-12.

5.20 **India-Oman Exercise:** India-Oman Exercise Eastern Bridge-II (2011) was conducted at Air Force Station Jamnagar from October 17 – 21, 2011. Royal Air Force of Oman (RAFO) participated with six Jaguar aircraft and approximately 110 personnel in the Exercise. IAF participated with Jaguar and MIG-29 Squadrons.

5.21 **India – Singapore Exercise:** Exercise Joint Military Training (JMT) with Republic of Singapore Air Force (RSAF) is conducted annually at Air Force Station Kalaikunda (Kharagpur, West Bengal) under the aegis of the Bilateral Agreement signed between Government of India and Government of Singapore. JMT-11 was conducted at Air Force Station Kalaikunda from October 14, 2011 to December 9, 2011. RSAF participated with 8 x F-16 D+, PSTAR radar, 2 x RBS-70 Firing Units and approximately 300 personnel (on rotation basis). IAF participated in the Exercise with Mig-27 aircraft. Chief of Defence Forces of Singapore visited Air Force Station Kalaikunda on November 8, 2011.

OPERATIONAL INFRASTRUCTURE DEVELOPMENT OF AIRFIELDS IN THE NORTH AND NORTH EAST

5.22 The Government has approved development of airbases and Advance Landing Grounds in the North East region. The Advance Landing Ground at Vijaynagar has now been made operational after re-carpeting of the runway and regular Air Logistics operations have commenced with effect from November 12, 2011.

5.23 **Married Accommodation Project:** With an aim to provide 100% married accommodation for uniformed personnel, a total of 7805 Dwelling Units (DUs) for IAF were to be constructed in Ph-I, out of which 7223 DUs have been completed and allotted for occupation. Remaining 574 DUs (554 at Pune & 10 at Rajokri) are under construction. A total of 7036 DUs are to be constructed at 39 AF Stns in Ph-II. Work has commenced at 30 sites.

6

INDIAN COAST GUARD

A Coast Guard Exercise in Progress

The Indian Coast Guard has a force level of 44 Ships, 29 Boats/ Hovercraft, 33 Non-commissioned boats/ craft and 52 Aircraft to carry out regular surveillance of the Maritime Zones of India. 4 Interceptor Boats, 8 Interceptor Craft and 4 Dornier aircraft have joined the fleet of Indian Coast Guard in 2011

6.1 Indian Coast Guard (ICG) came into being on February 1, 1977 on approval of the Cabinet committee on Parliament Affairs to set up an interim Coast Guard Organization. The service was formally established as an independent organization on August 19, 1978 with the enactment of Coast Guard Act, 1978. The Coast Guard began in 1978 with two frigates seconded from the Indian Navy and five patrol boats from the Department of Customs. Since inception, the service 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 **Organization:** The command and control of the Coast Guard lies with the Director General of Indian Coast Guard, at New Delhi. The Organisation has 4 Regional Headquarters located at Gandhinagar, Mumbai, Chennai and Port Blair. These Regional Headquarters exercise command and control in the waters adjoining the entire coastline of India through 12 Coast Guard District Headquarters located along the coastal states of India. In addition, there are **31 Stations, 2 Air Stations, 5 Air Enclaves and 1 independent Squadron** at various strategic locations for undertaking effective deployment of ships and 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.

(g) During the course of time since institution, additional duties have been assigned to the ICG as follows:

(i) National Maritime SAR Coordination Authority.

(ii) Coordinating Authority for National Oil Spill Disasters

(iii) Coordination for security in the offshore oil-fields.

(iv) Focal point in India for coordinating Anti-Piracy Operations.

(v) Lead Intelligence Agency for maritime borders.

6.4 **Existing Force Level:** At present, the Indian Coast Guard has a force level of 44 Ships, 29 Boats/ Hovercraft, 33 Non-commissioned boats/ craft and 52 Aircraft to carry out regular surveillance of the Maritime Zones of India. 4 Interceptor Boats, 8 Interceptor Craft and 4 Dornier aircraft have joined the fleet of Indian Coast Guard in 2011.

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. 19 coastal security exercises were conducted during the year for ensuring effectiveness of the coordinated patrolling.

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, 15 coastal security operations have been conducted by Coast Guard in coordination with Navy.

SIGNIFICANT MILESTONE AND ACHIEVEMENTS

6.8 **Commissioning of Interceptor Boats(IBs):** Four Interceptor Boats, namely ICGS C-150, C-151, C-152 and C-153 have been commissioned into the service in the last one year. ICGS C-150 and C-151 were commissioned on March 28, 2011 and the other two IBs on June 18 and October 22, 2011 respectively.

Commissioning of C-150 by DGICG on March 28, 2011

C-153 commissioned on October 22, 2011 proceeding on a mission.

6.9 **Induction of Interceptor Craft(IC):** Eight Interceptor Craft (C-119 to C-126) were inducted in 2011.

6.10. **Commissioning of Coast Guard Stations:** Two Indian Coast Guard Stations at Ratnagiri (Maharashtra) and Mundra (Gujarat) were commissioned on March 26 and May 19, 2011 respectively.

Commissioning of Indian Coast Guard Station Mundra by DGICG on May 19, 2011

6.11. **Activation of Coast Guard Air Enclave:** Two Coast Guard Air Enclaves at Kochi and Kolkata were activated on March 1 and April 1, 2011 respectively.

6.12. **Indian Coast Guard Academy at Azhikkal:** Raksha Mantri laid the foundation stone for Indian Coast Guard Academy at Azhikkal, Kerala on May 28, 2011. The Indian Coast Guard Academy will cater for all Maritime specific courses for personnel of the Coast Guard, Navy, Marine Police and Members of the littoral countries.

INTERNATIONAL COOPERATION

6.13. **Cooperation with Maldives:** One ICG ALH Helicopter 'Dhruv' was transferred to Ministry of Defence and National Security(MNDF), Maldives on April 21, 2010 at a ceremony conducted at Male. Further, on the request of MNDF for overhauling/ servicing of the ALH after 500 flying hours, ICG Samar was deployed to Gan, Maldives for ferrying ALH to Kochi in January, 2011. The ALH was ferried back on completion of servicing in May, 2011 by ICGS Sangram. A proposal for addressing the requirements of Maldives for surveillance of sea areas during the non-availability of ALH was worked out jointly by ICG/IN using Dorniers. Accordingly, one Dornier was deployed during the period from January, 2011 to April, 2011 for six days each every month.

6.14. **Visit of US Deputy Secretary, Homeland Security:** Ms Jane Holl Lute, Deputy Secretary, Homeland Security visited Coast Guard Headquarters on January 12, 2011 for a call on with DGICG during her visit to India. During the discussions, issues of mutual interest including cooperation between ICG and USCG were deliberated.

6.15 **Visit of ICG delegation to USA:** An ICG delegation led by Vice Admiral Anil

Chopra, AVSM, DGICG visited USA for counterpart visit from February 17-24, 2011. During the visit, mutual discussions were held on strengthening cooperation between the two Coast Guards.

6.16 **Regional Cooperation Agreement for Combating Piracy and Armed Robbery against Ship in Asia (ReCAAP) Governing Council Meeting:** An ICG delegation led by Vice Admiral Anil Chopra, AVSM, DGICG participated in the 5th Governing Council Meeting of the ReCAAP Information Sharing Centre at Singapore from March 6-8, 2011.

6.17 **Cooperation with Malaysia:** ICGS Sankalp visited Malaysia from March 14-19, 2011 to interact with the Malaysian Maritime Enforcement Agency (MMEA) for enhancement of bilateral cooperation in maritime search and rescue, marine oil spill response and combating crimes at sea. During the visit, high level interactions were held with the Malaysian Maritime Enforcement Agency (MEA), Maritime Institute of Malaysia Authorities (MIMA) and Malaysian Maritime Police (MP).

6.18 **Cooperation with Egypt:** A two member Egyptian Military delegation visited Coast Guard Headquarters on March 21, 2011 for interaction with ICG on SAR issues. The delegation also visited Maritime Rescue Coordination Centre, Mumbai for detailed brief about coordination of SAR operations in the Indian SAR Region by the ICG.

6.19 **Cooperation with Vietnam:** ICGS Sankalp visited Vietnam for interaction with the Maritime Law Enforcement Agency of Vietnam from March 22-31, 2011. During the visit, high level interactions and combined exercise

were held with the Vietnam Marine Police and other Maritime Enforcement Agencies.

6.20 **IIIrd Indo- Bangladesh Joint Exercises:** ICG ships Vajra and Raziya Sultana visited Chittagong, Bangladesh from April 24-28, 2011 for III Indo-Bangladesh Coast Guard Joint Exercise. During the visit of the ships, high level interactions with Maritime Law enforcement Agencies were also held.

6.21 **Cooperation with Myanmar:**ICG ships Vajra and Raziya Sultana visited Chittagong, Bangladesh from April 30, 2011 to May 4, 2011 for interaction with the maritime agencies of Myanmar. During the visit, PASSEX was carried out by the ICG ships with the Myanmar Navy on May 4, 2011 for the first time.

6.22. **Cooperation with Philippines:** ICG ship Sagar visited Manila, Philippines from June 20, 2011 to June 24, 2011. During visit of ICG ship, interaction/ combined exercise with Philippines Coast Guard was undertaken/ conducted.

6.23 **Cooperation with Brunei:** ICG ship Sagar visited Port Muara, Brunei from June 26, 2011 to June 30, 2011 for the first time for interaction with the maritime agencies.

6.24 **Visit of Commandant, MNDF (CG):** Brig Gen Zakariyya Mansoor, Commandant Maldives National Defence Force (MNDF), Coast Guard called on Director General Indian Coast Guard on July 22, 2011 during his visit to India. During the interaction, the measures towards strengthening the cooperation between the two organizations were discussed including the conduct of Indo-Maldives Joint Exercise 'Dosti-XI'.

6.25 **Cooperation with Japan:** The teams from Japan Coast Guard embarked onboard the Japan Maritime Self Defence Force (JMSDF) ships deployed for anti-piracy patrol in the

Gulf of Aden visited ICG District Headquarters at Kochi during the port call at Kochi on three occasions in March, 2011, July, 2011 and October, 2011. Further, a two member ICG study team visited Japan from July 31, 2011 to August 4, 2011 to discuss issues related to observe the oil pollution response capabilities of Japan Coast Guard and solicit technical assistance for upgrading Indian Coast Guard capabilities.

6.26 **Visit of USCG Mobile Training Team:** A four member USCG Mobile Training Team (MTT) visited Coast Guard Regional Headquarters (East), Chennai from September 23-28, 2011 for conducting a boarding workshop.

6.27 **7th Heads of Asian Coast Guard Agencies Meeting (HACGAM):** Inspector General VSR Murthy, TM, Deputy Director General (Ops & CS) visited Hanoi, from October 25-28, 2011 to attend the 7th Heads of Asian Coast Guard Agencies meeting.

7th Heads of Asian Coast Guard Agencies Meeting (HACGAM)

6.28 ReCAAP Capacity Building Workshop: The Indian Coast Guard along with the ReCAAP Information Sharing Centre (ISC) co-hosted the Capacity Building Workshop at Goa from November 14 to 18, 2011. Being the fifth in the series, the workshop was attended by 38 participants from 19 countries including, International Maritime Organisation and Project Implementation Unit, Djibouti Code of Conduct (DCoC). This is the first time the workshop was held in India.

6.29 The details of major operations of Indian Coast Guard are shown in table no. 6.1.

6.30 **Search and Rescue:**

(a) **Search and Rescue of Myanmarese:** The Operation 'Bachaav' was conducted from March 25-29, 2011 for search and rescue of missing Myanmarese

Table No. 6.1

Sl. No.	Subject	Since Inception	From January 1 to November 30, 2011
(a).	Contraband Seized	504.22 Crs	5, 85,000.00
(b)	Poaching Trawler apprehension	1310 Boats 11639 Crew	58 Boats 422 Crew
(c)	Smuggling vessels apprehension	120 Boats 732 Crew	-- 1 Crew
(d)	Search and Rescue (SAR) Mission	1932	322
(e)	Search and Rescue (SAR) Sorties	2979	223
(f)	Lives saved	5370	330
(g)	Oil Spill Incident responded	82	6
(h)	Oil Spill Incident out of country	1	-

fishermen. ICGS Varad, Durgabai Deshmukh, ArunaAsaf Ali, CGDHQ-9, Diglipur along with air units were deployed to locate and render assistance to drifting fishermen. A total of 133 Myanmarese fishermen were rescued due to effective coordination by Coast Guard and concentrated efforts by all agencies.

Coast Guard Ships and Aircraft undertake various Search and Rescue Operations and during the year saved 303 lives at sea.

(b) **Rescue of 57 Fishermen Off Sandheads, West Bengal:** The Coast Guard in a Sea- Air coordinated operation rescued 57 fishermen off Sandheads, West Bengal. ICGS Vishwast, ICGS Sucheta Kriplani, ICGS Sarojini Naidu, CG Hovercraft H-186, CGDHQ – 8 and air units were deployed to render assistance.

7

DEFENCE PRODUCTION

Raksha Mantri laying foundation stone for phases 3 & 4 of Modernisation project of Goa Shipyard Limited

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
- 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)
- National Institute for Research & Development in Defence Shipbuilding (NIRDESH)

7.3 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 capabilities in various fields through transfer of technology.

7.4 The production and turnover of Ordnance Factories and Defence PSUs have been increasing steadily, in response to the

increasing requirements of armed forces. Details of turnover for the last four years are given in Table 7.1.

Table 7.1

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	11215.01	25975.06	37190.07

7.5 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.

7.6 **Private Sector Participation:** To achieve self-reliance in the Defence sector, continuous efforts are being made to indigenize Defence equipment wherever technologically feasible and economically viable.

7.7 In May 2001, the Defence Industry sector, which was hitherto reserved for the public sector, was opened upto 100% for Indian private sector participation, with Foreign Direct Investment (FDI) upto 26%, both subject to licensing. Department of Industrial Policy and Promotion (DIPP) has notified detailed guidelines for licensing production of arms and ammunition vide its Press Note 2 (2002 Series) dated January 4, 2002.

7.8 A Standing Committee has been constituted in the Department of Defence Production to consider all applications, for grant of Industrial Licences for the manufacture of arms and armaments, received from DIPP and to communicate the recommendation of the Ministry of Defence to that Department. It also considers all matters relating to Production of Defence equipment by licensed companies viz. applications for self-certification, permission for export of products manufactured under license, as well as cases for cancellation of licence due to breach of licensing conditions or security provisions etc. The Joint Secretary (Electronics Systems) is presently Chairman of Standing Committee with members from diversified fields viz Naval HQrs, Air HQrs, Army HQrs, DGQA, DGAQA, DoD, OFB, DRDO and BEL.

7.9 Department of Industrial Policy & Promotion (DIPP) has, so far, issued 178 Letters of Intents (LOIs)/Industrial Licences (ILs) (10 ILs issued in year 2011) to companies for manufacture of a wide range of defence equipment on the recommendation of the Ministry of Defence.

7.10 Consequent to opening up of the Defence Industry Sector for Indian private sector participation with Foreign Direct Investment (FDI) permissible up to 26%, subject to licensing, 17 joint ventures have been formed so far between Indian Private Company and foreign companies.

7.11 **e-Governance:** The Department of Defence Production is in the process of initiating an "e-Governance" project. Under this process, the information pertaining to the activities related to grant of License for

production of defence equipments will be displayed on the Ministry of Defence/Proposed Department of Defence Production's Website and updated periodically. The website will provide for an online interface with the public keen to know about licensing process for defence items manufacturing including FDI in defence sector. It will also include an updated list of Defence Industrial Licenses issued to Private Sector Companies and FDI/ Joint Ventures in defence sector as approved by Foreign Investment Promotion Board (FIPB).

ORDNANCE FACTORIES ORGANISATION

7.12 Indian Ordnance Factories function under the administrative control of the Department of Defence Production in the Ministry of Defence. The factories have an integrated infrastructure for production of highly specialized defence hardware and equipment. The product profile of the factories is extremely wide and diverse which primarily caters to the demand of the Army.

7.13 Indian Ordnance Factories trace their history to 1801, when the first factory to produce guns was established at Cossipore, Kolkata. Subsequently, other factories were set up to meet the basic needs of armaments. The real boost to the growth of Ordnance Factories came after the Indo-China War of 1962. Today, the organization consists of 39 factories and two projects, coming up at Nalanda in Bihar and Korwa in U.P. The product profile has also grown in variety and sophistication, according to the demands of the different arms of the Army. The factories are producing main battle tank T 90 and Arjun, Infantry combat Vehicle BMP –II, 105 mm Artillery Guns and rockets for artillery, wide range of Small Arms, Mortars and Medium caliber weapons along with their full range of ammunition. The factories are continuously updating their product profile by taking up development and production of increasingly complex and sophisticated arms and ammunition, to support the modernisation and war fighting capability of the Indian Army.

7.14 **Organisation Structure:** Indian Ordnance Factories are managed by the Ordnance Factory Board which comprises of Director General as Chairman and nine Members in the rank of Additional DGOF. The factories are divided into five operating divisions based on the type of products and manufacturing technology. Four Members of the Board are responsible for staff functions, viz Personnel, Finance, Planning and Material Management and Projects, Engineering and Technical Services. Apart from the 39 functional factories and two upcoming projects, the organization has 8 Institutes of Learning, 3 Regional Marketing Centers and 4 Controllerates of Safety. National Academy of Defence Production at

Apart from the 39 functional factories and two upcoming projects, the organization has 8 Institute of Learning, 3 Regional Marketing Centers and 4 Controllerates of Safety.

Nagpur provides the training to the Group-A officers.

7.15 **Modernisation:** The infrastructure in Ordnance Factories which has been built over the years, needs continuous updating, in order to remain contemporary with the advancements, by induction of state-of-art technologies.

7.16 To keep pace with the quantitative and qualitative requirements of the services and other users and also keeping in view the continuous process of modernization, investment plans are executed through various green field and brown field projects, as well as investment through New Capital and Renewal & Replacement of obsolete plant and machinery. The modernisation is carried out with a view to improve the quality and productivity, achieving economy of scales, and acquire new production technologies.

7.17 OFB has an ambitious plan of modernization envisaging investment of around Rs.12761 Crore during 12th plan period (2012-17). Investment planned on modernization of Plant & Machinery during XIth and XIIth Plan is given in the table 7.2.

Table-7.2

Investment Plan of Ordnance Factories

(Rs. in Crores)

Investment	XIth Plan Expenditure	XIIth Plan Projection
New Capital	689	10271
Renewal and Replacement	1275	2490

7.18 The major thrust areas of investment during XIth and XIIth plan period will be on

a. Replacement of old plants for manufacturing of explosives with Automatic continuous process plants.
b. Production of Armoured Vehicles
c. Production of PINAKA Rocket
d. Production of high caliber artillery guns
e. Ordnance Factory Nalanda project
f. Small Arms Factory at Korwa
g. Automation in manufacturing and quality control.

7.19 **Notable Achievements and Awards during 2011-12 (Upto DECEMBER 2011):** Ordnance Factories are making special efforts to develop new products for the armed forces through in-house R&D efforts as well as with collaboration of DRDO. Some of the success stories are:

i) Commanders' Day Thermal Imaging Night Sight for T-72 (CTI T-72) has been developed by OLF in association with IRDE, Dehradun. It is for the first time that thermal imaging based night vision devices have been designed in the country.

ii) First lot of Indigenous RGB-60 Rocket (Practice version) has been handed over to Indian Navy from Ammunition Factory, Khadki. The Rockets are used for Anti-submarine warfare and were being, hitherto, imported from Russia.

iii) Based on an urgent requirement of Artillery Directorate of Army, Ordnance

Development Centre/ GCF undertook development of Apparatus Air Lifting for 105 mm LFG guns. The apparatus is used for lifting the gun as an under slung load. The helicopters involved for this operation are MI – 17 of Indian Air Force and Sea king of Indian Navy.

iv) Gun Carriage Factory, Jabalpur has carried out modifications in the 12.7mm Heavy Machine Gun (PRAHARI) which were tried out by Indian Navy on board, MYSORE.

v) Indian Army has accorded GS approval for the induction of 40 mm Multi Grenade Launcher (MGL) developed by Ordnance Factory, Trichy into service. In the past, this weapon had been imported from South Africa in limited numbers by Army.

vi) OFB has taken up an ambitious R&D project of producing 155/ 39 mm and 155/ 45 mm artillery guns, similar to the FH 77B guns in service with Indian army, based on the technology documents available with the factories.

vii) Ordnance Factory, Tiruchirapalli has developed 7.62mm Automatic Assault Rifle, as an alternative to AK-47 Rifle, which is used extensively by the Central and State Police Forces for countering insurgency operations. Initial evaluation has been carried out by MHA and the weapon is being prepared for extensive user's trial.

7.20 **Transparency:** Revenue procurement through the electronic medium has been launched at Ammunition Factory, Khadki on 9th May. It is a land mark achievement and will usher in a new era of openness in material procurement. Ordnance Factories expect entry of new vendors as the information about procurement would be widely available, which will lead to more competition, better quality and economy.

7.21 The website of Indian Ordnance Factories (ofb.gov.in) is being updated regularly to make updated information available for dissemination to the citizens, customers and vendors. A new facility has been provided to the civil trade customers to enable customers track their order of pistol and revolver from various Ordnance factories.

7.22 **Safety & Environmental Protection:** The entire gamut of Corporate Level Safety activities in the area of Engineering, Explosive and Electrical Safety, Pollution Control, Disaster Management and Occupational Health in OFB Organisation is being looked after by the Controllerate of Safety (COS) as a whole. Other than COS, the command and management of Safety are decentralized through four Regional Controllerate of Safety (RCSs) located at Kanpur, Nagpur (Ambajhari), Chennai (Avadi) & Pune (Khadki), covering all the 39 Ordnance Factories. At each RCS, there is also one Regional electrical Inspector (REI) for looking after the Electrical Safety aspect.

7.23 With regard to Pollution Control Measures as Safety Environment protection, the

Ordnance Factories are complying with all the Pollution/Environment related Acts and Rules. Effluents are discharged from the Factories after necessary treatment in the Effluent Treatment Plant (ETPs)/ Sewage Treatment Plants (STPs). All the Ordnance Factories are ensuring that the effluents (Water & Air) meet the specified standards as laid down by the Pollution Control Board of the State where the factory is located and have obtained Consent for discharge of Water & Air from the Pollution Control Boards, as applicable under the relevant Acts. The Factories are also having Laboratory facilities (which are NABL accredited) for testing of effluents. To control the Air Pollution, stack gas monitoring is carried out in the Factories. All efforts are also made to keep the noise pollution within limits in the shops.

7.24 **Facilities Provided to SCs, STs and OBCs:**

i) Various Government Policies on reservation to SCs/ STs/ OBCs in DR and SCs/ STs in promotion are being followed.

ii) To protect the interest of the reserved categories, a cell has been opened at O.F. Board as well as in all other units under O.F. Board.

iii) Liaison Officers, who inspect the roster and advise the management in matters related to reservation, concession, relaxation provided in various Government Rules, have been nominated.

iv) Grievances of the SCs/ STs and OBCs are attended to on priority. SC/ ST Cell at different units monitor these activities. Meeting with the administrative Heads of Organisation/ Units from time to time are also held.

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. The authorized and paid-up capital of the company is Rs. 160.00 crore and Rs. 120.50 crore respectively. 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 its sales is to the Indian Defence Services. The turnover of the company during 2010-11 was around Rs. 13,000 crore. The Government is planning to disinvest 10% of its shareholding in the equity capital of the company.

7.26 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.

7.27 The company has produced 15 types of Aircraft from in-house R&D and 14 types under license. The Company is currently producing the following types of aircraft for the Air Force, Army, Navy, Coast Guard 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)
- Chetak, Cheetah and Cheetal helicopters

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

7.29 Light Combat Helicopter (LCH), a dedicated Helicopter, designed and developed by HAL made its Maiden flight in March, 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 support and attack roles with Air to Air/ Air to Ground Missiles, rockets, turret gun, Electronic warfare suite and NBC sensors.

LCH- First Flight of second Technology Demonstrator TD-2

7.30 The indigenous light weight, multi-role Fourth Generation Fighter Aircraft, the Light Combat Aircraft (LCA), Tejas received Initial Operational Clearance (IOC) in January 2011. It is now heading for FOC (Final Operation Clearance) and is expected to become fully operational by the end of 2012.

7.31 Development wings are grouped together in ten R&D centres – the major being 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 The new 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.

7.33 The Su-30 MKI aircraft is manufactured under licence in 4 phases. Absorption of technology in all the 4 Phases has been completed. In Phase IV, licensed articles are manufactured from raw material including

First SU-30 MKI aircraft manufactured from raw material

fuselage. Production of aircraft from raw material stage has commenced from the year 2010-11.

7.34 HAL has achieved exports of Rs. 237.39 crore for the financial year 2010-2011. The value of export orders booked during the year 2011-12 up to November, 2011 stands at Rs.267.40 crore. HAL also has plans to complete the supply contract of 6 Cheetah/ Cheetal Helicopters to Suriname and Namibia during 2011-12.

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7.35 A dedicated Aerospace Division has been created for the launch vehicle structures for Indian space programs. Structures, tankages and heat shields for the GSLV, PSLV, INSAT are manufactured in this Division, 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.

7.36 HAL received Raksha Mantri's Award for excellence for the year 2009-10 under the "Institutional" category for performance Excellence.

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

7.38 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)

7.39 Bharat Electronics Limited (BEL), a Navratna PSU, was established at Bangalore by the Government of India under the Ministry of Defence in the year 1954. BEL ranks 64th among top 100 companies world wide in defence revenues published by Defence News USA. BEL has nine units spread all over the country.

7.40 The company has core competencies in areas of Radars & Weapon Systems, Sonars, Communication, Electronic Warfare Systems, Electro Optics and Tanks Electronics etc. About 80% turnover of the company comes from these business segments. BEL manufactures Electronics Voting Machines (EVMs), large

variety of Components like Integrated Circuits, Hybrid Microcircuits, semiconductor devices, solar cells etc.

7.41 Apart from these, BEL also has presence in the areas of Access Control Systems, Security systems, Solar systems & select non defence applications.

7.42 Some of the Major supplies made/ being made during 2011-12 are Rohini Radar, Surveillance Radar Element, Akash Missile system, Radio Relay F(Low Band), V/UHF Communication system, Combat Net Radio, Instant Fire Detection & Suppression System, TI Sight for IGLA, Passive Night Vision Devices, Low Power Jammer, Ground Based Mobile Elint, Mobile Communication Terminal, Lorros Mast, Digital Radio Trunking System, Coastal Surveillance System, HUMSA-NG, Socio Economic and Caste census Project, Tablet PC

7.43 BEL is a technology driven company. All the units have their own Research & Development (R&D) Groups, which are supported by three central laboratories for developing cutting edge technologies. BEL is spending about 6 to 7% of its annual turnover, every year, on R&D. In 2010-11, BEL spent Rs.388 Cr. against Rs. 316 Cr. spent in 2009-10.

BEL is spending about 6 to 7% of its annual turnover, every year, on R&D in 2010-112, BEL spent Rs.388 Cr. against Rs. 316 Cr. spent in 2009-10.

7.44 Considering the need for developing new technologies and products to meet the requirements of customers, BEL has initiated a number of actions for providing the necessary thrust. Technology road map and a three year R&D plan have been prepared to set goals for all R&D divisions. Resources have been augmented and enhanced budgets have been sanctioned for R & D to realise the plans. A number of joint development programs with DRDO labs also have been initiated. BEL won (i) Standing Conference of Public Enterprises (SCOPE) Meritorious Award for Corporate Governance, R&D, Technology Development & Innovation. (ii) Raksha Mantri's Awards in the categories of Exports, Best Performing Division, Import Substitution, Design Effort and Innovation (iii) Selected as the top Indian Company under the Electrical & Electronic Equipment, Technology Development sector for the Dun & Bradstreet-Rolta Corporate Awards 2010. (iv) International Aerospace Awards 2011 under the categories of 'Most Influential Company of the Year' and 'Excellence in Innovation' (v) BEL received the Dun & Bradstreet-Rolta Corporate Award for the year 2010 (vi) Elcina-EFY awards 2010-11 in the categories of Exports & Business Excellence.

7.45 In the area of Quality Assurance, the Company adopted the Total Quality Management (TQM) philosophy in the year 1990 under the acronym "TORQUE" which stands for Total Organisational Quality Enhancement. TORQUE is based on the premise that the quality of products and

services is not only the responsibility of the production/ shop floor personnel, but other support services also have a role to play in meeting and exceeding customer's expectations through supply of quality products and services. Company has adopted CII-EXIM Bank Business Excellence Model to improve its overall Business and strategic excellence. Adoption of this Model since 2002 has helped the Company in understanding the expectations of various stakeholders and in enhancing their satisfaction level. During the year 2011-12, five of the BEL Units / SBUs participated in the 'CII-EXIM Bank Award for Business Excellence'. Bangalore Unit achieved Level-II recognition i.e. 'Commendation Certificate for Significant Achievement'. Chennai, Kotdwara, Ghaziabad & Panchkula Units received 'Commendation Certificate for Strong Commitment to Excel' under this Award scheme.

7.46 Company achieved an export turnover of US $41.53 million during the year 2010-11 as against US $ 23.67 million during 2009-10, registering an increase of 75.45% over the previous year. A very significant portion of the export is related to offset. The Company executed large offset contracts for companies such as M/s Fincantieri, Italy, Boeing, USA and Northrop Grumman, USA. BEL has over the years taken a number of initiatives to increase exports. The Company plans to increase its exports through direct exports and offsets. It has identified African and South East Asian countries for special focus on product exports. It has a very significant opportunity in the offset business related to various platforms.

7.47 **Integrity pact:** BEL has adopted Integrity Pact on July 31, 2010 for all Orders/ Contracts of value Rs. 20 Crore and above. As per CVC's recommendation, BEL has appointed Shri N. K. Sinha, IAS (Retd.), former Secretary, Planning Commission and former Chairman, PESB as one of the IEM for BEL.

7.48 **Issues of general interest to public - Society development/ Social Responsibility initiatives:** In tune with BEL's cherished value of fulfilling social responsibilities, the Company is committed to contribute for the socio-economic development of its stakeholders and the business decisions of the Company will be in line with its obligations of Corporate Social Responsibility (CSR). BEL's sustained initiatives aim at earning the goodwill of the community and enhancing the image of the Company. Pursuing this objective the Company has a policy on CSR. In the year 2010-11, Rs.208 lakh was spent on CSR.

Garden Reach Shipbuilders and Engineers (GRSE)

7.49 Garden Reach Shipbuilding & Engineers Ltd., (GRSE), is **"MINI RATNA CATEGORY-I"** Public Sector Company since September 5, 2006. GRSE is recognized as a leading Shipbuilding Yard and manufacturer of high value ships with embedded of most advanced technologies of the field. The vision of the Company is **"To become a World class Shipbuilder and Engineering Company".**

7.50 **Major Achievements:**

(i) **Delivery of Ships to Navy:**

During the FY (2011-12) the following three Water FAC ships were delivered to Indian Navy:

- INS Kabra (GRSE Yard No. 2064)
- INS Koswari (GRSE Yard No. 2065)
- INS Karuva (GRSE Yard No. 2066)

(ii) **Delivery of Ships to Indian Coast Guard:**

During the FY (2011-12), two Inshore Patrol Vessels are to be delivered to Indian Coast Guard.

- CGS Rajashree (GRSE Yard No. 2072)
- CGS Rajtarang (GRSE Yard No. 2073)

(iii) Launching of Ships:

During the FY (2011-12) the following Ships were launched:

(a) Anti-Submarine Warfare Corvette [(ASW(C)] of Project P-28

- The second Anti-Submarine Warfare Corvette [ASW(C)], 'Kadmat' (GRSE Yard No. 3018) was launched on 25 Oct 2011.

GRSE Yd No. 3018 on October 25, 2011

Launching of 2nd ASW Corvette

(b) Inshore Patrol Vessels (IPVs) of Indian Coast Guard

Third, fourth and fifth Inshore Patrol Vessels (IPV) of eight ships ordered from Indian Coast Guard were simultaneously launched on September 30, 2011.

- ICGS Rajkiran (GRSE Yard No. 2074)
- ICGS Rajkamal (GRSE Yard No. 2075)
- ICGS Rajratan (GRSE Yard No. 2076)

7.51 **Mauritius Off Shore Patrol Vessel (GRSE Yard 3021):** The contract for export order of Off Shore Patrol Vessel for Mauritius was signed in May 2011 and production of ship was started on June 15, 2011 (four months ahead of the schedule as per contract). The schedule delivery of ship is in the year 2014. This is the first ever export order awarded to GRSE for a Warship.

7.52 **Implementation of ERP System in GRSE:** GRSE in its modernisation drive has successfully implemented the state of art ERP system. The system is fully operational in GRSE

with following features:

(i) Data centre hosting Servers along with LAN & WAN to connect all its 8 Manufacturing facilities and 2 Marketing/ Regional offices.

(ii) Document Management System to help the company to move towards paperless operation and faster decision making.

(iii) Smart Card based Attendance recording system for all Employees ERP for generation of automated payroll process.

7.53 Raksha Rajya Mantri formally inaugurated and dedicated to the Nation the Data centre along with successful implementation of Information and Communication technologies on October 24, 2011.

7.54 **Corporate Social Responsibility:** GRSE has signed an MoU with Tata Institute of Social Sciences (TISS) for a period of 5 years. TISS will assist in implementation of CSR projects along with CSR related services in the organization.

7.55 CSR is an integral part of GRSE's corporate philosophy and they have defined the following areas for CSR projects:

(i) Health Care

(ii) Education & Skill Development

(iii) Community Development

7.56 **Environment:** The concern for environment has never been overlooked by GRSE. "Consent to Operate" certificate has been obtained from The West Bengal Pollution Control Board under the provisions of relevant Water and Air (Prevention and Control of Pollution) Act 1974 and Section 21 of the Air (Prevention and Control of Pollution) Act 1981, which is valid till August 31, 2013.

7.57 **Energy Conservation:** The average power factor of this yard has so far been recorded as 99.70, the maximum and minimum being 99.87 and 99.04 respectively during the present financial year.

7.58 The following energy conservation measures have been taken / in operation:

(a) Solar water heating systems have been installed in Hot Meal Canteens.

(b) Energy Audit in all units of GRSE is conducted every year to optimize consumption of fuel ie. coal, electricity, petroleum etc. and recommendations implemented. This is also a parameter incorporated in the yearly 'Memorandum Of Understanding' (MOU).

(c) Introduction of battery operated material handling equipment and

increased installation of electronic ballasts for lighting systems.

(d) Compact Fluorescent Lamps (CFL), TL5 luminaries, LED luminaries, Solar powered LED based street lighting are now only being used for illumination of new offices and departments. Such fittings are also being extensively replacing existing luminaries.

(e) Use of star rated window AC has been adopted. In AC plants Solid State Control system, energy efficient compressors are introduced.

(f) VVVF type control systems have been used in elevators during refurbishment of old elevators to reduce the energy consumption by 2% approximately.

Goa Shipyard Limited (GSL)

7.59 Goa Shipyard Limited is the youngest and the smallest of Defence Shipyards. From a humble beginning as a small barge repair and construction yard in 1957, GSL has grown in status as a competitive Shipyard capable of indigenously designing and building sophisticated high technology ships for the Indian Navy and Coast Guard. It was conferred the Mini Ratna Group-I status in March, 2007.

7.60 During the year, 1 Sail Training Ship for Indian Navy and 1 GRP boat for Sardar Sarovar Narmada Nigam Limited have been delivered.

Sail Training Ship

5T GRP boat

7.61 The yard is in the process of implementing a modernisation plan to meet the future challenges in terms of technology and workload. This is being carried out in four phases at an estimated outlay of Rs.800 crore. Commissioning of Phase 1 & 2 comprising of setting up of 6000T shiplift system along with building berths & jetty and laying of foundation for phase 3 & 4 was done by Raksha Mantri on May 21, 2011. Facilities planned under phase 3 & 4 include new hull fabrication and outfitting shops for modular construction and GRP complex for building of MCMVs for Indian Navy.

7.62 **Production and R&D Programme:** GSL undertakes its own R&D for design and development of its product range. New

shipbuilding projects are based on in-house design, an outcome of R&D over 30 years. It is noteworthy that GSL's indigenously developed designs of Patrol Vessels have saved the country considerable amount of foreign exchange by avoiding import of ships/ designs. This has also given an impetus to the country's efforts towards self reliance in ship design.

Birds eye view of facilities under Modernisation phase 1 & 2

7.63 **Diversification:** GSL has diversified its business activities, following projects are under execution:

a) Damage Control Simulator for Indian Navy at Kochi

b) Shore Based Test Facility at INS Hansa

c) Supply, installation and service support for Stern Gear Systems.

7.64 **Environment:** GSL has undertaken several measures towards complying with requisite statuary requirements, also implanted Energy Conservation measures such as:

a) Installation of solar lighting for emergency lighting in substations.

b) Installation of occupancy sensors for containers and wash rooms.

c) Installation of variable frequency drive for centralized compressor unit.

7.65 **Corporate Governance:** GSL has implemented the "Guidelines on Corporate Governance for CPSEs 2010" and recently revised the Code of Business Conduct & Ethics for Board members and Senior Management. The Board of Directors of GSL comprises of full time functional directors, Govt. directors and Independent directors.

7.66 **Human Resources:** Some of the activities are as follows:

a) **Welfare of Persons with Disabilities/ SC/ ST/ OBCs:** GSL has 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.

b) **Women Empowerment:** In GSL, empowerment of women is given prime importance. Women employees' rights are protected and they are treated at par with the male counterparts.

c) **CSR activities:** Corporate Social

Responsibility at Goa Shipyard Limited involves various voluntary efforts, which the company engages itself in order to contribute towards social development while improving the quality of life of the community as a good corporate citizen.

d) The Company entered into a Memorandum of Agreement with Tata Institute of Social Sciences, on February 7, 2011 for conduct of a baseline survey and need assessment for implementation of corporate social responsibility.

e) Formulated a new CSR policy in accordance with the DPE Guidelines and signed an MOA with NCSR HUB to facilitate in execution of CSR projects through empanelment of NGOs for CSR projects, Training, Monitoring, Impact Assessment and events/ publications.

7.67 **Awards:** GSL has won following awards:

a) Raksha Mantri's award for 'Best Performing Shipyard' for the year 2009-10.

b) Raksha Mantri's award for 'Design Efforts' for the year 2009-10 for In-house design & development of the Propulsion System, integration and machinery control.

c) ICC PSE Excellence Award 2011 in Miniratna & Other category.

d) Creative HR Practices Award 2010-11 in Corporate Global HR Excellence Awards.

Hindustan Shipyard Limited (HSL)

7.68 Hindustan Shipyard Limited (HSL) is the largest shipyard under the Department of Defence Production, Ministry of Defence, India. It caters to the needs of Shipping, Oil and Defence Sectors in construction and repairs of bulk carriers, passenger vessels, tugs, survey vessels, drill ship, offshore and inshore patrol vessels (OPVs & IPVs), dredgers, oil tankers, oil rigs and conventional submarines etc. The yard has so far built and delivered 164 vessels including 11 wellhead platforms to ONGC and repaired around 1870 vessels to various clienteles and one F-class submarine to Indian Navy. An 877 EKM submarine is under modernization and refitting. Shipbuilding, being an assembly industry, is a very complex engineering and labour oriented industry involving lot of human effort. Around 100 design engineers are working in design and drawing offices on design of merchant vessels, bulkers, tugs etc. The design office developed in house design for 14,000 DWT to 30,000 DWT bulkers under "Standard Flexible Design" and also tugs.

7.69 HSL has well equipped design facility with latest TRIBON 3 M and AUTOCAD 2008 shipbuilding software.

7.70 The infrastructure of yard was up-

graded from construction of 8,000 DWT steam vessels to 53,000 DWT diesel driven bulkers today. The technology has been upgraded from riveting stage to semi-automatic/ automatic welding and a maximum 5-Ton steel fabricated block in 1950's to 250-300 Ton block.

7.71 HSL's vision is to become one of the best shipyards as it has tremendous potential to propel the company to greater heights.

7.72 **Production Programs:**

Vessels under construction

M. V. Good Trade 53,000 DWT bulker

INS Rani Abbakka, Inshore Patrol Vessel

7.73 **Information Technology:** HSL has successfully implemented the following tasks during the year:

(a) Action is initiated for introduction of e-procurement in HSL and likely to be implemented by March, 2012.

(b) Initiated National Informatics Center (NIC) mail service in view of more confidentiality & security for all HSL official correspondence.

(c) Implemented the network security using group policy.

7.74 **Environmental Protection:** HSL continues to be environment friendly, and has fulfilled all the statutory requirements of Central & State Pollution Control Boards. The Company is committed to meet all the stipulated standards for maintaining and protecting the environment.

7.75 **Scheduled Castes:** The SC/ST employees in HSL are represented by HS SC/ ST Welfare Association which is an elected body. The Management of HSL is extending their co-operation for smooth conduct of their elections to elect their representatives and providing Office to carry out their welfare activities and taking up the grievances of SC/ ST employees with the Management. The reservations for SC /STs in employment are followed as per the directives issued by the Government from time to time.

7.76 **Financial Restructuring:** The Ministry has sanctioned Rs.824.90 Crore towards financial restructuring package as mentioned below:

i) An amount of Rs.452.68 Crore

(Rupees Four Hundred Fifty two Crore and sixty eight lakhs) has been given as grants in aid for clearance of old outstanding liabilities towards banks, employee arrears, tax arrears and other liabilities.

ii) The existing Government loan with interest and Government guarantee fee against loan from SBI amounting to Rs.372.22 Crore (Rupees Three hundred Seventy Two Crore and Twenty Two lakhs) has been converted as loan in perpetuity without interest.

7.77 **Modernisation:** The yard is required to be modernized to increase its capacity and efficiency for construction of sophisticated Defence Vessels in future.

7.78 Ministry of Defence has sanctioned Rs. 457.36 Crore towards modernization/ up-gradation of aging machinery/ infrastructure.

7.79 **Research & Development:** Though an exclusive R & D department was nor created, HSL has developed it own in-house design for 14,000 DWT 30,000 DWT bulkers under standard flexible design besides various capacities bollard pull tugs.

Mazagon Dock Limited (MDL)

7.80 The Company was incorporated as a Defence PSU on May 14, 1960 and celebrated its Golden Jubilee last year. The company which was ship repair yard in 1960 became one of the leading warship-building yards in the world.

7.81 Mazagon Dock Limited is a leading Shipyard amongst all Defence PSU shipyards constructing warships and Submarines. The yard is presently constructing State of the Art Stealth Frigates under Project P17, Missile Destroyers under Project P15A, Scorpene Submarines under Project P75.

7.82 MDL has delivered INS Satpura 2nd Ship of the P17 Frigates class on July 9, 2011. Potent surface combatants like INS Satpura will add cutting edge technology to the Naval fleet & would serve well to support nation's interests. On Commissioning, 'Satpura' will undoubtedly be a formidable force in the service of the Nation and can play a vital role in adding further teeth to the blue water capability to the Indian Navy.

7.83 Not content with the laurels and realizing that it would have to face competition from private shipyards in future, MDL has setup a virtual reality centre with most advanced state of the art equipment that will aid the 3D modeling software to visualize the entire ship in a 3D stereoscopic immersive environment thus enabling many layout related issues to be resolved at an early design phase. MDL also implemented procurement procedure through e-procurement, this will adopt a simplified and transparent tendering procedure as an alternative to traditional manual tendering. E-procurement covers full cycle of purchasing, connect buyers and suppliers/ electronic exchange of tenders, catalogues, contracts, purchase orders, invoices etc. The

e-procurement solution envisages benefits such as improved image and transparency, cost reduction, better decision making, process efficiency, audit trail, price/ supplier behavior forecasting, suppliers' performance monitoring.

7.84 **Environment:** The Company fulfills all statutory requirements of Central and State pollution control Boards. The Company is committed to meet all the stipulated standards for maintaining and protecting the environment by development of green cover Rain Harvesting and Garbage Composting Projects and these projects are on anvil.

7.85 **Energy conservation:** Energy conservation has become very important activity for large companies. MDL has also taken effective steps to conserve energy by replacing existing tube lights with energy efficient tube lights, replacing old power guzzling window air conditioners with latest air conditioners having three star ratings, modernizing EOT Cranes system with Variable Frequency Drive Control and replacing old compressor by new Screw type LP air Compressor having Variable Frequency Drive Control. The Company has also completed conversion of three Diesel vehicles to CNG. The Company is moving towards water harvesting and using non-conventional energy by installation of Solar Panels on its buildings.

7.86 **Modernization:** The Company has embarked upon a modernization plan to upgrade the infrastructure and technology involving mainly erection of a 300 Ton Goliath Crane, creation of a Modular Workshop and construction of an additional Wet Basin at a total cost of around Rs. 826 Crores. These facilities on completion are expected to reduce build periods of Warships/ Submarines.

BEML Limited

7.87 BEML Limited (BEML) is a Mini-Ratna (Category – I) multi-location, multi product Company under the Ministry of Defence, engaged in the design, manufacturing, marketing and after sales service of a wide range of Mining & Construction equipment, Defence & Aerospace products and Rail & Metro products. The Company serves the core sectors of the economy such as Defence, Aerospace, Coal/ non-coal mining, cement, power, irrigation, infrastructure sectors, rail and metro transportation system.

7.88 BEML, established in 1964, has its Corporate HQ and Central Marketing Division at Bangalore and 4 manufacturing complexes with 9 production units located in Bangalore, Mysore, Kolar Gold Fields and Palakkad. The Company also owns a subsidiary – Vignyan

BEML DUMPER – BH 35-2

STAINLESS STEEL EMU

BEML TATRA BAHMOS 12 X 12

Industries located at Tarikere, Karnataka, which produces steel castings. The Company has a nation-wide net work of sales & service offices and spare parts depots within close proximity of major customers.

7.89 **Capacity Augmentation through Modernization, Acquisition& Expansion:** The Company's big dream to become large Business Conglomerate with plans of expansions and diversification was appropriately supported with matching CAPEX, ability to identify and en-cash emerging opportunities, dynamism to foresee and bring in breakthrough technology within a time frame, enlarging product basket & diversification, entering into ToT, ability to improve labour productivity & discipline and adopt appropriate business models. Building up of manufacturing capability was given utmost priority. Capital was allocated and augmentation of capacity, up-gradation and modernization of plant and machinery in all the production units were taken up.

7.90 The Company, recognizing the need to expand and modernize the production infrastructure as a primary requirement for expanding business, infused sizable Capex for the first time in several years since 2007-08 which otherwise was miniscule. Also, in order to meet the future business needs, augmented the manufacturing infra at KGF by acquiring 1109 acres of land along with two workshops from the adjoining PSU Bharat Gold Mines Ltd (BGML) as a strategic expansion move. One facility has since been established as Rail Coach Unit-II for Coaches and is rolling out coaches at the rate of 1 coach per day graduating from parts production to complete coach manufacturing including furnishing. The other established as Heavy fabrication Unit – HFU (feeder unit to other divisions) is now graduated to assembling a complete equipment.

7.91 **Green Field Venture:** As another strategic move, the Company extended the manufacturing facilities beyond Karnataka and inaugurated BEML's Green Field Project – 'Palakkad Manufacturing Complex' exclusively for Defence manufacturing at Palakkad, Kerala, thereby expanding Rail & Metro and Defence business capacity to increase the Company's revenues. The new complex at Palakkad, Kerala has been established & has started production

since May 2010.

7.92 **Brown Field Venture: Vignyan Industries Limited (VIL) - Subsidiary of BEML:** Invested in Fast Loop No Bake Moulding machine to increase the capacity to over 6000 tonns to cater to increasing captive requirement of steel castings of BEML.

7.93 **Mining and Allied Machinery Corporation (MAMC):** With growing environmental concerns, Mining companies, especially CIL, are planning to switch over from open cast to underground mining. BEML is already producing some of the underground mining equipments. To cater to the growing need of high technology underground products, BEML has acquired assets of West Bengal-based sick PSU, Mining and Allied Machinery Corporation (MAMC) which was engaged in manufacturing of underground mining equipment, through a JV formed with government-owned Coal India Ltd and Damodar Valley Corporation, by investing Rs.100 crore. BEML owns 48% in the acquired venture while Coal India and Damodar Valley hold 26% each. This buy out of MAMC assets and formation of JV Company MAMC Industries Limited will help BEML to extend its product range in this sector further with assured business from CIL and DVC for next 10 years. This provides BEML an opportunity to supply the entire gamut of equipments required for both surface and underground mining, with suitable technology tie-up with global leaders, as required. Incidentally it may be noted that BEML will be the first Company in Asia to manufacture both surface mining and underground mining products as a one stop shop.

7.94 Further, BEML is currently expanding its product basket with the following:

a. Manufacture of ARV & related products using its dedicated world class test track at KGF.

b. Manufacture of Aggregates and parts for Main Battle Tank including Powerpack comprising transmission, Final drive & Engine.

c. Proposing overhauling of Main Battle Tank BMP –II.

d. Manufacturing spares & aggregates for the entire range of Tank & related products.

7.95 **Diversification: Green Field Project:**

(i) **Aero Space Manufacturing Division:** The Company has foreseen the emerging opportunities in Aerospace applications keeping in view of Defence offset policies, thus this division was launched for manufacture and supply of Ground handling equipment, tooling and components for Aerospace application in Mysore factory.

(ii) **Dredger Equipment Manufacturing Division:** As a major initiative, the company has forayed into Dredger equipment manufacturing business to en-cash emerging opportunities and formed a Dredger Division at Mysore.

(iii) **Track Laying Business - Infrastructure Development Services:** In order to fuel its ambitious growth plans in Rail & Metro sector, BEML forayed into track laying business for the Track laying works of Indian Railways, various Indian Metro corporations and also Merry-go-round tracks for new coal based Thermal Power plants.

(iv) **Dedicated Freight Corridor:** BEML which is already in the business of passenger transport in Rail sector has diversified into the business of freight transportation. BEML has already produced aluminium wagons and stainless steel wagons in anticipation of the requirements of the dedicated freight corridor project coming up.

7.96 **R & D Programmes:** The Company has a well established R&D set up, the biggest of its kind in India. The R&D Laboratories are set up with UNDP assistance and are recognized by the Department of Science & Technology. The major activities of R&D include Design and development of new products and aggregates for products such as Dozers, Dumpers, Excavators, Loaders & other Defence and Railway Products, Technology absorption, Indigenization, ToT, Company standardization activities. R&D facilities include Power-line Laboratory, Structural Engineering Laboratory, Fluid Power Laboratory, Material Science Laboratory, Electronics and Instrumentation Laboratory, Prototype Shops.

7.97 A separate Technology cell was created at Corporate Level for scanning technologies worldwide and the Company could enter into a host of technology tie-ups with major global leaders. In-house R&D development was also given a thrust and necessary resources were provided towards R&D expenditure, which resulted in development of several major new products. By virtue of the above efforts, the contribution of the new/ upgraded products is over 29% of the total turnover. This has also helped in sustaining and improving market shares in certain product segments. The company has earmarked 1.8% of its sales turnover for R&D expenditure for the year 2011-12.

7.98 **Products launched by in-house R&D:** In-house Research & Development was also given a thrust and necessary resources were provided which resulted in development of products such as BE 1250 EXCAVATORBH, 150E DUMPER, BH 205E DUMPER, BG 405AMOTOR GRADER, BE 450 EXCAVATOR, GRAD BM21 MULTI BARREL ROCKET LAUNCHER SYSTEM (MBRLS), FIELD ARTILLERY TRACTOR (FAT) 6X6, OHE CAR FOR INDIAN RAILWAYS

7.99 **Exports:** BEML has exported goods and services valued around Rs.2800 crore till March 2011. BEML has exported over Rs.678 crore in the last three years and thus graduated from being a 'Star Exporter' to a 'Trading House'. During the year 2010-11 the exports were to the tune of Rs. 217 crore. It successfully made foray into new markets in new countries like Zimbabwe, Thailand, Ghana, Sri Lanka etc.

7.100 **Business Vision & Future Plans:** The

Company has initially set an ambitious target of achieving Rs.5000 crore sales by the year 2013-14 and has adopted various strategic initiatives as explained above like Expansion, diversification, restructuring, acquisition of technology, joint ventures, HR initiatives etc. With all these initiatives, plans are afoot to achieve Rs. 5000 crore in 2011-12/ 2012-13. The Company therefore has recast the vision and strategies with next milestone of Rs. 10,000 crore turnover by 2018-19 and is putting in place the road map for achieving the same through its Corporate Plan – II.

7.101 **Quality:** Various "Quality Assurance Teams" (QAT) at divisions have made necessary Quality Plans & Checksheets have been prepared at in-process inspection and handed over to the production shops and implementation by the operators is in progress. At Assembly & Final Testing, Stagewise checksheets preparation is under progress.

7.102 Consultancy services of M/s. NIQR, Chennai, are being utilized for a period of SIX months from January 2012, to accelerate the QC->QA implementation at divisions.

7.103 All manufacturing divisions continue to hold ISO9001-2008 Quality Management System (QMS) certification. The KGF, Bangalore and Mysore Complexes are certified for **ISO14001-2004** Environmental Management System (EMS). Bangalore Complex is certified for BS OHSAS 18001-2007 Integrated Management System. Engine Division, Mysore complex is certified for AS9100B Aerospace certification. Laboratories at R&D, KGF and Engine division, Mysore continue to hold NABL accreditations.

7.104 During the year, M/s. VIL, Tarikere has also successfully implemented and obtained **ISO9001-2008** QMS Certification.

7.105 Quality Circles are active throughout the company to bring in continual improvements in product and process quality.

7.106 **Corporate Governance:** BEML continues to pursue long term corporate goals based on the values of financial discipline, high ethical standards, transparency and complete trust. 'Attainment of the higher results through right means' summarises BEML's way of Corporate Governance.

7.107 **Environment and Afforestation:**

(i) **Afforestation:** In order to protect the environment in and around the factory premises/ Township, tree plantation were undertaken. Around 18 lakh saplings of various types of avenue tree/ flower bearing trees were planted in the vacant lands belonging to the company for maintaining ecological balance in the surrounding areas.

(ii) **Environmental Pollution control measures:** Effluent treatment plants have been constructed inside the factory premises of the Production Units for treatment of domestic/ industrial effluents. Further, treatment plants/ oxidation ponds for treatment of natural process of treating effluents have been installed

in various locations inside the factory and township. Treated effluent water is being utilized by the Landscaping Department in the production unit. Artificial tanks have been constructed in Manufacturing Complexes to harvest rain water, restrict soil erosion and to raise ground water level. Storage yard facility for Hazardous waste at salvage stores at Division is constructed as per ISO 14001 requirements.

7.108 **Social Responsibilities Activities:**

(i) **Widow Rehabilitation Center:** A Widow Rehabilitation center is functioning engaging 20 widows at KGF Complex for preparing papads for supplying to BEML Canteens located at KGF and Bangalore. BEML Limited provides opportunity to such of the unskilled Contract Labourers who are literates, by extending on-Job skilled training to consider them for regular employment.

(ii) **Scholarship to SC/ ST under-Graduate Engineering Students:** Company has sponsored a scheme for award of Scholarship to the SC/ST students pursuing full time undergraduate Engineering course in Engineering Institutions all over the country. The scheme also aims at providing employment to students who successfully complete the Engineering programme.

(iii) **Adoption of United Physically Handicapped Children:** BEML Limited has adopted four children - Nivedha, Madhavan, Soudararajan and Dilip, of The United Physically Handicapped School of Coimbatore at an annual sponsorship of Rs.34,000/-(Rupees Thirty Four Thousand only). Management has directed to continue the adoption till the children can be employed suitably under PWD quota.

7.109 **Awards:**

- BEML declared winner of Aerospace and Defence Award for 'Excellence in Indigenous Technology' for its "Snow Cutter" by SAP Media Worldwide Ltd.

Raksha Rajya Mantri presenting the award to BEML Executives

Bharat Dynamics Limited (BDL)

7.110 Bharat Dynamics Limited (BDL), a Miniratna Category-I Company was incorporated in the year 1970 under the Ministry of Defence, Government of India. BDL started with the manufacture of Anti-Tank Guided Missiles, but today, has emerged as a conglomerate manufacturing ATGMs of the latest generations, Surface-to-Air weapon systems, strategic weapons, launchers,

underwater weapons, decoys and test equipment.The company is on the threshold of producing Heavy Weight Torpedoes and a broad spectrum of sophisticated weapons.

7.111 Most of the products of the Company are single shot devices, and therefore call for highest reliability. In pursuit of this objective, the Quality Policies of the Company have been laid down with emphasis on ensuring quality right from the basic input levels till the realisation of the final product. The quest for quality has resulted in the Production Divisions , Design & Engineering Design and Information Technology Divisions obtaining ISO-9001:2008 accreditation.

7.112 Technical collaborations with world leaders in weapon system technologies and DRDO have enabled the Company to offer effective and competitive solutions to the Armed Forces. BDL has plans in place to emerge as an effective and viable outsourcing hub to world missile manufacturers for precision components/ sub-systems at competitive pricing.

7.113 The Company has three units, which are located at Kanchanbagh (Hyderabad), Bhanur (Medak) and Visakhapatnam.

7.114 Besides producing indigenously developed Prithvi (Tactical battle field Surface to Surface Missile) & Akash (Surface to Air Missile), both missile systems under the IGMDP, BDL is engaged in the production of Konkurs-M and Invar (3UBK-20) Anti Tank Guided Missiles (ATGMs) in collaboration with Russia, and Milan 2-T ATGM in collaboration with MBDA, France. In-house developed CMDS (Counter Measure Dispensing System) has already been accepted by the Indian Air Force, for Jaguar and LCA. Trials are in progress for other platforms.BDL is working in close association with DRDO for technology absorption/ assimilation and extending support by providing sub systems/integration of missiles. The Company has ventured into productionising under- water-weapon systems such as Advanced Light Weight Torpedo (TAL), Heavy Weight Torpedo (Varunastra) etc. in Concurrent Engineering mode in association with NSTL, Visakhapatnam. Life extension activity of ATGMs, AD (Air Defence) Missiles and Air-to-Air Missiles is undertaken for all three Services.BDL has drawn up a long term perspective plan, which envisages manufacturing new products by adopting state-of-the-art technologies to meet the future requirements of the Defence Services.

CURRENT PRODUCT RANGE

AKASH SAM

AKASH SAM

NAG ATGM

INVAR (3 UBK-20) ATGM

MILAN -2T ATGM

ADVANCED LIGHT WEIGHT TORPEDO (TAL)

KONKURS-M ATGM

SUBMARINE FIRED DECOY (SFD)

7.115 **New Developments:**

(i) Presently BDL is executing IAF Order for Akash Missiles and Ground Support Equipment.

(ii) BDL has also been nominated as the Lead Integrator for the Indian Army Order for the Akash SAM for which BDL has initiated actions to augment its facilities.

(iii) BDL has been nominated as the Missile Integrator for LRSAM missile for the Indian Navy which is being developed jointly by DRDO and M/s IAI, Israel.

(iv) BDL has been nominated as the Lead Integrator for the Army Order and development of the missile is in progress for MRSAM missile.

(v) DRDL, BDL and MBDA, France propose to jointly develop and produce the SR SAM weapon system through a tri-partite agreement under a single contract.

7.116 **Honours/ Awards/ Achievements:** Golden Peacock Innovation Award – 2010 from Institute of Directors (IOD) for Design & Development of Intermediate Level Test System (ILTS) for Counter Measure Dispensing System.

7.117 Corporate Social Responsibility Award – 2011 from Institute of Public Enterprise (IPE) & Subir Raha Centre for Corporate Governance in recognition to contribution made by Bharat Dynamics Limited for best practices in Corporate & Social Responsibility.

Mishra Dhatu Nigam Limited (MIDHANI)

7.118 MIDHANI was established in 1973 as a Public Sector Undertaking under the administrative control of Department of Defence Production & Supplies, Ministry of Defence to achieve self reliance in the manufacture of a wide range of Superalloys, Titanium alloys, Special Purpose Steels etc. for the critical sectors, with technical knowhow from foreign collaborators. Thereafter, MIDHANI has developed, manufactured and supplied more than 105 grades of high performance alloys in different shapes, sizes, forms towards programmes of national importance in the Defence, Space and Atomic Energy sectors. Midhani was accorded the "Mini Ratna Category –I "status in November, 2008.

7.119 MIDHANI has been achieving EXCELLENT MoU rating for the last eight years in succession.

7.120 The Modernization & up gradation program taken up by the company in recent times has reached final stages of completion promising a major boost in the operations of the company taking the turnover level up to Rs.500 crore in the current year and attain a level of Rs.1000 crore by 2015.

7.121 MIDHANI's commitment towards growth, encouraged it to conclude Memorandum of Understanding (MoU) with Steel Authority of India (SAIL) on June 16, 2011 to explore possibilities of producing/ converting value added products by mutual cooperation for Defence sector and another MoU was signed on September 14, 2011 with Goa Shipyard Limited for joint functioning and establishment of a joint venture in various field of mutual interest.

7.122 MoU was signed with OFB Kolkata, for funding Wide Plate Mill amounting to Rs.307 crore with the approval of MOD and balance Rs.200 crore funding by Advanced Systems Laboratory (ASL), DRDO.

7.123 MIDHANI envisage its objective of sustaining its position as "National Centre for Excellence " in advance metals.

7.124 **Highlights:**

- Indigenous development of a water cooled 50 KW plasma torch has been completed at a cost of Rs.8.00 lakh thereby saving the company Rs.17 lakh .
- A dedicated e-procurement portal has been created (eprocuremidhani.gov. in) for publishing and processing of e-procurement tenders. The first batch of e-procurement tenders were published on December 23, 2011 and the site is managed by National Informatics Centre.

7.125 **R & D Activities:** Additional emphasis on R&D activities catering to Defence needs has been prioritized during the year 2011-12. This resulted in the development of six grades (a) 15-5WPH and 12-10PH steel for cryogenic engine application (b) Ferni 39 and 15-5 Ti PH steel for missile application (c) Superni 214 for space application, (d) DMR 1700 vehicle armoring till December, 2011 . Further three grades of low alloy 80 HLES, HY80 & HSLE 100 for marine application and Ti 15 V -3A for aerospace application are being developed . Also big Rings of OD 1200 mm x ID 1100mm x height 400 mm of grade Titan 31 in STA condition were developed for ISRO application.

7.126 **Up-gradation & Modernization:** The Phase–I envisaged a revamping and upgradation program with an investment of around Rs. 151 crore was completed. The Phase–II, with a capital outlay of Rs. 200 crore intended to enhance the capacity utilization of the Company is at an advanced stage of implementation with a funding support of Rs.100 crore from Ministry of Defence (MOD) and balance amount from internal resources. The major equipment commissioned during these phases is 6.5 MT Vacuum Induction Melting Furnace, 10T VAR Furnace, and 10T ESR Furnace. Currently 6000 MT Forge press and Radial Axial Ring Rolling Mill are in different stages of procurement.

7.127 Crystallizing the proposal to acquire State-of-Art equipment i.e., 4 Hi wide plate rolling Mill and 20 T Electric Arc Furnace and tying up, financial support to the tune of Rs. 507 crore from M/s Advance Systems Laboratory (DRDO) & Ordnance Factory Board (OFB).

Raksha Rajya Mantri laid foundation stone of a dedicated plant for production of high quality fasteners made of Titanium and Titanium alloys and special Steels at MIDHANI

7.128 **Quality:** Bureau of Indian Standards (BIS) audited the Midhani's Quality Management System ISO 9001-2008 during the year and renewed the certification till February, 2014.

7.129 NABL accreditation was granted in accordance with ISO/ IEC17025:2005 for chemical testing discipline in December 2011.

7.130 **Corporate Governance:** The company continued to put in to place the best systems and practices of "Corporate Governance" in all its spheres of activities. As part of its social responsibility Midhani employees donated one day's salary to Prime Minister's Relief Fund for extending succour to the Flood victims of Jammu & Kashmir.

7.131 **Energy Conservation:** During the year MIDHANI obtained "Excellent" rating for being within the limits of energy consumption for Electricity and LPG on account of pro-active steps taken in conserving energy. Reduction in Boiler House furnace oil consumption by using mechanical pumps for vacuum generation for VIR furnace and replacement of brick work of reheating furnace with ceramic blankets making it more fuel efficient.

7.132 **Environment Protection:** Midhani continued its efforts to maintain and promote ecological balance by plantation of trees in its premises and township.

DIRECTORATE GENERAL OF QUALITY ASSURANCE (DGQA)

7.133 Directorate General of Quality Assurance (DGQA) is a Quality Assurance Organisation functioning under the

Department of Defence Production in the Ministry of Defence. DGQA is responsible for second party Quality Assurance of all defence stores and equipment, both imported as well as indigenous for the Army, Navy (excluding Naval Armaments) and common User items for the Air Force procured from Private Sector, Public Sector Undertakings and Ordnance Factories. It has, therefore, a vital role to play in defence preparedness of the country.

7.134 **Organisational Structure and Functions:** DGQA Organisation is structured into ten Technical Directorates, each responsible for a distinct range of equipment. The Technical Directorates are structured in two tiers for functional purposes, comprising of their Controllerates and Field Quality Assurance Establishments. In addition, there are Proof Establishments in case of Armament Discipline for carrying out proof of weapons and ammunition. The essential functions performed by the Organisation are as follows:-

(a) **Quality Assurance:** Some of important functions are :

(i) Technical Guidance to Manufacturers on Quality related issues.

(ii) Technical Evaluation & Final Acceptance.

(iii) Pre & Post Contract Services to Defence Indenters. etc.

(b) **Technical Services/ Guidance:**

(i) Specification control and act as Authority Holding Sealed Particulars (AHSP).

(ii) Provide product related technical services to users in field / Formation HQs/ training institutes/ Service HQs.

(iii) Render technical advice to Service HQs.

(iv) Issue of DGQA approvals/ assignment lists & cataloguing of defence stores.

(c) **Defect Investigation:**
Investigation of all premature failures of in-service equipment to identify the assignable causes and thereafter initiation of remedial measures to eliminate/ minimize the occurrences of the same.\

7.135 **Quality Assurance Activities:**

(i) **Quality Assurance of Stores:** The value of stores quality assured during the last three years is given in Table No. 7.3.

Table No. 7.3

Value of Stores Inspected (Rs. in Cr.)

2009-10	2010-11	2011-12 (upto Oct. 2011)
16,203	19,223	9,125

(ii) **User Satisfaction:** Regular interaction with Users at Command level and visit to Field Units is undertaken to obtain first hand feedback and rendering technical advice.

(iii) **Self Certification:** 59 Manufacturers have been awarded Self-Certification till date.

(iv) **NABL Accreditation:** 21 Testing Laboratories of DGQA have been granted NABL accreditation.

(v) **ISO Certification:** 73 establishments of DGQA have been certified under ISO 9001 : 2008.

DIRECTORATE GENERAL OF AERONAUTICAL QUALITY ASSURANCE (DGAQA)

7.136 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.

7.137 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 are meeting the required specifications and performance parameters.

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

7.138 The Headquarters of the organisation is in New Delhi and there are 34 field establishments in different parts of the country. 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 and Main Contractors for improving the quality and readability of aeronautical stores.

DIRECTORATE OF STANDARDISATION (DOS)

7.139 **Objective:** Directorate of Standardisation (DOS) was constituted in 1962 with an aim to control item proliferation within Defence Services. Accordingly, the primary objective of DOS towards establishing commonality in equipment and components among the three Services so that the overall inventory of the Defence Services is reduced to the minimum is being progressively realised through:

(a) Preparation of various Standardisation documents.

(b) Codification of Defence Inventory.

(c) Entry Control.

7.140 **Defence Standardisation Cells and Detachments:** To provide requisite thrust to standardisation activities, 09 Defence Standardisation Cells (at Ichapur, Kanpur, Bangalore, Pune, Jabalpur, Chennai, Dehradun, New Delhi and Hyderabad) and 04 Detachments (at Ahmednagar, Mumbai,

Vishakapatnam & Kochi) have been established under the DOS. The dedicated training institutes located at Defence Standardisation Cells Pune & Delhi ensure that the officers & staff of DOS are fully equipped to meet growing challenges associated with the process of standardisation and codification.

7.141 **Effective Network for Standards:** A DOS defence standards website i.e. http://www.defstand.gov.in and its Hindi Version are available 24x7 days for the Defence users. 669 users have been registered with the DOS website as on November 30, 2011. Defence Standards formulated at DOS e.g. Joint Services Specification (JSS), Joint Services Guide (JSG), Joint Services Preferred Range (JSPR), Joint Services Rationalised List (JSRL) are being updated/ uploaded on DOS website. All Defence Standardisation Cells and Detachments are also in constant communication with the DOS through a dedicated Server. Further, information regarding DOS and Standards has been uploaded on Tri-Services Intranet which is updated on a quarterly basis.

7.142 **Standardisation and Codification:** Targets & Achievements: Annual targets are set/ reviewed every year for the two principal activities viz Standardisation and Codification by the Committee of Chairmen Standardisation Sub-Committee (CCSSC) and Defence Equipment Codification Committee (DECC) respectively. The achievements vis-à-vis targets of these major activities for 2011-12 are given below:

(a) **Standardisation:** The standardisation targets set for the year 2011-12 include 839 for New standard documents and 624 for Revision documents. Against these targets, 508 New Standard documents & 361 Revision documents have been prepared till November 30, 2011. A total of 4,906 joint services documents have been formulated till November 30, 2011.

(b) **Codification:** The 2(2011) DECC Meeting held on March 10, 2011 under the chairmanship of Joint Secretary (MS) reviewed the codification targets and achievements. Codification target for the year 2011-12 is 54,111 against which 11,031 items have been codified till November 30, 2011 thereby making the total number of items codified till date to be 4, 87,374.

(c) **Updation:** This process is initiated by AsHSP and the updation details received at DOS from AsHSP facilitate updation of database. Updation target for the year 2011-12 is 24,070 against which 14,055 items have been updated till November 30, 2011 thereby making the total number of items updated to be 4,13,129.

DIRECTORATE OF PLANNING & COORDINATION (Dte. of P&C)

7.143 The International Cooperation Division in the Directorate of Planning & Coordination under Department of Defence Production is the nodal point for activities relating

to International Cooperation in Defence Production. The International Cooperation Division handles all matters relating to defence industry cooperation with various countries with which India has defence cooperation agreements. The role and functions of IC Division in DDP are similar to those of the PIC Wing in the Department of Defence, which is the nodal point in the Ministry for handling all matters relating to international cooperation.

DEFENCE EXHIBITION ORGANISATION (DEO)

7.144 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.

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.

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

NATIONAL INSTITUTE FOR RESEARCH AND DEVELOPMENT IN DEFENCE SHIPBUILDING (NIRDESH)

7.146 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.

7.147 The Government has therefore set up the National Institute for Research and Development in Defence Shipbuilding (NIRDESH) at Chaliyam, near Kozhikode (Calicut), Kerala 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.

7.148 Raksha Mantri heads 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	2009-10		2010-11	
	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	183.34	44.20	183.34	35.00
HSL	301.99	149.87	301.99	372.21
Total	**1194.74**	**194.07**	**1194.74**	**407.21**

WORKING RESULTS
VALUE OF PRODUCTION AND SALES

(Rs. in Cr.)

Name of the PSUs	2009-2010		2010-2011		2011-12(up to 31.12.11)	
	Value of Production	Value of Sales	Value of Production	Value of Sales	Value of Production	Value of Sales
HAL	13489.59	11456.70	16450.84	13115.50	6636.36	5708.25
BEL	5247.88	5219.77	5520.80	5529.69	3453.65	3462.95
BEML	3708.66	3557.67	3768.60	3623.52	2850.24	2500.11
MDL	2856.13	3150.94	2611.41	636.56	1718.41	2164.50
GRSE	870.74	424.27	1053.30	546.22	911.74	319.70
GSL	866.48	472.89	990.32	514.46	401.05	130.19
BDL	631.61	627.23	910.92	939.10	683.47	585.39
MIDHANI	373.24	371.21	485.46	417.87	356.45	350.56
HSL	608.43	618.96	603.84	652.14	339.50	363.56
TOTAL	**28652.76**	**25899.64**	**32395.40**	**25975.06**	**17350.87**	**15585.21**

VALUE OF PRODUCTION AND SALES OF OFB

(Rs. in Cr.)

2009-2010		2010-2011		2011-2012(upto Dec, 11) (Provisional)	
Value of Production	**Value of Sales**	**Value of Production**	**Value of Sales**	**Value of Production**	**Value of Sales**
11817.89	8715.26	15389.58	11215.01	10025.33	6815.01

Profit After Tax

(Rs. in Cr.)

Name of the PSUs	2009-10	2010-11
HAL	1967.41	2114.26
BEL	720.87	861.47
BEML	222.85	149.76
MDL	240.19	243.52
GRSE	114.81	115.71
GSL	130.72	176.13
BDL	33.77	51.71
MIDHANI	44.62	50.42
HSL	2.32	55.00
TOTAL	**3477.56**	**3817.98**

8

DEFENCE RESEARCH AND DEVELOPMENT

Missiles Developed by DRDO

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 and Development Organisation (DRDO) has come a long way since its modest beginning in 1958. Starting with 10 laboratories, DRDO has evolved as 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, Advanced Materials and Composites, and Naval Systems. At the core of this technological strength, DRDO has its expertise in system design, system integration, testing & 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, missiles, sonar systems, avionics, radar and electronic warfare system, sensors, NBC defence, low intensity conflict technologies and advanced computing.

8.3 DRDO plays significant roles in 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 Adviser to Raksha Mantri (SA to RM) who is also Secretary to the Government of India. The Secretary is assisted by the Chief Controllers of Armaments, Combat Vehicles and Engineering; Naval Systems and Materials; Resources & Management; Human Resources; Missiles and Strategic Systems; Low Intensity Conflicts; Aeronautics; Avionics; Services Interactions; Life Sciences and International Cooperation; Electronics & Computer Sciences; and Micro-Electronic Devices & Management Information System and Technology. The Organisation has two tier systems, viz. the Technical and Corporate Directorates at DRDO HQ, 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 & 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 & Development; Life Sciences; Civil Works & 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 labs and directorates. Besides these, Scientific Advisers to Chief of Army Staff, Chief of Air Staff, Chief of Naval Staff and Deputy Chief of Integrated Defence Staff 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 to 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 a mission to design, develop and lead to production of 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, avionics, 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 also 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 Armed Forces to progressively enhance their combat effectiveness through development of state-of-the- art weapon systems and technologies. DRDO is concentrating on development of strategic, complex and security sensitive systems. All other types of equipment are being developed and upgrades are being executed by the Industries. DRDO has undertaken analysis of the Services Long Term Integrated Perspective Plan (LTIPP) and mapping/ synchronisation with DRDO Plan; continuous interactions with Services to further fine-tune the DRDO Plan; entered into joint development with reliable partners wherever feasible; development of critical technologies, design and fabrication of prototype testing, user trials and transfer of technologies to production agencies leading to bulk production and induction into Services; preparation of S&T Road Map; sponsoring DRDO oriented research activities to premier academic research institutions for future requirements; and also opened Centres of Excellence in various areas of defence interest.

DRDO has empowered the country with cutting-edge technologies and equipped our Services with internationally competitive systems. Over the past five decades, it has enabled Armed Forces to progressively enhance their combat effectiveness through development of state-of-the-art weapon systems and technologies.

8.9 These measures would improve self-reliance and indigenous content in the defence systems substantially. DRDO has developed a number of systems/products/ technologies, of which a large number have been productionised and inducted in to Services and many are in the process of manufacturing and production stage. The value of systems/ products/ technologies developed by DRDO and inducted into the Services or in the process of induction stands at over 1.30 lakh Cr.

8.10 DRDO is working on various projects which have been broadly categorized into major disciplines, like missiles, aero-systems, electronic systems, combat vehicles, armaments, naval systems, advanced materials, and life sciences. Brief descriptions on achievements of some of the significant projects during the last one year are

given in the following paragraphs.

8.11 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. Prithvi-II Missile was successfully flight tested on June 9, 2011 from Launch Complex-III, ITR Chandipur, Orissa. Launch was carried out as part of the regular training exercise of the Armed Forces. Missile reached the predefined target in the Bay of Bengal with a very high accuracy of better than 10 meters. The flight test met all the Mission objectives and was like a text book launch.

Agni Series of Missiles: The Agni-I Missile was successfully flight tested from Wheeler Islands on December 1, 2011 by the Armed Forces from Road Mobile Launcher System and reached the target point in the Bay of Bengal. Agni - II Missile was launched on September 30, 2011 as a training exercise by the Armed Forces. The two stage missile equipped with advanced high accuracy navigation system was propelled by solid rocket propellant system. Missile reached an apogee (peak altitude) of 220 km and hit the target. DRDO also test fired the most advanced long range missile system Agni-IV Missile on November 15, 2011 from a Road Mobile System. Missile followed its trajectory, in a text book fashion, attained a height of about 900 km and reached the pre-designated target in the international waters of Bay of Bengal. All mission objectives were fully met. All the systems functioned perfectly till the end encountering the re-entry temperatures of more than 3000^0C. This Missile is one of its kinds, proving many new technologies for the first time, and represents a quantum leap in terms of missile technology. Missile is lighter in weight and has two stages of solid propulsion and a payload with re-entry heat shield. The composite rocket motor which has been used for the first time has given excellent performance.

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 ship weapon control system delivery has been completed. First ship MFSTAR Radar Factory Acceptance Test has been completed and system is under delivery.

Medium Range Surface to Air Missile (MR-SAM): It is a land based Air Defence System being developed to meet the requirements of Indian Air Force (IAF). It is a Joint development programme between DRDO and IAI, Israel. MR-SAM weapon system is capable of neutralising variety of targets, like Fixed Wing Aircraft, Helicopters, Missiles (sub sonic, supersonic and tactical ballistic missiles) within a range of 70 km and up to an altitude of 20 km. The Firing Unit is equipped to neutralise threats from multiple targets simultaneously.

BrahMos Supersonic Cruise Missile: This is a universal missile capable of being launched from multiple platforms based on land, sea,

sub-sea and air against sea and land targets. BrahMos has a range of 290 km with a speed of more than 2.8 Mach number. Different versions of BrahMos Missiles have been deployed in naval warships and mobile complexes for the Navy and Army. The Block-III version of the Army Missile was demonstrated which enables trajectory manoeuvres and steep dive with multiple waypoints using advanced system and software. The weapon systems have already been installed in 4 ships and are progressively being installed on 5 more ships. Integration of BrahMos Air version on Su-30 MK-I is being progressed for the Indian Air Force for flight trials in 2012.

Astra Missile: Air-to-air missile, Astra, is being indigenously designed and developed to engage and destroy highly manoeuvring supersonic aerial targets. Development of low smoke propellant has been completed and captive flight trials Ph-I on Su-30 has also been completed.

Surface-to-Surface Tactical Missile – Prahaar: Surface-to-surface missile 'Prahaar' was successfully flight tested by DRDO on July 21, 2011 from Launch Complex-III, Balasore, Orissa. The Missile with a range of 150 km, fills the vital gap between Multi Barrel Rockets and Medium Range Ballistic Missiles. The Missile capable of carrying different types of warheads, operates as battle field support system to the Indian Army. The Missile with a length of 7.3 meters and diameter of 420 mm weighing 1280 kg and a single stage solid propulsion system goes to a height of 35 km before reaching the targets of the range of 150 km in about 250 seconds. The Missile equipped with state-of-the-art high accuracy navigation, guidance and electro mechanical actuation systems with latest onboard computer achieved terminal accuracy of less than 10 meters.

Helina: It is a 7+ Km Third Generation Anti Tank Missile for Advance Light Helicopter. Maiden flight test of Helina was undertaken for ground launcher on February 27, 2011 and one autonomous Ballistic flight trial from ALH was undertaken on October 17, 2011.

Shourya Missile: Shourya, 700 km range Missile, was successfully flight tested on September 24, 2011 from Launch Complex-III, Balasore. The Missile, launched from a canister in a ground launch mode, was perfect like in text book and followed the path exactly to the predefined target in Bay of Bengal. All the Radar Stations, Telemetry Stations, Electro-Optical Stations all along the East Coast have tracked and monitored all the mission parameters. Ships located near the target have also tracked and witnessed the final event. Missile has reached the target within few meters accuracy.

Land Wargame: Designed, developed and operationalised state-of-the-art wargaming system for Army and also established wargaming facility named Brahmastra at Army War College, Mhow to suit Battalian level wargame. This facility enables officer to play tactics on computerized wargame.

Data Analysis & Pattern Recognition (DAPR) Ver 2.0: Decision support software DAPR has been developed which adopts various statistical

and data mining algorithms (hypothesis testing, discriminant analysis, cluster analysis, regression analysis) for classifying the emitters collected by ELINT systems to create an improved master emitter database. DAPR has been handed over to Indian Navy.

Strategic Software Simulation Test Bed for Exploring Network Centric Warfare (NCW): A proof of concept software test bed for exploring concepts of NCW in Integrated Air Defence (IAD) scenario has been successfully designed, developed & installed on an experimental SOA based architecture and applications of agent based modelling for decision making.

8.12 ***Aeronautical Systems***

Medium Altitude Long Endurance Unmanned Aerial Vehicle (UAV) Rustom-I: Indigenously designed and developed Rustom-I made 5th successful flight while flying at an altitude of 2300 ft above ground level and at a speed of 100 Knots during 25 minute of cruise near Hosur. The flight was successful as all the modifications done worked well and all the parameters were achieved by the UAV which was weighing 661 kg. In specific, the objective of testing modified lift off scheme, modified altitude and speed hold logics worked exceedingly well. This UAV has the potential military missions like Reconnaissance & Surveillance, Target Acquisition, Target Designation, Communications Relay, Battle Damage Assessment & Signal Intelligence. This UAV can attain a maximum speed of 150 Knots, 22,000 ft of altitude and endurance of 12 - 15 hours with an operating range of 250 km when fully developed.

Light Combat Aircraft - LCA (Navy) Trainer Prototype (NP-I): Dream of the country's first indigenous effort to build a carrier borne Naval Fighter aircraft got a fillip with the crossing of another significant milestone of the first Engine Ground Run (EGR) on September 26,

UAV Rustom

2011 of first LCA (Navy) Prototype NP-I. The team steering LCA (Navy) project comprises members of Indian Navy, Indian Air Force, Hindustan Aeronautics Limited, DRDO, CEMILAC, DGAQA, CSIR Laboratories, Educational Institutions, other Public and Private Sector partners. The first EGR of NP-I aircraft had the primary objective of checking aircraft to engine integration and activation of the various systems, like Flight Control, Hydraulics, Fuel, Electrical, Avionics, etc., which was successfully achieved. The Aircraft will now go through a phase of refinements based on feedback identified during the course of the build up and also observed during the EGR, followed by a series of final integration checks and taxi trials before its maiden flight.

Airborne Early Warning and Control (AEW&C) System: The first fully modified Aircraft for indigenously developed Indian Airborne Early Warning and Control System took to the skies on December 6, 2011, as part of its first flight in Embraer facilities at Sao Jose dos Campos in Brazil with about 1000 Mission System Components provided by DRDO. These include the critical item, Active Electronic Scanning Antenna (AESA) Radar Antenna developed by DRDO and certified from ANAC, International FAR Certification Agency. The flight is a major milestone towards realizing the dream of indigenous AEW&C System, which will put India into a select club of countries. With the advent of this, India is looking forward to join the league of countries capable of developing and delivering such complex Airborne System of Systems to its User.

Airborne Early Warning and Control (AEW & C) System

Electronic Warfare (EW) Suite for LCA: Advanced EW suite for LCA is under

development as a joint development programme between DRDO and M/s Elisra. The Suite consists of signal processor, transmitters and other LRU's. The system is being installed in LCA Tejas PV-I to evaluate the performance during flight. Aircraft is being integrated with EW system.

Electronic Warfare (EW) Suite for MLH – Mi-17: EW Suite has been developed, integrated on Mi-17 Helicopter and the flight trials of EW suite on Mi-17 have been completed.

8.13 ***Electronic Systems***

Three Dimensional Surveillance Radar System for Indian Air Force – Rohini: This Medium Range Surveillance Radar is a ground based mechanically scanning S-Band Pulse Doppler Radar for air space surveillance to detect and track air targets with reliability, even under hostile Electronic Warfare operational environment. The Radar has advanced technologies, like digital receiver and programmable signal processor, providing high resolution, accuracy, response and information availability. The software controlled high-speed digital technologies offer real-time configuration to the operational crew. The advanced software algorithms, multiple high speed processors, and state-of-the-art digital technologies have made the radar an effective user-friendly sensor, providing 24 x 7 airspace awareness to the Commanders during peace and war time.

The Engineering Model of ESM System 'Varuna' has been realised and installed onboard K-Class Naval Platform. Sea Acceptance Tests have been completed successfully. The system is being exploited by Indian Navy.

Three Dimensional Surveillance Radar for Indian Navy – Revathi: This stand-alone, medium range, all weather 3D Surveillance Radar, operates in S-band and is capable of Track-While-Scan (TWS) of airborne and surface targets. The antenna is mechanically rotated in azimuth to provide 360 degree, all around, coverage and is mounted on a stabilized platform whose two actuators correct the roll and pitch error. It is a state-of-the-art technology product with a highly optimized structure in terms of accuracy and

Rohini Radar

Weapon Locating Radar

weight together.

Weapon Locating Radar (WLR): This coherent, electronically scanned, C-Band Pulse Doppler Radar automatically locates hostile artillery, mortars and rocket launchers and tracks friendly fire to locate the impact point of friendly artillery fire to issue necessary corrections. The Radar uses advanced signal processing techniques for detection and tracking projectiles in the presence of ground, weather clutter and other forms of interference in EW scenario. The Radar comes with an advanced navigation system that provides accurate position information.

ESM System 'Varuna': Modern ESM System capable of interception, detection, classification and identification of pulsed, CW, PRF Agile, Frequency Agile Radars including LPI Radars over C to J Frequency Bands. The System can perform inter and intra pulse analysis with its built-in Radar Finger Printing feature and can report the activity of 500 Radar emitters simultaneously. The Engineering Model of ESM System Varuna' has been realised and installed onboard K-Class Naval Platform. Sea Acceptance Tests have been completed successfully. The system is being exploited by Indian Navy.

Convoy Protection Jammer System 'Stride': Vehicle Mounted Muting System designed to prevent detonation of Radio Controlled Improvised Explosive Devices (RCIEDs) employed by Anti National Elements. These Systems are intended for the protection of Security Convoys of VVIPS from RCIED

Varuna Engineering Model Onboard INS Khanjar

threat and are being used by Armed Forces & Paramilitary Forces.

Command Information Decision Support System (CIDSS): CIDSS Phase-I system was formally handed over to the User on October 5, 2011. The event marked a formal culmination of the developmental and fielding efforts, leading to the final acceptance of the system by the field users. At the point of handing over, User confirmed to the gathering, that the complete system comprising of 58 nodes was fully operational and in service, which included hardware, shelters, prime movers and the application software.

Security Solution to Indian Navy: Communication Security Solution which caters for all the RF media was designed, developed and delivered to Indian Navy as per the requirement projected by them. There are two levels of security solutions provided and deployed in Navy Networks.

Geospatial Visualisation System Facility: This facility has been established for interactive 3D visualization and presentation of GIS and Terrain data in collaborative environment. Visualisation of Geospatial situation in a truly collaborative environment facilitates a means of taking suitable decisions and planning operation efficiently. This visualization environment will be capable of bringing the data from multiple sources to a unified environment on a large display screen with high quality 3D stereo visualization.

Secured Data Adaptor (SDA): It is an encryption/ decryption device designed and developed to secure the data that is sent over any wide or wireless communication media of aircraft, ships and land communication systems. SDA is a compact USB powered state of art encryption device which can be connected to a standard data terminal. The data input from the terminal is encrypted using a high grade proprietary encryption algorithm.

Combat Identification of Friend or Foe (CIFF): System has been realised for armored vehicle for ground-to-ground close combat operations. It reduces the fratricides and enhances the target service rate. Three engineered prototypes systems have been realised and field evaluation are going on by strapping on T-72 tanks. It has achieved its functional requirements in respect of range, interrogation time and accuracy.

Helmet Mounted Thermal Imaging Camera

Helmet Mounted Thermal Imaging Camera (HMTIC): It was trial evaluated by the Indian Navy at INS Shivaji to see through smoke in case of fire on ship. It was found extremely useful for hands free operation and was recommended for induction on surface ships for fire fighting application.

Microwave Tube Facility: J.C. Bose Microwave Tube Facility, the newly established, integrated

microwave tube development unit that houses state-of-the-art precision fabrication machineries, high-voltage test facilities, environment test facilities and High-Power Microwave (HPM) generation and diagnostics facilities was inaugurated on April 9, 2011. On this occasion, a Microwave Power Module (MPM), a product developed by DRDO and produced by Bharat Electronics Limited (BEL), was handed over to the Programme Director (Akash).

8.14 **Combat Vehicles and Engineering**

Main Battle Tank (MBT) Arjun MK-I: Indian Army has placed an indent for 124 Arjun MBT on Heavy Vehicles Factory, Avadi. As on date, 110 tanks have been handed over to Army. With this, two MBT Arjun regiments have been raised and are now operational. Remaining 14 tanks are likely to be rolled out by mid 2012.

Indian Army has placed an indent for 124 Arjun MBT on Heavy Vehicles Factory, Avadi. As on date, 110 tanks have been handed over to Army.

Commander's Panoramic Sight (CPS) Mk-II for Arjun MBT Mk-II: Commander's Panoramic Sight Mk-II has been realised for MBT Arjun Mk-II with new features, like Thermal Imaging Camera, Laser Range Finder and interface with ballistic computer. It provides night surveillance and full firing capability to the tank commander. Surveillance and firing trials of CPS Mk-II were successfully carried out at Pokharan Ranges.

Uprated 1000 HP Engine: Power output of V46-6 engine of T-72 tank has been uprated from 780 hp to 1000 hp to enhance the mobility. One Engine completed 400 hrs endurance run in the test bed. The engine was integrated in two T-72 tanks and extensive field trials were conducted by DRDO and User. Extensive improvement were carried out on cooling system, air filtration, breathing system, oil filter and optimized the performance of engine to enhance the performance and life of the engine.

Aircraft Mounted Accessory Gearbox (AMAGB): The Aircraft Mounted Accessory Gearbox (AMAGB) forms the heart of the Secondary Power System (SPS) of the LCA-Tejas Aircraft. It is designed to drive four accessories namely, two hydraulic pumps, one Integrated Drive Generator (IDG) and one Jet fuel starter (JFS) for the aircraft operation. DRDO has developed and tested 12 prototypes of AMAGB Out of which 7 gear boxes have been delivered to ADA for flight trials. These gear boxes including TOT gearboxes from HAL, so far, completed 2594 hours of operation with more than 1756 flights. The design validation was successfully completed by carrying out mandatory 1000 hours of endurance test and qualification testing was completed. The required documents, the test reports, the design up-gradation document, overhaul manual and illustrated part lists are completed and handed over to airworthy agency. Based on performance of gearbox and the documentation submitted, the type certification is issued to AMAGB.

Power Take Off (PTO) Shaft: A light weight, high speed flexible PTO Shaft has been

designed and developed which is capable of transmitting 250 hp at 16,810 rpm for LCA-Tejas. The flight trials of PTO shaft have been completed. With the successful completion of mandatory qualification testing, two Nos. of deliverable PTO Shafts have been handed over to the users. Total 1200 hours of Power run testing and 900 start cycles simulation testing of PTO shaft were carried out. The transfer of technology of the critical assembly has been commenced.

BMP Urban Survival Kit (BUSK): The objective of this project is to develop an Urban Survival Kit for the BMPs which will enhance the protection level against enemy weapons. The project has been successfully designed and developed. It has salient features, like light weight composite cage armour in vehicle front and sides to diffuse/detonate the RPGs; bullet proof glasses for driver's cupola for maneuver in built up areas with popping out; RPG net for turret and rear doors; extremity marking poles for driving assistance in confined roads; and wire mesh guards to protect optical instruments & vision devices from splinters. Presently, the vehicle being evaluated by Users for its efficacy and accordingly any incorporations or changes needs to be done based on User's trials will be incorporated.

Instrumented Avalanche Rod: To facilitate the easy movement and capture the snowpack information, an instrumented Avalanche Rod has been designed and developed by DRDO. This instrument is integrated with load cell, magnetic depth sensors, thermo couple, Global Positioning System (GPS). Avalanche Rod has been developed in three variants keeping in view of the requirements of users such as army, trackers and scientists. This instrumented Rod has also provision of avalanche victim detection, rescue operation and collection snow pack data for avalanche hazard assessment and other scientific purposes.

8.15 Armament Systems

Explosive Detection Kit: A US based firm has entered into a licensing agreement with DRDO to acquire the technology of Explosive Detection Kit developed by High Energy Material Research Laboratory (HEMRL), Pune, one of the constituent laboratories of DRDO. HEMRL has developed a kit for quick detection and identification of explosives that can detect and identify explosives based on any combination of nitro esters, nitramines, trinitrotoluene (TNT), dynamite or black powder. The technology is very effective and is in use by Indian security forces and would now help international community also.

Close Quarter Battle (CQB) Ammunition for 5.56 mm INSAS Rifle & Light Machine Gun: The 5.56 x 45 mm INSAS Ammunition has been redesigned to offer higher lethality at short ranges. The Army has carried out Phase-I & Phase-II User trials at IFS Mhow and is currently under GS evaluation.

Corner Firing Weapon: It is a special-purpose weapon which can be used in Low Intensity Conflict Operations (LICO) especially in Urban warfare and hostage conditions. It will be capable of firing Grenades and KE Ammunition around the corner, without

exposing the individual in line of fire. The foldable part of the weapon platform will be different for different weapons. The weapon will also be equipped with various accessories such as detachable cameras, visible and IR lasers and tactical flashlights, color LCD monitor, providing a video observation and sighting system with transmission capability to shoot around the corner.

Modular Charge System for 105 mm 37 Caliber Indian Field Gun: Bimodular charge system has been developed for a field gun based on breech end obturation affected with a indigenously developed brass stub. All the components of modular charge, namely; combustible modular case, propellant, brass stub, igniter, primer, polyester bag, wear reducing liner and decoppering agent have been designed and developed and their indigenous sources established. All the development trials have been completed and a new range table compiled followed by variation trials.

Rail Track Rocket Sled System – National Test Facility: A new Rocket Motor of thrust 6700 kgF having burning time of 2.4s for the propulsion of sled on new RTRS track has successfully been designed. Casing has been fabricated and proof tested.

Plastic Bullet: To counter the unrest expressed by the people in the form of demonstrations which are traditionally dealt with lathi charge, tear gas, firing and end up in killing etc., riot control ammunitions have been designed & developed for police and law enforcing agencies. These ammunitions are currently being used by various such agencies in the country. These deter unruly situations by inducing fear and using non-lethal techniques. It disintegrates into small fragments after hitting any hard target.

Bl-2A Fire Control Unit for AN-32 Aircraft: A microcontroller based Bl-2A unit has been successfully developed which has undergone relevant EMI/EMC, environmental and functional tests. The unit has been awarded air worthiness certification by RCMA Kanpur. The system has been successfully completed ground trials at 1, BRD, Air Force Station, Kanpur.

Advanced Oxidation Process (AOP) Technology: Advanced Oxidation Process (AOP) technology has been developed for destruction of all types of toxic and hazardous organic and cyanide compounds from effluents complying the effluent discharge limit of Central Pollution Control Board. This process does not produce any toxic by-products and the end products are CO_2, H_2O and inorganic salts. This process is clean and user friendly and treated water can be reused. This technology has been tested in pilot plant scale with dye and explosive plant effluent. AOP technology can be used for Defence and civil sectors as well. This technology had been transferred to private sector for commercialization.

Water Mist based Fire Suppression System (WMFSS): Fire Suppression System has been validated successfully and demonstrated to users in a real scale compartment (590 m^3) installed and commissioned. Performance

of WMFSS was evaluated on various fires simulating submarine fire conditions including flammable liquid pool fire & spray fires; wood, cotton mattress & PU foam fires; electrical fires and gallery fires as per the test protocol.

Removal of Toxic and Heavy Metals by Super Absorbent Gel: Polyacrylic acid based gel has been found very efficient to remove toxic and heavy metal ions from contaminated water. Batch scale absorption experiments have been carried out for the removal of various metal ions, e.g., chromium, copper, cadmium, cobalt, zinc, lead and nickel from water using the gel with swelling capacity of 600 g water per g of gel at room temperature.

Composite Propellant Processing Facility: Raksha Mantri inaugurated the DRDO's state-of-the-art composite propellant processing facility at Nasik and dedicated the facility to the nation. The facility has been set up by High Energy Materials Research Laboratory (HEMRL), a Pune based DRDO laboratory engaged in research and development of high energy materials including solid rocket propellants. Advanced Centre for Energetic Material (ACEM) has been set up as a dedicated facility, to meet the requirements of composite propellants for solid rocket motors during their development phase as well as the limited series production. The facility is equipped with state-of-the-art equipment and machinery operated remotely through Programmable Logic Controller (PLC) and Supervisory Control and Data Acquisition (SCADA), thus, avoiding human exposure to hazardous processes. It incorporates a large number of critical technologies and machinery, designed, developed and realized indigenously with the support of over 40 private firms participating in the endeavour.

8.16 **Naval Systems**

Submarine Sonar – USHUS: It is an integrated submarine sonar system which replaces MGK 400 & MG 519 sonars onboard EKM class Submarines of Indian Navy. The system has passive surveillance sonar, active sonar, interceptor sonar, underwater communication system and obstacle avoidance sonar. Simulator for training ASW operations and maintainers has also been developed for effective utilisation of the system. The system has been made operational on three platforms and two more are to be made operational in the coming years.

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USHUS Sonar Simulator: The aim of the project is to develop and supply two sonar USHUS simulators for submarine schools to facilitate training of USHUS sonar operators for ensuring optimum and effective exploitation of sonar in its all operating modes and regimes. These simulators will also train USHUS sonar maintainers for easy and effective maintenance tools provided in the system.

New Generation Hull Mounted Sonar HUMSA – NG: It is an advanced active cum passive integrated sonar system for fitment on

a wide variety of Indian Naval Platforms. A total of 10 systems were ordered by Indian Navy. HUMSA-NG is primarily an active sonar system with enhanced passive and intercept capabilities. A number of advanced signal and information processing capabilities and features are provided in the HUMSA-NG system. HUMSA-NG and its variants are expected to be in operation for the next two decades. Six more systems are under order with Bharat Electronics for replacement onboard Brahmaputra and Delhi class ships. In this project, the time schedule of development was strictly adhered to with excellent coordination among design, production and user agency.

NAGAN: The aim of the project is to design, develop, install & demonstrate the performance of an Active cum Passive Towed Array Sonar (ATAS). INS Sharda on which the ATAS has been installed has entered MR from June 2010 to November 2011. Final technical evaluation trials of the system will commence in 2012.

Advanced Torpedo Defence System (ATDS), Maareech: It is a complete package for surface ships against vintage and modern torpedoes. Maareech consists of towed array sonar and interface with hull mounted array sonars with the respective electronics for detection and tracking passive and active homing torpedoes. The system is integrated with FCS system, expendable decoy, etc developed under project Maareech by NSTL, Visakapatnem. Together the system is capable of detection, tracking, localizing, classifying and acoustically decoying torpedo(es). Orders have been placed through the designated production agency, M/s Bharat Electronics, Bangalore in 2011. INS Ganga will be the first Platform in which the production grade system will be installed.

Low Frequency Dunking Sonar (LFDS): This is an airborne system for anti-submarine warfare comprising a low frequency dipping sonar and sonobuoy processing (sonics) capabilities for long range detection of surface threats. LFDS system, integrated with AFCS of ALH, has proved Active, Passive and Sonics modes of operation at sea by detecting merchant ship and Naval surface target. Submarine detection and localization was achieved at periscope and dived conditions thereby verifying shallow water and deep water performance. Presently, system fine tuning is in progress for one more round of user associated trials.

Integrated Coastal Surveillance System (ICSS): The aim of the project is to design and develop a coastal surveillance system using DRDO sensors so as to evolve a common operating picture where surface and subsurface intruders can be identified automatically. During the first phase of this project, a pilot module will be implemented at Kochi. Second module will be installed at Balasore, subsequent to the pilot module. Both module will have three remote stations. In each remote station, there will be an observation tower for mounting the radar/ other sensors and a ground station for housing the processing electronics/display systems.

Swadesh: The technology development of new sonar winches, underwater bodies and its associated component technologies play

an important and vital role in the realization of an advanced state-of-the-art underwater surveillance system. Hence a project has been focused on the development of the state-of-the-art advanced sonar winches and handling systems, underwater bodies, critical component technologies, like cable, connectors and terminations used for underwater surveillance applications.

8.17 Advanced Materials and Composites

Industrial Scale Production of Titanium Sponge: The technology for industrial scale production of titanium sponge has been transferred to establish a 500 TPY commercial titanium sponge plant at M/s Kerala Minerals & Metals Limited, Chavara, Kollam, Kerala. In addition to providing complete basic engineering support for the establishment of the KMML sponge plant with ISRO funding, DRDO has also been actively associated in erection and commissioning. The plant was inaugurated by Raksha Mantri on February 27, 2011. Production has subsequently commenced and the first 3.0 tons titanium sponge cake was produced in September 2011. The sponge has met all the stringent quality requirements.

Indigenization of Aluminium Alloys for Defence Applications: Most of the wrought aluminium alloys required for Indian defence are currently being met by import. A project has been initiated wherein the selected wrought aluminium alloys in various semi-product forms are being produced using the existing infrastructure in the Indian aluminium industries and type certified by the appropriate inspection agencies. Three different aluminium alloys have been successfully produced in the required semi-product forms and heat treated to the desired temperatures as per the type certification procedures. These are AA2219T8511 extrusions in 3 diameters, i.e, 40, 60 and 85 mm (for missile applications) and AA6082T651 extrusions in 3 diameters, i.e, 60, 100 and 150 mm (for armament applications) produced at Ordnance Factory Ambajhari, Nagpur, and AA6061T6 Sheets in 2 thicknesses, i.e., 1.5 and 2.0 mm (for aerospace applications) produced at BALCO, Korba

Camouflage Pattern Generation Software SIGMA-MK-111: Advanced version of the software SIGMA-MK-111 has been developed based on feedback of the Armed forces on earlier developed version SIGMA-MK11. The new features incorporated in the newer version of the software are the Interactive Pattern Generation on 3D models; the ISC colour codes and reflectance data visualization for colour matching; the Camouflage pattern for imitative painting.

NATO Suit: The upgraded NATO clothing is a cold weather protective clothing intended to provide protection to aircrew positioned at high altitudes. The suit is essentially a single piece light weight overall used in tandem with thermal vest and drawers and offers excellent insulation and comfort. The product has been accepted for induction. Transfer of Technology has been done. The item is bulk produced and 250 Nos has been inducted at a cost of Rs. 103 lakhs.

8.18 Life Sciences Systems/ Products

Telemedicine System: The portable telemedicine system is a rugged biomedical data acquisition and transmission system aimed at the health monitoring and management of armed forces personnel especially from forward areas to military hospitals and from ship-to-shore. The system consists of hardware to acquire vital parameters of patients such as ECG, Blood Pressure, Respiration Rate, Heart Rate, SaO2, and body temperature through the Data Acquisition System and a MIL grade laptop. The salient feature of the System is its portability and flexibility to operate on various Communication modalities like SATCOM, VSAT, INMARSAT, PSTN and ISDN and video conferencing facility.

Integrated Shelters: The integrated thermally regulated shelters to provide protection to the soldiers against extreme climatic condition of the Himalayan regions, were dedicated to the HQ 14 Corps in Leh, Ladakh on June 15, 2011. These shelters designed and developed, are equipped with integrated temperature regulators, biodigestors and air monitoring systems. The shelter design is modular and all the services like HVAC, electrical, plumbing and water supply, sewage disposal, kerosene gensets and solar power are well integrated within the shelter. The shelter have been designed to withstand seismic activities upto a level of zone 5, wind velocities upto 55m/ sec and sub zero temperature upto 35 degree Celsius. The carbon dioxide level inside the shelter is closely monitored and maintained within the safe limits.

Herbal Care Product for Leucoderma: Lukoskin, a herbal product for Leucoderma developed by DRDO is being made available in the form of ointment and oral liquid. The 'Transfer of Technology' has been granted to the AIMIL Pharmaceuticals (India) Ltd., New Delhi to manufacture and market this researched product based on their technological and marketing credentials. Clinically, the product is quite effective and helps not only in restoring the normal complexion in the affected area but also relieves the affected ones from mental stress, emotional and psychological trauma and thereby, enhancing the confidence and efficiency.

Mosquito Repellent: MAXO, a new weapon against mosquito is a multi insect repellent based on Diethyl Phenyl Acetamide (DEPA) and is available in two variants "MAXO-military" and "MAXO-safe and soft". Available in the form of repellent wipes costing merely three rupees, they can be used for personal protection against mosquitoes and other blood sucking insects, especially those responsible for Malaria, Dengue and Chikungunya fevers.

Escape Mask: It is required to develop escape mask indigenously for short term protection against Chemical and Biological Warfare (CBW) agents. At the time of occurrence of unforeseen circumstances such as NBC attack, individuals need to escape into safer locations to equip themselves with protective gear and systems. Until they escape into safer locations or equip themselves with protective gear they need respiratory protection against CBW agents for shorter time intervals. The Escape

Mask is intended to provide protection against persistent and non persistent CW agents and air borne micro-organisms.

Bio Mask: It is being developed for providing respiratory protection against biological warfare (BW) agents. At the time of occurrence of unforeseen circumstances such as bio attack or uneven spreading of diseases, individuals need respiratory protection against BW agents.

Carbon Monoxide Air Cleaning Filter Cartridges: CO air cleaning filter cartridges meant for use in submarines using indigenously developed palladium impregnated carbon were developed and performance evaluation was demonstrated satisfactorily.

Self-sustaining Solar Shelter Sourja: It has been designed, developed and installed at Siachen base camp and Leh along with solar panels and Vertical Axis Wind Turbine (1 KW). Data loggers for temperature have been installed. Collection of temperature data both inside and outside is in progress.

Household Water Purification: A household water purification unit has been developed which can remove iron, arsenic and manganese contamination in drinking water to the permissible limits. It can also take care of bacteria contamination. Output of the purifier is 1.2 lts/hr. Fifty numbers of the filter have been fabricated for wider trials. Experiments have been initiated for development of portable water bottle purifier using nano technology.

8.19 Collaborative R&D

India and UK sign Letter of Arrangement (LOA): India and United Kingdom entered into a Letter of Arrangement (LOA) on September 16, 2011 to pursue collaborative Defence R&D Cooperation with UK's Defence Science and Technology Laboratory (DSTL) and facilitate making best use of respective research and technology development capability through joint projects, collaborative research and industry and academia participation. The signing of LOA marks an important milestone in the technical collaboration between the two countries and a number of projects are being planned to commence in coming months.

Kyrgyz-Indian Mountain Medical Research Centre: It has been established at Bishkek and Toya Ashu (High altitude field station) for carrying out research in different aspects of high altitude and ethnic variation in acclimatization. The Centre was inaugurated by Raksha Mantri on July 5, 2011

DRDO Research and Innovation Centre: With the primary objective to enhance the quality of research through academic interaction and also enable industries to participate even at early stage of research, DRDO has entered into a long term agreement with IIT Madras Research Park (IITMRP) and establishing the DRDO Research & Innovation Centre at IITMRP. This Centre will enable "Directed Research" in areas of interest to DRDO labs with the active participation of Academia, Research Scholars, Students & Tech Savvy industries. Work on the establishment of state-of-the-art laboratory facilities is at an advanced stage of completion. The Centre will have a high-end data centre networked to pursue high-end research in

close coordination with IIT faculty.

8.20 **Awards**

Vikram Sarabhai Memorial Award: Dr. VK Saraswat, SA to RM, Secretary, Department of Defence Research & Development and DG DRDO has been honoured with Vikram Sarabhai Memorial Award at the 98th Indian Science Congress – 2011. The award was given away by the Prime Minister of India alongwith twenty-six leading scientists from across the world including two Nobel Laureates. Dr. Saraswat dedicated the award to the efforts of entire DRDO fraternity who have made India proud by developing cutting edge military technologies for the national defence.

Innovation Award: DRDO has been awarded the prestigious Thomson Reuters India Innovation Award - 2011 in "Hi-Tech Academic & Government" Category. Dr. KD Nayak, Distinguished Scientist and Chief Controller (R&D) received the award from Minister of State, Ministry of Science & Technology, Ministry of Earth Sciences & Ministry of Planning at a function organised by Thomson Reuters and the Confederation of Indian Industry (CII). The Award was adjudged on the basis of size of patent portfolio, success rate, extent of globalization and influence of innovation as the analytical parameters.

DRDO has been awarded the prestigious Thomson Reuters India Innovation Award - 2011 in "Hi-Tech Academic & Government" Category.

8.21 ***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 citizen 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 & allegations of corruption. Accordingly, DRDO has evolved and established a system to promote the flow of information. Further, it has been ruled by the Supreme Court that organisation listed in The Second Schedule are exempted from RTI Act in its entirety, but for the sake of transparency, the organization has appointed Public Information Officers (PIOs) in each of its laboratories/ establishments to deal with the cases of the RTI. Accordingly, 56 CPIOs and 12 CAPIOs have been appointed in DRDO. 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

Defence Services Staff College, Wellington

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 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

9.2. Military Engineer Services (MES) provides support to the three services at Strategic and Operational level. The organization 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.

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9.3. The MES functions under the overall control of Engineer-in-Chief at the Army Headquarters, who is advisor to the Ministry of Defence and the three Services on infrastructure development project and related policy issues. MES has an annual budgetary work load exceeding Rs. 12000 crore. 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 Armed Forces. MES is also supporting military diplomatic initiative of

Government of India by creating infrastructure abroad for friendly foreign countries.

9.4 Major works under planning and execution during the year are as follows:

(a) **Auditorium-cum-Cinema Hall, BEG & Centre, Roorkee:** 900 seating capacity auditorium-cum-cinema hall, sanctioned in March, 2011 at a cost of Rs. 6.44 Crore was completed in September, 2011.

(b) **Improvement in High Altitude Area including Launching of Pilot Project:** A pilot project for improvement of Habitat in High Altitude Areas, sanctioned at a cost of Rs. 195 Crore has provision of continuous water and electric supply, central heating and sewage treatment.

(c) **Hangar for Aircrafts at Goa:** The state-of-the-art Hangar with technical facility was sanctioned for Rs. 30.23 crore and was recently completed.

(d) **Aviation Facilities at Santacruz:** The work was sanctioned on March 31, 2008 for Rs. 1541.10 lakh as a Pre-Engineered Building structure. The hangar was completed on March 13, 2011.

(e) **Technical Services Building, NSRY Port Blair:** The work was sanctioned on March 29, 2007 for Rs. 305.16 lakh and was completed recently.

(f) **Deficient Accommodation for Trainee Officers at Kochi:** The work was sanctioned on August 17, 2009 for Rs. 1070.21 Lakh and was completed recently.

(g) **Runway works:** The sharp increase in the Runway Works undertaken annually is a stellar achievement. As against the earlier practice of resurfacing one or two runways annually, runway resurfacing works at three important stations have been completed. Works on Nine runways is under progress. Five runway resurfacing works are under tender action and two runway resurfacing works are under process for sanction. Five runway resurfacing works are under planning stage.

9.5 **Married Accommodation project (MAP):** The Married Accommodation Project (MAP) has been undertaken by Ministry of Defence 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 in a phased manner. The project will lead to enhanced satisfaction level of the troops. Out of 57875 Dwelling Units (DUs) planned for MAP Phase-I, 53659 DUs have been completed. 69992 DUs are proposed to be constructed under MAP Phase-II, which are already under construction/ planning. The Cabinet has also approved the commencement of MAP Ph-III for construction of 71,014 DUs on August 9, 2010 for which planning is underway at respective Service HQs.

ARMED FORCES MEDICAL SERVICES (AFMS)

9.6 The Armed Forces Medical Services

(AFMS) consist of the Medical Services of the Army, Navy and Air Force and a Director 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 Hospital. The authorized strength of Medical officers, Dental officers, MNS officers and AMCT(NT) is 6366, 624, 3916 and 368 respectively.

9.7 The Armed Forces Medical Services of our country has distinguished record of providing dedicated and dependable health care 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.

9.8 The AFMS resources are stretched to the limit in terms of work load in all the three services. The OPD load across all MI Rooms, Sick bays, Station Medicare Centre and Specialist OPDs was approximately 1 crore 26 lakh in the year 2010 across the 130 service hospitals and numerous non-bedded units across the country. In terms of hospital admissions, over 7 lakh 40 thousand patients were admitted and treated in service hospitals across the country during last year.

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

Important Policy decisions/ activities during the year

9.9 (I) **Commission in AFMS**

(a) **SSC from civil sources:** 91 doctors from civil sources including 27 women, granted short service commission (SSC) in 2011.

(b) **Commission to AFMC cadets:** 103 cadets from AFMC have been granted commission during the year 2011 as under:

(i) PC -65 (including 13 women)

(ii) SSC- 38 (including 06 women)

(c) **Departmental PC (AMC/NT):** 9 SSC officers of AMC (NT) have been granted Permanent Commission (PC) during the year 2011.

(d) PC/ SSC in AMC (NT) to PBOR: The following commissions were granted to PBORs in AMC (NT) against the vacancies for the year 2010:

(i) PC - 6

(ii) SSC - 15

(II) **Appointment of Honorary Consultant/ Advisor:** To ensure holistic care to Armed Forces, eminent civilian doctors in different specialities are appointed as honorary consultants at various locations based upon service requirement, expertise of the consultant and their willingness to provide service free of cost. The name of the doctors appointed as Honorary Consultants are as under:

(i) Dr Rajendra Prasad (Respiratory Medicine)

(ii) Dr Inder Talwar (Radiology)

(iii) Dr PD Azgaonkar (Surgery)

(III) **HIV-AIDS in Armed Forces:** The AFMS AIDS Control Organisation (ACO) is the nodal agency for HIV/ AIDS Control in the Armed Forces. The organisation has achieved remarkable success on HIV control in the Armed Forces. Vigorous implementation of preventive strategies has resulted in perceivable decline in the HIV positive cases in the Armed Forces in the period 2003-2010. A new HIV policy has been introduced in 2010. HIV no longer figures among the leading causes of morbidity, mortality or invalidment in the Armed Forces.

(IV) **Training/ Courses**

(a) **Study leave:** The number of study leave vacancies has been increased considerably. 82 officers (74 specialists and 8 Medical Officers) have been granted study leave for the year 2012.

(b) **Detailment of officers for WHO fellowship:** A total number of 8 Medical Officers were detailed for WHO Fellowships, 12 officers were detailed for short term training/ courses at civil institutions and 5 medical officers were detailed on courses abroad.

(c) **Selection of officers for post graduate courses:** During the year 2011, 220 officers have been detailed for various Post Graduate Courses, which includes 192 Permanent Commissioned officers for Advance Course (MD/ MS), 7 Short Service Commissioned officers for MD/ MS, 4 Permanent Commissioned officers and 17 Short Service Commissioned officers for DNB courses.

(V) **Research Activities:** Approval has been accorded to carry out 119 research projects in various disciplines at a cost of Rs 5.95 Crores during 49th Armed Forces Medical Research Committee (AFMRC) meeting held at Pune in February 2011

(VI) **Achievements in patient care service: Army Hospital (R&R), Delhi Cantt:**

(a) **Armed Forces Organ Retrieval & Transplant Auth (AORTA):**

AORTA was established at Army Hospital (Research & Referral),

Delhi Cantonment in 2007. AORTA maintains the organ donor registry for the Armed Forces. A central registry for individuals who wish to pledge to donate their organs in the event of their brain death is maintained at AORTA. Till date over 6275 serving and retired personnel, civilians and their families have pledged to donate their organs.

(b) **Cardiac Transplantation and Homograft Valve Bank:** Cadaver valve harvesting and banking facility was started by the Dept of Cardiothoracic Surgery in January 2008. As a part of multi-organ transplantation Cardiac Valves were harvested from brain dead donors and subsequently used for valve replacement in children. Army Hospital(Research & Referral) is one of the select few institutions in the country to be able to provide this modality of treatment.

(c) **Liver Transplantation:** Liver Transplant Centre at Army Hospital (Research & Referral), Delhi Cantonment was started in the year 2003. A total of 56 Liver Transplants have been undertaken till now.

(d) **Kerato-Refractive Surgery Centre (LASIK LASER):** The LASIK surgery centre was establish in 2008 at Army Hospital (Research & Referral), to treat patients with refractive errors. 561 eyes have been successfully operated till date.

(e) **Gamma Knife Centre:** Gamma Knife Centre at Army Hospital (Research & Referral), Delhi Cantonment was started in the year 2007. Gamma Knife uses Gamma rays to treat large No of intra-cranial lesions without using a knife.

(f) **Day Care Chemotherapy Centre:** A 30 bedded day care Chemotherapy Centre was established with all modern facilities for cancer treatment and procedures with necessary patient amenities where 60 patients undergo chemotherapy in two shifts.

(g) **Auditory Verbal Therapy Centre:** This has been established for the speech impaired & cochler implant patients. About 50 children alongwith parents undergo training here regularly.

(VII) **National Nurses Award:** National Florence Nightingale award is given by the Government of India, Ministry of Health and Family Welfare every year on May 12 on the International Nurses Day to the Nurses of India for their exemplary contribution in the field of Nursing. The award consists of a Medal, an order of Merit and a cash amount of Rs 50,000/-. For the year 2011, Major Gen J K Grewal, VSM Addl DGMNS has been bestowed

with this prestigious award by the President of India.

(VIII) **Aid to Civil Authorities**

OP-SAHAYATA: An earthquake of strength 6.9 magnitude on Richter Scale struck on September 18, 2011 at 1812 hrs and main areas affected were North Sikkim, North East Sikkim and Darjeeling. An 'Op Sahayata' was launched by the Army to treat, evacuate and manage both army and civilian casualty from the disaster struck areas. Civil authority lauded the timely action taken by the medical units throughout Sikkim, including some inaccessible areas.

(IX) **Raksha Mantri Trophy for Best Command Hospital:** INHS Asvini, the flagship hospital of the Naval Medical services bagged the coveted 'Raksha Mantri Trophy' for the "Best Command Hospital in the Armed Forces" for the year 2010.

DIRECTORATE GENERAL DEFENCE ESTATES

9.10 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.

9.11 The Ministry of Defence owns approximately 17.54 lakh acres of land throughout the country which is managed by the three Services and other Organizations like Ordnance Factory Board, DRDO, DGQA, CGDA etc. The Army has the maximum of the land holdings under its control and management i.e. 13.84 lakh acres followed by Air Force 1.40 lakh acres and Navy 0.44 lakh acres. The defence land inside the notified Cantonments is approximately 1.58 lakh acres and the remaining around 15.96 lakh acres lie outside the Cantonments.

The Ministry of Defence owns approximately 17.54 lakh acres of land throughout the country which is managed by the three Services and other Organizations like Ordnance Factory Board, DRDO, DGQA, CGDA etc.

9.12 The Directorate General has completed computerization of the land holding data and a data-CD for Defence lands outside Cantonments has been released by Raksha Mantri on July 13, 2011 to the Services. Moreover, projects on Scanning, Indexing and Microfilming of defence land records as well as survey, demarcation and verification of defence lands are being implemented by DGDE. Considering

land as a precious natural resource, it has been decided that conduct of land audit will be resumed by the Directorate General.

9.13 The Defence Estates Department also undertakes hiring of residential accommodation and hiring/ requisitioning of land for the Armed Forces. In J&K requisition of immovable property is done under J&K RAIP Act, 1968.

9.14 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 and 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.

9.15 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 by way of grants- in- aid to balance the budget of some of the Cantonment Boards which are financially deficit. During the financial year 2011-12, Rs. 101.68 Crore was paid to deficit Cantonment Boards upto November 30, 2011.

9.16 To provide primary education, Cantonment Boards run primary Schools. A number of Cantonment Boards are also maintaining Higher Secondary Schools and Intermediate/ Junior Colleges. The total number of schools and colleges maintained by Cantonment Boards is 197.

9.17 Cantonment Boards are also maintaining 40 Hospitals, having 1360 beds and 39 dispensaries for providing medical services to the general public of Cantonments and nearby areas.

OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER

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.

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

9.19 The functions of the CAO's Office are carried out by the following seven 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 is responsible for the Cadre Management including posting of the civilian personnel in about 200 grades, posted in the three Service Headquarters and 27 Inter-service Organisations. This Division also looks after the Court cases.

(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 & 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) **Departmental Discipline, Coordination and Welfare Division:** This Division deals with all the disciplinary cases pertaining to AFHQ Civilian cadre employees. Coordination within CAO's Office and for JS(Trg) & CAO Wing of Ministry of Defence, matters relating to implementation of Official Language policy, welfare activities like Office Council JCM, Women Cell, Sports & Cultural activities, Departmental Canteen, appointment of AMAs, Defence Civilian Medical Aid Fund (DCMAF) are also dealt with in this Division.

(g) **Defence Headquarter Training Institute (DHTI):** 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 87 courses, imparting training to approximately 1870 Civilians and Service Personnel.

9.20 **Chief Security Office:** The Chief Security Officer, Ministry of Defence also 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

9.21 The Directorate of Public Relations (DPR) is the nodal 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-Services 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. It also facilitates media interaction with the leadership and senior officials of the Ministry of Defence and Armed Forces by conducting regular interviews, press conferences and press tours.

9.22 As in the previous years, the Directorate conducted Defence Correspondents' Course for media persons from August 16, 2011 to September 17, 2011 to enhance their knowledge about Defence matters. Thirty-one journalists including four women drawn from all over the country attended the course. During the month-long course they had the rare exposure to the maritime boundary adjoining the Rann of Kutch and were also taken to remote Forward Areas in Jammu and Kashmir.

9.23 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.

9.24 Media publicity for the major events is arranged by DPR.

9.25 Coverage was also arranged in the form of photographs and news reports for various military exercises and assignments including those abroad.

9.26 Visits of Raksha Mantri and Armed Forces Chiefs abroad and the visits of foreign dignitaries to India were also prominently covered.

9.27 Major decisions of the Union Cabinet and the Ministry of Defence including the Armed Forces were also widely publicized.

9.28 The DPR also conducts media tours to various places across the country for major events and familiarization of visits.

9.29 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)

9.30 Army Purchase Organisation (APO) is entrusted with the responsibility of the 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 and 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 is also procuring vegetables and chicken curry in retort pouches for the Armed Forces from registered suppliers having the technology.

SERVICES SPORTS CONTROL BOARD

9.31 Services Sports Control Board (SSCB) is the apex sporting body of the Armed Forces and conducts and coordinates various sports activities in the three Services. Due to its outstanding contribution in the field of sports, SSCB was awarded the prestigious Rajiv Gandhi Khel Purotsahan Puraskar in 2010 by the President of India. The Board maintains close liaison with all National Sports Federations, Indian Olympic Association and Ministry of Youth Affairs and Sports. In February 2011, the Air Force took over the administration of SSCB from Navy and Air Mshl JN Burma, PVSM AVSM VSM and Air Cmde M Baladitya, VSM took over as President and Secretary of SSCB, respectively.

9.32 SSCB conducts Inter- Services Championships comprising of four teams (Army Red, Army Green, Indian Navy and Air Force) in 19 sports and trials are conducted in 10 disciplines to select the Services team for participation in the National Championship/ Games.

9.33 **34th National Games, Jharkhand 2011:** The 34th National Games Jharkhand was conducted at Ranchi from February 12 - 26, 2011. During the Games, the SSCB contingent created history by topping the medal tally by winning 70 Gold, 50 Silver and 42 Bronze medals and winning the prestigious Raja Bhalendra Singh Overall Championship Trophy 2011.

9.34 **5th CISM Military World Games at Rio-de-Janeiro, Brazil from July 16-24, 2011:** A 146 member Indian Armed Forces contingent participated 12 out of 20 sporting events in the **5th Military World Games at Rio-de-Janeiro, Brazil** from July 16 - 24, 2011. The Opening Ceremony was held on July 16, 2011 at Rio-de-Janeiro. All the teams took part in the Opening Ceremony in service uniform.

9.35 The level of competition was very high with many Olympians also participating from different countries. The Indian contingent got an individual Bronze medal in boxing and a team bronze each in athletics and shooting.

9.36 The Indian Taekwondo team was awarded the **'Fairplay Trophy'** of the Championship. This event provided a good international exposure to our players which will help their preparations to secure an Olympic berth and has also formed a benchmark for preparing for the next edition of Military World Games scheduled at Korea in 2015.

9.37 **National Championships:** This year, Services teams participated in Senior Men's championships in 26 disciplines and field Junior teams in four disciplines.

9.38 **International Participation:** Outstanding players from the Services have represented the country as part of the National team in various disciplines.

9.39 President of India conferred the prestigious Arjuna Award to the following Services Sportsmen in August 2011:

(a) MCPOII PT M Suranjoy Singh - Boxing

(b) Hav K Ravi Kumar - Weight Lifting

9.40 **Best Services Sportsman & Team:** On the basis of performance in Services, National and International championships, one best Services sportsman is selected from the three Services. MCPOII PT M Suranjoy Singh was adjudged **'Best Services Sportsman'** for the year 2010 – 11. He also received the **Arjuna Award** for Boxing. Army Red team having scored the maximum points in the Inter-Services Championships was awarded the **'Defence Services Overall Championship Trophy' 2010 – 11.**

9.41 **Dope Control Measure:** In order to arrest the doping menace from the Services sports, SSCB has initiated proactive anti-doping test at Inter Services level. This is to enable SSCB to field dope free sportsmen into various National/International Championships. All the players who formed part of the large Indian Armed Forces contingent that participated at the Military World Games at Rio-de-Janerio, Brazil were subjected to dope test.

MCPO II PT M Suranjoy Singh receiving 'Best Services Sportsman' Trophy from Admiral N Verma, PVSM AVSM ADC Chief of Naval Staff and Chairman Chiefs of Staff Committee

9.42 **Armed Forces Sports Medicine Centre (AFSMC), Pune:** The Armed Forces Sports Medicine Centre (AFSMC) located at Ghorpadi, Pune functioning under the SSCB has been created to provide scientific support to enhance the sporting performance of Services players. AFSMC is also actively involved in conducting dope tests on behalf of SSCB.

Lt Gen VS Tonk, PVSM AVSM DCOAS (IS&T) receiving the Defence Services Overall Championship Trophy 2010 – 11 from Admiral N Verma, PVSM AVSM ADC Chief of Naval Staff and Chairman Chiefs of Staff Committee

9.43 During the year "Masseur" course was conducted for the first time by AFSMC, Pune for the benefit of players of Armed Forces. A total of 23 students successfully qualified the course.

9.44 Additionally, one **"Physical Conditioner"** course has recently been conducted at AFSMC, Pune. A total of 22 students attended the course.

9.45 **Officiating Seminar Cum Tests:** In order to increase the number of the Services officials in various games & sports at national level, SSCB has started conducting clinic cum course for various sports disciplines.

ARMED FORCES FILM & PHOTO DIVISION

9.46 The Armed Forces Film & Photo Division (AFFPD) is an Inter-Service Organization of the Ministry of Defence, primarily responsible to meet the requirement of Service Headquarters and other Defence organizations with regard to projection, 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.

9.47 AFFPD has a very rich collection of rare films and photographs. This material inherited from pre Independence days is of great historical value and the same is maintained and preserved in the Central Defence Film library of this Division. These photographs depict the Indian Forces in action in various theatres of Second World War, Parades, Ceremonies and Festivals and include various personalities and training activities etc. Some important films are also preserved.

9.48 The Central Defence Film Library (CDFL) is responsible for distribution of training films to various units/ formations/ training establishments/ commands, to meet their specific training requirements. The Library hold 587 titles in 35mm sizes, 1165 titles in 16 mm sizes, 228 titles in VHS format, 272 titles in U-matic format, 34 titles in VCD format and 58 titles in DVD & HD format. During he year 2011, 38 Films (16 mm), 52 VHS, 45 VCD and 2639 DVDs have been dispatched/ issued on loan to various units/ formations of Army/ Navy /Air Force. Till date 8,983 negatives have been exposed and 7,552 photographs in different sizes have been prepared.

9.49 The Mobile Cinema Unit (MCU) of this Division also procured/ distributed

documentary films/New Magazines of information of cultural and family welfare value, to the troops in the forward areas. During the year 2011, MCU has issued approximately 2280 prints on DVD format to Defence Establishment on loan basis.

NATIONAL DEFENCE COLLEGE

9.50 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. The course curriculum comprises Study Capsules, Lectures/ Panel Discussions, Strategic Game Exercise, Field Tours, Research Activities/ Writing of thesis and Seminars. Towards this end, six study capsules are conducted for the course.

9.51 The 51st NDC Course consisted of 100 officers comprising Army (40), Navy (6), Air force (12), Civil Services (17) and Friendly Foreign Countries (25). The Course concluded on December 2, 2011.

9.52 **Convocation ceremony of 49th NDC course:** University of Madras (Department of Defence and Strategic Studies), Chennai and NDC, New Delhi organized a valedictory function to distribute M Phil degrees in Defence and Strategic Studies to participants on July 8, 2011.

9.53 The 15th ASEAN Regional Forum Meeting of the Heads of Defence Universities/ colleges and Institutions was held at Bali, Indonesia from November 29, 2011 to December 2, 2011.

9.54 NDC, New Delhi conducted a viva-voce on defence related topic for the award of Ph.D Degree.

SCHOOL OF FOREIGN LANGUAGES

9.55 The School of Foreign Languages (SFL) is an Inter-Services organization under the aegis of the Ministry of Defence. It is a unique institution of our country as nowhere else so many foreign languages are taught under the same roof. It has been the pioneer in foreign language teaching in India, since 1948. At present, 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 as per the laid down Government rules.

9.56 The languages taught on regular basis at the SFL are: Arabic, Bhasa Indonesia, Burmese, Chinese, French, German, Persian, Russian, Spanish, Tibetan, Japanese and the short term courses in Pak Urdu, Malay, Hebrew and Turkish etc.

9.57 The courses offered by the SFL are Certificate of Proficiency Course, Advanced Diploma Course, Interpreter Course and Short-term Course/ capsule Course.

9.58 The Interpreter Course is a fulltime Course. The students are sponsored by the Armed Forces, Ministry of Defence, the Cabinet Secretariat and other Government Departments. This course trains the students to become experts in the highly skilled work of interpretation and translation. Furthermore, they are trained in writing and speaking the target language with utmost fluency. The Interpreter Course is need-oriented. It has been designed and formulated solely to meet the specific needs of the Armed Forces. It is highly specialized course, which has no parallel anywhere else in India. It is to be noted that it is only at the SFL that languages of strategic importance from politico-military point of view such as Sinhala, Bhasa Indonesia, Burmese, Pushto Pak Urdu and Tibetan are taught. In fact in the whole country SFL is the only institute where courses in Bhasa Indonesia, Pushto, Thai and Burmese are offered.

9.59 Short term courses are conducted as and when necessary, especially for Military Attaches Designates and officers being sent on UN Missions or as per specific need of user organization.

9.60 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. Language Special Proficiency Exams in various foreign language are conducted for the three services exclusively to assess the assimilation and retention of the languages learnt.

9.61 During 2011-12, SFL has trained the DA/MA (Designate) to various countries in respective foreign languages viz. Arabic, German, French, Japanese and Russian.

9.62 In addition, intensive course in Russian language have been conducted by the SFL for Naval personnel at their establishments in Mumbai.

HISTORY DIVISION

9.63 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 20 volumes including the History of Operations in Jammu & Kashmir 1947-48, Operation Polo, Operation Vijay (Goa), Military Costumes of India, Stories of Heroism, The India Pakistan War of 1965: A History 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). Some of the publications have been brought out both in Hindi and English. Presently, the Division is working on the titles, viz. Stories of Heroism Vol. III and War Memorials of India.

9.64 The History Division also functions as the research, record and reference office of the Ministry of Defence and the Indian Armed Forces. It receives operational records and miscellaneous records pertaining to military matters from the Ministry of Defence, three Service HQrs and various Units on a regular basis for preservation and use. The Division is presently engaged in the digitization of records.

9.65 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.

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

9.67 The Departmental Library houses more than five thousands titles, which include some rare books, periodicals and foreign publications of military importance. Efforts are also being made to digitize the catalogue of the Library to facilitate the availability of the books.

COLLEGE OF DEFENCE MANAGEMENT (CDM)

9.68 The College of Defence Management (CDM) is a Tri-Service Category 'A' training establishment in existence for over four decades. It is entrusted with the responsibility of instilling contemporary management thoughts, concepts and practices in the senior leadership of the Armed Forces.

9.69 Core course of the College i.e. the Higher Defence Management Course conducted for a period of 44 weeks is recognised by the Osmania University for the award of the Master of Management Studies (MMS) degree.

9.70 Other courses conducted by the College are Defence Management Course and Senior Defence Management Course conducted for a period of four weeks each, Defence Acquisition Management and Defence Management Course

College of Defence Management, Secunderabad

for officers of Neighbouring Countries both conducted for a period of two weeks. In addition, courses for a duration of one week in the areas of Project Management, Organisation Behaviour, Financial Management and Operations Research/ Systems Analysis.

DEFENCE SERVICES STAFF COLLEGE (DSSC)

9.71 The Defence Services Staff College (DSSC) is one of the oldest military institutions in India and is located at Wellington. DSSC is an inter service institution which imparts training to middle level officers of the Defence Forces including more than 34 officers from friendly foreign countries and few selected officers from the Central Civil Services.

9.72 To meet the aspirations of officers from three services, concerted efforts are on to enhance the capacity of staff course to 500 in a phased manner. During last one year training infrastructure had already been established and efforts are on to establish accommodation and other allied infrastructure to meet the set target of enhancing course capacity to 500 by year 2014. Notwithstanding, the course capacity has already been enhanced to approx 450 for the next course. In addition, efforts to modernize training infrastructure has also witnessed notable enhancement with procurement of Mission planning Tool with Gaming and Simulation Facilities, Joint War Game Package and Data Wall for Sand for Sand Model Rooms.

MINISTRY OF DEFENCE LIBRARY

9.73 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 418 books, subscribed to 133 Journals/ Periodicals and 28 Newspapers.

10

RECRUITMENT AND TRAINING

Counter Insurgency Training in progress

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 citizen of India irrespective of caste, class, religion and community provided the laid down physical, medical and educational criteria are met.

10.2 **Recruitment of Commissioned Officers in the Armed Forces Through UPSC:** Commissioned Officers in the Armed Forces are recruited mainly through 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 NA. Candidates on completion of 10+2 examination or while in the 12th standard are eligible to compete. Having cleared UPSC written examination, eligible candidates undergo Service Selection Board (SSB) interview for five days. On being medically fit and coming in NDA merit list, successful candidates join the NDA or NA as per their option of service exercised at the time of applying. On completion of the three years course successfully, they are sent to the respective Service Academies for their pre-commissioned 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. Candidates qualifying in written examination have to undergo SSB interview and medical tests. Candidates whose names appear in the merit list undergo basic military training of 18 months at Indian Military Academy/ Air Force Academy and Naval Academy for Permanent Commission and 11 months at Officers Training Academy (OTA) to become Short Service Commissioned Officers (SSCOs). SSCOs can serve for duration of 10 years extendable to 14 years. However, they can opt for permanent commission after completion of 10 years or seek release after completion of five years of service, which is considered on case to case basis.

ARMY

10.3 Apart from the UPSC entries, the commissioned officers are recruited in Army through the following entries:

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 NCC (Special Entry Sceme.

(a) **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 fit by the medical board, they undergo one year basic military training at the Training Academy 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.

(b) **University Entry Scheme (UES):** Final/ Pre-Final year 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. Cadets through this entry are also entitled to two years' ante-date seniority on commissioning.

(c) **Technical Graduates Course (TGC):** Engineering graduates from notified discipline of engineering, post graduates with minimum second division aggregate marks in notified discipline for Army Education Corps and MSc in Agriculture/ Diary for Military Farm 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-commissioned training at the IMA, Dehradun, before being commissioned. Engineering Graduates through this entry are also entitled to two years ante-date seniority on commissioning.

(d) **Short Service Commission (Technical) Entry:** The Short Service Commission (Technical) Entry Scheme provides avenue for recruitment to eligible technical graduates/ post graduates into 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 two years' ante-date seniority on commissioning. Terms and conditions of other short service commission officers are applicable.

(e) **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. Those studying in third year are allowed to apply provided they have secured minimum 50% aggregate marks in first two years. Such candidates will need to secure overall aggregate of minimum 50% marks if selected in interview failing which his candidature will be cancelled. Candidates must possess graduation degree at the time of joining OTA or those candidates studying in third year should be able to produce the degree within 12 weeks from date of commencement of training at OTA. 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 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).

(f) **Judge Advocate General Entry:** Law graduate with minimum 55% aggregate marks in LLB and age between 21 to 27 years can apply for Judge Advocate General Branch. Eligible candidates are called for direct SSB interview and medical test, thereafter. It is a Short Service Commission Entry wherein suitable candidates can opt for Permanent Commission.

(g) **Short Service Commission Women:** Eligible women candidates are recruited in the Army as Short Service Commission Officers. Commission is granted in Corps of Electronic and Mechanical Engineers, Corps of Engineers, Signals, Army Educational Corps, Military Intelligence Corps, Judge Advocate General's Branch, Army Supply Corps, Army Ordnance Corps and Army Air Defence. Women are offered Short Service Commission in three streams viz. Non-Technical Graduate, Technical and Post Graduate/ Specialist for a period of ten years, extendable by additional four years purely on voluntary basis. Option has been granted for permanent commission for officers in Army Education Corps and Judge Advocate General Branch after completion of 10 years of service. The duration of training is 49 weeks

at Officers Training Academy, Chennai. For **Short Service Commission Women (Technical) Entry,** passed or final year/ semester students of B.E/ B.Tech in notified streams are eligible to apply. It is a direct SSB interview and Medical Test, thereafter. The applicants for **Non-Technical Graduate**, however, would be required to apply through UPSC and after written examination would come up for SSB interview as is being done for Short Service Commissioned male officers. 20% allotted seats from Non-Technical stream have been reserved for **NCC 'C' certificate** holders women candidates with minimum 'B' grade and 50% aggregate marks in graduation examination. The applications will be routed through NCC Directorate, as applicable for male officers. For **Judge Advocate General Branch**, applications are invited from Law Graduates with minimum 55%, for direct SSB interviews. **Widows of Defence Personnel** who meet the laid down eligibility criteria were granted four years age relaxation and 5% seats of each course (2.5% each in Tech and Non-Tech) are reserved for them. They are exempted from written examinations and would need to apply directly to Additional Directorate General of Recruiting, Integrated Headquarters of Ministry of Defence (Army). The notification would be published along with SSCW (Tech) twice a year.

(h) **Service Entries:** Recruitment of Personnel Below Officers Rank (PBOR) into officers cadre is done through Service Selection Board 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 in written examination conducted by the 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 at the end of which they get a graduation degree. This is followed by one year pre-commission training at IMA, Dehradun.

(ii) **Special Commissioned Officers (SCO) Scheme:** Under this entry JCOs/NCOs/OR 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/ OTA Gaya. The rules for substantive promotion and acting promotion are

the same as for regular officers. These officers are employed in units as sub unit commander/ Quarter Master and on various Extra Regimental Employment appointments up to the rank of Major. They retire at the age of 57 years after serving for period of about 20-25 years as officers. The scheme not only improves the career prospects of the existing PBOR but also helps in making up the deficiency of the support cadre officers in the Army to some extent.

(iii) **Permanent Commission (Special List) (PC SL):** Under this entry, JCOs/NCOs/OR up to 42 years of age and minimum 10 years of service, with a Senior Schools 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.

10.4 **Intake:** Intake of candidates for pre-commission training as officers during the year (till December 1, 2011) is given in Table No. 10.1

Table No. 10.1

S. No	Academy	Entry	Induction
1.	**NDA**	Army	466
		Navy	144
		Air Force	83
		Total	**693**
2.	**IMA**	IMA (DE)	309
		ACC	129
		SCO	63
		PC(SL)	60
		Total	**561**
3.	**OTA**	SSC(NT)	209
		SSCW(T)	87
		SSCW(NT)	53
		NCC	56
		NCCW	18
		JAG	06
		Total	**429**
4.	**Tech Entries**	UES	80
		SSC (T)	280
		10+2 TES	237
		TGC	219
		Total	**816**

10.5 **Raising of Selection Centre North**

(a) Raising of Army Service Selection Centre North with two services Selection Board in Punjab has been approved on September 5, 2011.

(b) Action for acquisition of 200 Acres of land at Ropar, District Roopnagar in Punjab is in progress.

10.6 **Recruitment of Junior Commissioned Officer and Other Ranks (JCOs/ ORs):** In the Army, there are eleven Zonal Recruiting Officers, two Gorkha recruiting Depots, one Independent Recruiting Office and 59 Army Recruiting Office in addition to 47 Regimental Centers which carry out recruitment through rallies in their respective areas of jurisdiction.

10.7 Recruitment of JCOs/ OR is carried out through Open rally system. The recruitment of JCO/OR 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 Centers 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 Officers, two Gorkha recruiting Depots, one Independent Recruiting Office and 59 Army Recruiting Office in addition to 47 Regimental Centers which carry out recruitment through rallies.

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

(a) **Recruiting Target:** During the Recruiting Year 2010-11, a total of 61,269 vacancies have been filled against the demand of 70,457.

(b) **Interactive Voice Response System (IVRS):** IVRS has been successfully installed for all States less J & K and Punjab. This provides information on recruitment rally programme, Qualitative Requirement for enrolment, results etc.

(c) **Automation of Recruiting Organisation (OR):** Automated Recruiting rallies have been introduced in all AROs across the country. This ensures streamlining of procedures, reduces manual interface, obviates impersonation due to biometric devices and digital photographs, increases transparency and produces error free results. The system also results in appreciable saving of effort and time during the rallies.

(d) **Other Rank Trade Allocation System (ORTAS):** Computerized trade battery test for JCO/OR called ORTAS developed by DIPR which assists in allocation of trades to the recruits, as per their aptitude has been trial evaluated and found to be successful.

(e) **Computer Based Entrance Test (CBET):** A CBET software developed to replace the 'paper pencil' based test for the NA trade Common Entrance Examination (CEE) has been introduced as a limited version at Kolkata, Shillong, Pune, Danapur and Jabalpur. The trials were 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.

(f) Infrastructure development to include vehicle based testing modules and procurement of requisite hardware is in progress in order to expand the project to incorporate more trades and larger volume of candidates.

(g) **Promulgation of policy on education eligibility standard based on grading system:** The policy for ascertaining eligibility in respect of education standards of candidates based on the grading system at the X & XII std levels has been streamlined and promulgated to all Recruiting Zones and Training Centre.

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

NAVY

10.9 Recruitment in the Navy is based on the requirement to effectively man all new and existing ships, submarines, aircraft and shore establishments to the optimum levels. Towards this end, recruitment is being carried out on all India basis. The total number of personnel recruited 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 during their tenure in Service.

Recruitment of Officers in Indian Navy

10.10 **The Method of Recruitment:** The recruitment system of the IN is a streamlined, transparent, expeditious and candidate friendly procedure. There are two modes of induction in the IN, viz. UPSC Entry and Non-UPSC Entry.

(a) **UPSC Entry:** The UPSC holds an examination, twice a year, for entry into the National Defence Academy (NDA) and Indian Naval Academy (INA) as Permanent Commission (PC) entries. 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, candidates are sent to the Services Selection Boards located at Bengaluru, Bhopal and Coimbatore. Results of qualified candidates are forwarded to UPSC for making the final merit list. Medically fit candidates who are in the merit list are intimated by ADG (Rtg)/ IHQ of MoD (Navy) for appointment to NDA/ INA as cadets. On completion of the NDA/ INA training, the Naval Cadets are sent to training ships at Kochi for Naval sea training. For the Graduate Special Entry, the UPSC holds Combined Defence Services Examination (CDSE), twice a year. Graduates with B Tech degree are also eligible to appear in the examination. Successful candidates join the Indian Naval Academy at Ezhimala, Kerala for the Naval Orientation Course (NOC).

(b) **Non-UPSC Entry:** The non-UPSC entries cater to both Permanent Commission (PC) and Short Service Commission (SSC). In this case, applications are invited and short-listed at 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 Boards for the following branches/ cadres of the Navy:

(i) **Executive:** Short Service Commission through University Entry Scheme (UES) and other Short Service Commission (SSC) Schemes for Executive (GS)/ Air Traffic Control/ Law/ Logistic/ Naval Armament Inspectorate (NAI)/Hydro/ Pilot/ Observer and also Permanent Commission for Logistic/ Law/ NAI cadres.

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

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

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

(v) **10+2 (Cadet Entry Scheme):** This scheme is for permanent commission in the Executive, Engineering and Electrical branches of the IN. Under this 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 IN.

(vi) **University Entry Scheme (UES):** The UES has been re-launched w.e.f. August 2005 as a Short Service Commission Scheme. Seventh and Eighth semester Engineering students are eligible for induction into the Executive and Technical Branches of the IN. 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. The 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.

10.11 **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.

10.12 **Special Naval Architecture Entry Scheme:** The Government has recently approved the induction of Naval Architect officers into the IN, as Short Service Commission Officers, under a '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) courses are 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

10.13 **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 in all leading National and Regional newspapers and Employment News are published, inviting applications from the eligible volunteers. Publicity material is also despatched to a large number of schools/

colleges and all Zilla Sainik Boards. The local administration carries out the publicity drive in rural/ backward areas through local media.

10.14 **Types of Entries:** The various entries, for recruitment of sailors, are as follows (with educational qualifications indicated against each):

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

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

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

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

(e) Direct Entry (Outstanding Sportsmen).

INDIAN AIR FORCE

Recruitment of Officers

10.15 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. Being a technologically intensive service, the IAF strives to maintain high standards for induction of personnel.

10.16 **Induction of Officers:** National Defence Academy (NDA) and Combined Defence Service Examination (CDSE) entries through UPSC are prime feeders for the officer cadre. The non-UPSC entries for induction into the officer cadre are: Short Service Commission (SSC) (Men & Women) Flying, NCC Entry (Permanent Commission for men), Ground Duty Officer Commissioning (GDOC) (Non Tech) (PC for Men), Airmen Entry (PC for Air Warriors), Short Service Commission (Technical) (Men & Women), and Short Service Commission (Non Tech) (Men & Women).

10.17 **Recruiting through Service Selection Boards:** 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.

10.18 **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.

10.19 **Service Entry Scheme:** 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.

10.20 **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 who have 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, fulfilling of eligibility criteria and suitability and Service requirements.

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.

10.21 **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.

Recent Developments

10.22 IAF has entered into an agreement with Defence Research & Development Organization (DRDO) for serial production of Computerised Pilot Selection System. The system would be installed at all the Air Force Selection Boards and would replace the existing Pilot Aptitude Battery Test by August 2013.The entry-level qualifications for induction in officer cadre for all branches of IAF have been rationalised in keeping with the latest trends in the education policy of the country.

Recruitment of Personnel Below Officer Rank (PBOR)

10.23 The Selection of candidates for Personnel Below Officer Rank (PBOR) 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.

INDIAN COAST GUARD

10.24 **Recruitment of Officers:** The officers are recruited into Coast Guard bi-annually. The vacancies for Assistant commandant in Coast Guard are advertised in Employment News and all leading Newspapers in the month of December / January and June/ July. Five years relaxation of age for SC/ST and 3 years for OBC is admissible for recruitment. The officers are recruited in the following streams:

(a) **General Duty:** Male/female candidates having Bachelor's degree with mathematics and physics as subject up to 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 stream.

(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 stream.

(c) **General Duty (Pilot/Navigator):** Male/ Female candidates having Bachelor 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) stream.

(d) **General Duty (CPL Short Service Entry):** Male/Female candidates having 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.

(e) **Technical Branch:** Male candidates with degree in engineering (naval architecture/ marine/ mechanical/ electrical/ tele-communication & electronic/ 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.

10.25 **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 Boards.

10.26 **Induction of Sub-ordinate Officers as officer:** The outstanding subordinate officers up to the age of 48 years are selected as Assistant Commandant in General Duty and Technical branch as per the selection procedure.

10.27 **Recruitment of Personnel below Officers Rank (PBORs):** The PBORs are recruited into Cost Guard bi-annually. The vacancies for PBORs in Coast Guard are advertised in Employment News and all leading Newspapers in the month of Dec/Jan and Jun/ Jul. The PBORs are recruited in the following main 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 Yantrik.

(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 as Navik (Domestic Branch).

TRAINING FOR DEFENCE SERVICES

10.28 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:

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.

SAINIK SCHOOLS

10.29 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.

10.30 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.

10.31 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.

10.32 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 President of India on Teachers' Day.

RASHTRIYA MILITARY SCHOOLS (RMS)

10.33 There are five Rashtriya Military Schools in the country at Belgaum and Bangalore in Karnataka, Chail in Himachal Pradesh and Ajmer and Dholpur in Rajasthan. Youngest Rashtriya Military School is at Dholpur established on July 16, 1962. These schools are affiliated to CBSE. These schools aim to provide quality education to the boys and prepare them to join Defence Services.

10.34 Rashtriya Military Schools admit boys through a Common Entrance Test. The candidates are tested in four subjects i.e. English, Mathematics, Intelligence and General Knowledge. 67% of the seats in RMS are reserved for the wards of Junior Commissioned Officers/ other ranks, 20% seats are reserved for wards of Commissioned Officers and the remaining 13% for the wards of civilians.

NATIONAL DEFENCE ACADEMY (NDA)

10.35 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.

10.36 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.

RASHTRIYA INDIAN MILITARY COLLEGE (RIMC)

10.37 Rashtriya Indian Military College (RIMC) was established in 1922 with the aim to prepare selected boys to join National Defence Academy (NDA) and Naval Academy (NA). 25 cadets are admitted in each term twice a year (January and July) on the basis of All India Entrance Examination without any reservation

10.38 Selection of boys 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 College admits boys in Class VIII.

INDIAN MILITARY ACADEMY (IMA), DEHRADUN

10.39 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. The various modes of entry into IMA are:

(a) On graduation from NDA.

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

(c) Direct Entry graduate cadets, who 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).

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

OFFICER TRAINING ACADEMY (OTA), CHENNAI

10.41 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.

10.42 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.

10.43 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.

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.

OFFICERS TRAINING ACADEMY (OTA), GAYA

10.44 The Cabinet Committee on Security (CCS), on December 3, 2009 has approved setting up of second Officers Training Academy (OTA) at Gaya, Bihar. The training commenced from July 18, 2011. Against the planned intake of 135 Gentlemen cadets, 149 joined the first term. In the spring term commencing in January, 2012, a total of 319 Gentlemen cadets are being trained at the academy. The capacity will be progressively built up to a strength of 750 Gentlemen cadets.

ARMY WAR COLLEGE, MHOW

10.45 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

10.46 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

10.47 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

10.48 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

10.49 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

10.50 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

10.51 The Infantry School is the largest and oldest military training institution of the Indian Army. Courses conducted at Infantry School 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

10.52 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).

10.53 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 Other Ranks of all arms and services.

SCHOOL OF ARTILLERY, DEOLALI

10.54 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.

10.55 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

10.56 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.

10.57 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

10.58 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.

10.59 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

10.60 The AEC Training College & Centre, Panchmarhi is a Defence Seat of Excellence in Educational Training in the Armed Forces. 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.

10.61 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.

10.62 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.

10.63 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

10.64 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

10.65 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

10.66 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

10.67 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

10.68 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

10.69 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

10.70 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.

10.71 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

10.72 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

10.73 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

10.74 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

10.75 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

10.76 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

10.77 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

10.78 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

10.79 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. Training courses are also being availed by Indian Officers in certain disciplines in developed countries abroad.

10.80 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. 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

Inauguration of ECHS Polyclinic, Shahpur by Raksha Rajya Mantri

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 formulates various policies and programmes for the welfare and resettlement of Ex-servicemen (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 (RSBs) and 371 Zila Sainik Boards (ZSBs), 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.

WELFARE

11.2 The Kendriya Sainik Board (KSB) is the apex body of Government of India responsible for implementing Government policies for welfare of Ex-servicemen and their families. There are 32 Rajya Sainik Boards and 371 Zila Sainik Boards. The establishment expenses of these RSBs/ ZSBs were earlier shared equally (50 : 50) by the Centre and the States. The Raksha Mantri has now enhanced the funding pattern as 75 : 25 in respect of (11) Special Category states viz Arunachal Pradesh, Assam, Jammu & Kashmir, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Himachal Pradesh and Uttarakhand and 60 : 40 in the case of other states with the objective to strengthen them, streamline their functioning and to make them more committed to the welfare of ESM. The KSB administers welfare schemes through the **"Armed Forces Flag Day Fund"** (AFFD). The welfare schemes are designed to take care of ESM/ disabled ESM/ dependents/ Wards of ESM. Financial assistance is also provided to ESM/ dependents in the form of grants like Penury Grant, Children education grant, etc. under Raksha Mantri Discretionary Fund (RMDF). During 2011-12 (upto December 31, 2011), financial assistance amounting to Rs.5.29 crores has been disbursed under RMDF.

REVITALISATION OF RAJYA AND ZILA SAINIK BOARDS

11.3 Towards this end, the following measures have been taken during the year 2011-12:

(a) **Holding of Kendriya Sainik Board Meeting:** The XXIX Meeting of KSB was held on June 27, 2011 in Vigyan Bhavan, New Delhi under the chairmanship of Raksha Mantri.

(b) **Computerisation:** Grants have been provided towards purchase of computer hardware to RSBs and ZSBs. Presently, all the 32 RSBs and 344 (out of 371) ZSBs are connected with internet and have official functional e-mail IDs.

(c) **Opening of Three New Zila Sainik Boards:** Three New Zila Sainik Boards/ District Sainik Welfare offices, one each at Kargil in Jammu and Kashmir, Palwal in Haryana, and Kutch in Gujarat States are sanctioned.

(d) **Training on Pension Software "Suvigya":** To ensure that the ESM community gets its entitled pension accurately and on time, the "SUVIGYA" software package had been developed to enable ESM to calculate their true entitlements. Training on pension software "Suvigya" to representatives of all RSBs has been imparted. 29 RSBs have imparted further training to their ZSB/ Staff and have installed this software in 327 ZSBs for easy accessibility to the Ex-servicemen community.

ARMED FORCE FLAG DAY FUND

11.4 Apart from the DSE Budget, Armed Forces Flag Day Fund is a major source for funding the welfare schemes of ESM and their dependents. With a concerted effort made this year, an amount of **Rs. 13.20 Lakh** has been collected so far. KSB administers many welfare schemes through the "Armed Forces Flag Day Fund". Financial assistance is provided to institutions, such as, Paraplegic Homes, Cheshire Homes, St. Dustan's After Care Organisation (for blind soldiers).

Raksha Mantri's Discretionary Fund (RMDF)

11.5 Financial assistance to needy ESMs, Widows and their wards is provided by a portion of earnings of Armed Forces Flag Day Fund which is utilized for various purposes like marriage of daughters, assistance to ESM/ widows in penury, house repair, children education grant, funeral allowance for widows, assistance to orphans and widows.

PM SCHOLARSHIP SCHEME

11.6 4000 scholarships are available annually under this scheme for the wards of Ex-servicemen/ widows. This scheme is funded from the National Defence Fund. The amount of scholarship available under the scheme is as under:

(a) Rs. 1,250/- per month for boys (paid annually).

(b) Rs. 1,500/- per month for girls (paid annually).

Since the inception of the scheme, an amount of Rs. 44.59 Crores has been disbursed to the students undergoing the Professional Degree Courses in India duly recognised by the Indian regulatory bodies such as AICTE, MCI etc. During 2011-12 (upto February 2, 2012), 13250 students have availed benefit under Prime Minister Scholarship Scheme. An amount of Rs. 21.31 crores has been disbursed thereunder.

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In order to give wider publicity about this scheme, the brochure – cum – application has been uploaded on the MOD website www. mod.nic.in and soft copy has been forwarded to all the RSBs & Coast Guard Headquarters.

Other Welfare Schemes

11.7 **Reserved Seats in Medical/ Dental Colleges:** KSB is allotted certain seats for the wards of Defence personnel as Government of India nominee (Priority I to V). A total number of 25 MBBS and 2 BDS seats have been allotted for the year 2011-12.

11.8 **Educational Grants:** Educational grant of Rs. 900 and Rs. 450 per month per child is provided to wards of war widows/ war disabled whose death/ disability is attributable to war/war like operations respectively. An amount of Rs. 9.95 Lakh and Rs. 2.99 Lakh has been disbursed under this scheme.

Upto January 31, 2012, 793 Officers and 20,381 JCOs/ ORs have been imparted various trainings. These courses have received an overwhelming response from officers and resulted in good job placements for 70-80% of the officers in the Corporate Sector.

RESETTLEMENT

11.9 Nearly 60,000 armed forces personnel retire or are released from active service every year, most of them being in the comparatively younger age bracket of 35 to 45 years and they require a second career. These personnel constitute a very valuable disciplined, well-trained and dedicated talented pool which should be utilized for nation building. This is sought to be achieved through the following modalities:

(a) Seeking suitable employment for the ex-servicemen as also upgrading their skills by imparting necessary training, to prepare them to take on the new assignments/ jobs.

(b) Constant endeavour to provide employment opportunities in government/ quasi government/ public sector organizations.

(c) Pro-active action, to facilitate re-employment of the ESM in the Corporate Sector.

(d) Providing jobs through schemes for self-employment.

(e) Assist in entrepreneurial ventures.

Directorate General Resettlement (DGR) is entrusted with the responsibility of preparing retiring service personnel for a second career. Since the focus of training is on resettlement of ESM and retiring service personnel, in civil life, the course modules have been designed to cater for the requirements of the public/ private and the corporate sector.

Officers' Training

Upto January 31, 2012, 793 Officers and 20,381 JCOs/ORs have been imparted various trainings. These courses have received an overwhelming response from officers and resulted in good job placements for 70-80% of the officers in the Corporate Sector.

11.10 Directorate General of Resettlement sponsors the Resettlement Training Programmes for both short term and long term. The courses are conducted in multifarious fields. Management courses of six months duration are being conducted at Management Development Institute, Gurgaon, Indian Institute of Management, Ahmedabad, Indore, Lucknow, NarseeMonjee Institute of Management Studies, Mumbai, XLRI, Jamshedpur and Amity University, NOIDA.

11.11 To provide resettlement opportunities to senior officers of the rank of Brigadier and above and their equivalents, DGR has also introduced Independent Directors' Course at MDI Gurgaon, Management of NGOs at IFIM, Bangalore and Management of Academic Institutions at Amity Institute of Education and Training, NOIDA. Seafaring and CPL courses are also conducted for induction of Officers into merchant navy and aviation industry respectively.

JCOs/ OR Training

11.12 The DGR organizes resettlement training programmes in multifarious fields ranging from vocational courses of three months to 12 months duration including Management courses of six months in government, semi-government and private institutes. A large number of personnel make use of these programmes for pre-retirement training. These training programmes range from subjects like Security and Fire protection, Management, IT and Computers, Vocational courses like poultry, dairy farming, bakery, printing, vehicle repairs, Legal Assistance, etc. The management courses received positive response resulting in good placements. 20,381 JCOs/ OR and equivalent have been trained on various courses upto January 31, 2012.

New Initiatives

11.13 Security courses have been very popular amongst Army personnel especially from the Infantry and Artillery. DGR is conducting increased number of security courses at all Regimental Centres.

11.14 JCOs/ OR and their equivalents are group with a wide variety of skills and experience – technical and non-technical roles across Army, Navy and Air Force. However changing careers after retirement to civil sides is a challenge, especially after leaving the armed forces after many years, some of the

areas where they are found wanting are :

(a) Lack of Computer literacy.

(b) Lack of communication skills.

(c) Limited knowledge of changes in the civil environment.

(d) Ability to seamlessly transit to the civil jobs.

11.15 DGR has taken steps to educate the retiring personnel by conducting Computer Concepts and Personality Development courses at many regimental centres. These steps have yielded excellent results. Based on the constructive and positive feedback, DGR has decided to conduct and impart the basic computer literacy, communication & personality development and financial programme in the Regimental Training Centres. The scheme of ESM training is primarily meant for those Ex-Servicemen (ESM) who could not avail the facility of resettlement training while in service and is extended to the widows/ dependents of Ex-servicemen. Such training is organized at various institutes empanelled by the State Government's Department of Sainik Welfare/ Zila Sainik Welfare Office and approved by DGR to enhance their qualifications. 261 ESMs have undergone training upto January 31, 2012.

The Central and State Governments provide a number of concessions to ex-servicemen for their re-employment in Central/ State Government Department. These include reservation of posts/ relaxation in age and educational qualifications, exemption from payment of application/ examination fees and priority in employment to the disabled ESM and dependents of deceased service personnel on compassionate grounds.

Re-employment

11.16 The Central and 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 and educational qualifications, exemption from payment of application/ examination fees and priority in employment to the disabled ESM and dependents of deceased service personnel on compassionate grounds.

11.17 **Reservation in Government jobs:** The Central Government has provided for the following reservation in services for ESM:

(a) 10% in Group 'C' posts.

(b) 14.5% in Group 'C' posts in PSUs 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 ESM in State Government jobs. As a result of downsizing in Government and advent of multi tasking staff

(MTS), the employment opportunities for ESM in Government/ Semi-Government sectors have reduced lately.

11.18 **Placements:** Persistent efforts of the Department with the dual aim of increasing awareness amongst the Corporate Sector on the availability of valuable human resources in Ex-Servicemen and enhancing job opportunities for ESM in Corporate/ Private Sector have borne fruits with major demands now coming up from the Corporate Sector. In current year, **38278** ESM have gained employment up to January 31, 2012. The details of some of the major placements done are as under:

(a) **Security Agencies:** The DGR empanels/ sponsors ESM run private security agencies, companies and corporations for providing security guards to various Central Public Sector Undertakings (PSUs) and industries in the private sector. The scheme offers good self-employment opportunities to retired officers and adequate employment opportunity to retired JCOs/ORs and equivalent, in a field, where they have sufficient expertise. The number of ESM employed during 2011 is **44,258** out of **1678** requisitions received from PSUs/ Govt Departments. 212 Agencies have been empanelled during 2011, adding to a total of 2710 agencies.

(b) **Officers' Employment:** During 2011, 455 officers have secured placements.

SCHEMES FOR SELF-EMPLOYMENT

11.19 The DGR has formulated several Self-employment ventures for rehabilitation and resettlement of Ex-servicemen and their families. The details of Self-employment schemes and the achievements are given in the succeeding paragraphs.

11.20 **Coal Transportation Scheme:** This is a popular scheme in vogue since last 30 years. The total number of ESM Coal companies operative in various Coal subsidiaries viz Mahanadi Coalfields Limited (MCL), Western Coalfields Limited (WCL), Damodar Valley Corporation (DVC) and South Eastern Coalfields Limited (SECL) is 83. Through this scheme, 249 ESM (Officers) and approximately 2075 retired JCO/ ORs and equivalent have benefited.

11.21 **Coal Tipper Scheme:** This welfare scheme for widows/ disabled soldiers is linked with the coal transportation. A total of 43 widows/ disabled soldiers have benefited through this scheme this year.

11.22 **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 wartime/ peace-time widows and disabled soldiers. Eligible applicants are sponsored by DGR for the purpose. Upto January 2012, 446 Eligibility Certificates were issued to applicants.

11.23 **COCO Retail Outlets of IOCL and BPCL:** M/s Bharat Petroleum Corporation Ltd (BPCL) and M/s Indian Oil Corporation Limited (IOC) are providing employment to Commissioned

officers of Defence for managing retail outlets all over India under COCO (Company Owned Company Operated) scheme. During the year 2011, names of 348 ESM (O) for 78 Locations as on December 30, 2011 were sponsored. However, record of number of beneficiaries who were allotted COCO outlets, has not been intimated by concerned Oil companies.

11.24 **Mother Dairy Milk Booths and Fruit & Vegetable (Safal) Shops:** This is a time tested well-paying self-employment scheme for ESM JCO/ ORs equivalent. Ex-servicemen currently operating Milk booths and Safal Shops in Delhi have proved their mettle whereby M/s Mother Dairy is totally dependent on DGR for providing eligible Ex-servicemen. In consultation with the Mother Dairy, the scheme has been extended to the other cities of NCR viz Gurgaon, NOIDA, Faridabad and Ghaziabad. While a total of 873 JCO/ ORs equivalent are benefiting from this scheme, details of ESM sponsored and selected upto January 2012 are as follows:

		Mother Dairy Milk Booths	Mother Dairy Fruit & Veg Shops
(a)	ESM Sponsored	921	219
(b)	ESM Selected	370	49

11.25 **Management of CNG Stations by ESM (Officers) in NCR:** This Scheme has been revised recently. The pay package has been raised from Rs 25,000/- p.m. to Rs 45,000/- p.m. The scope of the scheme is now being extended to cover entire NCR to include NOIDA, Faridabad and Gurgaon. While a total of 68 ESM (O) are benefiting from this scheme, during the year 2011, a total number of 33 ESM (O) as on January 31, 2012 were sponsored for the scheme.

Allotment of Army Surplus Vehicles

11.26 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. A total no. of 238 ESM were registered (as on December 31, 2011), with DGR during the calendar year 2011, while 221 applicants were allotted vehicles during the year.

LOAN RELATED WELFARE SCHEMES

Enterpreneur Schemes

11.27 Government has formulated several schemes for encouraging enterpreneurship for the resettlement of ex-servicemen. The current entrepreneurial schemes are (Self Employment for Ex-servicemen) SEMFEX II, SEMFEX III and Prime Minister's Employment Generation Programme (PMEGP). Under these schemes, training and loans are provided at subsidized rates for ventures in rural, semi urban and urban areas in agriculture, industry and service sector. The lending institutions are nominated Nationalized Bank, Co-operative Banks, Regional/Rural Bank and Financial institutions etc. Subsidy/ soft loan from 25% to 30% is available for these schemes. Application for loan is submitted by ex-servicemen directly to the Bank through concerned Zila Sainik Board/ Welfare Office of the area.

SEMFEX II Scheme (From Arms to Farm)

11.28 It is a National Bank for Agriculture and Rural Development (NABARD) sponsored Scheme, introduced in 1988. It provides the assistance for funding the entrepreneurship in agriculture, rural industry and for employment generating service sector in rural area. The agro/ food processing unit can be set up both in rural and urban areas. Soft loan upto 25% of the cost of the project is provided. Under this scheme, 1451 ex-servicemen have benefitted by obtaining the loans amounting to Rs. 2019 lakhs in the last eight years.

SEMFEX III (Sena se Gramodyog)

11.29 It is a Khadi and Village Industries Commission (KVIC) sponsored Scheme, introduced in 1992. It is also a rural employment generation scheme. The fields are innumerable and the loan limit is laid down at Rs. 25 lakh per project. There is no requirement for a collateral guarantee, for a loan upto Rs. 5 lakh. The rate of interest is as low as 4% after adjusting the subsidy. In the last eight years, 332 Ex-servicemen have obtained the loan amounting to Rs. 695 lakh under this scheme.

Prime Minister's Employment Generation Programme (PMEGP)

11.30 It is also a Khadi and Village Industries Commission (KVIC) sponsored Scheme. Under the scheme all Ex-servicemen are eligible to apply for the loan. The area of operation can be in rural, semi urban or urban area, for viable projects in manufacturing or service sectors. The limit of loan for the project in this scheme has been raised to Rs. 1 crore, depending upon the viability of project and the capability of the individual/ organization to set up and run it profitably. In the last 3 years, 5400 Ex-servicemen have availed benefits of this scheme.

New Initiatives

11.31 The Government is committed to encourage and support willing ESM for entrepreneurship. It educates, motivates and encourages ESM to opt for other remunerative enterprises like horticulture, floriculture, franchising, and cultivation of herbal and medicinal plants. Extensive interaction between the RSBs/ ZSBs, KVIC, NABARD, Horticulture Board, Medicinal Plants Board, the Lending Banks and the enterprising ESM has resulted in more number of ESM opting for such ventures. M/s Bata India Ltd has offered business to ex-servicemen under "Desh-Rakshak Dealership" scheme for opening Bata outlets in the smaller towns of the country at reasonable investments and complete guidance with returns on sales and incentives. As a result of guidance and support from DGR and RSBs, many enterprising ESM have established their own business successfully and are now financially secure.

"Desh-Rakshak Dealership Scheme" for opening Bata outlets launched with M/s Bata India Limited for offering business opportunities to Ex-servicemen.

Publicity

11.32 Projecting the policies, programmes and Welfare Schemes for Ex-servicemen is of paramount importance so as to reach Defence units at various locations for Ex-Servicemen/ Widows across the length and breadth of the country. This is done by means of publications of periodical magazine like Sainik Punarvas News Fliers, Hindi Magazine Punarvas Bharti, Brochures, Leaflets, articles in Sainik Samachar and Baat-cheet, exhibitions/ seminars, Army Mela and Ex-servicemen rallies. Publications of the Directorate General Resettlement are distributed to Command Headquarters, RSBs, ZSBs, Regimental Centres, Record Offices, ECHS Polyclinics and Ex-Servicemen, free of cost. Various other forums provided by Command HQs, Sainik Welfare Departments (States) and Sainik Sammelans are also being utilized for publicity purpose.

HEALTHCARE

11.33 Ex-Servicemen Contributory Health Scheme (ECHS) was launched with effect from April 1, 2003, which aims to provide quality medicare to Ex-Servicemen and their dependents through a network of ECHS polyclinics, service medical facilities and empanelled/ government hospitals spread across the country. The Scheme has been structured on the lines of CGHS to ensure cashless transactions, as far as possible for the patients. The scheme is fully financed by the Government of India.

Salient features of the Scheme

11.34 The ECHS Central organisation is located at Delhi and functions under the Department of Ex-servicemen Welfare in Ministry of Defence. The Central Organisation is headed by a Managing Director, a serving Major General.

11.35 ECHS Polyclinics are designed to provide Out Patient Care that includes consultations, essential investigation and provision of medicines. Specialized consultations, investigations and In Patient Care (Hospitalization) is provided through spare capacity available in service hospitals and through civil hospitals empanelled with ECHS.

11.36 Expansion of ECHS network was approved by the Govt in October 2010 by sanctioning 182 additional polyclinics and 17 Mobile Clinics taking the total to 426 ECHS clinics. These are tabulated below:

		Initial	Additional	Total
(a)	Military	106	06	112
(b)	Non-Military	121	176	297
(c)	Mobile Clinics	-	17	17
	Total	**227**	**199**	**426**

Present Status

11.37 Rs. 970 crores were spent on medical treatment last year.

11.38 As on January 31, 2012, a total of 12,24,746 Ex-servicemen have joined the scheme along with 26,90,790 dependents. Thus, total beneficiaries of the scheme are 39,15,536.

CATEGORIZATION OF POLYCLINICS

(Based on number of Ex-Servicemen residing in that area)

(i)	Type A	-	Above 20,000
(ii)	Type B	-	Above 10,000
(iii)	Type C	-	Above 5,000
(iv)	Type D	-	Above 1,500
(v)	Type E (Mobile)	-	Above 800 (for remote areas)

11.39 As on January 31, 2012, 37 polyclinics have started functioning in addition to existing 227. The Government has till date approved 1384 civil hospitals for empanelment with ECHS. About 70 Polyclinics still do not have empanelled hospitals in their city/town.

11.40 **Recent Achievements**

(a) Expansion of ECHS approved by the Government.

(b) Extension of ECHS to Nepal Domiciled Gorkhas (NDG).

(c) Extension of ECHS facilities to NDG in Nepal by upgrading MI Rooms at Kathmandu Pokhra & Dharan to the level of Polyclinics including one type E Mobile Polyclinic to each of the above polyclinics.

(d) Extension of ECHS benefits to the dependents of recruits earning disability pension.

(e) Inclusion of Special Frontier Forces pensioners in ECHS.

(f) Hospital empanelment procedures have been reformed. National Accreditation Board for Healthcare Providers (NABH) will henceforth assess the hospitals for empanelment.

(g) Automation of high pressure polyclinics is in progress after successful Pilot Project in NCR.

(h) A 24x7 helpline with call centre support has been opened to assist ECHS members. For assistance, members can dial 1800-103-8666 and 080-4300 4300 or they can send query via SMS on +019714794300.

(i) ECHS website and e-CRMS (Electronic Complaints Resolution and Management System) is being field tested and would be launched soon.

11.41 **New Measures:** Following measures are being taken by ECHS for delivering quality medicare to Ex-Servicemen:

(a) Cabinet Note on providing manpower as per scales followed by CGHS is being finalized

(b) Measures for improvising supply of medicines :

(i) Permitting for re-imbursement of cost of medicines (as in CGHS)

(ii) Enhanced local purchase ceilings

(iii) Pilot project on outsourcing

pharmacy of polyclinics to reputed pharmaceutical companies

(c) Timely payment to hospitals by outsourcing bill processing to Bill Processing Agency on the lines of CGHS

(d) Remove disparities in facilities vis-a-vis CGHS

(e) Simplification of procedures and automation of ECHS processes for ushering in paperless transactions in ECHS

(f) Interaction with State Governments for speedy acquisition of land for construction of polyclinics.

PENSION

11.42 **Pension to Armed Forces Personnel:** Pension to an estimated number of 17.70 lakh Armed Forces pensioners is disbursed through all 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, 5 Pay and Accounts Offices (PAOs) scattered all over India including 3 Pension Payment Offices (PPOs) in Nepal.

Between January-December, 2011, Six Defence Pension Adalats were held at Calicut (Kerala), Kakinada (Andhra Pradesh), Fatehgarh (UP), Ludhiana (Punjab), Sonepat (Haryana) and Udaipur (Rajasthan).

11.43 **Retiring/ Service Pension:** The retiring pension of Commissioned Officer/ PBOR 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.

11.44 **Disability Pension:** The rates of disability element for 100% disability for post January 1, 2006 various ranks shall be 30% of emoluments last drawn to be reduced proportionately for lesser disability.

11.45 **Recent Improvements:**

(i) **Enhancement of Fixed Medical Allowance:** The rate of Fixed Medical Allowance (FMA) has been enhanced post VIth CPC from Rs.100/- to Rs.300/- p.m. from September 1, 2008 for the Armed Forces Pensioners residing in areas not covered under ECHS.

(ii) **Enhancement in additional Old Age Pension to PSUs Absorbees:** Additional Old Age Pension at the prescribed rates has now been authorized to the Armed Forces Personnel who had drawn lump-sum payment at the time of their absorption in PSUs, at full Basic Pension instead of 43% for Commissioned Officers and 45% for other Ranks.

(iii) **Grant of Family Pension to the Armed Forces Personnel/ Pensioners who disappear suddenly & whereabouts are not known:** Hitherto, the families of the Armed Forces Personnel/Pensioners who disappear suddenly and whose whereabouts are not known are

eligible for grant of family pension after one year from the date of lodging the FIR. It has now been decided that the families of such Armed Forces Personnel/ Pensioners may be sanctioned Family Pension and Death Gratuity after a period of six months from the date of lodging FIR.

(iv) **Revision of War Injury Element of War Injury Pension:**

The rates of War Injury Element of War Injury Pension have been revised vide MoD letter dated February 15, 2011. It has now been decided that the revised rate of War Injury Element shall not be less than 100% in case of Invalidment and 60% in case of Retirement/ Discharge, of minimum of Pay in the Pay Band(PB)+Grade Pay(GP)+Military Service Pay(MSP)+Group 'X' Pay wherever applicable for 100% Disability. Cap on War Injury Pension stands removed w.e.f. July 1, 2009.

(v) **Rectification of anomaly created in pension of pre June 1, 1953 Viceroy Commissioned Officers viz-a-vis Honorary Commissioned Officers:** Table 133 was inadvertently included in the Govt. letter dated March 8, 2010, wherein the pension of pre-June 1, 1953 retired Viceroy Commissioned Officers was shown higher than pre-2006 regular Commissioned Officers. This was subsequently corrected by deleting the same vide Corrigendum dated April 15, 2011.

(vi) **Ex-gratia to invalided out Armed Forces Personnel:** Invalided out armed forces personnel with 100% disability to be given Rs.9 lakh ex-gratia w.e.f. April 1, 2011. For lesser disability between 20% to 99% to be reduced proportionately.

(vii) **Grant of family pension to childless widow:** Grant of family pension to childless widow of armed forces officers/ persons below officer ranks (PBORs) who died prior to January 1, 2006 which was discontinued on her remarriage will be restored w.e.f. January 1, 2006 subject to certain conditions.

12

COOPERATION BETWEEN THE ARMED FORCES AND CIVIL AUTHORITIES

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.

INDIAN ARMY

12.2 During the period under review 147 columns, 23 Medical Teams and 40 Engineer Task Forces were deployed in Aid to Civil Authorities. Assistance was provided in Operation Sahayata (Sikkim), Destruction of Unexploded Munitions, Flood Relief Operations, Rescue and Relief Operations etc. The details of the important operations undertaken are covered in the succeeding paragraphs.

During the period under review 147 columns, 23 Medical Teams and 40 Engineer Task Forces were deployed in Aid to Civil Authorities in connection with Operation Sahayata (Sikkim), Destruction of Unexploded Munitions, Flood Relief Operations, Rescue and Relief Operations etc.

12.3 **Operation SAHAYATA (Sikkim):** On September 18, 2011, the state of Sikkim was hit by an earthquake measuring 6.8 on the Richter Scale. The epicenter of the earthquake was 64 kilometers North West of Gangtok. The Army was at the forefront of the rescue and relief operations and played a pivotal role in providing immediate succor to the affected people and enabling State administration to restore normalcy in the State. Details of assistance provided are as under:

(a) **Total Columns Deployed:** 126 (including two Special Forces columns) comprising approximately 5850 troops were deployed for rescue and relief operations.

(b) **Engineer Columns Employed:** 27 columns were deployed for restoration of road communication in the earthquake affected areas. 10 major road axes were opened by Army in conjunction

with BRO. A Bailey Bridge of 150 feet span was also made available (on loan) to civil administration to enable immediate restoration of communication on road Darjeeling - Lebong.

(c) **Medical Detachments Deployed:** 20 medical detachments were deployed for providing immediate medical relief to the injured; over 940 civil casualties treated in Military Hospitals.

(d) **Cook Houses:** 11 Cook Houses were established by Army in earthquake affected areas. In addition, 3310 Food Packets were air dropped in areas where road communication had been disrupted.

(e) **Relief Camps:** 10 Relief Camps were established by Army, in which 2736 people were provided shelter. In addition, all necessary assistance was given to civil administration for establishment and functioning of relief camps established by them.

(f) An Integrated Command Centre was established in Mangan to coordinate relief operations in conjunction with civil administration.

(g) Army relief columns reached approximately 106 villages affected by the earthquake.

(h) **Helicopter Effort:**

(i) More than 300 hours of flying has been done for casualty evacuation, rescue of stranded people, move of supplies/ essential stores and reconnaissance of earthquake affected areas.

(ii) **Evacuation of Tourists/ Civilians:** 999 people, including 12 foreigners were evacuated by Army helicopters.

(iii) **Casualty Evacuation:** 33 civilian casualties were evacuated by Army helicopters.

Destruction of Unexploded Munitions

12.4 **Deployment of Bomb Disposal Teams:** The Bomb Disposal team in Northern Command carried out the following operations:

(a) Recce of IED Near Mile Stone 169 on NH 1A.

(b) Recce of IED Mile Stone 183-184 on NH 1A.

(c) Recce of IED Near Vill Sudana Beli, Approx 15 Kms from Doda.

12.5 **Operation Sahayog II:** In May, 2011, Army undertook Operation Sahayog II for destruction of unexploded munitions (total 4484) lying at ICD, Tughlakabad since 2004. The high risk operation commenced on May 13, 2011, it involved segregation of UXBs at ICD Tughlakabad, loading of segregated UXBs into containers, transportation to Tilpat Range, unloading of UXBs at Tilpat Range and their subsequent destruction. The operation was successfully completed on June 15, 2011.

12.6 **Flood Relief Operations:** Flood Relief

Operations were carried out in the following areas:

(a) Kolaras, District Shivpuri, Madhya Pradesh.

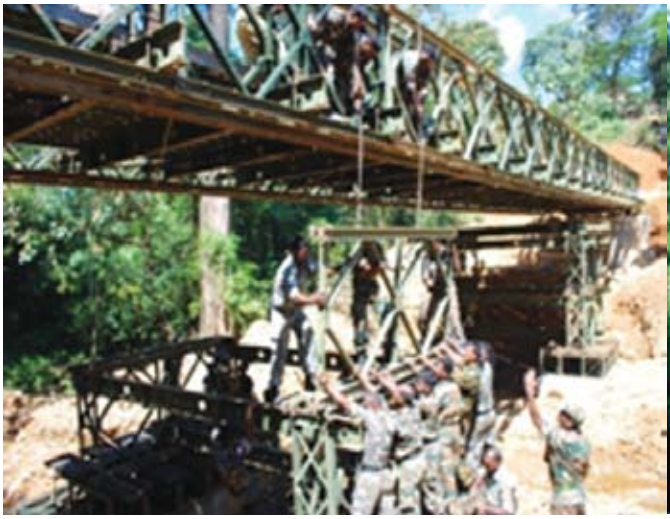
(b) Simen Sapari and Sisibar villages in Dhemaji District of Upper Assam.

(c) Village Sarya, Balamkola Block, Raigarh District, Chhattisgarh.

(d) Village Husainabad, Palamu District, Jharkhand.

12.7 **Construction of Bridge (Sabrimala):**

(a) Sabarimala, located in the Western Ghats in Pathanamthitta district of Kerala is a centuries old Hindu pilgrimage centre,



drawing 40 - 50 million devotees annually from all parts of India.

(b) Army was requested to construct a bridge on the newly proposed exit route required to facilitate safe passage of pilgrims. The Army engineers completed the task on October 4, 2011. The bridge has been handed over to the Dewasom Shrine Board on October 17, 2011 for regulation and move of pilgrims.

INDIAN NAVY

12.8 **Diving Assistance:** Diving teams have been deployed 55 times from various Commands since January, 2011 for rendering assistance to various civil agencies/ Government/ State authorities for search and rescue.

12.9 **Diving Operation in Chamakara Canal:** On an emergency request from the Government of Kerala, a team of divers from the Southern Naval Command was airlifted by Dornier aircraft for search and rescue operation on September 26, 2011. A school bus carrying 30 primary school children (age group 10-12 years) had overturned and fallen into Chamakara canal near Kaniyapuram, Thiruvananthapuram. The Naval Divers, after sustained diving operations, accounted for all the missing children.

Diving teams were deployed 55 times from various Commands since January, 2011 for rendering assistance to various civil agencies/ Government/ State authorities for search and rescue.

12.10 **Train Accident at Chiteri:** In a major train accident at Chiteri railway station on September 13, 2011, about 15 personnel died and more than 100 people were injured. Naval team from INS Rajali consisting of two doctors, one officer and 40 personnel were pressed into action. The Naval team which was the first to reach the accident site provided requisite timely help to the victims.

12.11 **Fire Fighting in Civil Area:** A major fire broke out as a back-draught of Naphthalene leakage from its carriage pipe, in adjoining the naval accommodation area 'Varunapuri' in Goa, on August 19, 2011. The inferno was very close to a densely populated and constricted area. The safety services of the Navy immediately rushed to the site and evacuated the people safely. The fire fighters displayed exceptional professionalism and courage in the face of adverse conditions, to control the major fire and avert what could have been a major disaster.

12.12 **Extended Flying Operations in Maoist Affected Areas:** Divers and helicopters provided sustained assistance to police authorities in rescue and recovery efforts at Chitrakonda, where the Maoists had ambushed a party of Grey Hounds. 65 hours of flying was undertaken towards conduct of this operation.

12.13 **Flood Relief – Odisha:** Flood relief operations at Odisha were undertaken from September 11 - 15 and September 25 - 26, 2011. Two UH3H and one Chetak were deployed and relief material was air-dropped.

12.14 **Naval Medical Relief Team for Sabrimala Stampede Disaster:** INHS Sanjivani played an integral part of medical relief in the wake of the Sabrimala stampede disaster at Vandiperiyar, Kerala on January 15, 2011. A fully equipped medical team reached the disaster site by helicopter within two hours and commenced medical relief operations immediately.

INDIAN AIR FORCE

12.15 Indian Air Force is engaged in various civil aid relief measures. The Transport and Helicopter fleets of Indian Air Force have played a pivotal role in assistance to Central and State Governments during natural calamities and disasters. The airlift capability of the transport and helicopter fleet has seen a major enhancement with the induction of the long range special operations C-130J aircraft, which has been proven in the relief operations in the aftermath of the Sikkim Earthquake. The transport and helicopter fleets have continued to perform creditably by accomplishing allotted tasks, flying mostly over inhospitable terrain and adverse weather conditions. Some of the achievements are highlighted in the succeeding paragraphs.

Air Maintenance in the Northern & North Eastern Sector

12.16 Air Maintenance operations by the transport and helicopter fleets of the Indian Air Force are undertaken in support of troops and civilian population in far flung areas and inhospitable terrain conditions in the North and North-Eastern parts of the country. The sustained operations round the year comprise airlift of food material, clothing, medical equipment etc. Air maintenance activities assume special significance in the winter months when snowfall and inclement weather conditions impede normal surface transport links to these areas.

12.17 A total of 15,930 tonnes of logistics support load for the Northern sector and 2995 tonnes for the North Eastern sector have been airlifted since April 11, 2011. Routine flights are operated from Kargil to Jammu & Srinagar during the winter months.

Transportation of Supplies to Troops by Helicopter of IAF

12.18 **Logistics support to Border Roads Organisation (BRO):** The transport & helicopter fleets of the Indian Air Force airlifted 640 metric tonnes of supplies in support of the Border Roads Organisation (BRO) in the Central and Northern sectors and at their posts along the international borders.

Humanitarian Assistance & Disaster Relief Operations

12.19 **Train Accident:** IAF participated in relief and rescue operations in the aftermath of the Howrah-Kalka train accident on July 10, 2011 near Kanpur. A total of 148 passengers and 600 kg of medical supplies were airlifted.

12.20 **Earthquake in Sikkim:** Within hours of the earthquake in Sikkim on September 18, 2011, two C-130J aircraft were airborne from

Relief Material being Loaded and delivered at Affected Areas in Sikkim

Delhi with 13 Tonnes of relief material and 220 National Disaster Response Force (NDRF) personnel. A total of 527 sorties comprising 294 hours on a variety of aircrafts and helicopters airlifted 252 tonnes of relief material and transported 1714 people in sustained operations until October 11, 2011. IAF helicopters undertook rescue missions, wherein a total of 525 persons were airlifted from inaccessible areas to safe locales. Numerous sorties were flown towards sustaining Army units at the International Border, which included supply of diesel, fuel and emergency rations.

12.21 **Bhubaneshwar (Orissa) Flood Relief:** In September 2011, the State of Orissa was hit by floods, affecting the lives and livelihood of 16 lakh people. In response to a call by the State Government, Indian Air force deployed one Chetak and seven Mi-17 helicopters in missions to provide succour to people in the affected areas. The IAF Task Force airdropped 118.64 Tonnes of relief material in 90 sorties, entailing a flying effort of 116 hours.

12.22 **Evacuation of Foreign Nationals:** The helicopter fleet of the Indian Air Force evacuated 28 foreign nationals since April 2011 from inaccessible high altitude areas of J&K, Uttarakhand and Himachal Pradesh.

Power Supply in J & K Valley Restored by IAF

12.23 On January 6, 2012, Jammu and Kashmir experienced excessive snow fall, which resulted in a power failure across the entire Srinagar valley. In response to a request from the J&K Govt, the IAF took on the challenging task of assisting Power Grid Corporation of India in restoration of power supply to the valley. After an aerial recce of the power lines from Ramban to Banihal, a damaged tower near Ramsu village was identified as the main cause of power failure.

12.24 On January 8, 2012, a repair team was winched down from a Mi-17 helicopter in inclement weather & gusty winds as there was no helipad in the vicinity. Within hours, the tower was repaired and power supply restored to the entire valley. The next day, the same crew undertook a similar task winching down four personnel to carry out further repairs in equally bad weather.

Overseas Missions

12.25 **SAARC Summit:** One An-32 transport aircraft of the IAF was deployed in phases at Male from October 22 - 28, 2011 and November 2 - 15, 2011 in connection with the SAARC summit to cater to contingent requirements.

12.26 **UN Mission:** The Indian Aviation Contingent deployed at Bukavu (Democratic Republic of Congo) comprising six Mi-17 and four Mi-35 helicopters, along with 303 personnel, were repatriated in two phases that ended in September, 2011. The helicopter fleet of Indian Air Force has flown a total of 235 sorties entailing a flying effort of 280 hrs during the period April to September, 2011 while deployed at these missions.

Helicopter deployed for UN peace keeping operations in Democratic Republic of Congo

Anti LWE Operations

12.27 In 2011, Left Wing Extremist (LWE) activities have been witnessed mainly in Assam, Western Orissa and Arunachal Pradesh. Four MI-17 helicopters of Indian Air Force have

been operating since December 20, 2009 in support of Ministry of Home Affairs (MHA) for anti-naxal operations. Four helicopters are deployed to assist security forces in LWE affected areas. Since induction, a total of 2492 hrs in 3602 sorties have been flown in support of operations to airlift casualties, passengers and loads. Additionally, on request of MHA, slithering training of troops has been conducted, in which 1142 troops have been trained till date.

13

NATIONAL CADET CORPS

Raksha Mantri and Lt. Gen PS Bhalla, AVSM DGNCC with awardees of Raksha Mantri Padak and Commendation Card

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 63 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. The overall objective is to make them responsible citizens. The motto of NCC is "Unity and Discipline".

13.2 The total sanctioned strength of NCC cadets is 15 Lakhs. This includes 2 lakh NCC cadets sanctioned in the year 2010, which will be absorbed in five phases by raising new NCC units during the period from 2010-11 to 2014-15. The authorised strength of NCC cadets in 2011-12 is 13,40,000. Phase I to include raising of 1x Group Headquarters and 12x units has been completed in current financial year. The NCC's presence presently extends to 630 districts of the country, covering **15,879** educational institutions.

13.3 Wing-wise distribution of enrolled cadet strength is as under:

(a)	Army Wing	-	7,93,147
(b)	Air Wing	-	55,345
(c)	Naval Wing	-	53,451
(d)	Girls Wing	-	3,34,395
	Total	**-**	**12,36,338**

MAJOR ACHIEVEMENTS

13.4. **Raising of New NCC Establishments in the 1st Phase:** Sanction for raising of one Group HQ, nine Army units, two Air units and one Naval unit in the 1st Phase of new raisings was accorded by the Ministry in January 2011. All units have been raised.

13.5. **Raising of New R&V Units:** Two R&V Units one each at Bhatinda (Punjab) and Panaji (Goa) have been raised last year. This brings the total number of R&V units to 19.

13.6 **NCC Coverage of Districts:** At present, 630 districts are covered by NCC.

13.7 **Increase in Girls' Representation:** The current representation of girl cadets is 25.17 % of the total enrolled strength of NCC cadets as against 24.38 % last year due to an increase of 11475 cadets.

TRAINING

13.8. NCC is a premier training organization of the country involved with grooming of the youth. The growing and vibrant NCC alumni strength is a testimony to its meaningful existence. In keeping with the changing times, NCC has been proactive in incorporating requisite changes in its syllabus. A major step

has been taken by NCC in this regard where the Philosophy of NCC training is being refined to make NCC training more interactive and meaningful. To elicit response from all stakeholders, Zonal level seminars in NCC have already been organized and a National level seminar is planned to be conducted in March/ April 2012.

The camps help in developing camaraderie, team spirit, dignity of labour, self-confidence and the most important aspect of Unity and Discipline.

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.

(e) Youth Exchange Programme.

13.10 **Institutional Training:** Institutional training covers basic military training in Army, Navy and Air Wing subjects, including exposure to camp life. The aim of this training is to expose the youth to a regimental way of life and inculcate in them the values of discipline, obedience and orderliness. All enrolled cadets go through the Institutional Training in their respective schools/ colleges as per specified syllabi for each wing of NCC.

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 as 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% of 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 Camp (NIC):** A total of 37 NICs are conducted every year. **24,200 cadets** from all States and Union Territories participate in these NICs. This year, so far, 26 NICs have been conducted in different parts of the country. In addition, Special NICs have been scheduled/ conducted at the following places:

Sl. No.	Place where SNIC conducted	Period	No. of participants
(i)	Speical NIC, Leh	July 11 – 22, 2011	180
(ii)	Special NIC Pungalwa (Nagaland)	May 28 to June 8, 2011	600
(iii)	Special NIC Badabagh (Jaisalmer)	October 8 – 19, 2011	300
(iv)	Special NIC Peddapuram (Kakinada)	October 19 to 30, 2011	300

(c) **Vayu Sainik Camp (VSC):** Every year an All India Vayu Sainik Camp for Air Wing SD and SW cadets is organized at Jakkur Airfield (Bangalore) for a period of 12 days. This year the camp was conducted from October 30 to November 10, 2011. 600 SD/SW cadets from all the 17 State NCC Directorates participated in this Camp.

(d) **Nau Sainik Camp (NSC):** This camp is also organized once a year for Naval Wing SD and SW cadets for 12 days. This year the camp was conducted at Visakhapatnam from November 1 - 12, 2011. 590 SD/ SW cadets took part in this camp from all 17 State NCC Directorates.

(e) **Thal Sainik Camps (TSC):** Two concurrent TSCs are conducted at Republic Day Parade ground, Delhi Cantt every year, one for SD boys and one for SW girls. This year the camps were conducted from September 2–13, 2011. Along with TSC, the Inter Directorate Shooting Competition (both for boys and girls) was also conducted. 561 cadets participated in the competition. Total 1360 cadets from all the 17 State NCC Directorates participated in this camp.

(f) **Leadership Camps:** These camps are conducted on an All India basis. Four Advance Leadership Camps (ALC), 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 organized every year. This year 3373 cadets attended these camps from September to December 2011.

(g) **Rock Climbing Training Camps:** Eight Rock Climbing camps were held this training year to expose the cadets to the basics of rock climbing and to inculcate the spirit of adventure in them. Four of these camps were held at Gwalior in MP and another four camps at Neyyar Dam near Thiruvananthapuram Kerala. 1080 cadets attended these camps from May 2011 to November 2011.

(h) **Republic Day Camp 2012:** Republic Day Camp-2012 was conducted from January 1 - 31, 2012 at Delhi. The camp was attended by 2000 cadets from all over India. In addition, 75 cadets from friendly foreign countries with whom NCC has an ongoing Youth Exchange Programme also attended the camp from January 15 - 30, 2012.

13.12 **Republic Day Parade:** Two NCC marching contingents and three (two boys and one girl) NCC bands participated in the Republic Day Parade at Rajpath on January 26, 2012.

13.13 **Attachment Training:** The NCC cadets derive first-hand experience of immense value by attachment to the Armed Forces units. During the year, attachments scheduled/ conducted were as under:

(a) 440 officers including women officers

and 20,000 cadets including 500 SW girl cadets attended the attachment training with regular army units.

440 officers including women officers and 20,000 cadets including 500 SW girl cadets attended the attachment training with regular army units.

(b) 120 Senior Division and 48 SW cadets underwent attachment training at Indian Military Academy, Dehradun and Officers Training Academy, Chennai respectively for duration of two weeks each.

(c) 1000 SW cadets were attached with various Military Hospitals.

(d) 100 Air Wing NCC cadets (76 SD and 24 SW) underwent attachment training with Air Force Academy, Dundigal. This training is conducted twice a year for 13 days each in June and October respectively.

13.14 **Microlite Flying:** Microlites facilities are provided at 47 NCC Air squadrons. Despite the gradual phasing out of Gliders, NCC Air squadrons have carried out 700 launches during the past year. Gliders are in the process of being replaced by Microlite aircraft whose procurement is presently under progress through Indian Air Force. Microlite flying is being conducted in NCC with a view to give air experience to the Air Wing NCC cadets (SD). A total 2400 hours of microlite flying was undertaken during the year 2011-12.

13.15 **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. Cadets were imparted intensive naval training in various naval subjects and got opportunity to see naval exercises at sea.

13.16 **Foreign Naval Cruises:**

(i) 7 Cadets visited Persian Gulf (Muscat, Bahrain & Saudi Arabia) from March 6 to April 2, 2011 on board Indian Naval Cadet training ships.

(ii) 10 Cadets visited South-East Asia (Phuket, Port Kelong, Singapore and Jakarta) from August 9 to September 20, 2011 on board Naval ships INS Tir and INS Krishna.

13.17 **Naval Academy Attachment Training:** Annual Training Camp for SW cadets & Attachment training for SD cadets is conducted at Naval Academy, Ezhimala. However, due to non availability of accommodation, these camps are being conducted at Visakhapatnam from January 30 to February 10, 2012. 170 SW & 25 SD cadets participated in this camp/ attachment.

13.18 **Advance Leadership Camp (ALC):** Every year ALC is conducted at Thoothukudi (Tuticorin). This year camp was conducted from December 22, 2011 to January 2, 2012. A total of 150 SD Cadets participated

in the camp. Besides visiting the Naval Establishments/ Installations, cadets carry out Adventure Training, Security Exercise and also take part in various competitions intended to develop team spirit and other personality traits.

13.19 **Technical NCC Camp for Naval Wing:** 115 SD/SW Cadets from Engineering Colleges at Chennai attended the Annual Technical Camp from June 5 - 12 and June 14 - 17, 2011. The cadets were taken to Naval Engineering Establishments at INS Shivaji/ INS Valsura and Naval Dockyard at Visakhapatnam for study tour.

Chief of Naval Staff, Admiral Nirmal Verma, PVSM, AVSM, ADM along with DGNCC Lt Gen PS Bhalla, AVSM interacting with NCC Cadets

ADVENTURE TRAINING

13.20 **All India Sailing Regatta at Chilka:** 51 SD and 51 SW Cadets from all Directorates participated in All India NCC Sailing Regatta conducted at INS Chilka from November 17 - 24, 2011. One officer and six cadets from Bangladesh NCC also attended the Regatta.

13.21 **Sailing Expedition:** Sailing Expedition is an interesting feature of the Naval Training. Each NCC Directorate undertakes a minimum of 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. During Sailing Expedition, the cadets get practical training in Boat Pulling and Sailing. They face and overcome the hazards of change in weather conditions and changing mode of Rivers/ Sea. Total 15 expeditions were conducted by different NCC Directorates in year 2011-12.

13.22 **Scuba Diving:** Five Scuba Diving Camps are conducted at Kochi, Vizag, Mumbai, Chennai and Delhi with assistance from the Naval Diving Teams of Indian Navy. A total of 150 cadets attended these camps this year.

13.23 **Wind Surfing/ Kayaking:** Cadets of Naval Wing are also trained and exposed to the basic skills of Wind Surfing and Kayaking.

13.24 **Mountaineering Courses:** 444 nominated cadets attended various courses at Nehru Institute of Mountaineering, Uttarkashi, Himalayan Mountaineering Institute, Darjeeling, JIM & WS, Nunwan, Pahalgam and Directorate of Mountaineering and Allied Sports, Manali during the training year 2011-12.

13.25 **Mountaineering Expeditions:** This year the boy's team undertook an expedition to Bharkatkhunta (6578M/21576 ft) and the girl's team scaled Thelu Peak (6000M/19680 ft). Out of 16 girl cadets, 13 cadets summated the peak.

Tent Pegging display by NCC Riders during Horse Show

13.26 **Cycle and Motor Cycle Expeditions:** During the current year, numerous motorcycle expeditions were organized by various Directorates to inculcate the spirit of adventure amongst the cadets. These expeditions also carried messages to create awareness on various social challenges faced by the country.

13.27 **Trekking Expedition:** A total of 15 trekking expeditions were conducted during the year 2011-12. 14,500 cadets from all over the country participated in these expeditions.

13.28 **Para Sailing:** Para sailing is conducted at each Group level as a part of adventure activity for SD/SW cadets of NCC. During the past year, 5168 cadets were exposed to this activity. Five para sailing nodes have been established at Delhi, Kolkata, Bangalore, Sholapur and Kamptee to train the trainers.

13.29 **Para Basic Courses:** 40 SD and 40 SW cadets underwent the Para basic course for 24 days at the Army Aviation Training School, Agra.

13.30 **Slithering Demonstration:** 37 SD and 22 SW cadets took part in the slithering demonstration during PM's Rally in January 2011.

13.31 **Desert Camel Safari:** Two officers and 10 cadets from Singapore and one officer and six cadets from Kazakhastan along with 20 Indian Cadets participated in Desert Safari held at Jaisalmer from November 9 - 20, 2011.

13.32 **White Water Rafting:** White Water Rafting (WWR) nodes have been established at Raiwala (Haridwar), Mandi (HP) and Gangtok (Sikkim). White Water rafting was conducted by Uttarakhand Directorate during All India NIC-I from June 21-24, 2011 at Ansuiyaghat and Muni ki Reti. WB&S Directorate conducted WWR in Teesta river during Annual Training Camp in summer of 2011. 700 cadets participated in these camps.

13.33 **Hot Air Ballooning:** Hot Air Ballooning was conducted by Delhi Directorate on November 26, 2011 in which 100 cadets participated.

YOUTH EXCHANGE PROGRAMME (YEP)

13.34 **Out-Going YEP Visits:** 7 outgoing YEP visits were undertaken up to December 2011 during the year 2011-12 as per the details given in Table No. 13.1.

13.35 **In-Coming YEP Visits:** The incoming YEP visits by foreign delegations, undertaken/ planned during the year 2011-12 are given in Table No. 13.2.

Table No. 13.1

S.No	Country	Officers	Cadets
(a)	Singapore (Air Wing)	1	4
(b)	Singapore (Naval Wing)	1	4
(c)	Russia	-	-
(d)	Sri Lanka	1	10
(e)	Maldives	-	-
(f)	Bangladesh	2	20
(g)	Singapore(Army)	2	10
	Total	**07**	**48**

Table No. 13.2

S.No.	Country	Officers	Cadets
(a)	Singapore and Kazakhstan NCC cadets for (Desert Safari)	3	20
(b)	Bangladesh (Sailing Regatta)	1	6
(c)	Bangladesh Belgaum Trek	1	8
(d)	Delegations from 08 foreign countries attended RDC 2012 including Russia, Kazakhstan, Turkmenistan, Bangladesh, Nepal, Srilanka, Singapore, Bhutan and Vietnam.	13	75
(e)	Head of Deptts attended RDC 12	1	8
	Total	**22**	**109**

Social Service and Community Development

13.36 Social Service and Community Development activities are undertaken in NCC with the aim of making cadets imbibe the qualities of selfless service to the community, dignity of labour, importance of self help, need to protect the environment and to assist in upliftment of weaker sections of the society. This is envisaged through programmes involving adult education, tree plantation, blood donation, visit to Old Age Homes, Differently abled Children Schools, Orphanages, slum clearance, village upliftment and various other social schemes. NCC cadets participated in the following community development activities:

(a) **Tree Plantation:** NCC cadets plant saplings and thereafter maintain them in conjunction with the concerned State Department/ Colleges/ Schools and Villages. This year as part of environment protection and preservation drive, cadets planted 4.5 lakh saplings all over the country.

(b) **Blood Donation:** NCC cadets have been donating blood as voluntary service whenever needed by Hospitals/Red Cross. 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.

Social Service and Community Development activities are undertaken in NCC through programmes involving adult education, tree plantation, blood donation, visit to Old Age Homes, Differently abled Children Schools, Orphanages, slum clearance, village upliftment and various other social schemes.

(c) **Old Age Homes:** 11255 NCC cadets from Madhya Pradesh, Andhra Pradesh, Jammu &Kashmir and Maharashtra Directorates visited Old Age Homes to provide a helping hand to elders.

(d) **Disaster Relief:** NCC has always extended its helping hand during natural and other calamities and accidents. Over the years, NCC cadets have rendered outstanding service during floods, earthquakes, cyclones, train accidents and provided the healing touch in riot-affected areas. Significant contributions by NCC are widely acclaimed by one and all. This year 14,184 NCC cadets participated in this drive all over the country. This included provision of services to casualties after Mumbai serial bomb blast in July 2011 and assistance to people of Sikkim affected by the devastating earthquake in September 2011.

(e) **AIDS Awareness Programme:** NCC cadets participate actively in the AIDS/ HIV awareness programme and are carrying out AIDS awareness programmes throughout the country. Lectures and interactive sessions on HIV/ AIDS are also being conducted during various camps. This year AIDS awareness day was celebrated on December 1, 2011. 37,600 NCC cadets from all 17 Directorates participated.

(f) **Anti Dowry and Anti Female Foeticide Pledge:** NCC cadets all over the country took a pledge on Anti Dowry and Anti Female Foeticide.

(g) **Anti Drug Rally:** Approximately 40,000 NCC cadets all over the country participated in Anti drug rallies organized in major cities and towns in the country.

(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 emphasise the need for education and to assist in the conduct of the Adult Education Programme.

(j) **Community Work:** Cadets of NCC participated in the rural and urban community projects and other development works like village track improvement, cleaning of streets and ponds, sanitation drives, etc.

(k) **Anti Leprosy Drive:** NCC cadets have launched anti-leprosy drive throughout the country and are helping various voluntary/ Governments Organisations in this field.

(l) **Cancer Awareness Programme:** Approximately 43000 NCC cadets actively participated in Cancer Awareness Programme organized in various cities. Cancer Care India (CACI) and NCC have joined hands to launch Cancer Awareness Programmes (CAPS) throughout the country. Every year during RDC, a Cancer Awareness Competition is also organized.

(m) **Anti-Tobacco Drive:** Approximately 39000 NCC cadets from all NCC Directorates actively participated in NO TOBACCO DAY observed on May 31, 2011. 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.

(n) **Sensitisation on Civic Sense and Rules:** NCC cadets regularly participate in traffic rule awareness drives organized in various cities. During this period, the cadets man various traffic check posts and supplement the resources of local traffic police.

(o) **New Initiatives:** A number of NCC cadets participated in World Forestry Day, World Health Day, Earth Day, Anti Tobacco Day, International Day against Drug abuse and illicit trafficking, UN International Day to National Disaster reduction and Worlds AIDS day. During the year, the NCC included seven days of UN observances to promote awareness about various social causes amongst masses and launched following campaigns to generate awareness on contemporary issues.

(i) **Adoption of Villages/ Slum Areas:** NCC has adopted over 200 villages/ slum areas in different parts of the country to induce all round and inclusive growth of those villages/ areas. This also provides an opportunity to NCC cadets to identify themselves with different sections of society and people living in villages.

(ii) **Save Energy Campaign:** In a country wide campaign, the NCC cadets launched an awareness drive to avoid wastage of precious electrical power. To generate awareness, various rallies and street shows were organized in cities and towns of all states. The youth force of NCC itself became a beacon of this driver by indulging in voluntarily switching off the power lights/ gadgets in the evening for approximately 10 minutes every day.

(iii) **Use of Non-Conventional 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.

(iv) **De-pollution of Rivers:** NCC cadets have also launched campaigns to generate awareness regarding growing river pollution in the country.

SPORTS ACTIVITIES AT NATIONAL LEVEL

13.37 **Jawahar Lal Nehru Hockey Cup Tournament:** NCC teams in Junior boys and Junior Girls categories participated in the prestigious Jawaharlal Nehru Hockey

Tournament 2011. Junior Girls NCC team reached the semi final stage of the tournament.

13.38 **Subroto Cup Football Tournament:** Two Junior Boys teams qualified for the semi-finals and one team reached the final and won the Subroto Football Cup-2011. Captain and Goal Keeper of the team were declared as the Best Player and Best Goal Keeper.

13.39. **All India GV Mavlankar Shooting Championship (AIGVMSC):** This year 35 NCC shooters have been selected for 55th National Shooting Competition Championship. The NCC shooting team this year won following medals in various Shooting championships:

		GV Mavlankar	National Shooting
(i)	Gold	3	3
(ii)	Silver	2	2
(iii)	Bronze	5	3

14

DEFENCE COOPERATION WITH FOREIGN COUNTRIES

Raksha Mantri inspecting the Guard of Honour, on his arrival at the Japanese Ministry of Defence in Tokyo in November, 2011

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 India's defence cooperation activities encompass strengthening of defence ties with friendly foreign countries. The objective of all contacts and exchanges undertaken by Ministry of Defence and Armed Forces in this regard is to avoid hostilities and to build and maintain trust and cordial relations and contribute towards conflict prevention and resolution.

14.2 India continued its endeavour to support **Afghanistan** in its efforts to stabilize its political and security situation. India has been assisting the Afghan National Army in terms of military training courses, medical training and medical assistance. General Abdul Rahim Wardak, Defence Minister of Afghanistan visited India from May 31 - June 4, 2011.

14.3 Defence cooperation with **Bangladesh** was strengthened by bilateral visits and exchange of defence related training courses. The Chief of Naval Staff visited Bangladesh from April 4-6, 2011. The Chief of Army Staff visited Bangladesh from June 20-23, 2011. General Md Abdul Mubeen, Bangladesh Army Chief visited India from November 28 – December 1, 2011 and reviewed the passing out parade at NDA, Pune. An Indo-Bangladesh Joint Army exercise 'Sampriti-II' was held at Sylhet, Bangladesh from October 8-23, 2011.

14.4 India has had historically close defence relations with **Bhutan.** An Indian Military Training Team (IMTRAT), established in Bhutan in 1963 assists the Royal Bhutanese Army in training of its personnel. Shri M.M. Pallam Raju, Raksha Rajya Mantri visited Bhutan from April 24-26, 2011 to witness the Golden Jubilee celebrations of Project Dantak. Major General Batoo Tshering, Chief Operations Officer, Bhutan Army visited India from November 18-20, 2011.

Raksha Rajya Mantri with the Prime Minister of Bhutan, Mr. Lyonchen Jigmi Y. Thinley, during DANTAK's Golden Jubilee Celebrations, in Thimpu

14.5 The 4th Annual Defence Dialogue (ADD) between India and **China** was held in New Delhi on December 9, 2011. Shri Shashi Kant Sharma, Defence Secretary, led the delegation from the Indian side and General Ma Xiaotian, Deputy Chief of General Staff of the People's Liberation Army (PLA) led the Chinese side. A multi-command delegation led by Major General Gurmit Singh of Northern Command visited China from June 19-23, 2011. A 15-member Staff Officers delegation led by Air Vice Marshal P.S Mann visited China from January 10-13, 2012. From the Chinese side, a Border Troops delegation visited India from November 7-9, 2011. A 27-member PLA Staff Officers delegation visited India from December 25-30, 2011.

14.6 Defence Cooperation with **Maldives** is based on the common maritime security concerns of both countries. Mr Tholhath Ibrahim Kaleyfaanu, Minister of Defence & National Security visited India from September 11-16, 2011. The Chief of Naval Staff visited Maldives from January 11-14, 2012. An India-Maldives Joint Army Exercise 'Ekuverin-11' was held in Maldives from December 5-18, 2011. On the request of the Government of Maldives, Indian Navy undertook maritime surveillance operations around Maldives in November, 2011.

14.7 Defence cooperation is an important aspect of the Indo-**Myanmar** bilateral relationship. The on-going defence cooperation activities with Myanmar include regular exchange of visits, port calls by Indian Navy ships and training exchanges. The Chief of Naval Staff visited Myanmar from August 24-26, 2011. The Chief of Army Staff visited

The Defence Secretary, Shri Shashikant Sharma and the Deputy Chief of General Staff of the Chinese PLA, Gen. Ma Xiaotian, at the 4th Annual Defence Dialogue (ADD), in New Delhi on December 9, 2011

Myanmar from January 6-9, 2012.

14.8 India endeavors to nurture a special defence relationship with **Nepal**. A substantial number of Nepal Army personnel avail training in Indian defence establishments every year. An India-Nepal Joint Army Exercise was held at Counter Intelligence and Jungle Warfare School, Vairengte from March 14-27, 2011. The second Joint Training Exercise with the Nepal Army was held at CIJW Amlekhgunj in Nepal from December 9-22, 2011. Mr Bijay Gachhadar, Deputy Prime Minister, Home and Defence Minister of Nepal visited India from January 18-20, 2012.

14.9 The 12th Round of Siachen Talks between Defence Secretaries of India and **Pakistan** took place from May 30-31, 2011 in New Delhi. The Indian delegation was led by Mr Pradeep Kumar, Defence Secretary and Pakistan side was led by Lt Gen (Retd) Syed Athar Ali, Defence Secretary.

14.10 Defence relations with **Sri Lanka** gained momentum during the year. The Chief of Air Staff visited Sri Lanka from January 17-19, 2011. Lt Gen Jagat Jayasuriya, COAS Sri Lanka visited India from December 5-10, 2011 and reviewed the passing out parade at IMA, Dehradun. The 3rd Air Force Staff Talks were held at Colombo from September 20-22, 2011. The inaugural Army Staff Talks with Sri Lanka were held from June 29 – July 2, 2011 in New Delhi. The inaugural Navy Staff Talks were held in Delhi from September 7-9, 2011. An India-Sri Lanka Joint Naval exercise 'SLINEX-2011' was held in Sri Lanka from September 19-23, 2011. The inaugural Annual Defence Dialogue between both countries took place on January 31, 2012. Defence Secretary Shri Shashi Kant Sharma headed the Indian delegation. The Sri Lankan delegation was led by Mr. Gotabaya Rajapaksa, Defence Secretary of Sri Lanka.

14.11 India's relations with **Indonesia** have remained cordial. The Chief of Naval Staff visited Indonesia in January, 2011. The Indian Navy and the Indonesian Navy conducted Coordinated Patrols [CORPATs] during September 28 – October 13, 2011.

14.12 India's defence relations with **Japan** continue to develop steadily, with exchanges of high-level visits and training exchanges. The 7th Military-to-Military Talks with Japan were held in New Delhi on May 20, 2011. The Navy Staff Talks were held in New Delhi from June 21-23, 2011. Raksha Mantri visited Japan from November 1-3, 2011 and held discussions with his counterpart Mr Yasuo Ichikawa.

14.13 Defence relations with **Malaysia** remained cordial. A delegation led by Defence Secretary visited Malaysia from January 16-17, 2012, for the 9th Malaysia-India Defence Cooperation Committee (MIDCOM) meeting. The Chief of the Air Staff paid a visit to Malaysia on January 31 - February 3, 2012. The 4th Indian Air Force-Royal Malaysian Air Force Staff Talks were held in October, 2011 in Malaysia. The Indian Army and the Royal Malaysian Army held their 2nd Staff Talks in October, 2011 in India.

14.14 The defence relations with **Philippines**

are gaining momentum. An institutionalized mechanism namely, the Joint Defence Cooperation Committee was established. The 1st meeting of this Committee was held in Manila on January 18, 2012. The Indian Navy ships visited Ports in Philippines in March, 2011 and May, 2011.

14.15 Defence relations between India and **Singapore** have maintained momentum. The 6th round of Army Staff Talks were held in India in February, 2011. The 5th round of Air Force Staff Talks were held in Singapore from March 9 -11, 2011. The 7th India-Singapore Defence Policy Dialogue was held in Singapore on March 22, 2011. The Dialogue was co-chaired by Shri Pradeep Kumar, Defence Secretary and Mr. Chiang Chie Foo, Permanent Secretary (Defence), Singapore. The 7th meeting of the Defence Technology Steering Committee for R&D cooperation was held in India on October 12, 2011. The 6th meeting of the India-Singapore Defence Working Group was held in New Delhi on February 10, 2012. The Armies of the two countries conducted the Artillery Exercise at Deolali [Ex Agni Warrior] during January 4-21, 2011 and the Armoured Exercise at Babina [Ex Bold Kurukshetra] during March 1-31, 2011. The Joint Exercise [SIMBEX] between the Indian Navy and the Republic of Singapore Navy was conducted during March 18-25, 2011. The Joint Military Training between the Indian Air Force and Republic of Singapore Air Force was held at Kalaikunda from October 14 - December 9, 2011.

14.16 A Defence Dialogue at the level of Ministry of Defence of India and **Thailand** was established during the year. The inaugural meeting of this Dialogue was held on December 23, 2011. A MoU on Defence Cooperation with Thailand was signed on January 25, 2012, during the visit of the Prime Minister of Thailand. The 2nd Air Force Staff Talks were held in Thailand during February 14-16, 2011. The Joint Exercise, 'Maitree', between the Indian Army and Royal Thai Army was held in Thailand in September, 2011. The 4th Navy Staff Talks were held in July, 2011. The 13th cycle of Coordinated Patrol [CORPAT] between the Indian Navy and the Royal Thai Navy was held in November, 2011.

14.17 India-**Vietnam** defence relations have been warm and cordial. Vice Adm Nguyen Van Hein, Vice Minister of National Defence and Commander-in-Chief, Vietnam People's Navy visited India in June, 2011. The 6th India-Vietnam Security Dialogue was held in Hanoi on September 14, 2011. Defence Secretary led the Indian delegation while Lt Gen Ngyuyen Chi Vinh, Vice Minister of National Defence led the Vietnamese delegation. Raksha Mantri called on the President of Vietnam, Mr. Truong Tan Sang on October 12, 2011 in New Delhi during his State visit to India.

14.18 Defence exchanges with **Australia** have been progressing satisfactorily. The Chief of Air Staff visited Australia from February 28 – March 3, 2011. The 5th Navy Staff Talks with Australia were held in India from April 6-8, 2011. The Australian Defence Minister Mr.

Stephen Smith visited India from December 6-10, 2011. The Navies of both sides continued ship visits to each other's ports. The Australian ship HMAS Stuart visited Mumbai from June 3-6, 2011.

14.19 India's defence relations with **New Zealand** have remained cordial. Dr Wayne Mapp, New Zealand Minister of Defence, Science and Innovation made an official visit to India on April 27-28, 2011. He met Raksha Mantri on April 27, 2011.

14.20 The 6th India-**Israel** Sub-Working Group on Defence Procurement, Production and Development [SWG-DPPD] was held in New Delhi on January 11, 2011. It was co-chaired by Director General (Acquisition), Shri Vivek Rae from the Indian side and Mr. Shmaya Avieli, Director SIBAT (Defence Cooperation and Defence Export Department), Ministry of Defence, Israel from the Israeli side. The 7th Navy Staff Talks with Israel were held during January 31 - February 2, 2011 in Israel. The 9th meeting of the India-Israel Joint Working Group on Defence Cooperation was held in Tel Aviv on May 15, 2011. The Indian delegation was led by Shri Pradeep Kumar, Defence Secretary while the Israeli delegation was led by Major Gen (res.) Ehud Shani, Director General of the Israeli Ministry of Defence. The Chief of Israeli Air Force visited India from November 21-24, 2011.

14.21 India maintains substantive defence relations with **Oman.** The 5th Air Force Staff

Raksha Mantri and the Minister of Defence Affairs, Sultanate of Oman Mr. Badar bin Saud bin Harib al Busaidi, signing the documents for extending the Memorandum of Understanding on Military Coopertaion

Talks were held in Oman on February 14-15, 2011. The Director General of Mechanized Forces visited Oman in May, 2011. The 5th India-Oman Joint Military Cooperation Committee (JMCC) was held in New Delhi on September 26, 2011. The Indian side was led by the Defence Secretary while the Omani side was led by Mr. Mohd. Bin Nasser Al-Rasby, Under Secretary, Ministry of Defence, Sultanate of Oman. The 2nd Joint Air Exercise "Ex-Eastern Bridge" was held in Jamnagar in October, 2011. The Minister Responsible for Defence Affairs, Mr. Badr Bin Saud Bin Hrib Al Busaidi, Sultanate of Oman paid an official visit to India on December 28, 2011. During the visit, the Memorandum of Understanding (MoU) on Military Cooperation, signed on December 6, 2005, was extended for a further period of five years.

14.22 The 4th India-**UAE** Joint Defence Cooperation Committee meeting was held at Abu Dhabi on April 10, 2011.

14.23 India and **Russia** share a long standing defence relationship, based on mutual trust and understanding. Russia continues to remain 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 the Defence Ministers of the two countries.

14.24 The 4th meeting of the India-Russia High Level Monitoring Committee was held in Moscow on June 14-16, 2011. The meeting was co-chaired by Shri Pradeep Kumar, Defence Secretary and Mr. M.A. Dmitreiv, Director, FSMTC, Russia. The meetings of the India-Russia Working Group on Shipbuilding, Aviation and Land Systems (SLAS WG) and the Working Group on Military Technical Cooperation (MTC WG) were held in St Petersburg, Russia on September 7-8, 2011. From the Indian side, these meetings were co-chaired by Shri R.K Singh, Secretary (Defence Production) and Shri Vivek Rae, Director General (Acquisition), respectively.

14.25 The 11th meeting of the India-Russia Inter-Governmental Commission on Military Technical Cooperation (IRIGC-MTC) was held in Moscow on October 4, 2011. 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 11th IRIGC-MTC meeting.

14.26 The Chief of Air Staff visited Russia on May 23-27, 2011. The Chief of Naval Staff also visited Russia on July 12-17, 2011.

14.27 The Deputy Minister of Defence of **Turkmenistan** Colonel Jepbar Akyyev visited India from May 31 to June 3, 2011.

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.

14.28 Raksha Mantri visited **Kyrgyzstan** from July 5-6, 2011 for inauguration of the Kyrgyz-Indian Bio Medical Research Centre (KIMBMRC) at Bishkek which has been jointly set up by Defence Research

Raksha Mantri and the Kyrgyz President Ms. Roza Otunbaeva inaugurating the Kyrgyz-Indian Mountain Biomedical Research Centre, in Bishkek, Kyrgyzstan

& Development Organization (DRDO) and the National Centre for Cardiology and International Medicine (NCCIM), Bishkek. This was followed by the visit of the Kyrgyz Defence Minister Maj. Gen Abibilla Kudaiberdiev to India from September 7-10, 2011.

14.29 Raksha Mantri visited **Tajikistan** on October 3, 2011 and had discussions with the Tajik Defence Minister.

14.30 The 2nd meeting of the India-**Kazakhstan** Joint Working Group on Military Technical Cooperation was held in New Delhi on September 6-7, 2011. The Chief of Army Staff visited Uzbekistan and Kazakhstan during November 1 6-19, 2011.

14.31 Our bilateral relations with **Mongolia** have been friendly and cordial and are signified by high-level visits, training cooperation and joint Exercises. The 4th meeting of the India-Mongolia Joint Working Group on defence cooperation was held in New Delhi on May 5, 2011. An Agreement on Cooperation in Defence matters with Mongolia was signed during the visit of President to Mongolia on July 28, 2011. The Chief of the Army Staff visited Mongolia in September, 2011 and participated in the Centenary Celebrations of Mongolian Military. The Joint Exercise 'Nomadic Elephant' between the Indian Army and Mongolian Armed Forces was held in Mongolia in September, 2011.

14.32 Defence relations between India and the **Czech Republic** have continued apace. The 4th meeting of the India Czech Joint Defence Committee (JDC) was held in New Delhi on September 27, 2011. The meeting was co-chaired by Shri Vivek Rae, Director General (Acquisition) and Mr Rudolf Blazek, Deputy Minister for Defence Acquisitions of the Czech Republic.

14.33 India shares cordial relations with **Slovakia.** The Slovak Minister of Defence, Mr Lubomir Galko and Dr Juraj Miskov, Minister of Economy of the Slovak Republic visited India and held discussions with Raksha Rajya Mantri, Shri M M Pallam Raju on April 13, 2011.

14.34 India's defence relations with **United States of America (USA)** are an important element of the broader strategic partnership between the two countries. There is increased bilateral defence cooperation as evidenced by regular conduct of military cooperation activities, frequent

India's defence relations with USA are an important element of the broader strategic partnership between the two countries.

expert exchanges, exchanges of high-level visits, growing cooperation in defence research and regular conduct of joint exercises.

14.35 The 9th India-US Defence Production and Procurement Group (DPPG) meeting was held in Washington DC, USA from March 1-2, 2011. Shri Vivek Rae, Director General (Acquisition) and Vice Admiral William Landay, Director, Defense Security Cooperation Agency (DSCA), US Department of Defense led India and US side respectively.

14.36 The 11th India-US Defence Production Group (DPG) meeting was held in Washington DC, USA from March 3-4, 2011. The DPG meeting was co-chaired by the Defence Secretary from the Indian side and the Under Secretary of Defence for Policy (USDP) from the US side.

14.37 The 10th India-US Defence Production and Procurement Group (DPPG) meeting was held in New Delhi from November 16-17, 2011. Shri Vivek Rae, Director General (Acquisition) and Vice Admiral William Landay, Director, Defense Security Cooperation Agency (DSCA), US Department of Defense led India and US side respectively.

14.38 The bilateral defence cooperation dialogue between India and the **United Kingdom** was established with the signing of the 'Terms of Reference for the Defence Consultative Group' in 1995. Since then, the defence relations between India and UK have been growing steadily. There are regular exchange of high-level visits, training & experts' exchanges and joint projects for defence production between the two countries.

14.39 Dr. Liam Fox, UK Secretary of State for Defence visited India on July 8, 2011. Admiral Sir Mark Stanhope, Chief of Naval Staff, UK visited India in January, 2011. General Sir Peter Wall, Chief of General Staff, UK visited India in May, 2011. The 14th meeting of the Defence Consultative Group was held on February 8, 2012.

14.40 India and **France** continue to share cordial and mutually beneficial defence relations. The Service-to-Service Staff Talks (Army, Navy and Air Force) and the Military Sub Committee (MSC) meeting were held from December 12-13, 2011 and on December 14, 2011 respectively.

14.41 Mr. Gerard Longuet, French Defence Minister visited India in May, 2011. General Jean Paul Palomeros, Chief of Air Force Staff, France visited India in September, 2011.

14.42 The defence relationship with **Germany** has been steadily growing. The 5th India-Germany High Defence Committee (HDC) was held in New Delhi from April 6-7, 2011. The HDC meeting was co-chaired by Shri Pradeep Kumar, Defence Secretary from the Indian side and Mr. Rudiger Wolf, Federal State Secretary for Defence from the German side.

14.43 Dr. Thomas de Maiziere, Federal Minister of Defence, Germany visited India in May, 2011.

14.44 A delegation led by Shri M.M. Pallam

Raju, Raksha Rajya Mantri visited **Norway** on the invitation of Mr. Roger Ingebrigsten, Norwegian Deputy Minister of Defence from September 26-30, 2011.

14.45 India and **Turkey** share cordial bilateral relations and defence engagements are growing. The Chairman, Chief of Staff Committee & Chief of Air Staff (COSC & CAS) visited Turkey on April 18-21, 2011. The Chief of Naval Staff also visited Turkey from June 12-17, 2011.

14.46 India has traditionally very warm ties with **Mozambique**. Mr Filipe Jacinto Nyussi, Defence Minister of Mozambique visited India from June 27 - July 1, 2011 and held discussions with Raksha Mantri.

14.47 India and **Namibia** enjoy warm and cordial ties. The Defence Minister of Namibia visited Aero-India held in Bangalore from February 9-13, 2011. Mr Petrus Peter Shivute, Permanent Secretary, Ministry of Defence, Namibia visited India from February 5-9, 2011.

14.48 India and **Seychelles** have had a long-standing defence relationship, characterized by high-level visits, training exchanges and supply and deployment of defence assets. An India-Seychelles Joint Army Exercise 'Lamitye-11' was held at Seychelles from November 14-27, 2011. Mr Jean Paul Adam, Minister of Foreign Affairs of Seychelles visited India in February, 2012. He had discussions with Raksha Mantri on February 16, 2012.

14.49 The 2nd India-**Brazil** Joint Defence Committee (JDC) meeting was held in Brazil from October 18-20, 2011. Shri R K Mathur, Special Secretary and General Francisco Carlos Modesto, Chief of Strategic Intelligence, Ministry of Defence were the co-chairs from the Indian and Brazilian sides respectively.

14.50 A Memorandum of Understanding (MoU) on Defence Cooperation between the Ministry of Defence of the **Republic of Ecuador** and the Ministry of Defence of the Republic of India was signed on March 2, 2011, during the visit of Shri E Ahmed, Minister of State for External Affairs to Ecuador.

14.51 The wide spectrum of defence cooperation activities with friendly foreign countries aims at creating an environment of peace and stability in the region with an objective of contributing to global harmony and goodwill.

15

CEREMONIAL AND OTHER ACTIVITIES

Republic Day Parade-2012

The Ministry of Defence encourages and promotes both academic and adventure activities through autonomous institutions

CEREMONIAL AND OTHER ACTIVITIES

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, 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. In 2011, a number of important Conferences, Seminars, Round Tables, Lectures and Dialogues with other think tanks, on issues of national and international significance, were held.

15.4 International and National Conferences/ Seminars/ Dialogues: The 13th Asian Security Conference (February 16-18, 2011) was organised on the theme 'Towards a New Asian Order'. It was inaugurated by the Raksha Mantri. The conference dealt with the issue of regional security architectures. The Institute conducted the 5th South Asian Conference on 'Cooperative Security Framework for South Asia', on November 15-16, 2011. The keynote address was delivered by the Raksha Mantri. Apart from the above, the Institute also organised the following events:

- A 2-day Conference titled Space and International Security, held from March 30-31, 2011.
- A 3-day International Seminar on Defence Acquisition, organized on July 12-14, 2011.
- The 4th MEA-IISS-IDSA Foreign Policy Dialogue on the theme 'Towards Stability in Asia', held on November 21, 2011.
- A 2-day international conference on the theme 'India- Africa Strategic Dialogue', held on November 24-25, 2011.
- The IDSA-PRIO (Peace Research Institute Oslo) Conference 2011 on 'Trans boundary Rivers: Multilateral Frameworks for Cooperation', held on November 30, 2011.

15.5 **Special/ Eminent Persons' Lectures:** The Institute organised several Special/ Eminent Person's Lectures during the year. Important among the series was the Y. B. Chavan Memorial Lecture delivered by Prof. Kanti Bajpai on "India and China: Can the Giants of Asia Cooperate?" on November 30, 2011. It was chaired by Shri N. N. Vohra, Governor of Jammu & Kashmir.

15.6 **Bilateral Interactions:** The IDSA-IFS (Norwegian Institute for Defence Studies) Workshop on 'Nuclear Weapons and Organization Theory' was held on January 8, 2011. This workshop focused on non-proliferation issues, nuclear energy, and theoretical frameworks with regard to the utility of nuclear weapons in war and peace and critical organizational aspects.

15.7 The Second IDSA-IFS Bilateral Dialogue was held on the topic 'Strategic Planning for a Complex World' on April 4-5, 2011. The Inaugural Address was delivered by Espen Barth Eide, Deputy Minister, Norwegian Ministry of Foreign Affairs. A discussion was held on Global Strategic Priorities; Strategic Priorities in India's Neighbourhood; and Rethinking India's Grand Strategy.

15.8 The IDSA-CICIR (Chinese Institute of Contemporary International Relations) Bilateral Dialogue was held on April 21, 2011. The welcome remark was delivered by the CICIR Vice President Ji Zhiye and the special address was given by Ambassador TCA Rangachari. Topics like China-India Relations: Economy and Trade; China-India Relations: Political and Strategic Issues; Regional Security Issues and India China Cooperation and the Indian and Chinese Perspectives on Global Concerns, were also discussed.

15.9 The IDSA-BIISS (Bangladesh Institute for International & Strategic Studies) Bilateral was organized on May 9-10, 2011. The BIISS delegation was led by Major General Muhammad Imrul Quayes. Ambassador Veena Sikri, former Indian High Commissioner to Bangladesh, delivered the inaugural address. Deputy High Commissioner of Bangladesh to India delivered the keynote address.

15.10 **Book Discussion Forum:** As part of

the Institute's outreach programme, a Book Discussion Forum was initiated in 2009. Its purpose is to engage in a conversation with scholars whose work has a bearing on India's security and foreign policy objectives and orientation.

15.11 The first discussion of the series took place on the book titled "Neo Naxal Challenge: Issues and Options", by Mr. Giridhari Nayak, Addl DG (SIB and Training), Chhattisgarh on March 4, 2011. As a part of the INSP Book Discussion Forum, Professor P.R. Kumaraswamy, Chairperson, Centre for West Asian Studies (CWAS), SIS, Jawaharlal Nehru University talked about his latest book 'India's Israel Policy' on March 9, 2011. A book discussion was also conducted by Dr. Jayashree Vivekanandan, Senior Research Associate with the Centre for Policy Research (CPR), New Delhi, on her latest book – "Interrogating International Relations: India's Strategic Practice and the Return of History" on March 14, 2011.

15.12 **IDSA Publications:** Important publications during the year 2011 which were edited by IDSA Scholars included "Asia 2030: The Unfolding Future" (Ed. By Dr. Namrata Goswami, Wg. Cdr. Ajey Lele and Brig. Rumel Dahiya (Retd.)); "Imagining Asia in 2030" (Ed. By Wg. Cdr. Ajey Lele and Dr. Namrata Goswami); "The Terror Challenge in South Asia and Prospect of Regional Cooperation" (Ed. By Dr. Anand Kumar); "Non- State Armed Groups in South Asia: A Preliminary Structured Focussed Comparison" (Ed. By Dr. Arpita Anant); and "Towards a New Asian Order" (Ed. By Col. Ali Ahmed, Dr. Prashant Kumar Singh and Dr. Jagannath Panda).

15.13 **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 were the Defence and Security Module for IFS Probationers; Defence Security Module Level-II for DIGs of the BSF; Senior BSF Commandant Course and the IPS Officers' Course.

15.14 **47th IDSA Foundation Day:** The 47th IDSA Foundation Day was celebrated on November 11, 2011. Raksha Mantri and President IDSA, delivered the Presidential Address and presented the 5th K Subrahmanyam Award and the Presidential Awards for Excellence. The 5th K Subrahmanyam Award was conferred on Prof. Srinath Raghavan, currently Senior Fellow at the Centre for Policy Research. Raksha Mantri also gave away the Presidents' Award for Excellence to six IDSA Scholars, Wg. Cdr. Ajey Lele, Mr. Joe Thomas Karackattu, Dr. Sarita Azad, Mr. Laxman Kumar Behera, Brig. Harinder Singh and Mr. Anit Mukherjee. The event was also followed by a discussion on the topic "Towards a National Security Strategy" which was chaired by Mr Shyam Saran, former Foreign Secretary and Special Envoy to the Prime Minister.

MOUNTAINEERING INSTITUTES

15.15 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.

15.16 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.

15.17 These Institutes conduct courses in the Basic and Advanced Mountaineering, Method of Instruction (MOI), Search & Rescue (S&R) and Adventure. Trainees in 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, www.nimindia.net and www.jawaharinstitutepahalgam.com for HMI, NIM and JIM respectively.

15.18 **Regular Courses:** The details of regular courses conducted by the Institutes and number of men and women trained in these courses

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	324	3	114	1	60	-	--	--	--
NIM	5	323	3	78	5	295	1	23	1	32
JIM	6	152	1	34	2	37	3	12	--	--

from April to December 2011 are given in Table 15.1.

15.19 **Special Courses:** HMI also conducted four Special Adventure & Rock Climbing courses for 511 men and women from NSS Assam, Sainik School and others. In addition, the Institute conducted one National Disaster and Rescue Course for thirty trainees from Royal Bhutan Army and three other courses for 150 trainees.

15.20 JIM conducted 35 Special Adventure courses for 1683 students, one Basic Para-Gliding course for 23 students and 12 Environment awareness camps in which 866 students (both men & women) participated.

15.21 NIM conducted 11 Special Courses for various organizations in which 347 men and women were trained.

The Institute launched a mountaineering expedition as a refresher course for its instructional staff to the highly challenging Mt. Thalay Sagar (6904m) and succeeded in putting nine climbers on the top. Thalay Sagar is considered a difficult climb, as it requires highest grade of climbing skills.

Ministry of Defence organises National functions like the Republic Day Parade, Beating Retreat Ceremony, Martyr's Day and Independence Day.

CEREMONIALS, HONOURS AND AWARDS

15.22 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 2011-2012 are detailed in the following paragraphs.

15.23 **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 a wreath at the Amar Jawan Jyoti at India Gate to pay homage to those who sacrificed their lives for the freedom of the motherland.

15.24 The Gallantry awards announced on the eve of the Independence Day-2011 are given in Table 15.2.

Table 15.2

Award	Number of Awards	Posthumous
Shaurya Chakra	14	3
Bar to Sena Medal (G)	3	-
Sena Medal (G)	114	7
Nao Sena Medal (G)	3	-
Vayu Sena Medal (G)	3	-

15.25 **Vijay Diwas:** Vijay Diwas was celebrated on December 16, 2011. On this occasion, the Raksha Mantri laid a wreath at the Amar Jawan Jyoti at India Gate.

15.26 **Amar Jawan Jyoti Ceremony, 2012:** The Prime Minister laid a wreath at the Amar Jawan Jyoti at India Gate in the morning of January 26, 2012. A two minute silence was observed for paying homage to those who laid down their lives in safeguarding the integrity of our nation.

15.27 **Republic Day Parade, 2012:** The unfurling of the National Flag at 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 Prime Minister of the Kingdom of Thailand, Her Excellency, Ms. Yingluck Shinawatra was the Chief Guest on the occasion. In an Investiture Ceremony, the President of India conferred an 'Ashok Chakra' posthumously to the next-of-kin of the awardee.

15.28 Mounted columns of 61 Cavalry, mechanised columns comprising of Tank T-72 and Smerch/ Pinaka multi barrel launcher system, Nuclear Biological Chemical Water Purification system, electronic warfare jammer, fly past by Advanced Light Helicopters etc., marching contingents and bands of the three Services, Para Military Forces, Delhi Police, NCC, NSS etc. were part of the Parade. The DRDO equipment column included 'AGNI-IV' and 'PRAHAR' missiles and 'RUSTOM-I' unmanned aerial vehicle as well as tableau with the theme 'SNOW & AVALANCHE HAZARDS & their Mitigation Scheme'.

15.29 Out of twenty four children conferred with National Bravery Awards, five were posthumous. Nineteen Award winning children, seated in decorated Army Jeeps, participated in the Parade. Tableaux of States, Central Ministries/ Departments and cultural

items presented by school children were the other attractions of the parade. 23 tableaux and 5 school children items reflected the cultural diversity of the nation. The parade concluded with a motorcycle display by the jawans of Border Security Force followed by an impressive fly-past by Indian Air Force aircraft.

15.30 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		
Ashok Chakra	1	1
Kirti Chakra	3	1
Shaurya Chakra	16	5
Bar to Sena Medal (Gallantry)	3	-
Sena Medal/Nao Sena Medal/ Vayu Sena Medal (Gallantry)	78	2
Distinguished Awards		
Param Vishisht Seva Medal	28	-
Uttam Yudh Seva Medal	1	-
Bar to Ati Vishisht Seva Medal	6	-
Ati Vishisht Seva Medal	45	-
Yudh Seva Medal	4	-
Bar to Sena Medal (Devotion to duty)	3	-
Sena Medal/ Nao Sena Medal/ Vayu Sena Medal (Devotion to duty)	59	1
Bar to Vishisht Seva Medal	6	-
Vishisht Seva Medal	115	1

15.31 **Beating Retreat Ceremony, 2012:** Beating Retreat is a centuries old military tradition practised by troops at the time of disengaging from battle at sunset. The Beating

Beating Retreat Ceremony, 2012

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, 2012, which brought down the curtain 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.

15.32 **Martyrs' Day Ceremony, 2012:** On January 30, 2012, the President laid a 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

15.33 The responsibility of implementing the official language policy in the Ministry of Defence (Secretariat), three Services

Headquarters, all Inter Service Organisations and Defence Undertakings has been assigned to the Official Language Division of the Ministry. To this end, the Division ensures appropriate action for compliance of the provisions of Official Language Act and rules made thereunder and the directions received from the nodal Department viz. Department of Official Language, Ministry of Home Affairs from time to time. With a view to accelerate progressive use of official language Hindi in the Ministry and all subordinate offices etc. under it, monitoring of work relating to official language implementation is done through the meetings of two separate Hindi Salahakar Samitis constituted under the chairmanship of Raksha Mantri and the quarterly meetings of two departmental Official Language Implementation Committees, by review of quarterly progress reports and carrying out of joint official language inspections of defence organisations.

15.34 **Annual Programme:** Efforts are being made for achieving the targets laid down in the Annual Programme for the year 2011-12 for transacting the official work of the Union in Hindi. The main thrust is being laid on increasing the original correspondence in Hindi, issuing of all communication falling under Section 3(3) in bilingual form and accelerating Hindi training (language, typing and stenography). Review of progress in this regard is conducted regularly in the meetings of departmental official language implementation committees.

15.35 **Translation Work:** As a part of official language implementation, the staff of the Division remained engaged in translation work throughout the year. Apart from miscellaneous communications received for translation from various offices/sections in the Ministry, MP/ VIP references, reply letters from RM/RRM, cabinet notes, answer to Parliament questions and assurances, audit paras, material relating to Standing Committee on Defence and Consultative Committee, Annual Report of the Ministry, etc. were translated.

15.36 **Committees relating to Official Language:** The Ministry has two Hindi Salahakar Samitis. Both the Samitis i.e. one for the Department of Defence, Defence Research & Development and Department of Ex-Servicemen Welfare and the other for the Department of Defence Production, have been re-constituted. Four meetings each of the two Official Language Implementation Committees of the Ministry were held during the year under report.

15.37 **Incentive schemes for writing books originally in Hindi on subjects relating to defence:** Awards for the years 2005-07 were given to the winners by Raksha Rajya Mantri during the meeting of the Hindi Salahakar Samiti held on June 6, 2011. Under the scheme of 2007-09, no book was found suitable. Now the scheme for the period 2009-11 is under process.

15.38 **Hindi Pakhwara:** With a view to create a favourable atmosphere to undertake

official work in Hindi and to encourage the officers/ employees to use Hindi in official work, the Hindi 'Pakhwara' (fortnight) was held in the Ministry from September 14 to 28, 2011. During the 'Pakhwara', several competitions in Hindi noting and drafting, Hindi typing, Hindi stenography and essay writing were organised. Successful candidates in various competitions were awarded cash prizes and gift items.

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.

15.39 **Inspections of Parliamentary Committee on Official Language:** The first Sub-Committee of the Committee of Parliament on Official Language made inspection tours of a number of defence offices located in different parts of the country. The Ministry provided appropriate guidance to the offices under inspection and necessary action was ensured to fulfil the assurances given by them at the time of inspection.

WELFARE OF PERSONS WITH DISABILITIES

15.40 The representation of persons with

Table No. 15.4

Annual Statement showing the representation of the persons with disabilities in services (As on January 1, 2011)

Group	No. of employees				
	Total	In identified posts	Visually handicapped	Hearing handicapped	Orthopaedically handicapped
Group A	3193	569	0	0	7
Group B	16076	3855	12	9	62
Group C	157737	7507	116	230	1099
Group D	85013	14427	202	202	423
Total	**262019**	**26358**	**330**	**441**	**1591**

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, 2011)

Group	No. of employees				
	Total	In identified posts	Visually handicapped	Hearing handicapped	Orthopaedically handicapped
Group A	2129	35	11	5	2
Group B	33779	478	8	17	192
Group C	71549	2578	149	171	1074
Group D	62	0	0	0	0
Total	**107519**	**3091**	**168**	**193**	**1268**

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.

15.41 **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 relevant Sections by virtue of special Notifications issued by the Ministry of Social Justice and Empowerment.

15.42 **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 persons with disabilities.

15.43 **Defence Research and Development Organisation (DRDO):** DRDO is committed to implement the Government policies and instructions relating to the welfare of persons with disabilities. The 3% reservation in the recruitment and promotion is being provided to the persons with disabilities as per the Government instructions.

15.44 **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 of such personnel 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 tricycles to the disabled ESM, subject to disability of more than 50% or recommendation of medical authorities.

(b) **Tool Kit for ex-Servicemen Technicians:** Tool kits are provided to ESM technicians for an amount not exceeding Rs. 8,000/- out of the Armed Forces Flag Day Fund,.

(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 etc. Recurring grants are 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.

(d) **Grant to Paraplegic Rehabilitation Centre (PRC):** The Paraplegic Rehabilitation Centres at Kirkee 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 @ 14,600/- per annum per inmate.

(e) **Grant to Cheshire homes:** Annual grants @ Rs. 9000/- per annum per inmate are provided by KSB to Cheshire homes, which look after leprosy, mentally handicapped, chronic spastic/ paraplegic and TB ESM inmates.

(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 and also imparts vocational training to enable the blinded ESM to find a place in society, besides providing after care service.

15.45 **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. Service element is related to the length of service rendered by the individual at the time of invalidment. The rate of disability element is 30% of the reckonable emoluments for 100% disability proportionately reduced for lower percentage. On the recommendations of the Sixth Central Pay Commission, an armed force personnel retained in service despite disability, which is accepted as attributable to or aggravated by military service, and who has foregone lump sum compensation in lieu of that disability, may be given disability element at the time of retirement/ discharge, whether voluntary or otherwise, in addition to retiring/ service pension or retiring/ service gratuity. This is applicable from January 1, 2006.

(b) **War Injury Pension:** War injury pension is granted to the personnel who sustain injury or disability by the Armed Force personnel 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 subject to certain conditions 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%.

DELHI DOORDARSHAN

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 Week from October 31 to November 5, 2011 with the intention of emphasizing the importance of enhanced security and spreading awareness against corruption.

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, six officials were given major penalty and five officials were given minor penalty. Forty one complaints received from CVC were investigated and brought to a logical conclusion.

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.

16.6 During the Annual Zonal Review Meeting, 2011, taken by Chief Vigilance Commissioner (CVC) on November 23, 2011 at Bangalore, CVC took note of the achievements that no prosecution sanction was

pending in Ministry of Defence and the pendency position of the CVC referred complaints has shown considerable improvements during the last two years.

DEPARTMENT OF DEFENCE PRODUCTION

16.7 **Ordnance Factory Board (OFB):** Periodic Vigilance Inspections of Factories are conducted and investigations on specific complaints are carried out. 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 and instructions for system improvement are initiated.

16.8 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 in non-sensitive areas as well as from one station to another on a regular basis.

Defence Public Sector Undertakings

16.9 **Hindustan Aeronautics Limited (HAL):** As part of preventive vigilance, an interactive session "Sampark" is being conducted in all the Divisions of the Company. During the reporting period, 35 complaints were taken up for investigation. Reports have been submitted to the concerned Disciplinary Authorities in 14 cases. 7 complaints have been closed and remaining are under investigation. During the period, 137 Surprise Checks and 524 Routine Inspections were carried from preventive vigilance angle. Due to various Preventive Vigilance checks, a direct savings of Rs. 12 crores (approx.) was achieved.

16.10 **Bharat Electronics Limited (BEL):** The performance of Vigilance Department during 2010-11 has been satisfactory. 1400 Purchase Orders/ Contracts and 451 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 2010-11, 11 Works Contracts and 16 high value POs have been inspected by in-house inspection teams.

16.11 During the year, 2630 Regular/ Surprise inspections were conducted. Monthly Vigilance review meetings were held by various Unit/ Vigilance Committees regularly and during this year 239 meetings were held. Executives have been trained in the Principles of Natural Justice & Domestic Enquiry Training Programme and Vigilance Awareness Training Programme. 39 Executives and 32 Non Executives working in sensitive areas for 3 years and above have been moved to different posts. A new Vigilance page has been put on BEL website (www.bel-india.com). E-procurement is under development and it is expected to be implemented shortly. ECS/ EFT has been implemented.

16.12 **Garden Reach Shipbuilder & Engineers Limited (GRSE):** Emphasis was laid on preventive vigilance, proactive vigilance and system improvements so that the need for the resorting to punitive vigilance was minimized. This approach was in consonance with the recent instructions of CVC and the Ministry.

16.13 Several system improvement works were taken up, such as the renewal of the bank guarantees given by the vendors, mustering of Hindi books, segregation of scraps category-wise before disposal etc. A direct saving of Rs 28.49 lakh was made with the comparison of bills submitted by the vendors with the measurements in a ship repair case. Surprise checks and routine inspections of all units were continued. A team from the office of Chief Technical Examiner in CVC visited GRSE for inspection of 250 metric ton Goliath crane being commissioned as part of Yard Modernization.

16.14 A separate Vigilance Corner was made in the official website of GRSE. Various information such as integrity pact, tenders, status of payment to vendors and contracts awarded, procedure for vendor registration etc. were put on the website. Procurement through e-tendering showed dramatic increase. Disciplinary proceeding for major penalty was initiated against one officer.

16.15 **Goa Shipyard Limited (GSL):** The thrust during the year, as in the past, was on the Participative Vigilance and creating awareness all around. Regular inspections and surprise checks were carried out in various areas. The overall objective of vigilance has been to encourage transparency in the organization and instill confidence amongst the citizens. As a result of Government directions, GSL is in an advanced stage for Implementation of E-procurement.

16.16 **Hindustan Shipyard Limited (HSL):** The Vigilance Department which is functioning in HSL, keeps constant Vigil on various activities of HSL. Apart from the above, Vigilance Department is providing necessary assistance/ guidance as and when required.

16.17 **Mazagon Dock Limited (MDL):** The Vigilance Department takes appropriate action to carry out preventive and punitive vigilance in the Company. It promotes transparency and fairness in various activities of MDL including procurement, subcontract, recruitment etc. The Vigilance Department also attempts to ensure integrity in all aspects of the company's functioning undertaking CTE type, intensive examination of Purchase/ Subcontract/ service orders. Surprise Spot checks are also being conducted by Vigilance Department. A Vendors Meet was also convened with leading Contractors/Suppliers along with Vigilance Department and Senior Officers of MDL.

16.18 **BEML Limited:** The Vigilance department in the organization has five functional wings

and the assigned task of these wings and the activities carried out during the year are given below:

(i) Investigation Wing deals with complaints received from sources such as CVC, CBI, Media, Audit, direct complaints received, monitor progress of investigations and verification of files for suspected irregularities based on source information.

(ii) Disciplinary Wing deals with follow up of cases arising out of various investigation reports, disciplinary proceedings and inspection reports. It vets the charge sheets pertaining to Vigilance cases & monitor the progress of inquiry proceedings on all vigilance cases.

(iii) Anti-corruption Wing deals with follow up of cases relating to possession of disproportionate assets, illegal gratification, procedural deviations etc., preparation of lists of ODI/ Agreed list and liaison with CBI & CVC etc.

(iv) Preventive Vigilance Wing conducts surprise checks, system improvement studies, scrutiny of POs and contracts etc. organizes vigilance related seminar/ workshops and vigilance awareness training.

(v) Technical Wing conducts CTE Type of inspection of Civil, Electrical/ Mechanical Hort/ Works, Stores etc., Scrutinizes the reports submitted by CTE Team and Submits the same with technical remarks and Co-ordinates with CTE to carry out their inspection at BEML.

16.19 **Bharat Dynamics Limited (BDL):** Main objective of the Vigilance Department in the year 2011 had been to:-

i. Improve the transparency in bill payments, tendering and vendor relations.

ii. Implementation of e-Procurement and Increase in percentage e-Payments.

iii. Implementation of integrity Pact.

iv. Revision of Materials Management and Personnel manuals.

Integrity Pact has been adopted to improve the transparency, equity and competitiveness in procurement w.e.f. November 1, 2011.

16.20 **Mishra Dhatu Nigam Limited (MIDHANI):** Vigilance Awareness Week was observed from October 25 – November 1, 2011. Discussions were organized by eminent vigilance professionals, which benefited MIDHANI employees.

16.21 **E-Procurement Drive:** A drive has been initiated by the Department of Defence Production to introduce e-procurement in Defence PSUs and OFB to bring in more transparency and accountability into the system, in accordance with the CVC guidelines about implementation of e-procurement initiatives for Government Organisations and PSUs. The e-procurement programme of DDP has been selected as one of the good governance initiatives to be monitored at the national level by the Cabinet Secretariat. The programme

needs to be completed in all respects by DPSUs and OFB by March 31, 2012.

DEPARTMENT OF DEFENCE RESEARCH AND DEVELOPMENT

16.22 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 Central Vigilance Commission, Central Bureau of Investigation and other agencies.

17

EMPOWERMENT AND WELFARE OF WOMEN

A Technical Officer on Duty in Radar Complex

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 and have served with competence and distinction. They were inducted in the Military Nursing Service in 1927 and in the Medical Officers cadre since 1943. In the Armed Forces Medical Services, there are both permanent and Short Service Commission Officers.

17.3 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. Women Short Service Commission Officers in the Army are now 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.

17.4 The future policy on induction and employment of women in Armed Forces has been enunciated in November, 2011, keeping in view the role and responsibility of the Armed Forces in defending the nation and protecting the territorial Integrity of the country, as under:

(i) Women Officers may continue to be inducted as Short Service Commission Officers (SSCOs) in Branches/ Cadres where they are being inducted presently in the three Services;

(ii) Women SSCOs will be eligible for

consideration for grant of permanent commission alongwith Men SSCOs in specific Branches in the three Services viz. Judge Advocate General (JAG) and Army Education Corps (AEC) of Army and their corresponding branches in Navy and Air Force; Naval constructor in Navy and Accounts branch in Air Force.

(iii) In addition to the above, in the Air Force, women SSCOs will be eligible alongwith male SSCOs, for consideration for grant of permanent commission in Technical, Administration, Logistics and Meteorology Branches.

17.5 The grant of permanent commission is subject to the willingness of the candidate and service specific requirements, availability of vacancies, suitability, merit of the candidate as decided by each Service.

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), Education Branch and the Naval Architecture Specialisation 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).

17.8 **Training-Girl Apprentices:** In Mumbai Dockyard, five girl Apprentices have successfully completed training in the last 14 months. Eleven girl Apprentices are undergoing training in two Trades and have completed their training in November 2011.

INDIAN AIR FORCE

17.9 Till the 1990s, women could only 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.

17.10 **Women Officers in Air Force:** Women officers are part of the officer cadre in the IAF and no separate cadre exists for them. The present ceiling for SSC officers is 20% of establishment in Flying and AE branches and 25% in Non-Tech Ground Duty Branches. The number of women officers held on strength as on January 1, 2012, including medical officers is 1166. Women are not inducted in Personnel below Officers Rank (PBOR) category in the IAF.

17.11 **Employment of Women Officers in IAF (Flying Branch) Transport Pilots:** Women are presently employed as pilots in the IAF in the Transport, Helicopter, and Navigation stream. 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.

IAF Women Pilots always ready to face the Challenges of Flying

17.12 **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.

17.13 **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.

A Doctor on Duty

17.14 **Everest Conquest by Women Officers:** Under the aegis of the IAF Adventure Cell, an IAF Mountaineering team including six women set off to conquer the highest peak in the world, Mt Everest (8848M). Three women IAF officers summitted the peak on May 25, 2011, bringing laurels to the IAF.

IAF Women Mountaineering Team

17.15 **All Women Skydiving Teams:** Six lady officers, from the first IAF all-women formation skydiving team, have blazed a trail across the vast blue skies. After a gruelling 45 days of training at the world famous Sky Dive training school at Arizona, USA, they graduated from being novice skydivers to professional

skydivers. They have since performed at various ceremonial occasions including the 79th Air Force Day Parade at Hindon on October 8, 2011.

All Women IAF Skydiving Team in Action

17.16 **Welfare:** Over 71% 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. Women officers/ Flt Cdts and other women employees are provided with conducive working environment. Special care is taken to ensure gender sensitization in the IAF and various sensitization capsules and workshops on the subject have also been introduced in training institutions.

INDIAN COAST GUARD

17.17 **Women Officers in Coast Guard:** Women officers are being inducted in the Indian Coast Guard as Assistant Commandant since 1997. Women candidates can join the Indian Coast Guard in the General Duty (Permanent), General Duty (Pilot/ Navigator) and General Duty (Law) branches. 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.

Women Coast Guard trainee pilots

The selection process for women is similar to that of male candidates. Women officers are posted in non-seagoing appointments. The women officers in the Indian Coast Guard have the option to serve till superannuation, except for the officers appointed under short service scheme. At present, there are 65 women officers in the Coast Guard.

DEFENCE RESEARCH DEVELOPMENT ORGANISATION

17.18 DRDO is sensitive to the need for 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 and fulfilment of their potential that their contribution to 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 Cells to look after the welfare of women employees. A similar Cell has also been set up in DRDO HQrs for the purpose.

17.19 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.

DRDO ensures that women employees are accorded equal opportunities for enhancement of their skills and knowledge and fulfilment of their potential and that their contribution to organizational objectives is appreciated.

DEPARTMENT OF DEFENCE PRODUCTION

17.20 **Hindustan Aeronautics Limited (HAL):** The present strength of women employees in HAL as on December 31, 2011 is 2413. A sizeable number of women employees are in Supervisory and Executive cadres and they are provided with equal opportunities for advancement of their career. Based on the guidelines received, necessary action has been taken to prevent sexual harassment of women at their workplaces. The CDA Rules and certified Standing Orders have been amended in this regard. Complaints Committees are also in place.

17.21 **Bharat Electronics Limited (BEL):** BEL has around 2295 women employees across the Company in various Units/ Offices. Fair opportunities are provided in Recruitment, Career Progression, Learning and Development, Welfare measures etc. Women employees play a significant role in both Trade Unions as well as in the Officers' Association, to ensure their rights. In the light of 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.

17.22 **Garden Reach Shipbuilders and Engineers Limited (GRSE):** To mobilize and harness the power of women and to combat gender discrimination and facilitate social development, the company has taken the following initiatives:

(a) A 11-member Complaints Committee, headed by a Lady Officer and with 1 NGO representative has been set up to redress complaints of sexual harassment at the work place. Periodic workshops are organized to sensitize employees on their rights and responsibilities for maintaining a gender-just work place and regular feedback is obtained from lady employees in this regard.

(b) **Equal employment opportunity to women:** In the year 2011, ten women employees were appointed by the company in various capacities.

17.23 **Hindustan Shipyard Limited (HSL):** The Management has constituted a Women's Cell and a Gender Budgeting Cell. Four women Officers are discharging the activities of the Gender Budgeting Cell, in addition to their own duties and functions.

17.24 **Mazagaon Dock Limited (MDL):** The percentage of women employees has increased by 13.16% in the year 2010-11 as compared to the year 2009-10. A Committee has been constituted for redressal of complaints of sexual harassment, so that women employees of MDL can perform their duties honourably and without fear. In addition, regular training workshops, motivational programmes, training for safety at workplace etc. have been organized with a special focus on its women workforce.

17.25 **BEML Limited:** BEML Limited is an equal opportunity employer and accordingly, the related policies and the rules of the organization are equally applicable to both men and women employees. Women employees/ officers are provided with equal opportunities. Also, all the applicable statutory provisions under the Factories Act, Maternity Benefit Act, etc. are being complied, both in letter and spirit. The Company has constituted Women Cells in all the Production Units and in the Corporate Office to redress the grievances of the women employees/ officers. Crèche allowance of Rs. 100 is given to Women Employees/ Officers having child below 5 years of age. All women employees, irrespective of their wage group, get 12 days of Casual Leave, as against 7 Days of Casual Leave to male employees.

17.26 **Bharat Dynamics Limited (BDL):** There are 280 women employees working in BDL. Of these, 67 are executives and 213 are non-executives, and they constitute 9.9% of the total workforce in the Company. The Company has amended its Standing Orders and CDA rules and incorporated a chapter on "Prohibition of Sexual Harassment of Women Employees at Work Place", which is treated as misconduct. A 'Complaints Committee' headed by a senior woman officer has been constituted to inquire into any complaint of sexual harassment.

17.27 **Mishra Dhatu Nigam Limited (MIDHANI):** MIDHANI is extending all facilities as per the statutes for welfare of women employees. The strength of women employees is 53, as on date. Women employees, including both executives and non-executives, are nominated for in-house as well as external programmes. As part of MIDHANI's commitment for empowerment of women, a plant employing women for manufacture of quality fasteners made from titanium and titanium alloys and special steels, is being set up.

DEPARTMENT OF EX-SERVICEMEN WELFARE

17.28 Department of ex-Servicemen Welfare deals with the rehabilitation and welfare of about 27 lakh ex-servicemen, including widows of former Armed Forces personnel and their dependent family members. Financial assistance is being provided to the girls and women under various schemes. During 2011-12, 6261 daughters of ex-Servicemen and 2602 widows of ex-Servicemen were benefitted under these schemes.

MATTERS DEALT WITH BY THE DEPARTMENTS OF THE MINISTRY OF DEFENCE

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.

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 housing 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 metres of off-shore exploration and production platforms, coastal refineries and associated facilities such as Single Buoy Mooring (SBM), Crude Oil Terminal (COT) and pipelines;

    (iii) Central Co-ordinating 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. BEML Limited.

12. Hindustan Shipyard Limited.

13. Development of aeronautics industry and co-ordination among users other than those concerned with the Ministry of Civil Aviation and the Department of Space.

14. Indigenisation, development and production of defence equipment and participation of the private sector in the manufacture of defence equipment.

15. 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 aircrafts, 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, 2011 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 to July 14(FN), 2011

Shri Shashi Kant Sharma
From July 14(FN), 2011 onwards

SECRETARY DEFENCE PRODUCTION

Shri R.K.Singh
From July 31(AN), 2009 to June 24(AN), 2011

Shri Shekhar Agarwal
From July 6(FN), 2011 onwards

SECRETARY EX-SERVICEMEN WELFARE

Smt. Neelam Nath
From June 1, 2009 to September 30(AN), 2011

Shri Samirendra Chatterjee
From October 3(FN), 2011 onwards

SECRETARY (DR&D) AND SCIENTIFIC ADVISOR TO RAKSHA MANTRI

Dr. V.K. Saraswat
From August 31(AN), 2009 onwards

SECRETARY DEFENCE FINANCE

Smt. Nita Kapoor
From June 1(FN), 2010 to March 31(AN), 2011

Dr. Vijayalakshmy K Gupta
*From April 1(FN), 2011 to December 31(AN), 2011**

* **Shri A. K. Chopra** assumed charge as FA(DS)
From December 31(AN), 2011 onwards

CHIEF OF ARMY STAFF

General VK Singh,
PVSM, AVSM, YSM, ADC
From March 31(AN), 2010 onwards

CHIEF OF NAVAL STAFF

Admiral Nirmal Verma,
PVSM, AVSM, ADC
From August 31(AN),2009 onwards

CHIEF OF AIR STAFF

Air Chief Marshal PV Naik,
PVSM, VSM, ADC
From March 31(AN), 2009 to July 31(AN), 2011

Air Chief Marshal NAK Browne,
PVSM, AVSM, VM, ADC
From July 31(AN), 2011 onwards

CHAIRMAN COSC

Air Chief Marshal PV Naik
From March 31, 2010 to July 31(AN), 2011

Admiral Nirmal Verma
From July 31(AN), 2011 onwards

Brief of C&AG's Audit Report No. 11 of 2011-12, Union Government (Defence Services) on Adarsh Cooperative Housing Society (ACHS) – Mumbai.

Main audit findings of the Report were as under:

* The case of Adarsh Co-operative Housing Society, Mumbai has been engaging the National Headlines. This C&AG's Audit Report places documentary evidence of how a group of select officials could subvert rules and regulations in the name of Kargil Heroes, welfare of war widows, Ex-servicemen, welfare of soldiers, etc., to grab prime Government land in the heart of Mumbai. The agencies inter-alia included Defence offices, Departments and Agencies of Government of Maharashtra and Ministry of Environment and Forests, Government of India.

* Facts of the case gathered from records of Government of Maharashtra as also Defence Estates Office Mumbai conclusively prove that the land was in possession of Army, a fact that the officials of Government of Maharashtra, HQ M&G area and Defence Estates Office should have been aware of , but probably chose to ignore. The title to the land however was not clear as it was never formally transferred to the Ministry of Defence.

* The Society was originally formed to primarily help "Servicemen, Ex-servicemen and their widows", as events unfolded, its membership was expanded considerably to include officers of the Indian Administrative Service, politicians and their relations and other senior Service Officers. As of December 2010 the Society had 102 members.

Changing composition of members of the Society

Year	Defence including related civilian organisation	Other than Defence	Total Members
2000	40	0	40
2002	38	33	71
2003	45	50	95
2010	37	65	102

* The flouting of norms in the case was not only restricted to wrongful appropriation of government land. Almost at every stage, significant concessions were extended by the Government of Maharashtra in favour of the Society. Many officers-both civilian and Services – who were dealing with the case and were instrumental in taking those decisions eventually became members of the Society. In some cases, relations of these officers became the members.

* To accommodate the Society, the MMRDA Development Plan for the area was amended and the area reserved for roads was converted into residential area.

* The misappropriation of the land in possession of the Army was compounded by transfer of FSI of another piece of public land i.e. adjoining plot of 2669.68 sq metres used by BEST as approach road to its depot.

* Further relaxation was extended to grant additional FSI in lieu of Recreation Ground (RG). Society forwarded additional names "to be accommodated in Adarsh Co-operative Housing Society if the additional FSI is sanctioned by the Government." The Chief Minister approved the proposal to exclude 15% RG area from FSI computation.

* The norms for High Rise Buildings were violated. The maximum height of the Society building permissible as per the applicable Development Control Rules (DCR) 1967 was 45.6 metres. The Society was allowed to construct 28 floors and the total height of the building is 107.55 metres.

* The eligibility conditions were relaxed in favour of the members, Government of Maharashtra in February 2005 amended the provisions of the Government Resolution of July 1999 by raising the income limit of all and waiving the requirement of domicile in respect of retired State Government employees and serving and retired service personnel from Maharashtra allowed hitherto ineligible members to become eligible.

* Despite the existence of several agencies like Department of Environment in Government of Maharashtra, the Maharashtra Coastal Zone Management Authority, and the Ministry of Environment and Forests (MoEF) in the Government of India, a building more than 100 metres tall could come up within a few kilometres of Mantralaya in Mumbai without requisite clearance and also receive an occupancy certificate from the concerned local authorities.

* The Ministry of Environment and Forests, Government of India failed to draw attention of the State Government to the extant provisions regarding Coastal Regulation Zone Notification. It is communication created adequate context to allow the Government of Maharashtra to interpret it as a 'No Objection' to the proposed residential development by the Society and thus use it as "environmental clearance" from the MoEF.

Note: **The above brief has been provided by the C&AG.**

Brief on the Performance Audit of Defence Estates Management [C&AG's Report No. 35 of 2010-11, Union Government (Defence Services)]

The Ministry of Defence is the biggest landholder in the Government with a holding of 17.31 lakh acres of land. The responsibility for management of land at the apex level rests with the Ministry of Defence and with the Directorate General of Defence Estates (DGDE). With growing urbanization, in most of the cities the Cantonment and station areas are almost at the heart of the city now. Much of the Defence land both inside and outside Cantonment is now prime real estate.

Main audit findings of the Report were as under:

* There was lack of any focal point in management of Defence land. The MOD has only one section to deal with vast number of cases, which is inadequate. Besides, lines of responsibilities were also blurred on many aspects of Defence Estates management, with none of the agencies involved coming forward to accept responsibility.

* The application of land norms of requirements of land for different Defence establishments was not found to be uniform. On application of 1991's norms for new Military Stations to 39 existing Military stations, Audit observed that the existing stations held excess land to the tune of 81,814.82 acres.

* There were large scale discrepancies in the figures of A-1 land as per Local Military Authorities and that in the records of the DEOs who are responsible for keeping land record. Lack of survey and inspection of land carries the risk of encroachment and land grab which have become quite common as pointed out in the report.

* A large area of acquired land was awaiting mutation for periods ranging from 1 year to over 60 years. For example, 13.39 percent of land held on records of 11 DEOs was not mutated in favour of the Ministry. DGDE, too, failed to keep centralized record on the status of mutation.

* The Ministry in December 1992 instructed the DGDE to conduct land audit to rationalise and maximize the use of existing land holdings for Defence purposes. Army HQ, however, were not agreeable to the continuance of land audit and conveyed to the Ministry that further audit might not be conducted. The DGDE also allowed the mechanism of land audit to lapse.

* Long delays were observed in acquisition of land. In three Commands, 10 cases of land acquisition were completed by DEOs/ADEO with delays ranging from one to eight years. During the review of 49 cases, where acquisition is in progress in four Army and two Air Force and Naval

Commands each, Audit noticed that 15 cases were 1-5 years old, 12 cases 6-10 years old, 15 cases 11-20 years old and 6 cases over 20 years old with the status of one case being not made known. Final declarations of awards in respect of 21 cases were awaited even after issue of Government sanctions pertaining to the period from November 1979 to June 2003. Despite deposit of land cost of Rs. 56.24 crore in respect of 18 cases between December 1986 and March 2009, the acquisition proceedings were still incomplete.

* The Defence land remains to be constantly under commercial exploitation since long. The practice of allowing Shopping Complexes on Defence land and crediting the revenue earned from them to Regimental Funds, which are outside the Parliamentary oversight, continued to be unabated. Follow up of the cases already reported in various Audit Reports indicated that very little change had taken place in the situation on the ground. A number of case were, for example, reported in Paragraph 2.5 of C&AG's Report No. 6 of 2003 on exploitation of defence land for shopping complexes and diversion of revenue from public fund.

* There has been lack of action on abandoned land. Scrutiny of the records of the Ministry and DGDE indicated that an area of 25,888.81 acres of Abandoned Airfields (AAFs) and Camping Grounds (CGs) in five Commands had been lying surplus to the need of armed forces since 1980, which had neither been disposed of nor put to any alternative use. 7,499.39 acres had been encroached upon. The encroachment on such land in all the Commands varied between 16.10 percent and 38.96 percent.

* The area of encroachment of Defence land increased from 6,903 acres in January 1997 to 14,539.38 acres in July 2009. Neither were inspection of land being carried out by any authority and required certificates rendered by Defence Estates Officers, nor were the Ministry and DGDE monitoring the progress of inspection or of investigations about the circumstances leading to fresh encroachments.

* Though Golf is not an authorised activity, there were 97 Golf Courses under the Army with an area of at least 8076.94 acres. Golf Courses on A-1 Defence land were being operated by Army Zone Golf, a private registered society. The members of the club were not only service personnel but ex-servicemen, civilians and foreign nationals as well. Huge revenues were being earned without paying any rent for use of Government assets. Revenue generated was not credited to Government account and was presumably credited to Regimental Fund.

* The Defence land was being used unauthorizedly for Parks and Clubs. At Agra, Lucknow, Secunderabad and Pune, 122.58 acres of Defence land

had been leased out to various clubs at nominal rates. Land was being utilized for unauthorized purposes like marriages, parties, exhibitions etc. Recovery of Rs. 2.14 crore, for the year 2004-05 to 2009-10, was outstanding against the clubs.

* The state of management of leases was so dismal in that 2500 acres of Defence land valuing Rs. 11,033 crore was on lease for an annual rent Rs. 2.13 crore, which is negligible given the present market value of the land. There was no progress in renewal of 3780 leases and in 1800 cases, there was no pursuance for eviction of lessees.

* In contravention of the Ministry's land policy, numerous cases of unauthorized sale/ transfer of Bungalows on Old Grant sites (OGBs), use of OGBs for commercial purposes like marriage halls and hotel/ restaurant were seen. 92 cases for resumption of sites referred to the Ministry were awaiting sanction for a period ranging from one to seven years and in respect of 65 cases, resumption notices were pending with the Ministry for a period ranging from two to seven years.

Note: **The above brief has been provided by the C&AG.**

Report No.24 of 2011-12: Union Government (Defence Services) Army and Ordnance Factories

II Ministry of Defence

Para 2.1: Delay in induction of state-of –the –art Artillery Guns

Failure of the Ministry of Defence and Army in defining the requirement of specific gun system had deprived its Artillery, for over a decade, of guns of latest technology, which are in service world over. The abnormal delay in procurement of the state-of-the-art technology gun replacing the existing guns of obsolete technology of 1970, had not only impacted the operational preparedness of the Army but also resulted in substantial cost overrun.

Para 2.2: Delay in establishment of repair facility (Mini Depot) and unwanted import of Trailers

Advance payment of Rs.100.18 crore had been made to the United States Government (USG) between March 2008 and October 2009 to establish Mini Depot for repair of 12 Weapon Locating Radars (WLRs) by September 2010. No progress had been made towards setting up of repair facility by due date. Consequently, a number of WLR remained non-functional for want of repairs. Besides, incorrect analysis of requirement of support equipments for the WLRs led to unwanted procurement of twelve Trailers at a cost of Rs.2.19 crore.

Para 2.3: Failure of the project "Mission Excel Information Technology (MEIT)"

The project "Mission Excel Information Technology(MEIT)" of Defence Accounts Department (DAD) planned with the objectives of automation of every function of DAD was derailed from its path in spite of incurring expenditure of Rs.20.47 crore. The intended objectives of automation of all functions of DAD remain unachieved even after four years.

III ARMY

Para 3.1: Extra expenditure due to acceptance of higher rates.

Director General National Cadet Corps (DGNCC) violated the provisions of General financial Rules and Defence Procurement Manual (DPM) while procuring mosquito nets for its Cadets. By adopting incorrect practice of purchasing 80 per cent quantity from past suppliers at higher rates than that of L-1 firm, extra expenditure of Rs.21 crore had been incurred.

Para 3.2: Diversion of funds from Government into non-Government account for procurement of Personal Kit items.

Army HQ had set up a commercial outlet in the name of Personal Kit Store (PKS UN)

without approval of the Ministry. Through this outlet, transaction of Government stores worth Rs.140.75 crore were carried out for last three years. Stores for PKS (UN) were procured by diverting funds from Government into non-Government Account and Army had charged service charges of Rs.5.36 crore irregularly.

Para 3.11: Irregular payment to Civil Hired Transport Contractors

Irregular payment of Rs. 32.29 lakh had been made to the Civil Hired Transport Contractors due to dubious booking of Civil Hired Transport by two Ordnance depots for conveyance of ordnance stores to dependent units.

IV Works and Military Engineer Services

Para 4.1: Overpayment in Electricity Bills

Overpayment of Rs.1.63 core had been made to the electricity supplying agencies due to application of incorrect tariff schedule or failure to intimate correct contracted maximum demand (CMD) by the Military Engineer Service.

V BORDER ROADS ORGANISATION

Para5.2: Non-completion of bridge after twelve years of sanction

Improper planning and supervision of works resulted in non-completion of the bridge on a river in Uttarakhand after 12 years despite spending Rs.3.54 crore.

VI DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION

Para 6.1: Blockage of public money due to take over of unusable land

Defence Research and Development Organisation (DRDO) acquired 407 acres of forest land at Faridabad for Rs.73.26 crore in April 2008 to set up a centre. The land could not be used for construction activities as diversion of land for non-forestry purpose was not permitted by the Central Empowered Committee (CEC).

Para 6.3 Development of a Modular Bridge below requisite specifications

Against the users' requirement of modular bridge of 46 metre span with Military Load Class (MLC)-70, DRDO developed 40 metre span MLC-70 modular bridge by spending Rs. 21.46 crore. The Army did not accept the bridge being below requisite specifications and their requirement of modular bridge remains unfulfilled for nine years.

VII PROJECT MANAGEMENT IN ARMAMENT RESEARCH AND DEVELOPMENT ESTABLISHMENT

Chapter 7: Project Management in Armament Research and Development Establishment (ARDE)

Scrutiny of staff projects undertaken by ARDE during last 15 years, revealed that out of 46 closed Staff projects, only 13 underwent

production while in the remaining either no production was required or claims of success could not be substantiated. Many of the projects failed as these were taken up without firming up the General Staff Qualitative Requirements (GSQR) or frequent changes in Qualitative Requirements were made by the users. Excessive time overrun and non-acceptance of the final output by the users also led to closure of the projects. In many cases, delays and failures led to dependence on imports.

VIII ORDNANCE FACTORIES ORGANISATION

Para 8.2: Extra expenditure due to delay in finalization of a purchase agreement

Abnormal delay in firming up an offer collectively by the Heavy Vehicles Factory Avadi, Armoured Vehicles Headquarters Avadi and Ministry of Defence despite being aware of the availability of a machine from only one source led to its procurement at an avoidable extra expenditure of Rs. 1.36 crore after obtaining fresh offers.

Para 8.4: Undue benefit to a firm

Ordnance Factory Ambernath extended an undue benefit of Rs. 9.77 crore to the Minerals and Metals Trading Corporation Mumbai owing to the factory's failure to insist upon supply of the outstanding quantity of copper cathodes at London Metal Exchange rates of February 2007 as per the supply order and accepting the same at higher rates of May 2007.

Para 8.5: Avoidable import of propellant

Ordnance Factory Khamaria provided incorrect information to the Ordnance Factory Board about stock balance of propellants of an ammunition, which resulted in avoidable import of propellant valuing Rs. 2.17 crore and extra expenditure of Rs. 39.79 lakh when compared with cost of production of the item at Ordnance Factory Bhandara.

Summary of Important Audit observations – Ministry of Defence

Report No. 20 of 2011-12 (Air Force and Navy)

I. Delayed acquisition of armaments for a frontline fighter aircraft

Flawed approach in acquiring 16 MiG-29K aircraft, at a cost of Rs. 3,405.61 crore without finalising the associated package with the procurement of the aircraft, in January 2004, led to delivery of six aircraft in December 2009 without weapons. Subsequently, five more aircrafts were delivered in May 2011. The armament for the aircraft were contracted for only in March 2006 which led to non delivery of weapons till October 2010, adversely affecting the operational capabilities of the aircraft. Besides, the Beyond Visual Range missiles contracted for the aircraft, at a cost of Rs. 93.68 crore, has had an unsatisfactory track record with Indian Air Force.

(Paragraph 2.1)

II. Extra expenditure on procurement of Low Level Transportable Radar

Acquisition of critical requirement of air defence surveillance system was beset with delays at each stage in the pre-contract finalisation process. Further avoidable additional payment of Rs. 57.46 crore was made by the Ministry to M/s Bharat Electronics Limited (BEL) without justification due to inadequate negotiations during procurement.

(Paragraph 2.2)

III. Extra expenditure on operation of a surveillance system

Indian Air Force procured two vital surveillance systems at the cost of Rs. 676 crore. One of the system met with an accident and has become non operational since May 2009. It is not likely to be available to IAF for another two years. The accident was attributable to failure in keeping track of weather changes, inadequate supervision of the ongoing snubbing activities and follow up on maintenance activities. Besides, the fabric used in both the systems have also started decaying prematurely causing excessive leakage of helium resulting in extra expenditure on operation cost.

(Paragraph 2.3)

IV Procurement of unsuitable communication sets

Air Defence V/UHF links play a vital role in all air operations. Ministry /IAF accepted communication equipment, designed and developed by Hindustan Aeronautics Limited (HAL), even though the equipment did not meet technical requirements. Despite spending Rs.116 crore and considerable period of time, IAF's critical requirement for communication equipment is yet to be fulfilled.

(Paragraph 2.4)

V Abnormal delay in procurement of Precision Approach Radar

Indian Navy inordinately delayed the procurement of Precision Approach Radar resulting in an additional expenditure of Rs. 2.01 crore over and above the initial quote. The radar intended to be purchased on fast track basis was commissioned in April 2009, eight years after initiating the procurement process. Post commissioning, the performance of the radar has been erratic.

(Paragraph 2.5)

VI Delay in procurement of urgent aviation stores through Indian embassies

Procurement of critical and urgent aviation stores/spares through Indian Embassies was beset with delays at each stage. The decision-making even at Air HQ was slow and led to delay in conclusion of contacts. The contract delivery schedules were significantly longer, thereby, undermining the urgency of procurement.

(Paragraph 2.7)

VII Avoidable expenditure on procurement of spares

Failure in placement of supply order under

option clause resulted in an avoidable expenditure of Rs.4.29 crore in the subsequent procurement of spares. Besides, due to delay in procurement, established infrastructure remained idle for want of spares for considerable time.

(Paragraph 3.1)

VIII Unfruitful expenditure on procurement of flare cartridges

Out of 20,000 flares procured for use on the MiG 21 Bison aircraft upgradation project, 19,540 flares costing Rs. 3.09 crore exhausted their shelf life of seven years in store. Thus procurement of flares was rendered unfruitful due to expiry of flare cartridge before being placed with operating squadrons, where they could have been put to use.

(Paragraph 3.2)

IX Avoidable expenditure in procurement of spares for a helicopter

There was abnormal delay in processing the case for procurement of spares for KA-31 helicopters. Further, Indian Navy's failure of to get the validity of the quote of a firm extended resulted in an avoidable expenditure of Rs.10.71 crore.

(Paragraph 4.1)

X Avoidable expenditure in procurement of Winch Reel Hydraulic

Lack of due diligence by the Tender Evaluation Committee at the initial stage in processing of tenders for procurement of Winch Reel Hydraulic led to delay in procurement and an avoidable expenditure of Rs.9.73 crore.

(Paragraph 4.2)

XI Extra expenditure in procurement of Gas Turbines

Breaking up the procurement order of nine gas turbines by Indian Navy led to an extra expenditure of Rs.2.49 crore as the subsequent procurement of five gas turbines was at a higher cost.

(Paragraph 4.3)

XII Inordinate delay in installation of SPL Plotting Tables on submarines

SPL Plotting Table is a navigation and tactical system which can plot the ships own position as well as it can plot the data received from the unit sensors. Four SPL Plotting Tables procured at a cost of Rs.6.05 crore could not be installed onboard the submarines for about four years after their receipt. Continued disuse meant that, these Plotting Tables lost their warranty cover in September 2008 without these being utilised.

(Paragraph 4.4)

XIII Tardy progress in execution of a Water Supply Scheme

There was an inordinate delay on part of the Military Engineer Services (MES) for over seven years in execution/ commissioning of Water Supply Scheme at Visakhapatnam. The expenditure of Rs. 4.53 crore did not serve

the objective of providing adequate and clean water to Defence Personnel.

(Paragraph 4.6)

XIV Loss of stores in transit

Failure of Aeronautical Development Establishment (ADE) to comply with the extant orders for insuring against loss or damage in transit resulted in a transit loss of stores worth Rs. 10.63 crore meant for Light Combat Aircraft (LCA) programme.

(Paragraph 5.1)

XV Savings/ recoveries at the instance of audit

An amount of Rs. 1.31 crore was recovered/ adjusted in two cases in respect of Navy and Rs. 31.56 crore in three cases in respect of Air Force was saved only after having been pointed out by audit.

(Paragraph 3.6 and 4.10)

Ministry of Defence

Audit Report No. CA 3 of 2011-12

Bharat Electronics Limited

Para 7.1 Loss in manufacture and supply of satellite radio receivers. Contract manufacturing of Satellite Radios and supply without agreement with the collaborator resulted in a loss of Rs. 16.39 crore.

BEML Limited

Para No. 7.2 Sale of Dealer Model Equipment

Though the Company had been in the business of mining and construction equipment since 1964 and enjoyed 12 % market share in respect of construction equipment, the Company's market share in respect of DME (small end construction equipment) was around one per cent only till 2009-10 and was facing severe competition from both domestic and international suppliers in this segment.

To establish brand image and get reasonable market share, the Company decided (July 2006) to establish wider dealership network throughout the country to have maximum access to the customers located in interior areas. A review of dealership network of the Company in Audit revealed the following:

Despite growth in construction/ infrastructure activities in the recent years, the Company failed to capitalize on the potential for small end equipment.

Quality of DME supplied by the Company and after-sales service was poor resulting in return of equipment by the customers. This created negative image for the Company's products.

The Company had dispatched equipment to dealers without valid orders and also not considered the market realities resulting in piling up of inventories and consequent locking up of funds.

Para 7.3 Failure to safeguard interest of the Company in selection of a Joint Venture partner.

Failure to ensure business and financial credentials of the JV partner resulted in unfruitful

investment of Rs. 6.94 crore besides impending threat of invoking Corporate Guarantee of Rs. 19.15 crore.

Hindustan Aeronautics Limited

Para 7.4 IT Audit on Implementation of Industrial Finance System with specific thrust on Material Management module.

Hindustan Aeronautics Limited implemented Industrial Finance System (IFS) an ERP-package with the objective of implementing uniform procedure and practices, on-line information for decision making, integration and inter-operable systems amongst divisions eliminating isolated islands of automation. A review of IFS implementation with specific thrust on Material Management Module in Engine division, Bangalore and Nashik division was taken up. Delays in implementation were noticed due to absence of Business process Re-engineering combined with inexperience of the implementer. Flaws in system design, non-mapping of various business processes, non-cleansing of data before migration, absence of validation checks combined with manual interventions resulted in incomplete and unreliable data and further led to non-achievement of the intended benefits as per Project Quality Document.

Para 7.5 Setting up dedicated manufacturing facilities without firm commitment.

The decision of the Company to set up dedicated facilities for undertaking export orders without firm commitment or equity participation with P&WC was injudicious, resulting in blocking up of funds to the tune of Rs. 53.57 crore and infructuous expenditure to the tune of Rs. 46.97 crore.

Audit Report No. PA 4 of 2011-12

Bharat Electronics Limited

Procurement system in Bharat Electronics Limited

Audit examination revealed certain inadequacies in the system and procedures of purchase, vendor development and tendering process. Some of the significant audit findings are discussed below:-

* **Thin vendor base**

The company was operating on a thin vendor base, as for almost one third of the standard items, it had only one vendor while for another one third of these items, it had only two vendors. In fact, the Company could add only 168 vendors to its directory during the last three years which accounted for only one per cent of the total vendors of the Company. Thus, in the absence of an adequate vender base for procuring a large number of items, the Company's ability to obtain competitive rates was impaired.

* **Non-sharing of vendor base**

Vendor base of the Company was unit specific and was not being shared among units while inviting quotations. This deprived the Company from reaping the benefits of competitive prices

particularly when the vendor base of the Company was thin.

* **Non-monitoring of price trend**

The company and its units were not monitoring the price trends of material and components despite specific provision in its Purchase Procedure.

* **Delays in placement of purchase orders and inspection of material**

In 38 percent of cases examined, the units of the Company failed to adhere to the specified time limit for placement of purchase orders. Moreover, in 66 percent of the cases where purchase orders had been finalized, there were delays in dispatching the Purchase orders to the vendors. The Company had not fixed any time lines for various stages of procurement process, i.e. tender evaluation and placement of purchase orders after its finalization.

* **Under utilization of overseas offices**

The Company could not leverage its overseas offices to reap savings in the import of material.

* **Cost reduction measures**

Indigenization, which was supposed to be one of the major drivers of cost reduction, was not very successful as is evident from the fact that the value of purchase orders placed on foreign vendors increased from 48 percent in 2007-08 to 68 percent in 2009-10.

* **Unrealistic budgeting**

Company failed to exercise a realistic assessment of its requirement of its expenditure on procurement as in all the three years, the actual expenditure of procurement deviated by more than 20 percent from the planned expenditure.

Note: **The above brief has been provided by the C&AG.**

Position of Action Taken Notes (ATNs) as on 31.12.2011 in respect of observations made in the C&AG Reports/PAC Reports

Sl. No.	Year	Details of the Paras of C&AG/ PAC Reports on which ATNs are pending as on 31.12.2011					
		No. of Paras/ PA reports on which ATNs have been submitted to PAC After vetting by Audit During 2011-12 (Upto 31.12.2011)	No. of ATNs not sent to Audit by the Ministry even for the first time	No. of ATNs sent to Audit for vetting	No. of ATNs sent but returned with observa-tions and Audit is awaiting their resubmission by the Ministry	No. of ATNs pending with MoD/ MoD (F)/Service HQRs	No of ATNs which have been finally vetted by Audit but have not been submitted by the Ministry to PAC
1	1987-88				1		
2	1988-89				1		
3	1995-96				1		
4	1996-97						
5	1999-2000	1		1		1	
6	2001-02	2	1			3	
7	2002-03		1				
8	2003-04	1				1	
9	2004-05	2				2	
10	2005-06	5				3	
11	2006-07	5		1			1
12	2007-08	14		2	1	2	2
13	2008-09	13	3	1	2	1	2
14	2009-10	22		1	4	3	
15	2010-11		20	7		9	2
16	2011-12 **(upto 31.12.2011)**			3		25	
	Total	**65**	**25**	**16**	**10**	**50**	**7**

Back Cover :- Aerial View of Rajpath during Republic Day Parade, 2012

President's Fleet Review