सत्यमेव जयते

स्वच्छ भारत
एक कदम स्वच्छता की ओर

MINISTRY OF DEFENCE
GOVERNMENT OF INDIA

Annual Report
2017-18

C-17 Globemaster being escorted by Su-30 MKI Fighters

Front Cover :
(Clockwise)

1) Tejas Light Combat Aircraft (LCA) : Dominating the Skies
2) Successful Trials of Sub-sonic Cruise Missile 'Nirbhay'
3) Growth of Private Defence Industry
4) Humanitarian Assistance and Disaster Relief Operations
5) Missile Firing- INS Kochi
6) Dropping Soldiers by helicopter.

Annual Report 2017-18

Ministry of Defence

Government of India

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1

SECURITY ENVIRONMENT

Security Environment

1.1 India's foreign policy and defence strategy seeks to ensure a peaceful and enabling environment for achieving transformative national growth and development. A complex and increasingly unpredictable interplay of regional and global developments, ranging from West Asia to the Indo Pacific, shapes India's security environment. Guided by the principles of strategic autonomy and self-reliance, India continued to address a wide spectrum of conventional and non-conventional security challenges by pursuing constructive bilateral engagement with partner countries as well as in regional and global frameworks to promote peace and stability.

1.2 The past year witnessed major geopolitical and geo-economic developments, some of which led to continuing instability and volatility in parts of our immediate and extended neighbourhood. These uncertainties have been compounded by shifting strategic postures of major powers, leading to competition and contestation. Over the year, India continued to adopt a holistic approach to security threats and successfully addressed its security imperatives, including emerging aspects such as energy security, information and cyber security and environmental issues.

Regional Security Environment

1.3 India occupies a pivotal geographical position in the Indian Ocean. An overwhelming large quantum of India's external trade and more than 70 per cent of our energy imports originate in West Asia and pass through the Indian Ocean. Maritime Security figures as an important dimension of India's bilateral relations with all Indian Ocean littoral states as well with several regional and multilateral bodies such as IORA, ADMM Plus, IONS, ReCAAP, ARF etc. India has made substantial progress in its maritime engagement in the region and beyond. We initiated efforts to help maritime neighbours establish information-sharing networks and contribute to shared development

of Maritime Domain Awareness. Maritime connectivity is one of the key pillars of India's development cooperation with Asia and Africa. India has been working with like-minded countries to preserve the integrity, inviolability and security of the maritime domain. Recognizing the growing importance of maritime trade in an increasingly globalised world, India supports freedom of navigation and over-flight, and unimpeded commerce, based on the principles of international law, particularly UNCLOS.

1.4 The situation in India's immediate neighbourhood remains complex. There has been a rise in terrorism in the Pakistan-Afghanistan region. In Sri Lanka and Nepal, the success of post-conflict transition processes depend on the ability of the political system to evolve an inclusive agenda that accommodates the aspirations of all communities. The growing trend of countries in the region falling into debt-traps through new paradigms of external developmental assistance poses a challenge to the long term stability of these relatively small and vulnerable economies. Such loans and assistance have already led to adverse consequences for some recipient countries.

1.5 In Afghanistan, the emergence of 'Islamic State' and Taliban with the support of countries in the region and outside has further complicated the security situation and continued to foment terrorism and violence. The Afghan National Security Forces, with the help of US and NATO forces, continue to target Taliban and Islamic State to reduce their influence. The Taliban however continues to pursue distinct military as well as political objectives in Afghanistan. The newly announced US policy for Afghanistan and South Asia in August 2017 indicates more flexibility in conducting operations in Afghanistan. Pakistan has yet to reign in its proxies operating in Afghanistan and sheltered in Pakistan.

1.6 The internal security situation in Bangladesh has continued to improve due to the effective synergised operations being conducted by Bangladesh's security forces. However, the danger of an increase in radicalisation remains a cause of concern that could impact on the internal security situation of Bangladesh with possible consequences for India. India and Bangladesh continue to progress bilateral defence cooperation. Historical ties, cultural linkages and security imperatives drive the two nations to enhance economic and defence cooperation for mutual benefit. The exodus of large number of people from Rakhine State of Myanmar since August 2017, largely to Bangladesh, has resulted in a humanitarian crisis in Bangladesh.

1.7 India and Bhutan traditionally share unique bilateral relations, characterized by trust and understanding, which have matured over the years. The special relationship has been sustained by the tradition of regular visits and high level dialogue. Close cooperation in security issues and effective border management are the hallmark of bilateral ties. There has been a gradual and smooth transition towards democratic constitutional monarchy in Bhutan and the next parliamentary elections in Bhutan are due in 2018.

1.8 India continues to assist Maldives in capacity building. The initiation of Defence Cooperation Dialogue in 2016 and ongoing Military Staff talks have provided some impetus to defence cooperation. Growing radicalisation and increasing influence of external powers in the island nation are adversely affecting the regional security environment. Recent developments that threaten democratic structures and processes in the country create further long-term challenges for security and stability.

1.9 India and Nepal enjoy a special and unique relationship rooted in shared heritage, civilisation, culture and extensive people to people relations. Both countries also share close military and security ties. Security issues of mutual concern are regularly discussed with the Government of Nepal through institutionalized bilateral mechanisms. Nepal successfully conducted elections to the Federal Parliament, Provincial Assemblies and Local Bodies under the new Constitution in 2017-18.

1.10 India and Myanmar witnessed further intensification of ties with successful visits of Prime Minister to Myanmar in September 2017 and by Senior General to India in July 2017. The attack by Arakan Rohingya Salvation Army's operatives on Myanmar Police outposts in Northern Rakhine and the Myanmar Army's stern response resulted in the exodus of a large number of people from Rakhine state of Myanmar since August 2017. The humanitarian crisis which has unfolded has severe security implications for the

region as transnational terror organizations could exploit the displaced youth. India sent humanitarian relief material and is assisting Myanmar and Bangladesh find an amicable solution to the current crisis.

1.11 The politico-security situation in Pakistan continues to remain problematic. Law enforcement and security agencies remained largely unaccountable for human rights violations and exercised disproportionate political influence. Pakistan's precarious economic situation and fluid political setting since the ouster of former Prime Minister Nawaz Sharif in July 2017 pose serious challenges to its internal stability. The Pakistan Army maintains its rigid control on national security policies. Pakistan continues to pursue a confrontational policy vis-a-vis India, primarily driven by Pakistan Army and ISI. The proxy war through its Jehadi organizations in Jammu and Kashmir continues unabated. Under the rubric of CPEC, China has positioned itself as the primary supplier of military hardware, techno-economic funding and diplomatic support to Pakistan. The Pakistan Army continues to differentiate between good and bad terrorists and nurture anti-India terror groups as strategic assets. Internationally proscribed terror entities and individuals are being encouraged to enter the political mainstream in Pakistan.

1.12 Sri Lanka is a key strategic partner with an important role in ensuring security and stability in the Indian Ocean Region. Increasing investments from foreign entities with a high debt component is a concern. India continued to engage with Sri Lanka on issues of defence and security, including capacity building and training of the armed forces.

1.13 Though events in 2017 added to the complexities in India-China relations, the strategic dialogue between India and China continued under the overall context of a developmental partnership, which also helped in peaceful disengagement of border personnel of India and China at the face-off site in the Doklam region. Both sides recognized that ensuring peace and tranquillity in the India-China border areas is an essential pre-requisite to the development of bilateral relations. They agreed that progress in bilateral relations should be guided by the consensus reached between their leaders that at a time of global uncertainty, India-China relations are a factor of stability and India and China, in their relationship, must not allow differences to become disputes.

1.14 India's Act East policy has found expression through India's peaceful presence and solidarity with our extended neighbourhood. India's vision of Security and Growth for All in the Region (SAGAR) covers capacity-building, HADR, SAR and EEZ surveillance in addition to blue economy aspects. This has been supplemented by showcasing India's achievements in developing state of the art defence capabilities, such as in design and building of warships. The situation in Korean Peninsula arising out of the North Korean nuclear and ballistic missile tests poses a serious challenge to regional as well as global security. India has condemned the nuclear tests conducted by North Korea and has expressed its concerns over the proliferation of nuclear and missile technologies which need to be investigated thoroughly.

1.15 Japan is reviewing its National Defence Program Guidelines (NDPG) with specific reference to missile defence, outer space and cyber security. Japanese participation in the MALABAR exercises, the ratification of the India-Japan civil nuclear agreement, efforts of the two sides to explore joint developmental projects in Asia and Africa and enhanced bilateral defence cooperation have re-affirmed Indo-Japanese commitment to peace and stability in the Indo-Pacific region.

1.16 The security environment in West Asia is critical to India because of our energy requirements and for the security of the large Indian Diaspora. The year saw a deepening of differences between key players which has manifested itself in the continuing civil war in Syria and Yemen. Iran and India have stakes in the Chabahar Project through which the first consignment of wheat has been supplied to Afghanistan. In Iraq, the security forces have achieved major successes in their campaign against the IS. India's approach towards the conflicts in West Asia has been to encourage peaceful dialogue with involvement of all concerned parties to ensure lasting peace in the region. India continues to support the legally established Governments in the region.

1.17 India became a full member of the Shanghai

Cooperation Organization (SCO) last year. We have friendly relations with all the five Central Asian Republics and strong security, economic and cultural ties.

1.18 India and Russia have traditionally shared strong ties, especially in the field of defence. This relationship continued last year through the conduct of the historic INDRA-2017, the first ever Tri Services Joint Exercise off Vladivostok in November 2017 and enhanced defence cooperation.

1.19 In Europe, internal and external factors pose unprecedented challenges. Internal divisions over the migration crisis, challenges to security amid terrorist attacks, growing inequality, xenophobia and rise of new political forces are testing the core values of European Union.

1.20 The India US Strategic partnership assumes immense significance in the emerging global order. The visit of the Prime Minister to the United States in June 2017 witnessed the two nations renewing their commitment towards strengthening their strategic partnership and upholding a rules-based global order. In the past few years the Indo-US defence partnership has progressed in tandem with economic relations. Ensuring maritime security and freedom of navigation in the Indian Ocean and the wider Indo Pacific region is a key security imperative and one of the key objectives of India's engagement with the US and other partners.

Internal Security Environment

1.21 State sponsored terrorism by Pakistan in Jammu and Kashmir remains the foremost internal security challenge faced by the country. Due to unrelenting efforts of our security forces, violence levels were considerably reduced in the state during the year, including incidents of stone pelting which saw a reduction of almost 55 percent. This has been the most successful year in the last five years for the security forces in terms of number of terrorists eliminated in the state. The Government appointed former Director of Intelligence Bureau, to initiate and carry forward a dialogue with elected representatives, various organizations and concerned individuals in Jammu and Kashmir.

1.22 There was a marked improvement in LWE Scenario in 2017. The geographical spread of LWE violence saw significant reduction with the number of districts reporting violence going down from 68 in 2016 to 58 in 2017. The improved security situation is a result of resolute implementation of the multi-pronged strategy encompassing security measures, development measures, ensuring rights and entitlements of local communities etc. Greater presence of security forces across LWE States and severe attrition on armed LWE cadres through arrests, surrenders, desertions and neutralization in operations have contributed to the reduction in violence. Several developmental initiatives have been taken specifically for development of LWE affected areas including focused schemes for development of roads, setting up of mobile towers, skill development and financial inclusion etc. apart from the flagship schemes of Central Government in infrastructure, education, health, agriculture etc.

1.23 The overall security situation in the North Eastern states improved substantially in 2017. The numbers of insurgency related incidents in the region decreased by 36% percent compared to 2016 (2016-484, 2017-308). The year 2017 witnessed the lowest number of insurgency incidents since 1997. Security forces casualties in the region declined from 17 (2016) to 12 (2017) and civilian casualties from 48 (2016) to 37 (2017). Similarly, number of kidnapping/abduction incidents also declined by 40% (2016-168, 2017-102). Counter Interagency Operations led to neutralization of 57 militants, arrest of 995 and recovery of 432 weapons in 2017 in the region. Compared to 2013, insurgency incidents declined significantly by 58%, civilian's casualties by 66%, SFs casualties by 34% and kidnapping/abduction cases by 67% in the region in 2017. While the States of Sikkim, Mizoram and Tripura had no insurgency related violence in 2017, insurgency/militancy related violence declined by 56% in Assam, 67% in Nagaland, 28% in Manipur and 59% in Meghalaya compared to 2016. In 2017, State of Manipur remained the most violent State accounting for about 54% of the total incidents in the region. There is increase in violent incidents by 22% in Arunachal Pradesh in 2017. Pursuant to policy of talks/negotiations, various insurgent outfits have entered into Suspension of Operations (SoO) agreements with Government and some of them have singed Memorandum of Settlement (MoS) and dissolved

themselves. As a result, a number of cadres of insurgent outfits have surrendered after laying down arms and joined the mainstream of society. Sustained counter insurgency operations are continuing against those outfits including NDFB (Saoraigwra) group which are indulging in violent activities. During the period 23.12.2014 to 31.12.2017, 1015 cadres/linkmen of NDFB/ Saoraigwra have been arrested with recovery of huge quantity of arms and ammunitions from them and 60 cadres have been neutralized in counter insurgency operations.

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2

ORGANISATION AND FUNCTIONS OF THE MINISTRY OF DEFENCE

Organisation and Functions of the Ministry of Defence

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 setup.

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 cooperation 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. 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 was raised on October 1, 2001 based on the recommendations of Group of Ministers (GoM) on the Kargil Review Committee (KRC) report. The HQ was raised under the command & control of Chairman Chiefs of Staff Committee (COSC) to foster jointness and synergy amongst the three Services. Since its inception, this HQ has achieved considerable milestones in joint and integrated planning, coordination of intelligence, joint conduct of Humanitarian Assistance and Disaster Relief (HADR) operations and prioritising/ streamlining procurements. Salient achievements of HQ IDS, during the ensuing year, are enunciated in succeeding paras.

RM at the Andaman and Nicobar Tri-Service Command

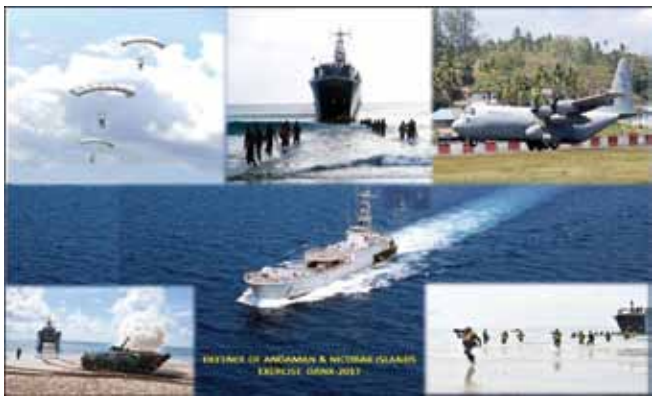
2.8 **Unified Commanders' Conference – 2017:** HQ IDS conducted the Unified Commanders' Conference (UCC) at New Delhi on July 10 & 11, 2017. The conference provides a platform for discussions at the apex level on all 'Joint' issues amongst the three Services. The conference was attended by the Raksha Mantri, Raksha Rajya Mantri, National Security Advisor, Service Chiefs and other Senior military and civil officials of the Ministry of Defence and Tri-Services Organisations/ Institutions.

2.9 **Chiefs of Staff Committee Farewell Banquet for the President:** The Chiefs of Staff Committee hosted a farewell banquet on July 21, 2017 in honour of President on the eve of his relinquishing office. The Vice President, Prime Minister, Raksha Mantri, Raksha Rajya Mantri,

Service Chiefs, and other Senior military and civil officials of the Services and the Ministry of Defence attended the Banquet.

2.10 ***Exercise INDRA:*** Giving Indo-Russian defence cooperation a major boost, the first ever Tri-Services Joint Exercise between India and Russia, Exercise INDRA, was conducted in the Eastern Military District of Russia from October 19-29, 2017.

2.11 ***Defence of Andaman & Nicobar Exercise (DANX):*** Exercise was carried out in the Andaman & Nicobar Islands and surrounding waters in November 2017. Assets and personnel from all three Services participated in this exercise, both from the mainland as well as those stationed in the islands.



2.12 **Joint Special Forces Training Camp:** The Camp is conducted annually under the aegis of Headquarters Integrated Defence Staff with a view to furthering integration between the Services in the field of Special Operations. This year the exercise was conducted in November 2017 at the Andaman & Nicobar Islands.

2.13 ***Humanitarian Assistance and Disaster Relief (HADR) Exercises:*** Three joint HADR exercises were carried out at Hyderabad, Shillong and Karwar, with participation of all stakeholders from the Armed Forces as well as the civil administration and central agencies, to rehearse and validate preparedness towards dealing with natural disasters.

2.14 ***School of Foreign Languages:*** The School of Foreign Languages at New Delhi has been placed under HQ IDS as an Armed Forces Training Institute (AFTI) on May 4, 2017.

2.15 ***Armed Forces Veterans' Day:*** The 2nd Armed Forces Veterans' Day was held on January 14, 2018 as a mark of respect and commitment towards our Veterans. The occasion was marked by rallies at Delhi, Allahabad, Mumbai, Port Blair, Pune, Lucknow, Jalandhar and Jaipur. The Armed Forces Veterans' Day Rally is an outreach programme to interact with Veterans and to apprise them of the measures taken by the Services HQ and Ministry of Defence on matters concerning their pension and welfare. Chief of Integrated Staff also laid a wreath at Amar Jawan Jyoti, along with Veterans of the three Services, on the occasion.

ARMED FORCES TRIBUNAL

2.16 The Government has established Armed Forces Tribunal (AFT) for the adjudication of complaints and

dispute regarding service matters and appeals arising out of verdicts of the Court Martial of the Members of the three Services (Army, Navy and Air Force) and provide speedy justice to them.

2.17 At present, the Principal Bench at Delhi and Regional Benches at Chennai, Jaipur, Lucknow, Chandigarh, Kolkata, Kochi, Guwahati, Mumbai, Jabalpur and Srinagar are functional.

BORDER ROADS ORGANISATION

2.18 Border Roads Organisation (BRO) is a road construction organization to meet the requirements of the Armed Forces. Starting operations in May 1960 with two projects, it has now grown to 18 projects. Nine BRO projects are located in North West India (4 in J&K, 2 in Himachal Pradesh, 2 in Uttarakhand and 1 in Rajasthan), eight in Eastern India (1 in Sikkim, 4 in Arunachal Pradesh, 1 in Nagaland, 1 in Mizoram and 1 in Tripura) and 1 in Bhutan. Out of these, one project in Tripura has been kept in suspended animation.

2.19 BRO is mainly entrusted with task of construction and maintenance of roads in the border areas, in keeping with defence requirements. These roads are developed and maintained through funds provided under different heads.

2.20 Cabinet Secretariat has amended Government of India, Allocation of Business Rules 1961 vide Notification dated January 9, 2015 to include all matter relating to Border Roads Development Board (BRDB) and Border Roads Organization under Ministry of Defence. BRO is work charged Organization under Ministry of Defence.

2.21 BRO has earned a reputation of being the only road construction agency to construct and maintain roads in difficult, isolated and inhospitable terrain in inclement climate conditions. BRO has constructed approximately 52,000 Km of roads, 598 major permanent bridges of 49200 Meter length and 19 airfields in these areas of the country. At present, BRO is working on 852 roads (38,118 Km) which include new construction, improvement from single lane to Double lane (530 Nos and 22,803 Km) and maintenance of Roads of 18803 Km. These 852 roads also include 61 Indo China Border Roads (ICBRs). The construction of 27 ICBRs has already been completed and initial connectivity to further 23 roads has been achieved. BRO is also maintaining five airfields. In addition, 2 Nos of Tunnels, Rohtang Tunnel (8.80 Km) in Himachal Pradesh and Theng (0.578 Km) in Sikkim are under construction. Breakthrough of these tunnels has been achieved. Completion of Theng tunnel is planned in the Financial Year 2017-18.

DEFENCE (FINANCE)

2.22 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.

2.23 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.

2.24 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 2015-16 and 2016-17, as also the Revised Estimates for 2017-18 and Budget Estimates for 2018-19 in respect of Defence Services Estimates are given in Table No. 2.1 and the relevant graph/chart at the end of this Chapter.

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

2.26 The position of Action Taken Notes (ATNs) as on 31.12.2017 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/ Estimates

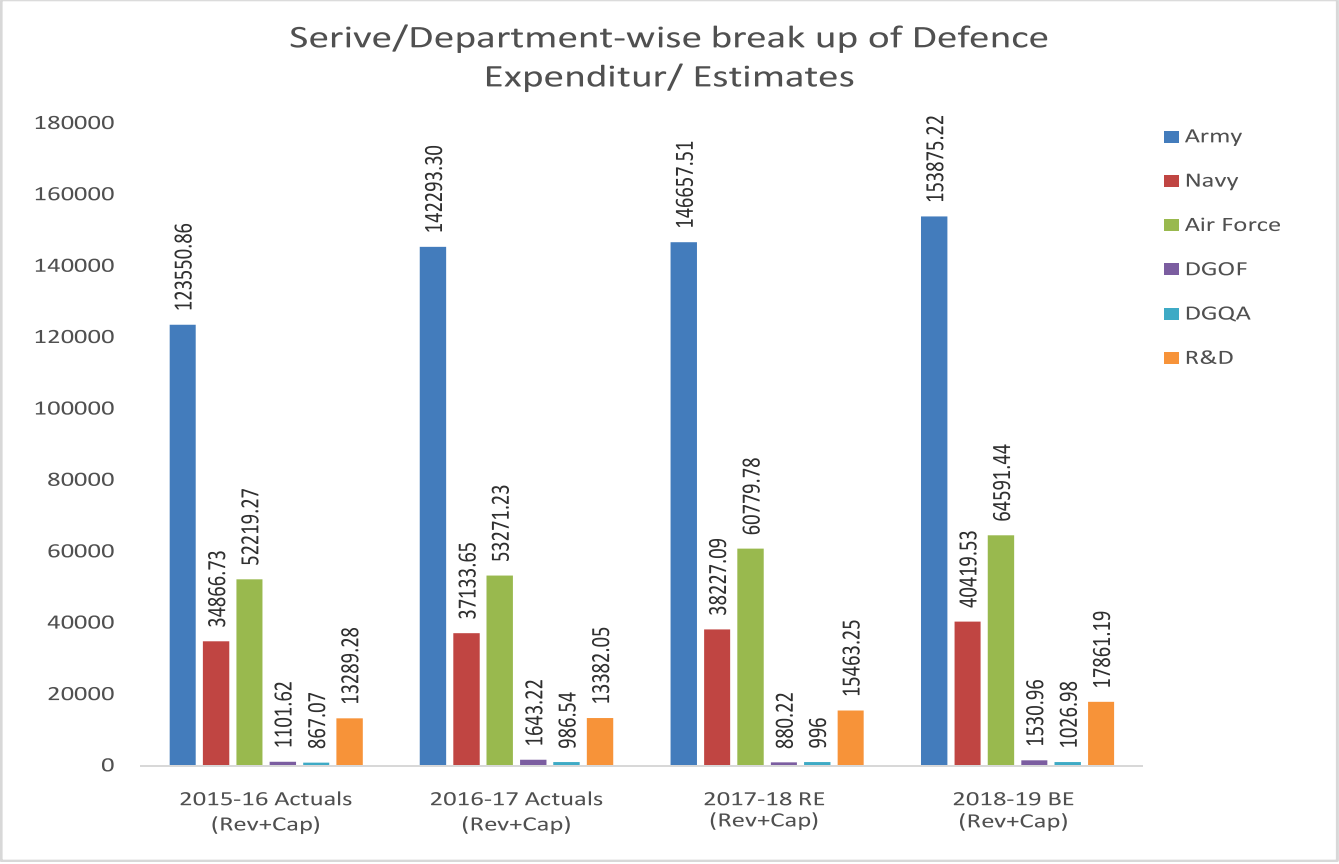
(₹ in crore)

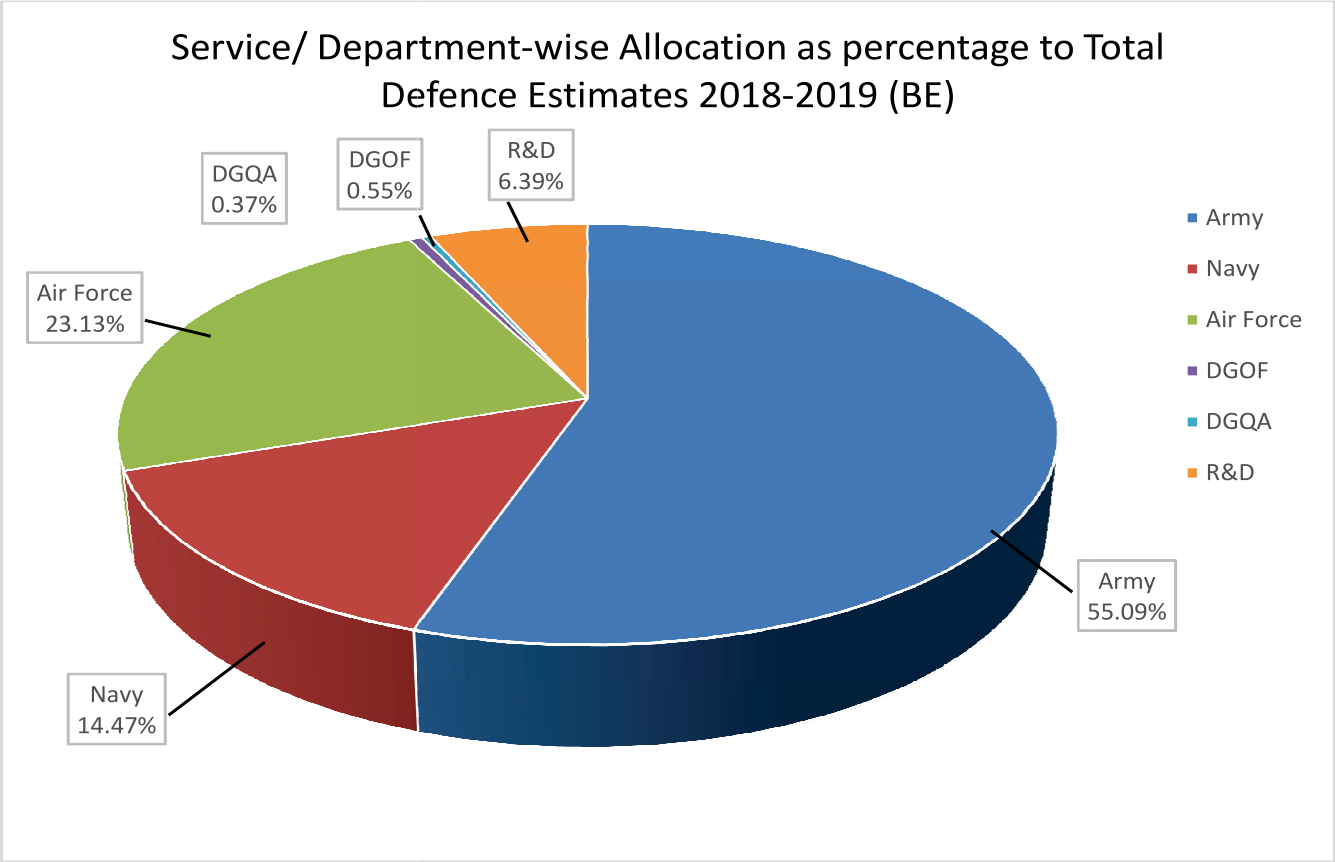
	2015-16 Actuals (Rev+Cap)	2016-17 Actuals (Rev+Cap)	RE 2017-18 (Rev+Cap)	BE 2018-19 (Rev+Cap)
Army	123550.86	142293.3	146657.51	153875.22
Navy	34866.73	37133.65	38227.09	40419.53
Air Force	52219.27	53271.23	60779.78	64591.44
DGOF	1101.62	1643.22	880.22	1530.96
DGQA	867.07	986.54	996	1026.98
R&D	13289.28	13382.05	15463.25	17861.19
Total	225894.83	248709.99	263003.85	279305.32

DGOF – Directorate General of Ordnance Factories

DGQA- Director General of Quality Assurance

R&D- Research & Development




Service/ Department-wise Allocation as percentage to Total Defence Estimates 2018-2019 (BE)
DGQA 0.37%
DGOF 0.55%
R&D 6.39%
Air Force 23.13%
Army 55.09%
Navy 14.47%
Army
Navy
Air Force
DGOF
DGQA
R&D

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3

INDIAN ARMY

Indian Army

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 people.

JAMMU AND KASHMIR

3.2 The overall situation in the Valley is under control, although the cycle of violence initiated after Uri attacks last year have continued. The Ceasefire Violations (CFVs) along Line of Control (LC) have shown a considerable increase over the corresponding period last year. Instances of infiltration attempts and tactical actions by enemy have also increased.

3.3 In the hinterland, the terrorists are focusing on soft targets like security force bases and convoys. The sentiments of the local population are being exploited by Separatists and inimical elements to ignite passion and to destabilise democratic institutions. Increased radicalisation and agitational dynamics, supported by social media campaign, have thrown new challenges for the Security Forces.

3.4 The recent action by the National Investigation Agency (NIA) against second rung leadership of Hurriyat has reduced their activity and restricted their operating space.

3.5 ***Ceasefire Violations (CFV):*** The ceasefire along the Actual Ground Position Line (AGPL), Line of Control (LC) and International Border (IB) Sectors in J&K has generally held. In the year 2016 post Uri terrorist attack on September 18, 2016, the tempo of CFVs increased considerably and has remained constant this year too. There were 228 CFVs along the LC in 2016 and this year till date (October 11, 2017) there have been 538 CFVs.

Appropriate and effective retaliation, where required, was carried out to the CFVs initiated by Pakistan. The incidents of CFVs are taken up through the established mechanisms of hotlines, flag meetings and Directorate General of Military Operation talks between the two countries.

3.6 ***Infiltration:*** Active training and aiding of terrorists continues from across the border to infiltrate through the LC to sustain proxy war in J&K. The efficacy of own Counter Infiltration grid has resulted in heavy attrition on infiltrating terrorists and lowering of successful infiltration across the LC as reflected below:

(a) ***Infiltration Bids Eliminated:*** In 2017 till date (November 13, 2017), the Army eliminated 32 infiltration bids resulting in 58 terrorists killed (in 2016, the Army had eliminated 27 infiltration bids resulting in 37 terrorist killed).

(b) ***Successful Infiltration:*** As per Multi Agency Centre Assessment, in 2017 till September 30, 2017, 80 terrorists infiltrated successfully out of the 291 who attempted (in 2016, 119 terrorists were successful out of 371 who attempted).

Situation in Hinterland

3.7 ***Terrorists Killed in Action:*** In 2017, 151 terrorists were eliminated by Army in hinterland. This year till date [January 14, 2018], 2 terrorists have been eliminated by Security Forces in hinterland.

3.8 ***Conclusion:*** The Army has assiduously combated terrorism in the State through people friendly operations with 'Zero tolerance' for Human Right violations. The endeavour would be to further strengthen the counter infiltration grid and conduct precise intelligence based operations to break the Nexus, with a larger aim of helping the civil administration in establishing its writ and bring about peace and stability in J&K.

NORTH EAST

3.9 The security situation in the North Eastern States has remained complex, fluid and dynamic with sporadic incidents of violence over the year. Proactive approach coupled with intelligence based operations undertaken by the Security Forces has resulted in successful curtailment of the scale of violence in insurgency prone areas. Owing to successful execution of comprehensive action plan by the Security Forces against the insurgent groups, the violence levels registered a decrease of approximately 60% thus ensuring moral ascendancy of Security Forces and Government machinery in the region. Inputs reveal that insurgent groups are facing acute administrative and financial crunch due to relentless operations by Security Forces and have been forced to form umbrella organisations to maintain their capability for orchestrating violent activities.

3.10 ***Assam:*** The security situation in the State remained largely peaceful and under control. Calibrated, synergised and coordinated operations by Security Forces significantly reduced the operational space of insurgent groups. National Democratic Front of Bodoland (Saraigaora) {NDFB (S)} has been marginalised leading to demoralisation and disenchantment amongst its cadres. Insurgent groups are facing acute financial crunch and have resorted to extortion and sporadic acts of violence to maintain their relevance.

3.11 ***Nagaland:*** Security situation in the State has improved considerably since 2015. National Socialist Council of Nagaland (Khaplang) [NSCN(K)] has been marginalized due to focused counter insurgency operations by Security Forces and presently its activities are confined to Eastern Nagaland and Myanmar Naga Hills. Concerted and relentless operations by Security Forces along India – Myanmar border (IMB) has severely dented the outfit, both physically and psychologically.

3.12 Framework Agreement for Naga Peace Accord was signed on August 3, 2015 and attempts to gain consensus of various stakeholders by Government of India is in progress. National Socialist Council of Nagaland (KitoviNeakpao) and six Insurgent Groups have come together to form the 'Working Group' in an attempt to counter the increased influence of National Socialist Council of Nagaland (Isaac Muivah) {NSCN (IM)}. The Working Group of Naga National People's Group (NNPG) have recently met Mr RN Ravi to convey their concerns on inclusive solution to the Naga peace process. Civil Society Organisations and Naga Tribal Council (NTC – apex body of Naga tribes of Nagaland) have also been pressuring

the NSCN(K) to join the peace process. In view of the upcoming State Assembly elections in February, 2018 and the perceived public opinion that the Naga Peace Process is nearing its conclusion, there is increased political activity by all stakeholders.

3.13 ***Manipur:*** Security situation in the State continues to remain fragile and it continued to be the most disturbed State in the North East region. Majority of the violence has been perpetrated by Valley based groups as they accounted for approximately 60% of the violence in Manipur. Inter-tribal rivalry and insider - outsider divide was prominently visible during 2017.

3.14 Demand of implementation of Inner Line Permit and its opposition were the main factors for protests in Manipur. Politics of "Blockades" and "Bandhs" continued to prevail and led to increasing fissures amongst the three major communities namely; Meiteis – Nagas – Kukis. The State is witnessing increased activities of NSCN (IM) in Naga dominated areas. There is also increased activity of Civil Society Organisations seeking clarification on the content of the Frame Work Agreement and these have been voicing concerns over maintaining territorial integrity of Manipur in light of the NSCN (IM)'s claim for Nagalim.

3.15 ***Arunachal Pradesh:*** Security situation in Arunachal Pradesh has been gradually improving in terms of reduction in violent incidents, lower civilian casualties and increasing number of apprehending of terrorists. Synergised operations by Security Forces have reduced the operational space of insurgents. Apart from the districts of Longding, Tirap and Changlang, the areas falling under the jurisdiction of 11 Police stations along the Assam border have been declared as 'Disturbed Area' for six months beyond September 30, 2017. Earlier areas under 14 police stations were declared as 'Disturbed Area'.

3.16 Longding, Tirap and Changlang districts of the State are affected by the presence of Naga factions which continue with their attempts to establish their writ in the region. Cadres of NDFB(S) and ULFA (I) frequent the State (for shelter/transit) sharing borders with Assam and Myanmar. The NSCN factions have also been indulging in forced recruitment to their cadres and there are attempts by joint groups under UNLFWSEA to showcase their relevance in these areas.

3.17 ***Meghalaya:*** The State continues to remain peaceful with dwindling support base for Garo National Liberation Army (GNLA). The violence remained largely confined to Garo hills perpetrated by the GNLA. Spillover of the activities of these groups was also visible in neighbouring districts of Goalparaand Dhubri in Assam. The recent Gazette notification by Government of India has declared only 10 km belt of area bordering Assam as 'Disturbed Area', while earlier it was 20 km belt.

3.18 ***Mizoram:*** State remained peaceful with increase in attempts by insurgent groups to smuggle arms and narcotics. Off late there is an increase in activities of Myanmar Ethnic Armed Groups (EAG) along the tri-junction of India, Myanmar and Bangladesh Border. There is a likelihood of spill-over of EAG activities in South Mizoram and influx of Myanmar population fearing violence by EAGs. Crackdown of Myanmar Army on ArakanRohingya Salvation Army (ARSA) has led to mass exodus of certain communities from Myanmar to neighbouring countries. Proactive measures are thus being taken to establish a coordinated intelligence grid and undertake effective border management to preclude any deterioration of situation on own side of India Myanmar Border.

3.19 ***Tripura:*** The State has remained comparatively peaceful and violence was within the threshold of law and order. Based on requisition from District Magistrate, West Tripura and Khowai districts, Assam Rifles columns were deployed in aid to civil authority for maintaining law and order in the affected areas with effect from September 21 to 30, 2017.

3.20 ***Summary:*** The year 2017 witnessed reduced levels of violence which reflect the efforts of Security Forcesto ensure transition of security environment from volatility to peace and tranquility. The region is at the cusp of major changes and large infrastructure and communication projects are on the anvil as part of 'Act East Policy'. The ongoing NRC update and Naga Peace Accord is likely to have a Pan regional impact and situation needs to be proactively monitored in the coming months due to the likelihood of ethnic clashes.

Situation along the India-China Border

3.21 The situation along India-China border continues

to be peaceful. There are few areas along the border where India and China have differing perception of the LAC. Both sides carry out patrolling upto their respective perceptions of LAC. Specific cases of transgression by Chinese patrols into such areas across LAC are taken up with Chinese authorities through the established mechanism of Hotlines, Border Personnel Meetings (BPM) and Flag Meetings.

Doklam Stand Off

3.22 The Doklam face-off has been a landmark event in India-China relations. India displayed a firm but determined 'Resolve' to hold its ground. The Indian sensitivities to the Doklam Plateau area of Bhutan – by virtue of its location and proximity to the Siliguri corridor, too, was highlighted.

3.23 The entire period could be divided into three distinct phases based on the status of activities of both sides – a 'Quiet' stand off upto June 25, 2017, buildup of forces by both sides complemented by bellicose Chinese media from June 26 to August 14, 2017 and a subsequent 'Thaw' leading to disengagement from August 15 to 28, 2017.

3.24 Disengagement at Face-Off Point between own troops and PLA took place on August 28, 2017. The mutual disengagement was a result of intense diplomatic communications between both the sides, complemented by the firm Resolve and Determination shown by Indian Army on ground. Post the disengagement, however, de-escalation of troops is yet to take place.

Border Defence Cooperation between the two Countries

3.25 During the year, both the countries had a number of Flag Meetings/Border Personal Meeting (BPM) which have contributed towards Border Defence Cooperation. In addition, following Confidence Building Measures (CBMs) are in the process of implementation:

(a) ***New Border Personnel Management (BPM) Mechanism:*** At present there are five locations on Northern Borders where BPMs are conducted. Two additional sites, namely Lipulekh in Middle Sector and Chumar in Western Sect are under consideration.

(b) There was a visible cold period in the Border Defence Cooperation between both the countries post HH Dalai Lama visit to Arunachal Pradesh in April, 2017, after which China suspended all BPMs. A similar stance was observed during the Doklam stand off.

(c) ***Hotline between India and China:*** India and China agreed to establish a hotline between the Military Headquarters of the two countries as part of Border Defence Cooperation Agreement 2013. Discussions are on to operationalise the mechanism at the earliest.

3.26 ***Transgressions:*** The number of transgressions in 2017 have increased from 2016 indicating PLA's assertiveness and sensitivity to its claims on the Northern Borders. Till date, the total number of transgressions on the Northern Borders are 334 (including 65 by fishermen at Dichu) vis-a-vis 235 (including 56 by fishermen at Dichu) in 2016 for the corresponding period.

DEFENCE COOPERATION WITH FRIENDLY FOREIGN COUNTRIES

3.27 Defence Cooperation activities constitute an important tool for furtherance of our national interests and foreign policy objectives. In keeping with India's rising global stature in recent years, there has been a considerable increase in Defence Cooperation activities undertaken by the Indian Army. Accordingly, an increasing number of Friendly Foreign Countries (FFCs) have shown keen interest to engage with the Indian Army, which is viewed not only as the world's second largest standing Army but also as a professional, apolitical force with extensive combat experience and exemplary training standards. As on date, Indian Army undertakes Defence cooperation activities with 99 countries.

3.28 ***Structured Engagements:*** The Government of India has entered into MoUs/ Defence Cooperation Agreement with 55 countries. Indian Army holds bilateral Army-to-Army Staff Talks (including Executive Steering Groups) with 14 countries. These provide the formal basis for progressing Defence cooperation initiatives. For engagement with Nepal, there is a joint Ministry of Defence and Ministry of External Affairs mechanism called Nepal

India Bilateral Consultative Group on Security (NIBCGS). A similar multi Ministry engagement exists with Russia wherein a 'Road Map for the Development of India – Russia Defence Cooperation' has been signed during the Annual Meeting of Defence Ministers held in Russia on June 23, 2017.

3.29 There are 70 Military/Defence Attachés including 31 from the Army posted in 44 Defence Wings abroad. Similarly, Defence representation in foreign embassies in New Delhi has increased to 113 Defence Attachés from 70 countries.

3.30 ***Nepal:*** The focus on enhancing military to military relations as part of ongoing defence cooperation between India and Nepal continues to be strengthend in various fields by providing defence equipment, training to persons of Nepal Army, through visit of medical teams, trekking teams and visit of senior officers. Capability enhancement of the Nepal Army is also being undertaken.

3.31 ***Bhutan:*** In keeping with the traditional close ties with Bhutan, we are providing assistance for capacity building of the Royal Bhutan Army and Royal Body Guards to further enhance strategic relations.

Combined Exercise with Friendly Foreign Countries (FFC)

3.32 Combined Military excercises with FFCs are an important part of defence cooperation. It involve sharing of experiences, understanding the changing dynamics of military operation, developing inter-opreability and stremlining the procedures for combined operations including Humanitarin Assistance and Disaster Relief.

3.33 ***Exercises Conducted:*** The Indian Army is continuously engaging in combined traning/ excercises with friendly foreign countries. The following combined training/ excercises have been conducted from January 1, 2017 till date:

(a) ***Exercise Nomadic Elephant XII:*** The 12th Indo-Mongaolia Platoon Level Joint Exercise/Trg-Excercise Nomadic Elephant XII, at Variengte, from April 5 to 18, 2017.

(b) ***Exercise Surya Kiran XI:*** 11th Indo-Nepal Battalion Level Combined Training/ Excercise-Exercise Surya Kiran XI, at Pithoragarh, from March 7 to 20, 2017.

(c) ***Exercise Surya Kiran XII:*** 12th Indo-Nepal Battalion Level Combined Training/Exercise-Exercise Surya Kiran XII, at Nepal from September 3 to 16, 2017.

(d) ***Mitra Shakti-V:*** 5th Indo-Sri-Lanka Training/ Exercise - Exercise Mitra Shakit-V at Aundh, Pune, from October 13 to 26, 2017.

(e) ***Exercise Sampriti-2017:*** 7th Indo-Bangladesh Platoon Level Training/ Exercise - Exercise Sampriti-VII at Umroi and Variengte from November 6 to 18, 2017.

3.34 ***Visits:*** The year 2017 was witness to the conduct of numerous high and functional level visits. The Army Chiefs of Japan, Czech Republic, Israel, Afghanistan and Bangladesh visited India while the COAS visited Nepal, Bhutan, Bangladesh, Myanmar, Kazakhstan and Turkmenistan. In addition, 451 high/ functional level interactions/ engagements were undertaken with FFCs during the year.

3.35 ***Joint Exercises:*** Joint Exercises with FFCs constitute the most visible component of our defence cooperation activities. These events showcase our professionalism globally and provide valuable exposure to own troops. Two new joint exercises have been instituted with Vietnam and Myanmar during the year.

3.36 2017 also saw the upgradation of Exercise INDRA (Russia) from a single Service to the Joint Tri-Service Exercise INDRA-2017 (first ever for both India and Russia) which was attended by 350 member Indian Army contingent headed by a two star rank officer. Exercise HARIMAU SHAKTI with Malaysia has also recommenced during the year. As on date, Indian Army has 26 instituted exercises with 22 countries. For the year 2017 - 18, of the 21 exercises scheduled, 12 exercises have been conducted till end December, 2017 and balance exercises are planned by March, 2018. Exercises with Singapore including field firing exercises are held in India.

3.37 ***International Army Games (Russia) 2017:*** The Indian Army contingents participated in the Tank Biathlon and Sniper Competitions of International Army Games (Russia) – 2017 from July 29 to August 12, 2017 in Russia and Kazakhstan respectively. Own tanks were used in the Tank Biathlon for the first time. Indian Army also sent a number of observers in various competitions held in Russia and Kazakhstan.

3.38 ***Military Ceremonial Events:*** Indian Army led the 62 member Services Band in the Spasskaya Military Music Festival held in Moscow from August 26 to September 3, 2017. Our Pipers also participated in the Annual Commemoration Ceremony of WW-I held in France and Belgium from November 9 to 14, 2017. An Indian Army Delegation attended the Ceremony at La Gorgue, France on November 12, 2017 for burial of the remains of two Indian Soldiers martyred during WW-I in France.

MODERNISATION AND EQUIPMENT

3.39 The major Army acquisition is focused on modernisation, building new capabilities and making up for deficiencies, while giving impetus to indigenization. Various measures have been adopted by Army to reduce procurement time-lines and hasten procurement for certain critical requirements.

3.40 ***Acquisitions:*** Modernisation and capability development of Indian Army is taking place at a rapid pace. During the current financial Year 2017-18 (upto November, 2017) 13 (thirteen) contracts worth ₹ 30030 crore have been signed for capital procurement of defence equipment for Army such as Helicopter, Missiles, Simulators, Artillery Guns, Electronic Fuzes and Ammunition. Various Arms and Services are being modernized to enhance the combat efficiency as follows:

(a) ***Mechanised Forces:*** Capability enhancement of Mechanised Forces is being undertaken by means of night enablement, enhancing mobility and accuracy and upgradation of existing equipment. Night enablement of tanks and BMPs are aimed at enhancing night fighting capability and accuracy.

(b) ***Infantry:*** Enhancing fighting capabilities of Infantry is being undertaken with an aim to enhance survivability, lethality and fighting capability of the Infantry soldier. Contract for Sub Machine Guns for Rasthriya Rifles has been signed and acquisition of latest weapons and equipment is underway to enhance fighting capability and survivability of Infantry.

(c) ***Artillery:*** Capability development of Artillery is focused on enhancing lethality, accuracy and surveillance capabilities. Signing of contracts to enhance the firepower and accuracy is underway. Upgrades of Unmanned Aerial Vehicle (SATCOM) System, Weaponisation of UAVs and Upgunning of Guns are in the pipeline which will give a tremendous boost to the fire power and surveillance capability of Indian Army.

(d) ***Army Air Defence:*** Capability enhancement of Corps of Army Air Defence is underway. Induction of Surface to Air Missiles will give a tremendous boost to the air defence capability of ground forces. In addition, procurement/upgrades of number Air Defence Gun and equipment are at fairly advanced stages and will further enhance the capability of ground based Air Defence.

(e) ***Army Aviation:*** Army Aviation is enhancing its firepower and surveillance capability. Many contracts have been concluded in the current financial year. Procurement of Search and Rescue Equipment and Air to Air Missile are at advanced stages of procurement. In addition procurement of helicopters will enhance the fighting capability.

3.41 In addition to acquisitions specific to different arms, induction of Specialist Vehicles, Critical Rolling Stock for rail movement, projects for Electronic Warfare, communication and Battlefield Management are also being undertaken. All these modernisation schemes once implemented would ensure a robust Army capable to take on any challenge in the envisaged battlefield milieu.

3.42 A number of initiatives have been undertaken to streamline and hasten the procurement process keeping in view the provisions of Defence Procurement Procedure – 2016. Government has also promulgated the policy of Strategic Partnerships in the Defence Sector which is intended to institutionalize a transparent and

object mechanism to encourage border participation of the private sector in manufacture of major defence platforms and equipment. Government regularly monitors progress of ongoing procurement projects, so as to ensure that the Army is equipped to meet the entire spectrum of security challenges.

3.43 The Army Design Bureau (ADB) was raised on August 31, 2016 with a charter "to function as an Army interface with leading research institutions like the DRDO and IITs, Academia, DPSUs and the industry, enabling them to understand and appreciate user requirements in depth and paving the way for high quality research and product development". The ADB has mapped the indigenous capabilities and capacities of the entire nation in the terms of technology, R&D and production for the DPSUs, Private Industry as well as various Academic Institutes. The ADB has been interacting with industries at various regional hubs and Technology Institutes/ R&D establishments across the country to help the industry and academia understand the modernization requirements of the Indian Army and for the Army to appreciate the capabilities/ constraints of the industry/ academia.

3.44 To engage the industry and academia, two Compendiums of Problem Statements highlighting various equipment and technology related problems faced by the Indian Army were published. There has been a very heartening response from both the Industry and academia and now we are in the process of finalizing the routes for productionising/ developing the solutions found suitable for the Army. A third Compendium is under compilation.

3.45 The ADB has also been empowered to facilitate basic research through the Army Technology Board. Research to convert a proof of concept to a prototype stage can also be facilitated by the ADB through the Technology development fund.

Ammunition

3.46 ***Ammunition Stocks:*** A number of major initiatives have been taken for improving ammunition stocks of Indian Army. This multi-pronged strategy is going to result in gradual build-up of ammunition.

3.47 ***Ammunition Roll on Plan:*** The management of ammunition is done by placing five year Roll on Indent on Ordnance Factory Board (OFB) to enable it to plan its production. The indent is placed on mutually agreed targets keeping the OFB capacity in view. The first five year Roll on Indent for 2010 to 2014 was placed on OFB in February, 2010. The second Roll on indent was placed on OFB in October, 2013 for projected requirement of five year perspective plan for year 2014 to 2019. Production reports of OFB are being monitored monthly and shortfalls are being highlighted.

3.48 ***Ammunition Road Map:*** During mid course evaluation of Five Year Roll on Plan of ammunition, need was felt for preparing Ammunition Road Map to address the criticalities. Ammunition Road Map was approved by Ministry of Defence to meet ammunition requirement. The ammunition procurement plan approved under the Ammunition Road Map included placing of additional requirements on OFB and procurement of some ammunition items ex-import.

3.49 ***Emergency Procurement of Ammunition:*** Ministry of Defence delegated Emergency Procurement powers to VCOAS in October, 2016. As a result of this delegation, done with a view to make up critical deficiency of Indian Army, many contracts were finalized for various critical ammunition, armament, vehicles and spares item. The procurements undertaken have improved the state of equipment holdings of Indian Army.

3.50 ***Delegation of Powers to Maintain Minimum Stock Level of Critical Ammunition and Spares:*** In order to ensure that the Armed Forces are always well-equipped for meeting emergent operational requirements, the powers for procurement to maintain minimum levels of critical ammunition and critical spares, have been delegated to the Service Headquarters (SHQs). The power and responsibility is therefore given to the Armed Forces to ensure that the minimum critical levels for ammunition and spares are maintained at all times.

3.51 ***Manufacture of Ammunition for Indian Army by Indian Industry:*** To facilitate development of indigenous capacity and reduce import dependence with the long-term objective of building capacity within the industry as a robust alternative source of ammunition,

the Government has approved manufacturing of selected ammunition for Indian Army by Indian Industry.

Armament

3.52 ***Armament Ex-OFB:*** Based on Annual Provision Review, indent is placed on OFB for manufacture of armament for which OFB has the Capacity and Technology.

3.53 ***Armament Ex-Import:*** Due to non-availability of technology, certain armaments are also being imported to make up the deficiency.

3.54 ***Delegation of Powers for maintaining 100% stock level of Critical Armament & Mines:*** Financial powers have been delegated to VCOAS for undertaking procurement upto 100% authorization in respect of some identified critical armaments and mines.

3.55 ***Weapon Night Sights and Surveillance Devices:*** The requirement of Image Intensifier Night Vision Devices (NVD) for Armoured Fighting Vehicle (AFV) and Non-AFV applications of Indian Army are met by M/s BEL & OLF. Present procurement cases from M/s BEL include Hand Held Thermal Imager (HHTI), HHTI with Laser Range Finder (LRF), Passive Night Vision Goggles (PNVG), Passive Night Vision Binoculars (PNVB), Passive Night Sight (PNS) for INSAS Rifle/LMG and from OLF include Image Intensifier & Thermal Imagery Sights for AFV platforms.

RASHTRIYA RIFLES

3.56 Rashtriya Rifles since its raising has rendered invaluable assistance towards the security as well as socio-economic development of the State. During 2017, Rashtriya Rifles has relentlessly pressed on with its operational tasks. The Force as a whole provided pivotal support for maintaining peace and tranquillity in the State which otherwise continues to be in turmoil.

3.57 Utmost patience and perseverance alongwith a sense of urgency, were maintained for conversion of the untiring efforts of Rashtriya Rifles into successful operations. During the complete period, units of Rashtriya Rifles were able to exert unrelenting pressure on the terrorists and their sympathizers. The efforts of the Force have ushered in peace and normalcy in the area, against the forces of terror, to a large extent.

3.58 ***Operational Achievements of Rashtriya Rifles:*** The Rashtriya Rifles has neutralised 142 terrorists during the period under review (108 killed, 34 apprehended) and has also recovered significant cache of warlike stores.

3.59 ***Shri Amarnath Yatra (Op Shiva):*** Rashtriya Rifles units and formations played a major role in ensuring peaceful conduct of Yatra by early and tiered deployment, aggressive domination and sound intelligence network. Full assistance including medical cover was provided to facilitate the movement of the devotees.

3.60 ***People Friendly Operations:*** A large number of people friendly activities were undertaken to shape the people's perception about the Army and the Government. This has made a visible change in the way people perceive the Army, besides increasing the comfort levels between 'Awaam' and 'Jawan'. Also, Youth Employment and Guidance Nodes (YEGN), set up by Rashtriya Rifles, targeted the youth of the State effectively. This has helped them explore avenues of higher education and employment, thus guiding them away from the lure of easy money and a misplaced sense of power through terrorism.

3.61 Creation of Rashtriya Rifles, the only specially structured Counter Insurgency/Counter Terrorism Force in the world has been one of the finest examples of a strategic decision with a long term perspective. The expertise gained is invaluable in building comprehensive National Power and needs to be preserved in perpetuity. It will be the endeavour of the Force to eliminate terrorism from the State in its entirety and continue to guide the populace, particularly the youth, to join the national mainstream. In doing so, catering to the aspirations of the people and complete prevention of human rights violations will remain to be the imperative guiding parameters for the Rashtriya Rifles.

TERRITORIAL ARMY

3.62 The Territorial Army Act was enacted in 1948. The concept of the Territorial Army (TA) is to provide part time military training to gainfully employed citizens who become competent soldiers as a result of the military training imparted to them.

3.63 ***Contribution of Territorial Army Units in Counter Insurgency/Counter Terrorism and Internal Security:*** Presently approximately 75 percent of TA units are deployed in Counter Insurgency/ Counter Terrorism environment in Jammu & Kashmir and North-East and are playing an important role as an adjunct to Regular Army for carrying out assigned task in professional manner.

3.64 Raising of new Territorial Army Battalions:

(a) ***Raising of an Infantry Battalion (Territorial Army) Ecological for Government of Maharashtra:*** Government has approved raising of 136 Infantry Battalion (Territorial Army) Ecological, MAHAR for the state of Maharashtra for afforestation and related activities in Marathwada region. The unit has been raised at Aurangabad and is operationally effective with effect from December 9, 2017.

(b) ***Raising of an Infantry Battalion (Territorial Army) for Andaman and Nicobar Command:*** Government has approved raising of 172 Infantry Battalion (Territorial Army) Madras for Andaman and Nicobar Command. The Unit is under raising at MADRAS Regimental Centre with effect from August, 2017. Presently, recruitment is being carried out at Andaman and Nicobar Islands. The unit will be operationally effective with effect from May 1, 2019.

(c) ***Raising of one Composite Ecological Task Force (CETF) Battalion for National Mission for Clean Ganga (NMCG):*** Government has approved raising of 137 Composite Ecological Task Force (CETF) Territorial Army Battalion, 39 Gorkha Rifles for National Mission for Clean Ganga (NMCG). The role of the Battalion is to assist NMCG in carrying out assigned tasks.

3.65 ***Ecological Task Force Battalions (Territorial Army):*** The Ecological Task Force Battalions (Territorial Army) located at different parts of the country, are doing excellent work in the restoration of ecology in degraded and difficult areas of country. These units have planted approximately 652.77 Lakh saplings and covered an area of approximately 72,618 hectares. The efforts of Ecological Task Force Battalions (Territorial Army) have been appreciated by one and all.

3.66 ***Territorial Army Day Celebrations:*** The Territorial Army celebrates its Raising Day on October 9 every year. Officers, Junior Commissioned Officers (JCOs), Other Ranks (ORs) of Territorial Army and their families, called on The President of India, at Rashtrapati Bhawan on October 9, 2017. The Territorial Army Half Marathon was organised at Carriappa Parade Ground, Delhi Cantt on October 2, 2017 with an aim to project Territorial Army as a vibrant and committed organisation and also to promote healthy lifestyle in all ranks and families of Armed Forces. The event saw tremendous enthusiastic participation by more than 3000 personnel and was flagged of by Lt. Colonel (Honorary) Kapil Dev (former captain of Indian cricket team) and Director General of Military Operations. The Territorial Army Symphony Band conducted a band display at India Gate on October 8, 2017. The event was witnessed by a large civilian crowd who appreciated and added to the patriotic environment of the evening.

Territorial Army Half Marathon

Band display by Territorial Army Symphony Band at India Gate

Calling on the President of India by Territorial Army Fraternity

3.67 ***COAS Silver Trophy for the Year 2017-18:*** 105 Infantry Battalion (Territorial Army) RAJ RIF and 119 Infantry Battalion (Territorial Army) ASSAM has been declared joint winners as Best Infantry Battalion (Territorial Army) amongst 43 Territorial Army units (Infantry and Home & Hearth Units).

3.68 ***Honours and Awards 2017:*** The following Gallantry/Distinguished Service Awards have been granted to Territorial Army personnel on the occasion of Independence Day 2017:

(i)	Kirti Chakra	-	01
(ii)	Sena Medal	-	01
(iii)	Mention-in-Despatches (Operation Rakshak)	-	01
(iv)	COAS Commendation Card	-	06
(v)	VCOAS Commendation Card	-	01
(vi)	GOC-in-C Commendation Card	-	72

UN MISSIONS

3.69 Indian troops are currently deployed in seven UN missions around the world. The Indian Army, as part of the UN Peacekeeping forces has been instrumental in ensuring 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, 153 Indian Army soldiers have so far made the supreme sacrifice.

3.70 The professionalism of Indian contingents has been widely acknowledged. Indian contingents have repeatedly been felicitated by the Force Commanders of their respective missions for their superlative performance. A number of measures have been undertaken to enhance financial powers and fast track procurement procedures to increase the serviceability and availability of contingents in UN missions. The Overseas Allowance of troops deployed in UN missions has been enhanced in September, 2017.

3.71 United Nations Mission in Democratic Republic of Congo (MONUSCO): India has deployed an Infantry Brigade Group alongwith Staff Officers (SOs) and Military Observers (MILOBs) to the mission since 2004. Indian troops have conducted extensive operations to support the National Army of Democratic Republic of Congo. The Rapid Deployable Battalion (RDB) has also been operationalised in the mission area thus providing a dynamic and potent tool to Commander, the Indian UN Brigade to fulfill the requirements of the mandate. Due to re-organization of the mission, one Indian Infantry Battalion Group has been reduced from the mission in August, 2017.

3.72 A major attack by Armed groups on own post of Lubero was successfully countered by neutralizing two armed group cadres and wounding two other by own contingent troops at Lubero.

3.73 *United Nation Mission in South Sudan (UNMISS):* India has deployed seven military contingents including two Infantry Battalion Groups and two hospitals in the mission. The ongoing clashes between Government Forces and opposition armed forces has rendered the security situation both volatile and unpredictable. Troops of INDBATT-II successfully extricated 13 persons of Medicines Sans Frontiers (MSF) on July 12, 2017.

3.74 *United Nations Interim Force in Lebanon (UNIFIL):* Indian Army's contribution to UNIFIL includes Infantry, Indian Medical Team and Staff Officers. The Infantry is mandated to monitor the Blue Line against any violation of line of withdrawal between Lebanon and Israel occupied Cheeba Farms. Situation in mission area is stable but unpredictable.

3.75 *United Nations Disengagement Observe Force (UNDOF):* India has deployed a logistic contingent in UNDOF responsible for providing second line logistic support to the mission. The mission is being restructured to carry out it's mandated tasks on both, sides of it's Area of Responsibility. Peacekeepers on both, Israeli and Syrian sides include elements of the Indian contingents.

3.76 *Centre for UN Peacekeeping (CUNPK):* The Centre for United Nations Peacekeeping (CUNPK) is the nodal agency for peacekeeping related training activities in the country. Every year, it trains a number of officers from all three Services, Central Armed Police Forces (CAPFs) and also from friendly foreign countries. The courses conducted by the CUNPK have been appreciated by UN and various Friendly Foreign Countries for their comprehensive content and flawless conduct.

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INDIAN NAVY

Indian Navy

4.1 India is a maritime nation and the country sits astride a large number of busy International Shipping Lanes that criss-cross the Indian Ocean. More than 95% of our trade by volume and 68% by value is transported over the seas. For a rapidly growing economy seeking new markets worldwide, these trade figures will only grow upwards in the future.

4.2 India's economic resurgence is directly linked to her overseas trade and energy needs, most of which are transported by sea. Mercantile trade constitutes more than 40% of India's GDP, and is likely to increase in the future. Maintenance of a secure maritime environment, which enables unhindered pursuit of economic activities is, therefore, essential for the overall economic development and security of the country.

4.3 The last decade has witnessed India's dependence on her maritime environment expanding substantially as her economic, military and technological strength grew, her global interactions widened and her national security imperatives and political interests stretched gradually beyond the Indian Ocean Region. It can thus be assumed that the 21st century will be the 'Century of the Seas' for India and that the oceans will remain a key enabler in her global resurgence.

4.4 The Indian Navy (IN) has been playing a maritime leadership role in the Indian Ocean Region due to its multi-dimensional capabilities and active presence in the region. The environment in India's maritime neighbourhood is dynamic, with increased instabilities, deepening geopolitical and ethnic faultlines, growing military capabilities and wide range of security challenges. These pose a combination of conventional and sub-conventional threats emanating to India, at and from the seas. These threats and challenges require the Indian Navy to remain effective across the entire spectrum of combat operations and constantly reshape itself to meet future challenges.

4.5 The Indian Navy is the key enabler and guarantor of the country's maritime sovereignty and myriad use-of-the-sea activities. This is discharged by the Navy through its four roles – military, diplomatic, constabulary and benign. The objective of the Navy's military role is deterrence/ dissuasion against any intervention or act which is against National Interests, and the ability to inflict a crushing defeat on the adversary in the event of hostilities. A major objective of the Navy's Constabulary role is to ensure coastal and offshore security and implement anti-piracy measures, in conjunction with the Indian Coast Guard and other Central and State agencies.

4.6 A high degree of Maritime Domain Awareness (MDA) is being maintained by utilising IN assets and resources. The IN stands fully ready to respond to any contingency in appropriate manner. A new Mission-based deployment concept has been implemented. Mission-ready ships and aircraft are being deployed in 'pole-positions' along critical sea lanes of communications and choke points. The deployed assets are ready to meet any eventuality across the spectrum of operations. One frontline Fleet ship has been continuously deployed in the Gulf of Aden region since October 2008 for anti-piracy operations and provides safe escort to merchant ships of Indian and foreign nationalities.

4.7 Protection to offshore assets, including Offshore Development Areas (ODAs), is being ensured through deployment of Immediate Support Vessels (ISVs) and other assets. Regular exercises have been conducted to validate the safety and security of ODA platforms which are vital to India's energy security.

4.8 The IN has been actively pursuing activities towards capability building and capacity enhancement of Navies of friendly countries in the IOR. Towards this end, India has been providing hardware and platforms, which includes ships and aircraft, for Exclusive Economic Zone (EEZ) surveillance. IN has also been instrumental in development of maritime infrastructure of friendly nations. IN initiatives contribute towards developing operational and technical skills to friendly foreign countries.

4.9 A new Transition cycle that allows for a focussed and gradual transition of ships from periods of maintenance layoffs to full scale operations has been implemented. The new Transition cycle focusses efforts of Operational Commanders on the training and safety inspections of ships prior to their deployment for operations. This is expected to enhance both 'Combat Readiness' and 'Safety Standards' on board ships.

Overseas Operations

4.10 ***NAVDEX-17:*** IN ship Sunayna with one Advanced Light Helicopter (ALH) embarked, participated in the Naval Defence and Maritime Security Exhibition (NAVDEX) 2017 at Abu Dhabi, from February 18–24, 2017, to showcase India's indigenous ship and aircraft building capability.

4.11 ***Eastern Fleet Overseas Deployment (OSD)***

(a) The ships of the Eastern Fleet comprising INS Sahyadri, Shivalik, Kamorta, and Jyoti were deployed to the Southern Indian Ocean and Western Pacific in May-June 2017. The ships made port calls at Singapore, Kuantan, Jakarta, Surabaya, Port Moresby and Fremantle.

(b) ***OSD for ASEAN and INDRA 17:*** Eastern Fleet ships Satpura and Kadmatt were deployed for INDRA-17, an annual bilateral exercise with the Russian Navy and ASEAN International Fleet Review (IFR) at Thailand. The ships visited Singapore, Haiphong (Vietnam), Manila (Philippines), Sasebo (Japan), Vladivostok (Russia), Bandar Seri Bagwan (Brunei), Sihanoukville (Cambodia), Belawan (Indonesia), Laem Chabang (Thailand for ASEAN IFR) and Port Kelang (Malaysia).

4.12 ***Western Fleet Overseas Deployment:*** Western Fleet Ships Mumbai, Trishul and Aditya proceeded on Overseas Deployment to the Mediterranean Sea/ Atlantic Ocean in April-May 2017:

(a) The ships visited Souda Bay, Greece from April 17–20, 2017 and exercised with the Hellenic (Greek) Navy. They participated in Ex-VARUNA (conducted annually with the French Navy) at Toulon, France, from April 24–30, 2017. The ships, thereafter, made port calls at Valencia

(Spain), Alexandria (Egypt), Haifa (Israel) and Jeddah (Saudi Arabia) before arriving at Mumbai in end May 2017.

(b) IN ship Tarkash was deployed overseas from April–July, 2017. The ship visited Plymouth and London, UK in May 2017 and participated in Ex–KONKAN, an annual bilateral exercise with the Royal Navy. The ship also visited Lisbon (Portugal), Casablanca (Morocco), Lagos (Nigeria), Luanda (Angola), Port of Walvis Bay (Namibia), Cape Town (South Africa) and Port Louis (Mauritius).

4.13 ***Overseas Deployment of INSV Mhadei:*** IN Sailing Vessel (INSV) Mhadei, with all women crew (six officers), sailed from Goa to Cape Town (South Africa) in November December 2016. The vessel participated in Cape to Rio Race 2017, with six officers onboard (including two women officers). On successful completion of the race she entered Rio de Janeiro on January 22, 2017 and departed on February 1, 2017. Subsequently, the ship entered Cape Town on February 25, 2017 and arrived at Goa on May 22, 2017.

Major Exercises

4.14 ***Exercise PARIKSHAN:*** The Western Naval Command conducted an operational level Table Top Tri-Service wargame titled 'Exercise PARIKSHAN' from August 7–9, 2017. Representatives from Naval Headquarters, and operational commands of the Army and Air Force in the region participated in the wargame.

4.15 ***DANX-17:*** The Joint Services Exercise 'Defence of Andaman and Nicobar Exercise' (DANX-17) was conducted in Andaman & Nicobar Command (ANC) from November 20–25, 2017. IN/ICG Ships, IN/IAF/ICG aircraft and Army troops from ANC and other Commands of IN, IA & IAF participated in the exercise.

DANX - 17

Exercises with Foreign Navies

4.16 ***Exercise MALABAR 2017:*** The 21st edition of Ex Malabar was conducted at/off Chennai and Bay of Bengal from July 9–17, 2017. IN, US Navy and the Japan Maritime Self-Defence Force (JMSDF) participated in the exercise. The primary objective of the exercise was to enhance maritime cooperation and interoperability amongst the participating navies.

4.17 ***VARUNA-17:*** The Western Fleet ships Mumbai, Trishul and Aditya participated in exercise VARUNA in April 17, 2017 off Toulon, France.

4.18 ***KONKAN-17:*** INS Tarkash participated in Exercise KONKAN-17 with the Royal Navy in May 2017 off United Kingdom. The Ship visited Plymouth and London during the exercise and also participated in HMS Tricomalee Bi-centenary year celebrations and cultural events at London as part of the 'India-UK Year of Culture'.

4.19 ***SIMBEX-17:*** Ex–SIMBEX, the annual exercise with Republic of Singapore Navy was conducted at Singapore from May 12 to 21, 2017. IN ships Shivalik, Sahyadri, Kamorta and Jyoti participated in the exercise.

4.20 ***INDRA-17:*** Indo-Russia Joint Tri-Services Exercise INDRA-17 was conducted off Vladivostok, Russian Federation from October 19 to 29, 2017. This was the first ever Tri-Services bilateral military exercise between the two countries. The Naval Operations part of exercise were conducted off Vladivostok.

Opening Ceremony at Vladivostok

4.21 ***AUSINDEX-17:*** The Joint Royal Australian Navy-IN (Ex–AUSINDEX) was conducted off the coast of Australia, from June 13 to 19, 2017. IN ships Shivalik, Kamorta and Jyoti participated in the exercise.

4.22 ***SLINEX-17:*** The Eastern Naval Command hosted Sri Lanka-India Naval Exercise, SLINEX 17, from September 7 to 14, 2017. Srilankan Naval Ships Sayura and Sagara and IN Ships Gharial and Kora participated in the exercise.

4.23 ***Nassem-Al-Bahr:*** Bilateral maritime exercise Naseem-Al-Bahr between IN and Royal Oman Navy was held from December 16 to 22, 2017 off Muscat. IN ships Teg and Trikand, IN submarine Shankush and a P8I aircraft participated in the exercise.

Coordinated Patrol (CORPAT) with Indian Ocean Region Littoral Navies

4.24 ***India - Thailand Coordinated Patrol (CORPAT):*** Indo-Thai CORPAT (conducted since 2005) is held twice a year. The 24th India-Thailand Coordinated Patrol was conducted from April 13–21, 2017. INS Cheetah, Indian Naval aircraft Dornier with Thailand Navy Ship Longlom and Thailand Navy Dornier 228 participated in the Coordinated Patrol. The opening ceremony was held at Phuket on April 13, 2017 and closing ceremony at Port Blair on April 20, 2017.

4.25 ***India–Indonesia Coordinated Patrol (CORPAT)***

(a) India-Indonesia CORPAT, conducted since 2002, is held twice a year. 29th India-Indonesia CORPAT between Indian Navy and Indonesian Navy was conducted from May 9 to 25, 2017. Opening Ceremony was conducted at Port Blair from May 9 to 12, 2017. Indian Naval Ship Karmuk, Indian Naval aircraft Dornier with Indonesian ship Sutedi Senoputra and Indonesian aircraft CN-235 participated in the exercise. Closing Ceremony of the Coordinated Patrol was conducted from May 22 to 24, 2017 at Belawan, Indonesia.

India–Indonesia CORPAT

(b) 30th India-Indonesia CORPAT between Indian Navy and Indonesian Navy was conducted from October 24 to November 5, 2017. Opening Ceremony was conducted at Belawan, Indonesia from October 24 to 26, 2017. Indian Naval Ship Sukanya, Indian Naval aircraft Dornier-235 with Indonesian ship Imam Bonjol and Indonesian CASSA aircraft P-862 participated in the exercise. Closing Ceremony of the Coordinated Patrol was conducted from November 3–5, 2017 at Port Blair.

India-Indonesia Coordinated Patrol

Anti-Piracy

4.26 As part of its wider role of providing security to shipping in the Indian Ocean Region, the Indian Navy continues to deploy one ship for anti-piracy patrol in the Gulf of Aden. A total of 65 IN warships have been deployed till December 2017, which have safely escorted more than 3788 (including 405 Indian flagged) ships with over 24,858 mariners embarked. Till date the IN has thwarted 44 piracy attempts and apprehended 120 pirates. The IN remains committed to ensuring good order at sea in the Indian maritime zones and towards ensuring freedom of navigation in the high seas including off Somalia. IN's presence in this region is being maintained to ensure safety and security of Indian trade.

Anti-Piracy Operations

4.27 IN ships and aircraft are also being regularly deployed for surveillance in the EEZ of Maldives, Mauritius and Seychelles at the request of the host governments.

Coastal Security

4.28 Indian Navy is the nodal agency responsible for overall maritime security which includes coastal security and offshore security. Due impetus has been accorded to coastal security issues in coordination with various national agencies and organisations. IN is offering assistance to Border Security Force/ Central Industrial Security Force / State Marine Police for procurement, maintenance and exploitation of boats for coastal security.

4.29 The National Command Control Communication Intelligence (NC 3I) Network inter-linking 51 stations of the IN and ICG and integrating multiple sensors is being effectively exploited towards developing domain awareness and for inter-agency coordination. IN is also enhancing coordination between all maritime stakeholders, including the Indian Coast Guard, Indian Air Force, Central and state maritime agencies, and national intelligence agencies for Maritime Domain Awareness and Network Centric Operations. In addition, the Navy is pursuing agreements for sharing of white shipping and air traffic information between friendly nations, both in the IOR and beyond.

4.30 Coastal and Offshore Security exercises are being conducted regularly in all coastal States and UTs towards streamlining existing mechanisms, improving inter-agency coordination and strengthening maritime, coastal and offshore security. The IN continues to proactively engage with the fishermen and coastal communities through community interaction programmes towards integrating them into the maritime security matrix. IN is strengthening the existing mechanisms and increasing the complexity of such exercises, with the involvement of all stakeholders.

Foreign Cooperation

4.31 ***Operational Sea Training – Foreign Ships:*** The maiden Staff Sea Checks (SSC) as part of Operational Sea training of Seychelles Coast Guard Ship Topaz (February 6-11, 2017) and Mauritius Coast Guard Ship Valiant (May 8-13, 2017) was undertaken which was tailor made to suit the respective ships and their equipment fit.

Operational Sea Training - Foreign Ships

4.32 ***SAR Operations at Maldives:*** In May 2017, Government of Maldives had requested for Search and Rescue (SAR) assistance regarding a civilian Landing Craft Maria 3 with six crew (including a lady) being missing. Immediately an Advanced Light Helicopter

(ALH) of the Indian Navy, which is deployed at Maldives, was launched and IN ship Kirch which was deployed for EEZ surveillance of Maldives was diverted to the search area. Subsequently, on May 20, 2017, an IN Dornier aircraft was deployed to augment the SAR operations. The Dornier detected Maria 3 and directed Kirch to the Landing Craft. Despite inclement weather and rough seas, Kirch rescued all the crew members of Maria 3 and safely handed over the crew members to the Government of Maldives.

4.33 ***33rd Annual National Conference of the Marine Medicine and Allied Sciences:*** The 33rd Annual National Conference of the Marine Medicine and Allied Sciences was held at INHS Asvini, Mumbai from August 31 to September 1, 2017. The event served as a platform for multi-dimensional imbibing of ideas and concepts in the field of Naval medical services. 22 Delegates from nine Friendly Foreign Navies (Indonesia, UAE, US, Bangladesh, Kenya, Oman, Sri Lanka, Myanmar, Vietnam) participated in the conference.

4.34 ***Relief Material to Bangladesh by INS Gharial:*** As an aftermath of the Rohingya refugee crisis in Bangladesh, INS Gharial, an amphibious ship, was loaded with 777 tons of relief material which was handed over to the Bangladesh Government between September 25 and 28, 2017.

Relief Material to Bangladesh by INS Gharial

4.35 ***Rescue of Bangladeshi Fishermen:*** IN ship Sumitra was deployed in the Northern Bay of Bengal to provide immediate assistance in the aftermath of Cyclone 'Mora'. During this deployment, the ship rescued 33 Bangladesh fishermen found stranded at sea. On completion of search and rescue operation at sea, Sumitra entered Chittagong on June 1, 2017 for rendering HADR assistance. The Government of Bangladesh conveyed their gratitude to the Government of India and the crew members of IN ship Sumitra for rescuing Bangladesh nationals at sea under difficult circumstances and for the relief supplies.

Rescue of Bangladesh Fishermen by INS Sumitra

4.36 ***Search and Rescue Conference Special SAR Award – INS Sumitra:*** INS Sumitra was awarded special SAR award by National Maritime Search and Rescue Board for displaying exemplary professionalism, commitment and devotion to duty.

4.37 ***Relief Operations in Myanmar:*** After sailing from Chittagong, IN ship Sumitra proceeded to provide relief assistance to Myanmar, post cyclone 'Mora'. The ship visited Yangon from June 6 to 8, 2017 during which she provided necessary assistance.

Relief Assistance to Myanmar

4.38 ***Goa Maritime Conclave (GMC):*** The maiden 'Goa Maritime Conclave' (GMC) was conducted at Naval War College, Goa on November 1-2, 2017. Chiefs of Navy/ Heads of Maritime Agency/ representatives of Bangladesh, Indonesia, Maldives, Malaysia, Mauritius, Myanmar, Seychelles, Singapore, Sri Lanka and Thailand attended the Conclave. The event was inaugurated

by the Raksha Mantri at Naval War College, Goa on November 1, 2017. The Conclave was aimed at 'Addressing Regional Maritime Challenges' wherein the deliberations were focused on emerging maritime threats and force structuring, maritime domain awareness, maritime security architecture, and maritime security challenges in the Indian Ocean Region (IOR).

4.39 ***Signing of White Shipping Agreements:*** The Indian Navy has been engaging with various Friendly Foreign Navies for concluding and signing of Agreements for exchange of White Shipping Information, towards enhancing our Maritime Domain Awareness in our areas of interest. Towards this, White Shipping Agreements have been signed with 13 countries, including Australia, France, Israel, Maldives, Mauritius, Myanmar, Oman, Spain, Singapore, Sri Lanka, UK, USA, and Vietnam and operationalised with seven of these countries, viz Australia, France, Mauritius, Singapore, Sri Lanka, USA and Vietnam.

4.40 ***Exclusive Economic Zone (EEZ) Surveillance:*** The IN regularly undertakes EEZ surveillance of Maldives, Mauritius and Seychelles based on the request of the host Government:

(a) ***EEZ Surveillance of Maldives:*** During EEZ surveillance a special team from INS Cankarso consisting of IN divers carried out underwater hull welding onboard Maldives National Defence Force (MNDF) ship Huravee, thereby enabling the operational availability of the ship to the MNDF.

(b) ***EEZ Surveillance of Seychelles and Mauritius:*** IN ship Tarkash was deployed for EEZ surveillance and provided Outer Island Support to Seychelles and Mauritius in October-November 2017. The ship undertook personnel and stores transfer from Port Louis to outer Island (which is about 600nm North of Port Louis) including transhipment of generator parts which were considered critical for providing electricity to the island.

4.41 ***Supply of Waterjet Fast Patrol Vessels:*** India supplied two Waterjet Fast Patrol Vessels to Mauritius Coast Guard. The vessels named Valiant and Victory were constructed at M/s GSL under Indian Navy's supervision. Indian Naval ships towed both the ships to Mauritius where they were commissioned into Mauritius Coast Guard on December 10, 2016 and August 16, 2017 respectively.

4.42 ***Commissioning of SLNS Sayurala:*** The first AOPV built by M/s Goa Shipyard Limited for Sri Lankan Navy (SLN) was handed over to Sri Lanka on July 22, 2017. The AOPV was commissioned as SLNS Sayurala on August 2, 2017 at Colombo by the Sri Lankan President.

Commissioning of SLNS Sayurala

Navy to Navy Interaction

4.43 ***Exercises for IOR Littorals:*** In a significant step taken towards synergising our HADR efforts with that of our neighbours, the Indian Navy invited 'Observers' from Sri Lanka, Maldives, Bangladesh and Myanmar to participate in the 'Annual Tri-Service HADR Exercise' conducted by the Indian Navy from May 18–20, 2017 on the Western Coast. Further, to expose mid-level leaders of IOR littoral nations to Blue Water operations, the Indian Navy conducted 'Exercise SAMBANDH', from October 24–27, 2017, wherein the Indian Navy's capabilities were showcased to 'Observers' from 18 Friendly Foreign Countries, which included, Sri Lanka, Bangladesh, Vietnam, Mauritius, Maldives, Seychelles, Mozambique, Oman, Myanmar, Thailand, Indonesia, Iran, Kenya, UAE, Malaysia, Qatar, Tanzania and Madagascar.

SAMBANDH -17

4.44 Navy-to-Navy Staff Talks: The Indian Navy held Staff Talks with the navies of a host of friendly countries during the year. Extensive discussions on maritime cooperation and bilateral issues were held with Bangladesh, France, Singapore, Maldives, Myanmar, Thailand, United Kingdom, UAE, Russia, Indonesia and Oman (inaugural), during the 'Staff Talks'. Operational interaction, cooperation in hydrography, training and sharing of White Shipping Information are a few common issues discussed during the 'Staff Talks'.

Admiral's Cup

4.45 ***Admiral's Cup:*** The eighth edition of the International Sailing Regatta, Admiral's Cup Regatta-2017, was conducted in Indian Naval Academy (INA), Ezhimala from December 2–8, 2017. 26 countries took part in the sailing regatta excluding two Teams from India (INA and NDA). Team from Vietnam participated as an Observer. 8 female and 47 male participants from 27 countries (including India) took part in the competition. INA team was 2nd overall in team positions. Cadet Praveen Prabhakar was awarded silver medal in individual Men's category.

Commissioning and Decommissioning

4.46 ***Commissioning of INS Kiltan:*** INS Kiltan, the third ship of Project-28 Anti Submarine Warfare (ASW) Corvette was commissioned by the Raksha Mantri on October 16, 2017. Commissioning of Kiltan is an affirmation of India's expertise in design and building of sophisticated warships and is a major step in pursuance of self-reliance through indigenisation. The ship has been designed by the Indian Navy's in-house design organisation, Directorate of Naval Design, and built by M/s Garden Reach Ship Builders and Engineers Ltd Kolkata. INS Kiltan is the first major warship with entire superstructure made of carbon fiber reinforced composite material. Weapons and Sensors have been installed/interfaced on a Composite Super Structure for the first time on a major warship.

Commissioning of INS Kiltan

4.47 ***Commissioning of Landing Craft Utility (Mk IV):*** The first ship of the eight IN LCU (Mark IV) Project, namely IN LCU L 51, was commissioned on March 28, 2017 at Port Blair by Vice Admiral, Commander-in-Chief, Andaman and Nicobar Command. The second ship, IN LCU L 52, was commissioned on August 21, 2017 at Port Blair by, Lieutenant Governor, Andaman and Nicobar Islands.

IN LCUs (Mk IV)

4.48 ***Commissioning of INS Tillanchang and INS Tarasa:*** The third and fourth ships (Tillanchang and Tarasa) of the four Follow On Waterjet Fast Attack Craft Project were Commissioned on March 9,2017 and September 26, 2017 at Karwar and Mumbai respectively.

Commissioning of INS Tarasa and Tillanchang

4.49 ***Commissioning of INS Kalvari:*** Kalvari, the first submarine of Project-75, was delivered by M/s MDL to the Indian Navy on September 21,2017. The submarine was commissioned on December 14, 2017 by the Prime Minister.

4.50 ***Decommissioning:*** The Navy bid adieu to the aircraft carrier INS Viraat on March 6, 2017, after an illustrious service of 30 years in the Indian Navy.

Launching of Ships

4.51 ***NOPVs - Shachi and Shruti:*** The first two ships of the five Naval Offshore Patrol Vessels, Shachi and Shruti, were launched on July 25, 2017.

4.52 ***Yard 11876 (Khanderi):*** The 2nd submarine of Project-75, namely Khanderi (Yard 11876), was launched on January 12, 2017 at MDL.

Launching of Khanderi

4.53 ***Floating Dock Navy -2:*** FDN-2, being constructed at M/s L&T Shipyard at Kattupalli, was launched on June 20, 2017 at Kattupalli near Chennai. The FDN-2 would be capable of docking ships with draft up to 7 metres and displacement up to 8000 tons.

Launching of FDN-2

Naval Aviation

4.54 Naval Aviation is poised at a crucial juncture on its path towards modernisation. Numerous initiatives have been undertaken in the quest towards ensuring a potent, professionally competent and operationally ready Naval Air Arm of the future. Towards this, modern, state-of-the-art aircraft such as P8I, Hawk AJTs and MiG-29K fighters have been inducted. In addition, contracts were concluded for procurement of 16 ALH MK III, 12 Dorniers and eight Chetak Helicopters.

4.55 ***MiG 29K/KUB:*** MiG 29K/KUB is a multirole, ship-based fighter aircraft designed for destroying aerial targets as well as surface ships and shore objects of the enemy. The aircraft has a high thrust-to-weight ratio, high maneuvering performance, modern avionics and weapons for air-to-air, air-to-ground and air-to-sea target engagement. All 45 contracted aircraft have been delivered, out of which 38 have been accepted.

Raksha Mantri in the Cockpit of MiG 29K

Important Events of Interest

4.56 ***MP/ MLA Day at Sea:***

(a) In pursuance of the PM's directives, a Day at Sea was conducted for MPs/ MLAs of Kerala State off Kochi on January 10, 2017. The aim of this event was to provide an overview of the coastal security architecture of India and to assist the senior leadership of the state to appreciate the threats and challenges that can come from the sea.

(b) MP/ MLA and State Government officials Day at Sea for the state of Tamil Nadu was conducted on April 18, 2017. IN ships Ranvir, Chennai and Sumedha participated in the event conducted off Chennai. A total of 654 guests, including 17 MPs, 137 MLAs and 71 Media personnel had embarked Chennai and Sumedha for the event.

4.57 ***Award of President's Colours to Submarine Arm of Indian Navy:*** The President awarded President's Colours to the submarine Arm of the Indian Navy on December 8, 2017 at Visakhapatnam.

Award of President's Colours to Submarine Arm

4.58 ***Coast to Coast Outreach Programme – Valsura:*** As part of the platinum Jubilee celebration of INS Valsura, the Indian Navy commemorated the event with a unique "Coast to Coast" social outreach programme to connect with the children and youth of the country along both coasts. A mega road trip in five cars covered a distance of 6000 kms touching all major naval establishments and places of Naval Maritime Heritage enroute. The Naval team interacted with local populace, war veterans and widows and visited schools and colleges to spread awareness about the Indian Navy.

4.59 ***International Yoga Day:*** International Yoga Day was celebrated all over the Indian Navy on June 21, 2017. Multifocal activities were organised for the benefit of all Naval Personnel and their families across all Naval stations and units including onboard IN ships/ submarines on deployment.

International Yoga Day

4.60 ***Navika Sagar Parikarma:*** Six naval women officers are undertaking Navika Sagar Parikrama on an Indian-built 56 feet long Sailing Vessel, INSV Tarini. This is the first Indian all-women crew circumnavigation of the globe under sail. The expedition was flagged-off from Goa by Raksha Mantri on September 10, 2017 and is expected to return to Goa in April, 2018.

INSV Tarini Crew interacts with the RM

5

INDIAN AIR FORCE

Indian Air Force

5.1 IAF is pursuing a dedicated and focused modernisation plan to transform itself into a strategic aerospace power with full spectrum capability. Continuous upgradation of existing equipment and induction of new weapon platforms have ensured that IAF continues on the desired trajectory of modernisation. Future inductions of Rafale aircraft, Attack Helicopters, Heavy Lift Helicopters, Combat Support Elements, Surface to Air Guided Weapon (SAGW) and Air Defence Radars will further bolster its operational capability. IAF is also strengthening its ability to undertake Network Centric Operations (NCO) by integrating all sensors, weapon systems and command & control structures.

5.2 IAF is striving for self-sufficiency by promoting 'Make in India' through focused, sustained and evolved Indigenisation Programmes. IAF is committed to ensure that India's high reliance on foreign manufactured defence equipment is continuously reduced.

Acquisitions and Upgrades

5.3 ***Su-30 MKI:*** Induction of Su-30 MKI aircraft in the IAF is under progress. The current lot of Su-30 MKI aircraft are being manufactured in HAL through Transfer of Technology. Advanced indigenous weapons like 'BrahMos' supersonic cruise missile and 'Astra' Beyond Visual Range (BVR) missile have been indigenously integrated and fired from the aircraft.

BrahMos Missile on a Su-30 MKI

5.4 ***Light Combat Aircraft (Tejas):*** In consonance with the 'Make in India' campaign launched by the Prime Minister, the first Squadron of Tejas, an advanced multi-role aircraft with state-of-art avionics, was formed on July 1, 2016. The aircraft participated in the Republic Day Flypast, Aero India and in the Air Force Day flypast this year.

Light Combat Aircraft

5.5 ***Rafale:*** Inter Governmental Agreement (IGA) was signed with the Government of France for procurement of 36 Rafale aircraft on September 23, 2016. The first squadron is planned to be fully equipped by February, 2021 and the second squadron by April, 2022.

Rafale

5.6 ***C-17 Globemaster III:*** C-17 aircraft is a heavy military cargo aircraft with enhanced range and is capable to operate from high altitude airfields in hot conditions. The aircraft is actively utilized in Humanitarian Assistance and Disaster Relief (HADR) Operations and was recently used to transport men and material during flood relief operations in Gujarat and Bihar and for airlifting relief material to the Rohingya populace in Bangladesh.

C-17 Globemaster: Airborne for a Long Haul Mission

5.7 ***Hercules C-130J:*** C-130J all-weather transport aircraft is designed for Special Operations. The aircraft has proven its worth in a number of HADR operations in Nepal, Bihar and J&K. It was instrumental in the operations against Anti-National Elements at AF Station Pathankot and deployment of para military troops in Srinagar. IAF has inducted additional six C-130J aircraft in 2017 and its operational capability is being enhanced by procuring Night Vision Goggles.

C-130J Aircraft in IAF Colours

5.8 ***Advanced Light Helicopter Mk-IV:*** Advance Light Helicopter has been further developed into ALH Mk-IV version, transforming it into an armed platform by integrating rockets, guns and air-to-air missiles for carrying out the armed role.

ALH Mk-IV

5.9 ***Mi-17 V5 Helicopters:*** Mi-17 V5 helicopter is specially designed with full glass cockpit, advanced avionics, weather radar and powerful aero engines for high altitude operations. It is being exploited for various civil and military operations such as transportation, paratrooper induction, search & rescue, medical evacuation, fire fighting and Nuclear Chemical Biological warfare. Its Night Vision Goggles compatibility enables unhindered operations even during low visibility and night conditions.

Mi-17 V5: Taking Part in SHBO

5.10 ***Hawk Mk-132 (Advanced Jet Trainer):*** Hawk Mk-132 is the lead in fighter trainer in IAF. It is a transonic, tandem seat, ground attack and combat training aircraft and provides an excellent platform for training inexperienced fighter pilots facilitating their transition onto operational fighter aircraft.

HawkMk-132 in SKAT Colours: Perfection Personified

Aircraft Upgrade

5.11 ***Mirage-2000 :*** The combat effectiveness of Mirage-2000 aircraft has been upgraded with 'upgraded avionics suite' and integration of new weapons making it a more potent platform. Initial Operational Clearance Design and Development (D&D) had been completed by OEM at France and the fleet upgrade is being undertaken by M/s HAL.

Mirage-2000 Upgrade: In AD Configuration

5.12 ***MiG-29:*** The MiG-29 aircraft are being upgraded with state-of-the-art avionics and an array of smart air-to-air and air-to-ground weapons. Addition of in-flight re-fuelling capability on MiG-29 has significantly increased its combat potential. The first phase of the project was designed and developed in Russia. The Series Upgrade in second phase of the remaining aircraft is being undertaken in India at the Base Repair Depot, Nasik.

MiG-29 Upgrade: Buddy Refuelling

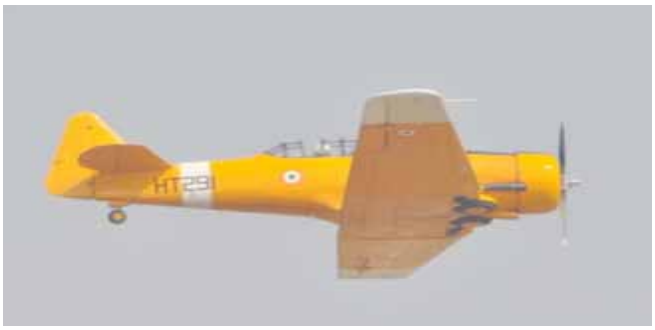
5.13 ***Jaguar DARIN-III:*** Jaguar aircraft is being upgraded to DARIN-III standards, which involves integration of advanced avionics. With integration of air-to-air and anti-ship weapon systems compatible with the avionics of DARIN-III aircraft, the war waging potential of Jaguar would vastly improve.

Jaguar: Deep Penetration Strike Aircraft

5.14 ***MLH:*** Contract for upgrade of Medium Lift Helicopters was signed in January 2017. The upgrade will improve the Electronic Warfare (EW) and night operations capability of the fleet.

MLH Upgrade

5.15 ***Restoration of Vintage Flight :*** Vintage aircraft of World War-II era are an important part of Indian aviation and heritage of the IAF. After restoration, one Tiger Moth and one Harvard aircraft are operating in IAF colours. Being integral part of most air displays, both aircraft have enthralled audiences all over the country. They remind us of our rich aviation heritage besides motivating the young generation.



The Harvard Aircraft: Flying Display

Weapons, Missiles and Warning System

5.16 ***Sensor Fuzed Weapon (SWF):*** IAF has procured Sensor Fuzed Weapons and associated equipment which can be utilised against concentration of tanks and other mechanized vehicles. Weapon integration has been completed in September, 2017.

5.17 ***Medium Range Surface to Air Missile (MRSAM):*** On completion of successful Verification Firing Tests by DRDO, IAF is in the process of inducting the MRSAM system, capable of engaging targets from extreme low altitude to high altitude and very close range to medium ranges. This weapon, networked in the modern IACCS system of IAF, would defeat all types of hostile targets, including those with extremely low RCS, even in a dense jamming environment.

5.18 ***SPYDER LLQRM System:*** The SPYDER Low Level Quick Reaction Missile system, equipped with Python 5 and Derby missiles, has been inducted into the IAF. This system provides a comprehensive response to the saturation attacks with multiple target engagement, thus boosting the short range AD capability.

SPYDER System

5.19 ***Pechora & OSA-AK:*** Pechora missiles are being refurbished with a fresh lease of life for 10 years. The equipment is planned to be digitised from the existing valve-based technology. The missiles of OSA-AK have also been refurbished with the help of Bharat Dynamics Ltd, Hyderabad.

Pechora Missile

OSA-AK

5.20 ***IGLA:*** IGLA missiles are being sustained through life extension trials of propulsion systems, conducted by HEMRL, BDL and Indian Navy, followed by electrical check and dynamic firing by IAF. Refurbishment is also being actively pursued with BDL, Hyderabad.

5.21 ***AEW&C (Indigenous) System:*** The first DRDO designed and developed Airborne Early Warning & Control (AEW&C) system, aboard Embraer-145 aircraft, was inducted in the IAF in February 2017. The state of the art Active Electronically Scanned Array based Radar system can detect airborne objects from far off distances and provides early warning to the Air Defence Command and Control centres. AEW&C is a huge leap by India towards achieving self-reliance in development of military capabilities.

AEW&C

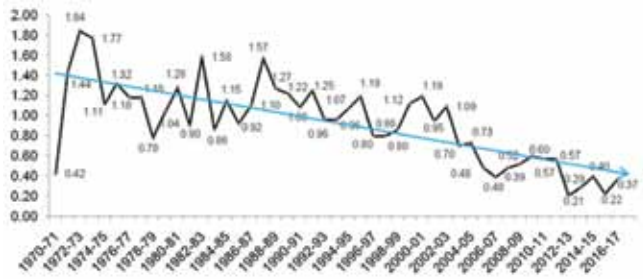
5.22 ***Software Defined Radio:*** The Software Defined Radio (SDR) will be integrated on various IAF Airborne and Ground platforms and will enhance Network Centric Warfare capability of the IAF.

SDR

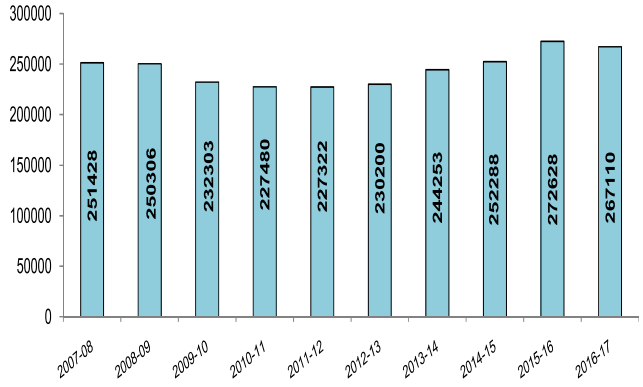
Aerospace Safety

5.23 Aerospace Safety record of the Indian Air Force (IAF), through the past decade, has improved as a result of various steps taken by the IAF and the Government.

5.24 ***Aircraft Accident Rates:*** The annual aircraft accident rates, calculated as number of Cat I accidents per 10,000 hours of flying during the financial year, have shown a progressive decline over the years. Cat I accident rates observed over past forty five years are indicated below:



5.25 ***Flying Efforts:*** There has been a constant increase in the flying efforts on one hand and reduced accident rate on the other. This indicates that safety measures taken by IAF are in the right direction. The assets thus preserved with increase in flying, directly contribute to enhanced operational capability. Financial year wise flying efforts by IAF for the past ten financial years are depicted below:



5.26 ***Procurement and Upgradation of Aeromedical Simulators:*** Two Ejection Procedure Simulators have been installed at 1 and 2 Aero Medical Training Centres (AMTC) and are used to train the correct procedure and posture to be adopted before ejection from a fighter aircraft to aircrew. The Software and Hardware of the Spatial Disorientation (SD) Simulators installed at IAM and 1 & 2 AMTC have been upgraded in the month of August 2017. Procurement of new DISO Simulator for 5 Air Force Hospital and High Performance Human Centrifuge for 1 AMTC is under process.

Modernization & New Establishments

5.27 ***Development of New IAF Bases:*** IAF has opened up 30 IAF airfields and seven Advance Landing Grounds (ALGs) in North–East for joint use and extended watch hours of various airfields to accommodate more number of civil scheduled flights. 20 Conditional Routes have been cleared within IAF restricted airspaces for use of civil airlines, thereby reducing the time of travel, saving of fuel and reducing carbon footprint. This is in addition to various ATS routes which are already crossing through the established restricted airspace of IAF. Ministry of Civil Aviation (MoCA) had proposed to conduct civil flight operations under Regional Connectivity Scheme (RCS)-UDAN from 24 Defence airfields, of which 15 are IAF aerodromes. Operation of RCS flights from all these IAF airfields have been cleared by IAF. AAI is in process of making temporary arrangements at these bases for immediate commencement of RCS flights. 30 RCS Routes have also been cleared by IAF in the year 2017, providing last mile connectivity under the RCS flights to/ from various RCS airports through IAF restricted airspace.

5.28 ***Colour Coded Zoning Maps:*** Powers to issue 'No Objection Certificate' for construction of infrastructure including real estate projects have been delegated by Ministry of Defence to Command HQ thereby significantly reducing the processing time under the GoI philosophy of 'Ease of Doing Business'. Color Coded Zoning Maps (CCZMs) for all IAF aerodromes have been formulated and powers delegated to Local Municipal authorities to process cases for construction of buildings/structures/ power transmission lines based on broad guidelines.

5.29 ***Modernization of Airfield Infrastructure (MAFI):*** IAF has modernized 25 bases with advanced navigational aids and Cat-II Airfield Lighting system under MAFI Project Phase-I.

5.30 ***Air Force Pension Cell at PCDA (P) Allahabad:*** A pension cell has been established at PCDA (P) Allahabad for effective liaison and monitoring of the cases of pre-86 Air Force retirees and to resolve them in a time bound manner.

Indigenisation and 'Make in India'

5.31 One of the main focus areas of the IAF is to support indigenisation and manufacturing of defence equipment, thus reducing dependency on import of defence equipment. To this end, IAF has inducted Light Combat Aircraft, Akash Missile, Advance Light Helicopters (ALH). IAF plans to induct more capable and potent LCA Mk-IA in the future. IAF is also actively supporting DoD of LCH, RPAs, Medium Power Radars, Low Level Tracking Radars and other systems and closely coordinating

with DRDO for development of various types of state-of-the-art weapons.

Light Combat Helicopter

5.32 Modernisation plan is being pursued to beef up the defence manufacturing base and the eco system. IAF has identified series of defence equipment that can be manufactured under 'Make' category. Ministry of Defence has been striving to include the private sector in production of defence equipment. A case for Avro replacement aircraft is being progressed with the objective of 'Make in India' in order to obtain key technologies for manufacturing aircraft in India. Manufacturing of Ka-226 T helicopters, Close in Weapon System and Single Engine Fighter aircraft under 'Strategic Partner' model will give impetus to 'Make in India' initiative. This will not only generate employment and enhance skill level but also assist in harnessing key technologies for growth of aerospace sector in the country.

5.33 ***MT Vehicles:*** IAF has modernized its MT vehicles fleet with new generation vehicles which have enhanced the Op capability of field Units to a great extent. During the year 2017-18, a total of 415 MT vehicles were procured. IAF was among the first to utilize the GeM portal and is in the process of placing Supply Orders for nearly 700 vehicles. IAF has been actively interacting with the Automobile Industry for customized manufacture of Air field Support Vehicles and Aircraft Specialist Vehicles, promoting the 'Make in India' policy of the Government.

Digital India

5.34 ***AFCEL Project:*** IAF has established pan IAF captive 3G WCDMA Mobile Network AFCEL. The network has been fully operational with voice call and data services. In-house initiatives have also seen development of the following apps, which have been certified before being offered to the users:

a) Instant Messaging App (AFCHAT)

(b) IAF Directory Search App

c) Conference Scheduler App

d) Caller-id App

e) Air Force Central Accounts Office (AFCAO) App and Website

f) MedWatch App

The President of India Inaugurating AFCEL Project

5.35 ***The e-Maintenance Management System (e-MMS):*** The e-MMS contract was signed between Ministry of Defence and M/s Wipro Ltd in February, 2013 at the cost of ₹ 637 crore (excluding taxes),for implementation of a centralised and web based e-maintenance solution for the IAF. The project is conceptualized on Digital India model and is one of the largest Maintain Repair Overhaul (MRO) IT implementation projects in the world. This would help IAF to transform from paper based legacy maintenance system to an online system. The Project would be implemented at 170 sites of IAF covering the entire spectrum of assets. The pilot phase is presently at hand at Air Force Station Pune and Air Force Station Gwalior. At both these places, a significant variety of aircrafts is operating on digital documentation platform. Various other implementation activities are also in progress to complete this project by December 2018 across all the 170 bases.

5.36 ***Centralized Disbursement System (CDS) of salary in the IAF:*** Centralized Disbursement System (CDS) of salary was formally launched in the Indian Air Force on April 3, 2017. Implementation of the CDS has weeded out the inherent limitations of the erstwhile system

causing delay in compilation of expenditure under the Head "Salary", besides accruing the following advantages:

(i) Dispensation of Acquaintance Roll and usage of Revenue stamps.

(ii) Dispensation of Pay Book.

(iii) Instant credit of Pay and Allowances irrespective of an individual's availability in the station or his absence due to leave, T/D, hospitalization etc.

(iv) Instant compilation of expenditure under the Head "Pay and Allowances" thereby bringing down the balance in suspense account to NIL.

5.37 ***E-Payment Initiative:*** The Accounts Branch has achieved a historic milestone in digitization through the centralised e-payment initiative, a task previously being carried out by 157 self accounting units. The centralized salary disbursement process works by digitally capturing various inputs from the field units and processing them centrally, thus making it a near paperless activity. The entire process has been automated through computer applications developed in-house without any additional manpower or incurring any additional cost.

6

INDIAN COAST GUARD

Indian Coast Guard

6.1 Indian Coast Guard (ICG) came into being on February 1, 1977 on approval of Cabinet Committee on Political 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 Coast Guard lies with the Director General Indian Coast Guard (DGICG). The organisation has five Regional Headquarters located at Gandhinagar, Mumbai, Chennai, Kolkata and Port Blair. These Regions are further divided into 14 District and each Coast Guard District comprises of one or more Coast Guard Stations, totalling 42. In addition, there are 10 Coast Guard Air Establishments viz. Air Stations (CGAS), Air Enclaves (CGAE) and Independent Air Squadron for air operations at various locations along the coastline.

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 Zone.

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

(c) Taking necessary measures 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 zone.

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

6.4 During the course of time, Indian Coast Guard has also been assigned the duty of Coordination Authority in National Maritime Search and Rescue, National Oil Spill Disasters and security in the offshore oil-fields. ICG is also Lead Intelligence Agency for maritime borders and it works as the focal point in India for information sharing under the Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia.

6.5 ***Existing Force Level:*** At present, the Indian Coast Guard has a force level of 62 Ships, 72 Boats/ Hovercraft and 62 Aircraft to carry out regular surveillance of the Maritime zones of India.

Coastal Security

6.6 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.

6.7 ***Coastal Security Exercises:*** Indian Coast Guard, in coordination with Navy, has been undertaking patrolling and surveillance of the entire coastline. Since 2009, a total of 169 Coastal Security exercises have been conducted for ensuring effectiveness of the coordinated patrolling and validation of Standard Operating Procedure.

6.8 ***Coastal Security Operations:*** The deployment of the Coast Guard Ships and Aircraft has been increased for Coastal Security in addition to patrolling in the Exclusive Economic Zone. A total of 300 Coastal Security operations have been conducted since 2009, in coordination with all stake holders.

6.9 ***Community Interaction Programmes:*** Coast Guard conducts regular interaction with fisher folks through Community Interaction Programmes. Since 2009, a total of 6008 Community Interaction Programmes have been conducted to sanitize fishermen on safety and security issues and to create awareness about usage of lifesaving equipment like Distress Alert Transmitters, lifebuoys and life jackets etc.

Significant Milestones and Achievements

6.10 Three Off-shore Patrol Vessels, One Fast Patrol Vessel and Six Interceptor Boats have been commissioned during the year 2017. Three Interceptor Boats have also been inducted during the year 2017.

International Cooperation

Bilateral Interactions

6.11 During the year 2017, ICG has conducted the following high level meetings with Coast Guard of other countries:

S.N.	Host	Participant	Remarks
1.	Indian Coast Guard, New Delhi	Sri Lanka Coast Guard (SLCG)	High level meeting on January 4, 2017
2.	Japan Coast Guard, Japan	Indian Coast Guard	Annual high level meeting January 16 - 20, 2017
3.	Indian Coast Guard, New Delhi	Vietnam Coast Guard (VCG)	High Level Meeting on May 29, 2017
4.	Maritime Border Command of Australia, Australia	Indian Coast Guard	For strengthening cooperation and exploring training avenues July 26 - 28, 2017
5.	Indian Coast Guard, Kolkata	Bangladesh Coast Guard	first Regional Commanders' Level Meeting, August 27 - 30, 2017
6.	Indian Coast Guard, New Delhi	Royal Oman Police Coast Guard (ROPCG)	High Level Meeting October 30, 2017
7.	Korea Coast Guard, Republic of Korea	Indian Coast Guard	High Level Meeting, December 12 - 14, 2017

6.12 ICGS Samarth participated in ICG-JCG joint exercise conducted off Yokohama, Japan from January 16 - 20, 2017.

Multilateral Interaction

6.13 Bangladesh Coast Guard Ship 'Tajuddin' participated in sea exercise "Mitrata Setu" with ICG at Goa and Chennai in February, 2017.

6.14 "International Seminar on Regional Cooperation for Safe and Secure Sea" was conducted from February 8 - 10, 2017 at Goa to commemorate the 40th Anniversary of Indian Coast Guard and 10th Anniversary of ReCAAP, wherein 15 countries participated and various national stakeholders attended the seminar.

6.15 Coast Guard co-hosted the 10th Capacity Building Workshop with ReCAAP Information Sharing Centre from December 11 - 12, 2017 at New Delhi. A total of 34 International delegates from 17 countries alongwith participants from DG (Shipping), major ports and Indian ship-owners' Association attended the workshop.

6.16 Interceptor Boat C-139 was transferred to Government of Mauritius on March 7, 2017 on permanent basis as a goodwill gesture as part of ongoing defence cooperation.

6.17 ICGS Varuna has been permanently transferred to Government of Sri Lanka for training and EEZ surveillance purposes on September 5, 2017.

6.18 ICG Maldives Dhruv helicopter comprising of 5 officers and 19 enrolled personnel which has been positioned at Gan, Maldives on April 21, 2010, has undertaken 112 Medical Evacuations and saved 119 lives.

6.19 Coast Guard Dornier CG 787 and CG 776 were detached to Maldives from August 27 - 31, 2017 and September 16 - 22, 2017 respectively for undertaking EEZ surveillance.

6.20 ***Overseas Deployment of Indian Coast Guard Ships:*** The details of overseas visit undertaken by Indian Coast Guard Ships are as follows:

Sl. No.	Ship	Duration	Country
(a)	ICGS Samarth	December 29, 2016 to January 1, 2017 January 7 - 10, 2017 January 17 - 21, 2017 February 2 - 5, 2017	Malaysia Philippines Japan Singapore
(b)	ICGS Samudra Pavak	January 24 - 28, 2017 January 30 to February 2, 2017 February 4 - 7, 2017 February 10 - 14, 2017	Qatar Saudi Arabia UAE Oman
(c)	ICGS Sarathi	March 10 - 14, 2017 March 18 - 22, 2017 March 27 - 31, 2017	Mauritius Seychelles Maldives
(d)	ICGS Shoor	March 26 to April 2, 2017 April 4 - 8, 2017	Maldives Sri Lanka
(e)	ICGS Vaibhav	April 22 to May 3, 2017	Maldives

Sl. No.	Ship	Duration	Country
(f)	ICGS Sarathi	October 8 - 12, 2017 October 18 - 22, 2017 November 2 - 6, 2017	Malaysia Indonesia Sri Lanka
(g)	ICGS Samarth	October 25 - 28, 2017 October 30 to November 3, 2017 November 4 - 7, 2017 November 8 - 11, 2017	Oman UAE Qatar Saudi Arabia
(h)	ICGS Shaurya	December 1 - 5, 2017 December 11 - 15, 2017 December 20 - 23, 2017 December 28, 2017 to January 1, 2018	Philippines South Korea Hong Kong Singapore

Achievements of ICG

6.21 Some of the other achievements of Coast Guard which clearly demonstrate the role played by CG in service of the nation are given below:

Sl. No.	Achievements during the period January 1, 2017 to December 31, 2017	
(a)	Contraband Seized	₹ 3500 crore
(b)	Search and Rescue (SAR) Mission	276
(c)	Search and Rescue (SAR) Sortie	771
(d)	Lives Saved at Sea	950
(e)	Medical Evacuation at Sea	49
(f)	Poaching Trawler Apprehension	11 Boats 69 Crew
(g)	Apprehension on Marine Wild Life Violation	25 Boats 235 Crew
(h)	Repatriation of fishermen	354 Indian Fishermen from Sri Lanka 22 Sri Lankan fishermen from India

6.22 Search & Rescue

(a) ***Beacon Exercise:*** Active participation was witnessed from Defence and Civil agencies in the 12th and 13th beacon exercises conducted in 2017.

(b) ***SAR Communication Exercise:*** The following SAR Communication Exercises were conducted in 2017 with the foreign SAR agencies:

Sl. No.	Date	SAR COMEX Conducted between	Country
(a)	June 1, 2017	MRCC Chennai – RCC Hiroshima	Japan
(b)	June 28, 2017	MRCC Port Blair – MRCC Kobe	Japan
(c)	October 26, 2017	MRCC Chennai - MRCC Colombo	Sri Lanka
(d)	November 3, 2017	MRCC Chennai- MRCC Yangoon	Myanmar
(e)	November 8, 2017	MRCC Mumbai – RCC (West) Mokpo	Korea
(f)	November 10, 2017	MRCC Port Blair – MRCC Philippines	Philippines
(g)	December 07, 2017	MRCC Port Blair – RCC Nagoya	Japan

(c) The XVIth National Maritime Search and Rescue Board (NMSARB) Meeting was held at Vigyan Bhavan, New Delhi on July 10, 2017. During the meeting, issues related with maritime and aeronautical search and rescue including safety provisions for fishing boats & dhows and use of technology to aid rescue efforts were discussed.

(d) On April 4, 2017, ICGS Shoor was deployed to give fire fighting assistance to a Panama flagged container vessel, MSC Daniela off Colombo, Sri Lanka along with a tug and Sri Lanka Navy ship (SLNs) Sagara. After consistent efforts for 30 hours, the fire was brought under control on April 6, 2017.

(e) On June 5, 2017, ICGS Rajkiran rescued 6 survivors of a capsized fishing boat 9 nautical miles East of Paradip. After providing initial medical assistance, the rescued survivors were brought to Paradip and handed over to Fisheries authorities.

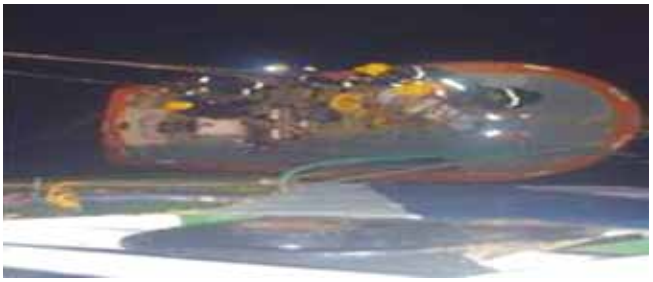
(f) On June 26, 2017, CG 809 rescued a missing Naval Officer ex-INS Vikramaditya off Cabo-de-rama fort, South Goa.

6.23 Medical Evacuation

(a) ***Medical Evacuation from 'Tug Esteem':*** On January 19, 2017, ICGS C-418 evacuated 2 patients having cardiac problem and dehydration onboard Tug Esteem.

(b) ***Medical Evacuation from 'MV Panamax-4':*** On January 25, 2017 Coast Guard helicopter, CG 821 safely evacuated one sick crew onboard MV Panamax-4.

(c) ***Medical Evacuation from 'MT BW Puma':*** On May 22, 2017, ICGS Samudra Paheredar, evacuated an injured Russian engineer off a Singapore flagged vessel MT BW Puma.



Medical Evacuation – 'MT BW Puma'

(d) ***Medical Evacuation from 'MV Lucky Seven' off Goa:*** On July 16, 2017 CG Heloex-CGAE (Goa) safely evacuated 4 crew onboard MV Lucky Sevenwho had suffered sea-sickness and injury amidst inclement monsoon weather conditions. The rescued crew were handed over to Dy. Captain of Ports (Goa) at Miramar Beach.

(e) ***Medical Evacuation from Island Light house at Goa:*** On June 4, 2017, Indian Coast Guard Chetakaircraft CG 811 evacuated an employee of Department of Light House from the island light house to Vengurula.

7

DEFENCE PRODUCTION

Defence Production

7.1 The Department of Defence Production (DDP) was set up in November 1962 with the objective of developing a comprehensive production infrastructure to produce the weapons/ systems/ platforms/ equipment required for defence. Over the years, the Department has established wide ranging production facilities for various defence equipment through the Ordnance Factories and Defence Public Sector Undertakings (DPSUs). The products being manufactured by these units 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. The Department has also made efforts to increase private sector participation in defence manufacturing through its policies and programmes.

7.2 The organizations under the Department of Defence Production are as follows:

- Ordnance Factory Board (OFB),
- Hindustan Aeronautics Limited (HAL),
- Bharat Electronics Limited (BEL),
- Bharat Dynamics Limited (BDL),
- BEML Limited (BEML),
- Mishra Dhatu Nigam Limited (MIDHANI),
- Mazagon Dock Shipbuilders Limited (MDL),
- Garden Reach Shipbuilders & Engineers Limited (GRSE),
- Goa Shipyard Limited (GSL),
- Hindustan Shipyard Limited (HSL),
- 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); and

- Defence Exhibition Organisation (DEO)

7.3 With the objective of achieving self-reliance in defence production, the Ordnance Factories and DPSUs have been continuously modernizing and upgrading their capabilities and widening their product range. A large number of major products have been developed through in-house research and development initiatives in addition to a number of products and equipment being produced through transfer of technology.

7.4 The value of production of Defence PSUs/ Ordnance Factories and Profit after Tax are indicated in Table 7.1 and Table 7.2 respectively.

(₹ in crore)

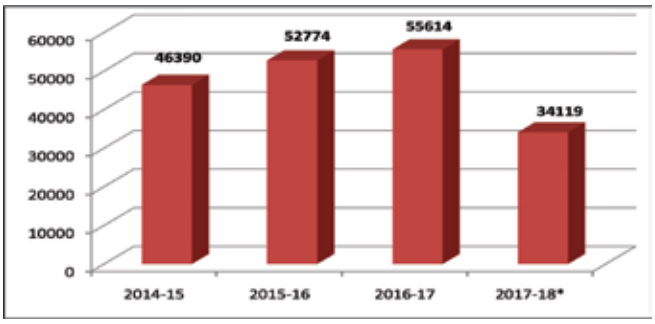


Fig 7.1 Increase in Value of Production of Defence PSUs and OFB

**** Up to Dec, 2017 (Provisional)***

7.5 DPSUs and Ordnance Factories have, as a policy pursued by the Department, 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. In addition, the DPSUs and OFB are also striving to increase the indigenous content in equipment and products, manufactured by them alongwith increase in value of outsourcing as % of value of Production shown in Fig. 7.2 below.

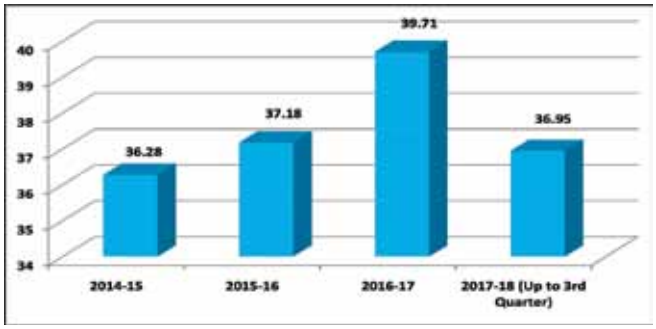


Fig 7.2 Value of Outsourcing by DPSUs & OFB as % of Value of Production

7.6 Some of the salient developments/ achievements during 2017-18 include:

(i) After discussions with stakeholders a new and simplified 'Make-II' procedure has been launched in January 2018 for simplification of collaboration between Government and Private Indian Industry for indigenous design, development and manufacture of defence equipment.

(ii) A Defence Investor Cell has been made functional in the Department since January 2018. It will play an important role in acting as one-stop solution for all types of defence production related queries. Subject wise Nodal Officers have been designated, to respond to the queries.

(iii) A multi-stakeholder Task Force represented by members from the Government, Services, Academia, Industry Professional and Start-ups has been constituted in January 2018 to study the whole gamut of issues surrounding strategic implications of Artificial Intelligence in national security perspective, in global context.

(iv) First Scorpene Class indigenously built submarine 'INS- Kalvari' was commissioned by the Prime Minister on December 14, 2017.

(v) With initial operational clearance, production of Light Combat Helicopter (LCH) started at Bengaluru Unit of HAL in August 2017.

(vi) Certificate of Airworthiness received from DGCA for HAL manufactured Dornier Do-228 Civil Variant aircraft on December 21, 2017, which opened up an opportunity for its use in UDAN scheme.

(vii) Bridge Layer Tank – T-72 supplies commenced in August, 2017.

(viii) All-Terrain Vehicle (ATV) was handed over to DG, BSF in August, 2017.

(ix) Dis-investment of five DPSUs namely HAL, BDL, MIDHANI, MDL and GRSE being progressed speedily to fructify listing by March, 2018.

(x) With the notification of 'Munitions List' under Category 6 of Special Chemicals, Organisms, Materials, Equipment and Technologies (SCOMET) by Directorate General of Foreign Trade (DGFT) on April 24, 2017, the Department has notified a revised Standard Operating Procedure (SOP) for processing applications for export of munitions list items.

(xi) Indigenously developed Quick Reaction Surface-to-Air Missiles (QR-SAM) jointly developed by Defence Research & Development Organisation (DRDO) & Bharat Electronics Limited (BEL) was test fired on June 4, 2017 from Balasore in Odisha.

Private Sector Participation

7.7 To achieve the goal of self-reliance in the Defence sector, continuous efforts are being made to increase indigenization, wherever technologically feasible and economically viable.

7.8 In May, 2001, the Defence Industry sector, which was hitherto reserved for the public sector, was opened up to 100% for Indian private sector participation, with Foreign Direct Investment (FDI) up to 26% both subject to licensing. However, Department of Industrial Policy & Promotion, Ministry of Commerce & Industry vide Press Note No. 5 (2016 Series) (Available at www.dipp.nic.in under Acts and Rules followed by Press Notes), has allowed FDI under automatic route up to 49% and above 49% wherever it is likely to result in access to modern technology or for other reasons to be recorded. Further, defence industry is subjected to industrial license under Industries (Development & Regulation) Act, 1951 and manufacturing of small arms and ammunition under the Arms Act, 1959 and Arms Rules, 2016. Other conditions can be viewed on DIPP website (www.dipp.nic.in) under FDI policy followed by Consolidated FDI Policy Circular of 2017.

7.9 Ministry of Home Affairs vide its Notification dated the May 19, 2017 has delegated powers and functions to Secretary to the Government of India in the Ministry of Commerce and Industry, Department of Industrial Policy and Promotion (DIPP), in respect of the category of arms and ammunition and defence items as specified under columns (2) and (3) of the Schedule, subject to the conditions as mentioned in the New Arms Rules 2016.

7.10 A Standing Committee has been constituted in the Department of Defence Production to consider all applications received from Department of Industrial Policy & Promotion (DIPP) and Ministry of Home Affairs (MHA) OHH for grant of licences for the manufacture of licensable defence items and to communicate the recommendation of the Ministry of Defence to the respective Departments. The Joint Secretary (DIP) is presently Chairman of Standing Committee with members from diverse fields viz. Naval HQrs, Air HQrs, Army HQrs, DGQA, DGAQA, DoD, DG (Acq.), OFB, DRDO and BEL.

7.11 Further, subsequent to abolition of the Foreign Investment Promotion Board (FIPB), the work of granting government approval for foreign investment under the extant FDI Policy has been entrusted to the concerned Administrative Ministries/ Departments. DIPP has been given the responsibility of overseeing the applications filed on the Foreign Investment Facilitation Portal and to forward the same to the concerned Administrative Ministry. The proposals on FDI in Defence sector is scrutinised in DDP.

7.12 DIPP has, so far issued 343 Industrial Licences (ILs) covering 206 companies till November, 2017 for manufacture of a wide range of defence items to private companies. 69 licensed companies covering 112 industrial licenses have so far reported commencement of production.

7.13 After opening up of the Defence Industry Sector for Indian Private Sector Participation, so far 40 FDI proposals/ Joint Ventures have been approved in defence sector for manufacture of various defence equipment, both in public and private sector. FDI amounting to ₹ 25.51 crores (US$ 5.12 million) has been received in the Defence Industry Sector from April, 2000 to September, 2017 (Source: FDI Statistics on htpp://www.dipp.nic.in).

7.14 The Department has finalized a Security Manual for private sector defence industries. The security manual provides for physical, documentation and IT security for the companies. The Security Manual is available on DDP's website (www.ddpmod.gov.in) under Publication/ Reports. For the purpose of compliance, the security

manual has been divided into three parts; Category A, B & C. Depending on the products/weapons/equipment, the companies will be required to comply with the security protocol. This is also available on DDP's website. Brief descriptions of Categories are as follows:

Category-A: The products under this category would be highly classified and sensitive from the security angle and the manufacturing of these items would require the highest level of security.

Category-B: The products under this category would include semi-finished products, sub-assemblies, sub-systems of main weapons/ equipment/ platforms and some finished products of lesser degree of sensitivity.

Category-C: The products under this category would include products which do not involve use of any classified/ secret information and are very generic in nature. The products in this category would normally be not specifically designed or modified for military use and therefore would require only a very minimal level of security.

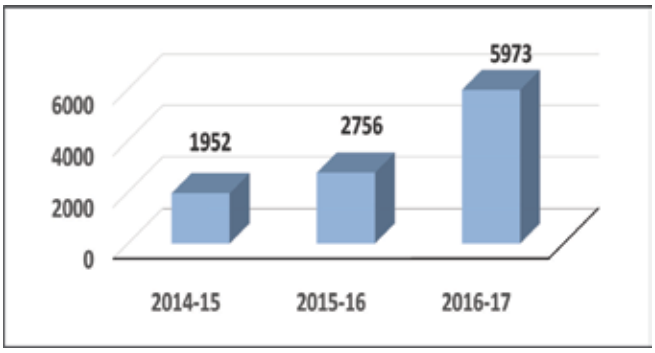


Fig. 7.3 : Production (₹ in crore)

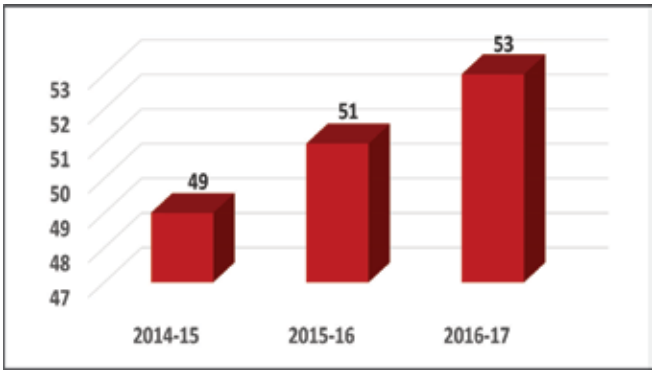


Fig 7.4 : No. of companies commenced production (Cumulative)

Export Profile of Indian Defence Industry

Defence Export

7.15 After introduction of online systems for accepting application for issue of Authorisation in November, 2014, the system has been further streamlined to make it industry friendly. Authorisations are also now being issued online to save the time and make the systems more transparent. System is being improved regularly based on the feedback of the industry associations/ private exporters, received from time to time.

7.16 Special Chemicals, Organisms, Materials, Equipment and Technologies (SCOMET) Category 6 titled "Munitions List' that was hitherto "Reserved" has been populated and the Military Stores list notified vide Notification No. 115(RE-2013/2009-2014 dated March 13, 2015 stands rescinded.

7.17 The Standard Operating Procedure (SOP) for the issue of Export Authorisation for export of Munitions List has been revised and published on the website. Under the revised SOP the requirement of End User Certificates to be countersigned/ stamped by the Government authorities has been done away with for the export of parts, components, Sub-systems etc.

7.18 In 2017, India has got the membership of Wassenaar Arrangement.

7.19 Military Aircraft and avionics has been include in the Munitions List in category 6A010 and vide notification No. 05/201-2020 dated April 24, 2017, DDP is authorised to issue export licence for the same.

7.20 For the products where there are capacity constraints, Defence Public Sector Units (DPSUs) have been allowed to export up to 10 % of their annual production in order to explore market opportunities outside the country.

Impact

7.21 Exports from OFB & DPSUs and the private sector (based on authorisation issued by DDP) in the Financial Year 2017-18 (till December 2017) have increased to ₹ 1937.75 crore from 1521.26 crore in financial year 2016-17.

Further, number of authorisation issued till December 2017 is 191.

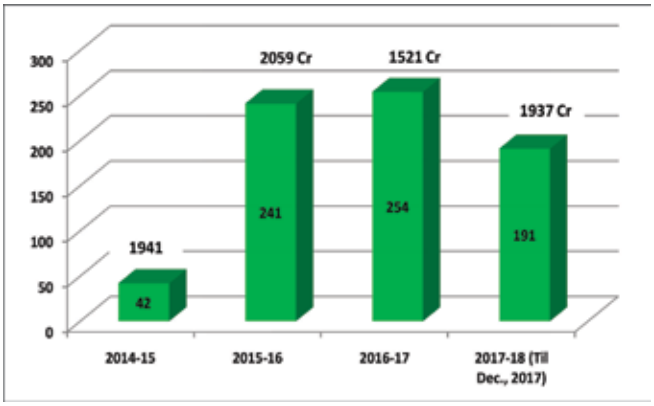


Fig. 7.5 : Exports (₹ in crore & NOCs issued)

Ordnance Factories Organisation

7.22 Indian Ordnance Factories are the oldest and largest industrial setup which functions under Ordnance Factory Board (OFB) with the objective of achieving self-reliance in equipping the armed forces with state-of-the-art battlefield equipment.

7.23 **Core competence of Ordnance Factories:**

Weapons	Small, Medium and Large Calibre Weapons & Mortar Equipment
Ammunition, Explosives & Propellants	Small, Medium and Large Calibre Ammunition, Mortar Bombs, Signaling and related stores, Rockets & Aerial Bombs, Fuzes, Explosives, Chemicals & Propellants
Military Vehicles	Trucks, Mine protected and Special Security Vehicles
Armoured Vehicles	Tanks & its variants, Armoured Personnel Carrier (APCs) & Engines
Instruments & Optical devices	Night & Day Vision Sights & Instruments
Parachutes	Brake Parachutes, Man dropping & Supply dropping Parachutes
Troop comfort & General Stores	Tentage, Clothings, Personal equipment, Bridges, Boats, Cables etc.

7.24 ***Production achievement:*** The turnover during the financial year 2016-17 was ₹ 21,392 crore. The projected turnover for 2017-18 is ₹ 23,500 crore against which the achievement up to December 31, 2017 is ₹ 12,543 crore. Nearly 80% of the supplies made by OFB in the year 2016-17 is for the Indian Army.

7.25 ***Modernization:*** OFB is continuously modernizing its existing facilities by replacing old machines with the State-of-the art machines to manufacture quality products, taking into account the current and long term future requirements of the customer. To achieve this a comprehensive Modernization Plan has been prepared and the plan for modernization for the next five years is ₹ 11820 crore. A total expenditure of ₹ 5359 crore was incurred during 12th Plan on Modernization.

7.26 ***Quality Management:*** The process of quality management has been strengthened by creation of test facilities for input material inspection and NABL accreditation of labs, establishment of Quality Audit Groups for audit manufacturing process, introduction of NQDBMS (Networked Quality Data Base Management System); formation of Failure Review Board (FRB) with representatives of DGQA and OFB to review and analyze the cause of defects during manufacturing and final acceptance inspection and suggest remedial measures.

7.27 ***In-House R&D:*** OFB has developed the following systems through In-house Research & Development projects:

- Armoured Recovery Vehicles
- Modernisation/ Upgraded version of MPV for MHA
- RGB-60 and RGB-12 submarine ammunition
- Development of 155mm X 45 Cal FH Gun with Electronic Modules (Dhanush)
- Dev. of Indigenous propellant for 155mm BMCS of 155 mm Gun System
- Electronic PD Fuze for 155 mm Ammunition
- Commander Thermal Imaging Sight for T-72 Tank

7.28 ***Achievements and Awards:***

- OFB has signed umbrella Memorandum of Understanding (MOU) with BEML and MIDHANI to establish a framework for co-operation and to jointly address the requirements of Indian Defence and export market. The MOU shall cover on-going projects and new projects.

- Raksha Mantri inaugurated on May 30, 2017, a grid connected solar power plant of 16 MW capacities through video-link in the presence of Raksha Rajya Mantri, Secretary (DP), Addl. Secretary (DP) and Vice Chiefs of the three forces. The plant has been set up on 80 acres of land at OF Medak, making it self-sufficient for its power requirement. The Solar Power Plant will also mark OFB contribution towards reduction of carbon footprint.

- Ordnance Factory, Medak had taken up BMP-II Armament Upgrade through in-house R&D. Upgradation of two vehicles (BMP-II Gunner version and BMP-IIK Commander Version) has been completed. An extensive internal trial (firing & running) of both the vehicles was completed successfully during the month of June, 2017.

- Ordnance Factory, Medak has been selected as the winner of RM's Best Performing Factory Award for the years 2014-15 as well as 2015-16.

- Ordnance Factory, Varangaon bagged First Prize in the Industrial Sector (General Category) at the 11th Maharashtra State Energy Conservation Award, 2015-16 for its excellence in Energy Conservation and Management. Ordnance Factory, Varangaon retained its First Position in Energy Excellence for the second consecutive year. Ordnance Factory, Varangaon has also won SEEM National Energy Management Award 2016 (GOLD) in Industrial Sector (Ordnance) instituted by Society of Energy Engineers and Manager (SEEM), Kerala for systematic approach towards energy performance, effective energy monitoring and focusing on energy efficient technology on Electrical, Thermal, Heating Ventilation and Conditioning System (HVAC) and Compressed Air generation and demand side management.

- Ordnance Factory, Ambernath has been awarded as the Best Recycler (Jury) in World Non-Ferrous Awards 2017 in September, 2017 at Mumbai from the hands of Director General, Bureau of International Recycling (BIR), Brussels, Belgium. The award in instituted/ organized by MTLEXS.

7.29 ***Digital India Initiatives:***

- e-grievances- Online complaint tracking system/ CPGRAMS has been made operational in OFB from July, 2013. Out of 2251 complaints received, 2170 cases (96%) have been disposed off as on December 31, 2017. The disposal of complaints is reviewed regularly by OFB at appropriate level.

- e-procurement - All procurements cases valuing more than two lakh are made through e-procurement.

- e-auction – All auction cases related to scraps and disposable items are made through MSTC e-auction.

- e-payment – In most of the cases, payment to employees as well as vendors are made through direct credit by electronic transfer into their Bank Accounts.

- e-services - The provision/ link to facilitate users to provide feedback has been made available on ofb.gov.in website.

7.30 ***Make in India:***

- OFB has a very strong and deep rooted culture of developing the items indigenously. The 'Make in India, initiative of the union government has provided a definite further push to the indigenisation efforts of OFB. The initiative will enable OFB to capitalise on its core strength as manufacturer of arms and ammunitions to emerge as the single largest dependable indigenous supplier to our Armed Forces with ever increasing contribution from the growing capabilities of the Indian industries, which will eventually increase

self-reliance and reduced imports of defence equipment.

- Ordnance Factories have quite successfully added many new indigenously designed and developed products in its armoury - notably the Rockets for Multi Barrel Rocket Launcher Pinaka, the tactical game changer 155 x 45 mm Dhanush artillery guns, the robust and safe Mine Protected Vehicles (MPV), and the Main Battle Tank Arjun. Besides, OFB has carried out substantial indigenisation of other major equipment's such as T-72 and T-90 Tanks, ICV BMP-II, AK 630 Gun for Indian Navy, 84mm Rocket Launcher and 40 mm pre-fragmented anti-aircraft ammunition, among others. OFB has also developed various Reduced Danger Zone (RDZ) bombs for Air Force and RGB-12 & RGB-60 rockets for Indian Navy.
- Current product range of OFB largely consists of conventional arms and ammunition. However, OFB is working on the modalities of the Futuristic Infantry Combat Vehicle (FICV) in collaboration with defence PSUs & IIT Chennai. Further, with in-house R&D efforts, OFB is developing Electronic Fuzes for Artillery Ammunition in coordination with DRDO and technical inputs from IIT Bombay. OFB also into the development of Precision Guided Artillery Shell by aligning with ARDE & IIT Kanpur.

7.31 ***Swachh Bharat:*** Swachh Bharat Pakhawada was celebrated from December 1 to 15, 2017 in all OFs during which extensive programmes on spreading awareness about cleanliness, tree plantation, cleanliness drive of areas inside Fys/ Estate were undertaken.

7.32 ***National Skill Development Mission:*** The National Skill Development Mission has been launched to create convergence across sectors in terms of skill training activities. Ordnance Factories are contributing meaningfully and actively in skill development mission of the nation. OFB has increased engagement of Trade Apprentices from 2.5% to 10% of the total strength including the contractual staff in 2017, thereby engaging about 7038 Trade Apprentices in various trades increasing their employability and skill in the sector.

7.33 ***Rain Water Harvesting:*** A total of 1495 existing/ old buildings have been installed with rain water harvesting, out of which 525 buildings have been installed with rain water harvesting during the year 2017-18. Prior to 2017-18, 970 buildings were already installed rain water harvesting in various Ordnance Factories. Among completed projects, Roof Top Water of 1428 nos. buildings are connected to pond through network of drains and 67 nos. of buildings are completed through recharge pits connected to the individual buildings. Further 2360 nos. existing /old buildings are planned to be completed during 2018-19

DEFENCE PUBLIC SECTOR UNDERTAKINGS (DPSUs)

Hindustan Aeronautics Limited (HAL)

7.34 Hindustan Aeronautics Limited (HAL) is India's flagship Aerospace Company with 35th position among the top 100 global Aerospace Industries. HAL so far has indigenously designed and developed 17 types of Aircraft/ Helicopters, the latest being HTT-40 (Basic Trainer Aircraft) and Light Utility Helicopter (LUH). The current manufacturing programs are Light Combat Aircraft (LCA) - Tejas, the multi-role supersonic fighter aircraft Su-30 MKI, Light Transport Aircraft Do-228, Advanced Light Helicopter (Dhruv), Rudra, LCH, Chetak, Cheetal helicopters. The Company has 80 percent footprint in fleet support for Indian Defence Services. The Company has achieved turnover of ₹ 8865 crore (Provisional) up to December 2017. Export Sales of ₹ 233 crore has been achieved up to the end December 2017.

7.35 ***Important Events/Achievements in 2017-18***

(i) HAL received the Initial Operation Clearance (IOC) certificate from the Center for Military Airworthiness & Certification (CEMILAC) for successfully developing Light Combat Helicopter (LCH).

(ii) HAL integrated Astra, Beyond Visual Range missile on Su-30MKI aircraft which was tested successfully against actual target by IAF in full operational configuration.

(iii) The 50th AL-31FP engine, manufactured from raw materials by Sukhoi Engine Division, Koraput, HAL was handed over to IAF as part of celebrations of 70th year of India Russia diplomatic relations.

(iv) Director General of Civil Aviation (DGCA) awarded civil certification to Do-228. The made-in-India aircraft now can be used by airlines within India for Regional Connectivity Scheme (RCS).

(v) "Hawk-i" an indigenously upgraded Hawk Mk 132 aircraft has been dedicated to the nation by Raksha Mantri.

(vi) First unit of successfully developed 8 Kg Mini Unmanned Aerial Vehicle (UAV) has been handed over to CRPF on September 7, 2017 in presence of Raksha Mantri and Home Minister.

Raksha Mantri and Union Home Minister during the handing over of first unit of Mini UAV to CAPFs on September 7, 2017

(vii) First flight of Jaguar DARIN III aircraft with AESA (Active Electronically Scanned Array) Radar was conducted on August 10, 2017.

(viii) Prototype flight testing of Light Combat Helicopter (LCH) achieved a significant milestone by completing its 1000th flight on June 6, 2017 and this flight of LCH was carried out with indigenous IADS.

(ix) Draft Red Herring Prospectus (DRHP) has been filed on September 29, 2017 with market regulator SEBI for the disinvestment of 10 percent of GoI's stake in HAL.

7.36 ***Awards Received during 2017-18:***

(i) President of India awarded HAL with 'SCOPE Meritorious Award 2014-15' for Corporate Governance.

(ii) HAL has bagged Raksha Matri's awards on May 30, 2017 in following categories:

- Institutional Award for "Excellence in Performance".
- "Best Performing Division of DPSUs" award to HAL Hyderabad Division

(iii) Awarded with 'Gold Trophy' in recognition of outstanding contribution to Skill Development in "Best PSU-Public Sector Training Programme" category.

(iv) Conferred with Golden Peacock Innovative Product/ Service Award- 2017 for the Project "Combined Interrogator and Transponder (CIT)".

(v) Conferred with "BT-CSR Excellence Award 2017" for successfully implementing the 'Kumudvati River Rejuvenation Project'

Bharat Electronics Limited (BEL)

7.37 BEL, a Navratna Company, established in 1954 under MoD has nine Units across India with core competencies in areas of Radars & Weapon Systems, Sonars, Communication, Network Centric Systems, Electronic Warfare, Electro-Optics and Tank Electronics. In Non-Defence sector, BEL's product range includes EVMs, Tablet PCs, Microcircuits, Semiconductors, Access Control Systems, Homeland Security Systems, Solar Systems etc.

7.38 ***Research & Development:*** BEL has R&D facilities in all nine Units to achieve self-reliance. Company has made a 3 year R&D Plan identifying future programs & various technologies, Knowledge Management Portal etc. On an average 10 new products are introduced annually. BEL spends around 9% of its turnover on R&D.

7.39 ***Major achievements in 2017-18:***

(i) Successful test firing of Indigenously developed QR-SAM

Test Firing of QR-SAM

(ii) Flagging of 100th Upgraded L-70 Gun

(iii) Inaugurated 16MW Solar Power Plant at OF-Medak, State-of-the-art Electronic Artillery Fuse manufacturing complex at Pune. On-line Inventory Management System for Navy, Service Support Center for IAF & Army at Jammu and BEL Academy of Excellence.

Inauguration of State-of-the-art Electronic Artillery Fuse Manufacturing Complex at Pune

(iv) Awards won include RM's Awards for Indigenization, Design Efforts, Exports, Best performing Division of DPSU (Naval Systems SBU), Dun & Bradstreet India's Top PSU Award, ASSOCHAM Award for Organizational Excellence, CVC's Vigilance Excellence Award for "Best Institutional Practice to Fight Corruption" for FLM implementation.

7.40 ***Future challenges:*** Competition has intensified, with the opening of Defence Electronics market to private participation. To sustain growth, BEL has adopted various strategies like changes in organizational structure, enhanced thrust on New Product Development, Diversification, Process/ Infrastructure Improvement etc.

7.41 ***Indigenisation:*** BEL has achieved 87% of turnover through indigenously technology. Major products in recent past include Akash Weapon System, Hand Held Thermal Imager with Laser Range Finder, 3D Tactical Control Radar, Weapon Locating Radar, Integrated Air Command and Control System, L70 Gun Upgrade,, Low Level Light Weight Radar, Ship Borne EW System and New Generation Sonars.

7.42 ***Modernization:*** BEL has been continuously modernizing its infrastructure to be in tune with the changing needs of the technology/ products. Major facilities established in recent past include New Radar Assembly Hangar, "Blowing Sand & Dust Test Facility", Electro-Magnetic Compatibility Chamber, Pulse Current Injection Test Facility, New Electronics Manufacturing Services Assembly Line and Automated TR Module Assembly Line.

Bharat Dynamics Ltd. (BDL)

7.43 Bharat Dynamics Limited (BDL was incorporated in the year 1970 under the Ministry of Defence is a pioneer in the manufacture of Anti-Tank Guided Missiles (ATGM) in the country. BDL is evolved as a conglomerate manufacturing ATGMs of new generation, Surface-to-Air weapon systems (SAMs), strategic weapons, launchers, underwater weapons, decoys and test equipment. BDL is fully geared up to meet the demands of Armed forces by capacity augmentation of all its major projects. Recently, BDL's Corporate Office has been shifted to Telangana State Finance Corporation (TSFC), Nanakramguda, Gachibowli.

7.44 Milan, Konkurs-M, Invar and Akash division have already been accredited to Aero Space Standards AS 9100 C and is currently endeavoring to upgrade the same to the more stringent AS 9100 D standard by March 2018.

7.45 BDL is lead integrator for Akash (Army) Akash Weapon System is one of the major products indigenously produced and being supplied to Indian Army/ Indian Air Force. BDL is also lead integrator for Medium Range Surface to Air Missile (MRSAM) for Indian Army. Recently, a contract worth of ₹ 1918 crore has been signed between

DRDO, Hyderabad and BDL, Hyderabad for the production and supply to the Indian Army.

Akash

7.46 ***Indigenisation:*** BDL is putting up determined efforts towards indigenization of ATGMs with the objective of increasing self-reliance, reduction of Foreign Exchange out flow and achieving cost reduction. Indigenisation of products like Konkurs-M, Invar, Milan-2T has been achieved up to 90%, 78.6% and 71% respectively.

7.47 ***CAPEX & Modernisation:*** ₹ 140 crore has been earmarked for 2017-18 on Capital Expenditure (CAPEX) towards modernization of Plant and Machinery and other infrastructure developments.

7.48 ***Financial Performance:*** BDL achieved record Sales turnover (net) of ₹ 4887 in 2016-17. In 2017-18 the sales target is set to exceed ₹ 5300 crore.

7.49 ***Corporate Social Responsibility (CSR) & Sustainable Development:*** BDL has taken up the various programs such as Mid-day meals, health care for elderly people, RO water treatment plant, construction of Electronic Toilet (She Toiles) etc. for the betterment of the life of people of Telangana and Andhra Pradesh under CSR with estimated expenditure of ₹ 21.52 crore.

BEML Limited

7.50 BEML, established in 1964, is a Mini-Ratna (Category-1) Public Sector Undertaking, manufacturing complexes located at Kolar Gold Fields (KGF), Bengaluru, Mysore and Palakkad and subsidiary steel Foundry - Vignyan Industries Ltd., in Tarikere, Chikmagalur District. It is engaged in design, development, manufacturing, sales and after sales activities of a wide range of areas of Mining & Construction, Defence and Rail & Metro products. The Company's International Business covers 66 countries in Asia, Africa and Latin America.

MBT T90 with Mine Plough

7.51 ***Research & Development (R&D) initiatives and development of new products:*** The Company has a focused approach on in-house R&D, spending around 2.5% of its turnover towards R&D. The in-house R&D developed products have contributed on an average of 50% of the total turnover in the last 3 years. During the year 2017-18, patent for "A Control System for an Automatic Power shift Transmission" received.

Arjun ARRV under testing

7.52 ***Indigenization:*** Indigenization levels are: Mining & Construction products and Rail products- 90%, Metro cars- 60%. Defence products, viz. PMS Bridge, ATT, Aircraft Weapon loader, 50T trailer- 90%. Engine Assembly, High Altitude Kit, Steering Pump & Brake Cylinders for Heavy Duty Trucks have been indigenized in 2017-18.

7.53 ***Awards received:***

- Raksha Mantri Award for BE1800E Excavator under Design Efforts-Own Initiatives Category for the year 2014-15.
- Hindustan PSU Award under the category 'Fastest Growing Organization-Miniratna.'

Mishra Dhatu Nigam Limited (MIDHANI)

7.54 MIDHANI is a specialized metal and metal alloys manufacturing "Mini-Ratna Category-I" company set up on the 20th day of November 1973 to manufacture critical materials required in the strategic sectors of India's defence industry and for sectors like nuclear power, satellite launch vehicles, aircraft etc. MIDHANI started commercial production in 1983 and has since then successfully supplied special metals and alloys to customers.

7.55 ***Financial Performance:*** MIDHANI has achieved its highest ever sales turnover of ₹ 809.71 crore in the FY 2016-17 and has achieved an impressive Compounded Annual Growth Rate (CAGR) of about 13.7% in sales over the past 10 years.

7.56 ***MoU Achievement:*** For the FY 2016-17 MIDHANI has been rated "Excellent" in MoU performance. MIDHANI has now secured "Excellent" rating for the 5th year in succession.

7.57 ***Timely Deliveries to Customers:*** Ensuring timely deliveries has been the main area of attention of Management. In order to expedite deliveries and cut down the incidence of contractual penalties and damages for delayed deliveries, MIDHANI has embarked on an expansion phase augmenting, expanding and revamping its age old in-house production facilities with contemporary technologies available elsewhere in the world and also developing new applications for existing products.

7.58 ***Proactive action to improve Research & Development (R&D):*** MIDHANI's R&D has been involved in the area of new grades & products development for its customers, Process development and modification and Yield improvement. Recognizing Industry-academia cooperation critical for technology leap, MoU have been signed with IIT Kanpur, IIT Roorkee and IIT Hyderabad, the partnership will focus on Research & Development in the areas of product, process and new alloys designs apart from training & development activities.

7.59 ***Modernization & Up-Gradation Program:*** The up gradation and modernization program of the Company over the last decade contributed towards setting up of additional facilities and increase in production tonnage capacity & product diversity. Phase 1 Modernization of MIDHANI at a Capital outlay of around ₹ 400 crore was successfully completed for revamping/ upgrading/ enhancing production capacities. Prominent among them are; New 6000 T Forge Press with 20 T Manipulator, Radial Axial Ring Rolling Mill, Establishment of a New Fastener Plant, R&D Building, Installation of 20 Ton Electric Arc Furnace with Vacuum Degassing (VD)/ Vacuum Oxygen Decarburising (VOD) and Ladle Refining Furnace (LRF). Phase 2 of Modernization pegged at around ₹ 1000 crore is currently underway.

7.60 ***Level of Indigenization:*** The special metals and alloys manufactured at MIDHANI are part of an import substitution strategy, which is designed to reduce the India's reliance on foreign suppliers and achieve self-sufficiency. MIDHANI has developed new alloys MDN9201 for power transmission gears and pinions of Helicopter projects and MDN 713C Cast and Hipped Blades for turbocharger of Diesel Locomotives of Railways. MIDHANI has also taken up type certification and Indigenous development of various Titanium alloys of Russian origin like PT-1M, PT-7M, BT-3B, BT-3BM, BTI-D. For the first time in our country, MIDHANI has developed large forgings of Super Alloy 617CC for Advanced Ultra Super Critical Thermal Power Plant Application.

7.61 ***Corporate Social responsibility:*** The CSR Policy of MIDHANI aims at developing company specific social responsibility strategies in long, medium and short term period towards all-round development of people residing in and around the Company's area of operation. An amount of ₹ 3.24 crore is proposed to be spent for CSR activities by MIDHANI in the year 2017-18. The various activities undertaken during the year and are under progress is briefly given below:

(a) Skill Development

(b) Promotion of Education

(c) Promotion of Health Care and Sanitation

(d) Providing Infrastructure support to schools and various institutions

(e) Other activities

Mazagon Dock Shipbuilders Limited (MDL)

7.62 Mazagon Dock Shipbuilders Limited (MDL) is a leading Shipyard amongst all Defence PSU Shipyards, engaged in construction of Warships and Submarines. MDL has attained the requisite expertise, and has also pioneered and retained the dominant position in constructing advanced Missile Destroyers, Stealth Frigates and Submarines in order to achieve self-reliance in warship production for the Indian Navy at competitive costs.

7.63 ***Financial Performance:*** The Company achieved VoP of ₹ 3529.7 crore in 2016-17 and earned a profit of ₹ 525.12 crore after tax. MDL paid a dividend of ₹ 199.08 crore to the public exchequer.

7.64 ***Deliveries and Commissioning:*** INS KALVARI' 1st Scorpene class Submarine of P75 project was delivered on September, 2017. It was commissioned by Prime Minister on December 14, 2017.

1st Scorpene Class Submarine 'KALVARI' commissioned on December 14, 2017

Raksha Mantri's Award for Excellence for Year 2014-15 on May 30, 2017

7.65 ***R&D Activities:***

- ₹ 32.70 crore has been spent on R&D activities till December 31, 2017.
- Virtual Reality Lab upgraded to include easy head & body tracking in the 3D environment, having dynamic interface with AVEVA for model view for enhancing the accuracy.
- Model studies completed with CWPRs, Pune for the feasibility of deepening of MDL waterfront.
- Heating Ventilation & Air Conditioning (HVAC) layouts in 3D environment ensure consistency of the information in order to avoid interference in the design.
- Ergonomics in ship detailed design has been implemented.
- Computational Fluid Dynamics (CFD) analysis for external flow visualisations on plated mast structure for EOD camera and plume analysis.
- 3D CAD (3-Dimensional Computer Aided Design) modeling of pilot Mega Block has facilitated for modular construction, removal of green material, provision of shrinkage allowance at unit level thus benefitting at the stage of fabrication and erection process.

7.66 ***Modernisation:*** MDL has successfully completed infrastructure Modernization Projects consisting of 300T Goliath Crane, Wet basin, buildings and ancillary work, new Submarine Assembly Workshop (SSA) as a second assembly line for submarines and also plans to expand its shipbuilding and submarine facilities comprising of Submarine launching facilities, new 400 T Goliath crane, additional outfit assembly shop and creating new work front at Nhava Yard.

7.67 ***Indigenisation:*** MDL has already set up dedicated indigenization department and has "Make-In-India" webpage linked to MoD's website. Six major items have been indigenized and five are in progress. Percentage of indigenisation targeted in shipbuilding is 75%.

7.68 ***Outsourcing:*** Items such as doors, hatches, ladders, bollards, scuttles, bulwark stanchions, tanks,

equipment seats and small assemblies are being outsourced through 581 registered suppliers (which includes 266 MSME Vendors) for bought out/manufactured items.

7.69 ***Corporate Social Responsibility:*** The Budget for FY 2017-18 is ₹ 16.48 crore and ₹ 20.63 crore has been carried forward from last two financial years. Various projects viz Adoption of Kharade Grampanchayat, of Thane District for overall development and desiltation activities at draught affected Parner village, Beed District of Maharashtra, construction of 1000 no. individual toilets in Raigad District of Maharashtra, contribution towards Swachh Bharat Kosh and clean Ganga Fund etc.

7.70 ***Sustainable Development Programme:***

(a) To increase the generation of renewable energy MDL installed 840 KWp Solar Photovoltaic (SPV) Power Plant and an order for additional 650 KWp SPV Power Plant likely to be completed by end March 2018. The expected energy generation from this SPV Power Plant is 8, 67,200 units of energy per annum.

(b) At the instance of MOD to promote green and sustainable energy, MDL, BEL and HAL entered into a MOU for 150 MW Solar (SPV) Power plants at the various OFB premises for a total cost of ₹ 975 crore exclusive of VGF on November 24, 2017.

7.71 ***Awards:***

(a) Jal Tarang half yearly Hindi Magazine of MDL received 1st Prize from SCOPE in the category Utkrista Patrika on December 7, 2017 at SCOPE Convention New Delhi.

(b) Jal Tarang was awarded 1st Prize by Town Official Language Implementation Centre (TOLIC) on July 21, 2017 at Mumbai.

(c) Jal Tarang was awarded 'Shresth Grih Patrikayen' by Aashirwaad on September 27, 2017 at Mumbai.

(d) Raksha Mantri Award for Excellence (2014-15) on May 30, 2017.

(e) Quality Circle 'Gold' Awards (2 nos.) in ICQCC-2017 held in Philippines on October 27, 2017.

Garden Reach Shipbuilders and Engineers Ltd. (GRSE)

7.72 Garden Reach Shipbuilders & Engineers Limited (GRSE), Kolkata, initially a ship repairing yard was taken over by the Government of India in 1960 and is under the administrative control of Ministry of Defence. Today, GRSE has developed broad capabilities in the areas of shipbuilding and general engineering. The company manufactures various types of vessels, ranging from tugs and barges to warships, frigates, bulk carriers, oceanographic research vessels, high powered diesel engines and portable steel bridges.

7.73 ***Financial Performance:*** The Company achieved a turnover of ₹ 930.41 crore in 2016-17. The Profit Before Tax of the company for 2016-17 is ₹ 20.89 crore and the Net Profit was ₹ 12.23 crore. The Net Worth of the Company is ₹ 1081.51 crore.

7.74 ***Deliveries and Commissioning:*** GRSE delivered three (3) Warships namely Water Jet Fast Attack Craft (TARASA), Landing Craft Utility (LCU L-52) and Anti Submarine Warfare Corvette (KILTAN). Three Warships namely Landing Craft Utility on August 21, 2017, Water Jet Fast Attack Craft (INS TARASA) on September 26, 2017 and Anti-Submarine Warfare Corvette (INS KILTAN) on October 16, 2017 were commissioned.

Water Jet Fast Attack Craft (TARASA)

Landing Craft Utility (LCU L-52)

Anti-Submarine Warfare Corvette (KILTAN)

7.75 ***Awards & Recognitions:***

(i) Raksha Mantri's Award of Excellence

(ii) GOLD Award for two (2) Quality Circle teams of GRSE for outstanding performance on 'Quality Control' activities at the International Convention on Quality Control Circle-2017 (ICQCC-2017) at Pasay City, Philippines.

(iii) SCOPE Corporate Communication Excellence Awards for two (2) categories

(iv) 4 Awards by GRSE's Quality Circle Teams at the National Convention on Quality Concepts - 2017 (NCQC-2017)

Goa Shipyard Ltd. (GSL)

7.76 Goa Shipyard Limited (GSL) is a Mini-Ratna Group-I status company, has proven capabilities of in-house design and building sophisticated high technology warships for Indian Defence Forces and other varied clients, including Export markets. GSL has achieved annual delivery over 12000 Gross Tonnage, which is highest amongst Indian shipyards in FY 2017-18. The Shipyard recorded a distinct achievement of all project deliveries ahead of contractual delivery. Further, the Shipyard emerged as the largest exporter of defence ships in India, with over ₹ 500 crore turnover (40% of VoP) coming from Exports. Successful delivery of an Advanced OPV to Sri Lanka, two FPVs to Mauritius and a Damage Control Simulator to Myanmar, all before contractual delivery schedule, have generated considerable goodwill for the Nation.

7.77 ***Financial Performance:*** The Company has achieved VoP of ₹ 1030.20 crore during FY 2016-17. The Profit Before Tax of the Company is ₹ 177 crore during 2016-17, highest in last six years.

7.78 ***Deliveries/ Launchings during the Year:*** With delivery of 5th and 6th Vessel the Shipyard successfully completed the CG OPV Project of six ships (first ship in October 2015 and last ship in November 2017). All six ships were delivered prior to the due date. The Shipyard has also made considerable progress in implementation of 'Make in India' Program of the Govt. Indigenisation of Steel Plates, Gearboxes, Steering Gear system, Fin Stabilizer System, Heli Grid, Doors (Water & Weather tight) and Gemini Boatshave increased the indigenous content to 70% in ongoing five CG OPV Project as against 62% indigenous content in recently completed Coast Guard Offshore Patrol Vessel (CG OPV) project (six vessels).

7.79 ***Ship Repair:*** GSL has comprehensive infrastructure, know-how and expertise dedicated Cell for repair of defence and commercial vessels. During Financial Year 2017-18, the Shipyard has undertaken repairs of Sail Training Ship Tarangini, NOPV Sunayna, Tugs & Crafts.

7.80 ***Modernisation:*** Yard 'Infrastructure Augmentation Plan' is being executed in four phases, of which phase 1 & 2 (6000 T shiplift and dry berths) was completed in March 2011 and Phase 3A (ship construction bays and fabrication bays) was completed in August 2016. The balance phases 3B and 4, comprising of facility for erection of GRP hull and Command and Control Centre for upcoming MCMV Project, are likely to be completed by end 2020. On completion, GSL will be only Shipyard in Indian subcontinent to have the facility for construction of specialized GRP hull for Mine Counter measure Vessels.

7.81 ***Research and Development (R&D):*** As part of development of product for future requirement, GSL has developed design of 60 meter Fast Patrol Vessel for Export.

7.82 ***Awards Won:*** In recognition of excellence achieved in various discipline, shipyard has won the following awards:

(a) Scope Award for Excellence - Turnaround Category, awarded by the President on April 11, 2017.

(b) RM's Excellence Award for Best Performing Shipyard 2015-16, Best Performance in Export 2014-15, Design Efforts-Own Initiative Projects 2014-15, conferred on May 30, 2017.

(c) PMA National Project Excellence Award 2016 for Project Management of 1st Sri Lanka Offshore Patrol Vessel (SLOPV).

Hindustan Shipyard Ltd. (HSL)

7.83 Hindustan Shipyard Ltd. is the largest and strategically located shipyard under Ministry of Defence (Department of Defence Production). The yard has so far built 179 vessels (including 11 wellhead platforms) and repaired about 1954 vessels for the defence and maritime sector.

7.84 ***Financial Performance:*** HSL over the last two years has shown remarkable improvement in performance. In the financial year 2016-17, the company achieved turnover of ₹ 629 crore, the highest in the last 76 years of the yard's history and the total income achieved was ₹ 650 crore which has been the best during the last five years. Further, the company achieved operational profit of ₹ 38 crore in the FY 2016-17 after a gap of 35 years. The profit after tax achieved was ₹ 53.77 crore in the FY 2016-17.

7.85 An Inter-Governmental MoU for defence industry cooperation in shipbuilding was signed between MoD, GoI and Defence Acquisition and Program Administration (DAPA), Republic of Korea on April 21, 2017.

7.86 ***Shipbuilding:*** HSL has been nominated by Ministry of Defence for construction of Fleet Support Ships and SoV.

7.87 ***Submarine Refits/ Construction:*** Considering the proven expertise garnered by the yard in MRCM of EKM Class Submarine, HSL has been nominated by MoD for undertaking Normal Refit of EKM Class Submarine, INS Sindhuvir in July, 2017.

Arrival of INS Sindhuvir in July 2017

7.88 ***Awards:*** HSL has received Raksha Mantri's awards for excellence for the year 2015-16 in the category of 'Projects on Shafting work, New welding techniques and Rudder Carrier Bearings Modification.

7.89 HSL has also won the Society for Defence Technologist (SODET) excellence awards for the year 2015-16 in the category of Technology Development – Engine Exhaust (Silver medal) and Technology Innovation – Installation of major sensor and a complex domeon the ship (Bronze medal)

7.90 ***Modernisation:*** To meet the futuristic requirements of Indian Navy and Coast guard including submarines and weapon intensive war vessels, refurbishment and replacement of machinery and infrastructure is in progress. Further, the inter-governmental MoU signed with RoK would pave the way for upgradation and modernization of facilities at par with world class shipbuilding industries, using Korean expertise.

7.91 In order to have a seamless flow of information, automated transactions and integration of design and manufacturing, HSL has partnered with M/s Tech Mahindra Ltd for implementation of SAP ERP solution. The unique feature of this ERP system would be integration of Design software, Aveva Marine including its 3D features with an embedded PLM in SAP.

Directorate General of Quality Assurance (DGQA)

7.92 Directorate General of Quality Assurance (DGQA) is an Inter-Service Organisation functioning under the Deptt of Defence Production in the Ministry of Defence. DGQA is responsible for 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.

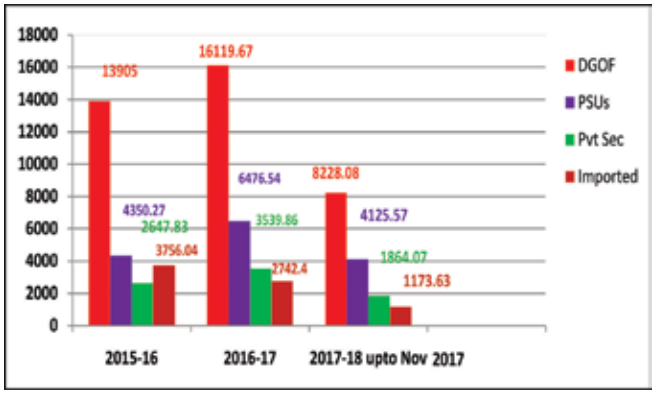
7.93 ***Organisational Structure and Functions:*** DGQA Organisation is structured into eleven Technical Directorates, each responsible for a distinct range of equipment. The Technical Directorates are structured in two tiers for functional purposes, comprising Controllerates and Field Quality Assurance Establishments. In addition, there are Proof Establishments in Armament Discipline for carrying out proof of weapons and ammunition.

7.94 ***Achievements:***

(a) ***Quality Assurance of Stores:***

(i) DGQA organisation has carried out inspection of defence stores for the total value of ₹ 15391.35 crore during 2017-18 (Upto November, 2017).

(ii) (Manufacturer wise value of stores (₹ in crore) inspected during last three years is as under:



Value of Store Quality Assessed (₹in crore)

(b) ***155mm Cal FH Gun 'Dhanush':*** DGQA carried out Integrated Functional Checks & Structural Proof Firing and was also associated during User Exploitation at PFFR, BFFR & NFFR (Different firing ranges).

155mm Cal FH Gun "Dhanush"

(c) ***DGQA Technical Evaluation:*** During the year 2017-18 (upto September 2017), DGQA has carried out a total of 65 Technical evaluations and attended 28 User Trials of various stores, ammunition and equipment, comprising of a number of complex sub systems. 18 PDIs and 54 JRIs of various equipment/stores were conducted during the year 2017-18 (Upto September, 2017).

(d) ***Validation Proof of Guns at CPE Itarsi:***

(i) ***Advance Towed Artillery Gun System (ATAGs) - Joint Venture between Armament Research and Development Establishment (ARDE) and Bharat Forge Ltd.:*** Proof Firing of 152mm/ 52 Cal Gun Barrel for ATAGS - ARDE, Pune has been assigned a task of developing 155mm/ 52 Cal ATAGS as a 'Mission Mode Project'. Control Proof Establihsment (CPE) Itarsi provided technical and admin assistance to ARDE Pune for internal trial and proof firing of first 155mm/52 Cal ATAGS developed by BFL Pune (Development Partner) to prove the strength of the Barrel. The trial firing of 155mm/ 52 Cal ATAGS Barrel Regd No. ARDE/ BFL/ 20009-1/ 14 was successfully carried out at CPE Itarsi in June 2015.

(ii) ***Bharat 52 -- Bharat Forge Ltd., Pune:*** Trial firing of 155mm/ 52 Cal Howitzer - M/s BFL, Pune vide their letter No. Bharat 52/ Trials Proof/ 01 dated April 10, 2017, requested for allotment of Proof Ranges & Proof Stock Components on

payment basis for trial firing of 155mm/ 52 Cal Howitzer. Trial firing of 155mm/ 52 Cal Gun ex-M/s BFL has been conducted at Control Proof Establishment (CPE) Itarsi on October 10, 2017.

(iii) ***Soft recoil system of Indian Field Gun (IFG) – Joint venture between EME School Baroda and Bharat Forge Ltd.:*** Validation Firing of 105mm Light Field Gun (LFG) mounted on TATA 2.5 TON with Soft Recoil System - EME School Varodra vide their letter No. 24501/ ATB/ PC-VIII/ T-4/ Trg-2 dated July 21, 2016 approach DGQA for conduct of validation firing of 105mm LFG mounted on Tata 2.5 Ton with soft recoil system developed by M/s BFL before placement of supply order. The trial firing of 105mm LFG mounted on Tata 2.5 Ton with soft recoil system was successfully carried out at CPE Itarsi in two phases i.e. November 9 and 23, 2016.

(e) ***Annual Master General of Ordnance (MGO) Industry Cooperation meet (AMICOM):*** MGO Branch of the Army, which is responsible for the operational readiness of Indian Army's (IA's) vast array of weapon systems, vehicles and equipment in its ongoing quest for ensuring their effective sustenance and to make the best of the opportunity of "Make in India" initiative of the Government of India has put in place an institutionalised mechanism in the form of Annual MGO Industry Cooperation Meet (AMICOM) to serve as a platform for Indian Army and industry to share the requirements, capabilities and concerns.

(f) AMICOM-17 was conducted on July 25-26, 2017 at the India Habitat Centre, New Delhi as an MGO-CII initiative. The theme chosen for the seminar was "Evolving new Strategies to Fast Track Indigenisation". DGQA was invited and took active participation in the event and was involved in the following:

- Presentation on 'Procedure for Registration/ Capacity Verification/ Capacity Assessment' by ADGQA (EE).
- Presentation on 'QA Principles, Guide Lines & Procedures' by ADGQA(V).
- During One on One Discussions:
  - ❖ Discussion on SOP for providing field ranges of DGQA to Industry on chargeable basis under 'Make in India' initiative of Government of India.
  - ❖ Discussion on Green Channel Policy and draft Joint Service Guide regarding Registration of Vendors.

(g) ***DGQA Day 2017- Diamond Jubilee Celebrations:*** DGQA Day 2017- Diamond Jubilee Celebrations have been celebrated on September 28, 2017. RRM presided over the function at Dr. DS Kothari Auditorium, DRDO Bhawan, New Delhi and released the First Day Cover and also launched the link of Vendor Registration on DGQA Website.

7.95 ***Future Challenges:***

(a) ***Green Channel Policy:*** With a view to promote ease of doing business to achieve national vision of 'Make in India', MoD decided to institute a mechanism for granting Green Channel Status to firms supplying broad categories of items having continuous requirement/ mass consumption in Defence forces. Firms having an annual average turnover of ₹ 1000 crore or more during last three years and making profit in at least three out of five years are eligible for Green channel status. Accordingly, a Green Channel Policy has been formulated by Department of Defence Production and issued the same Vide MoD order No 43(5)/2015/D(QA) dated March 24, 2017 with the approval of Raksha Mantri.

(b) ***Implementation of Pilot Project in 6 selected Ordnance Factories:*** As per recommendations of the Raman Puri committee report, MoD has decided to implement pilot project in six select Ordnance Factories viz Ordnance Factory, Khamaria (OFK), Ordnance Factory, Badmal (OFBL), Ordnance Factory, Ambajhari (OFAJ), Ordnance Factory, Medak (OFMK), Ordnance Equipment, Kanpur (OFC) and Gun Carriage Factory (GCF). The review committee of the project has been asked to submit final report on its implementation by March, 2018.

(c) ***Modernisation:*** DGQA has upgraded its existing

test facilities in line with National Accreditation Board for Testing (NABL) stipulations. 36 labs have been awarded NABL accreditation. DGQA is also providing the Lab Test facilities & Proof facilities to Private Vendors for Indigenization purposes.

(d) ***Training Initiatives:*** Defence Institute of Quality Assurance (DIQA) carries out training of DGQA officers and officers of other organizations in the field of Quality Management.

(e) ***Corporate Social Responsibilities (CSR):***

(i) ***Swachh Bharat Abhiyan:*** As a part of Swachh Bharat Abhiyan, Swachhta Pakhwada was celebrated in DGQA HQ and its establishments from December 15, 2017. Following activities were undertaken and successfully carried out during this period:

- Oath taking ceremony/ Swachhta Pledge administered.
- Disposing of scrap material in the premises and storage of the same in organized manner.
- Weeding out of old files and office equipment.
- Seminar on insecticides in the office complex for prevention of mosquitoes and other insects.
- Essay and painting competition on the subject of "Importance of Cleanliness".
- Mini Marathon to spread the messages of cleanliness.

(ii) ***Differently-abled Friendly Environment:*** The organisation provides friendly environment to differently-abled persons, such as corridors, furniture as per their need.

(iii) ***Save Girl Child (Beti Padao – Beti Bachao):*** Organisation is contributing in saving girl child by spreading awareness in its employees, to achieve following objectives:

- Preventing sex selective abortion.
- Survival and protection of a girl child
- Education of the girl child.
- Safety and security of girl child at all the public places.

(iv) ***Tree Plantation and Blood Donation:*** A total of 23,000 tress have been planted and 911 units of blood donated through voluntarily blood donations camps. Other activities including visit to Old Age Homes/ Orphanages, Mini Marathon and Yoga were also conducted.

Upgraded Schilka

Directorate General of Aeronautical Quality Assurance (DGAQA)

7.96 DGAQA is the Quality Assurance (QA) regulatory authority for Defence PSUs, Ordnance Factories, DRDO etc. and provide QA coverage to Military Aircrafts, Associated Accessories, Air Armaments, Unmanned Air Vehicle (UAV), Missiles etc. during design, development, production, overhaul, repair, up-gradation and modification at various Defence PSU's, Ordnance Factories, DRDO Labs, Oil Refineries & Private Trade Firm's etc. DGAQA also plays vital role in Technical Evaluation, Field Trials, Pre-Dispatch Inspection (PDI) during foreign procurement of Military Aviation stores. During the financial year 2017-18, DGAQA has provided quality assurance coverage to Military Aviation Stores of the value ₹ 8,547.73 crore upto December 31, 2017.

Directorate of Standardisation (DoS)

7.97 Since inception, the Directorate of Standardisation is paving way to mitigate proliferation so as to optimise complete inventory of the three services by means

of establishing commonality, duplicity in equipment/ components. The assigned duties to the Directorate of Standardisation towards Standardisation and Codification is being accomplished through continual process of formulating new and updating the existing varied Standardisation documents, Codification of items, variety and entry control.

7.98 ***Targets and Achievements:*** The Committee of Chairmen Standardisation Sub Committee (CCSSC) has set target of 964 Standardisation Documents (101 New & 863 Revision cases) for year 2017-18. As on April 1, 2017, 5228 active standardisation documents are available.

7.99 With Tier-I membership of the Apex Codification body under NATO (Allied Committee – 135), the Directorate of Standardisation has implemented a new concept of Globally accepted codification system using advanced web-based software for codification and cataloguing of entire Indian Defence inventory. The new codification tool besides aiding in systematic Codification and Cataloguing of Defence Inventory is also enabling distinct visibility of Indian Industry on International Logistic System and their enhanced participation in Global Defence Procurement System. The satisfactory testing of codification tool/ software, a prerequisite for Tier-II membership of Allied Committee – 135, has been completed in November 2017.

Directorate of Planning & Coordination

7.100 The Directorate of Planning and Coordination, an attached office of Department of Defence Production, was established in 1964. The Directorate is primarily mandated to establish robust indigenous defence industry, improve domestic production by expediting Indigenization process in defence sector through various enabling policies viz 'Make in India' initiative, liberalization of FDI Policy/ Industrial licensing policy, providing level playing field to private sector, creating defence technical hub and giving preference to procurement from indigenous route. Further, the Directorate strives to foster international cooperation in defence sector and boost export of defence equipment to other countries.

7.101 In addition, the Directorate renders advice from DDP's perspective on capital acquisition proposals of Service Headquarters and also plays key role in streamlining of Defence Procurement Procedure (DPP). The Directorate is also playing pivotal role in speeding up the ongoing efforts for modernisation of Naval Shipyards.

Defence Exhibition Organisation (DEO)

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

7.103 ***International Exhibitions in India:*** To provide a platform for the Indian Defence Industry to showcase its capabilities, DEO organizes two biennial International exhibitions in India, namely Aero India and Defexpo India. While Aero India is dedicated to aerospace and aviation industry, focus of Defexpo India is on land and naval systems.

(i) Aero India which began in 1996, has already carved a niche for itself as a premium international exhibition on aerospace, defence, civil aviation, airport infrastructure and defence engineering. The 11th edition of Aero India-2017 was organized from February 14-18, 2017 at Air Force Station Yelahanka, Bengaluru.

(ii) DEFEXPO INDIA conceived as a complementary exposition to Aero India, Defexpo India launched in 1999. The 10th edition of Defexpo India will be held in 2018. Defexpo India is clearly steering the path of steady growth and has been receiving overwhelming and unprecedented international response with each edition. The exhibition has showcased India's emergence as an attractive destination for investment in the defence sector and acted as a platform for alliances and joint ventures in the defence industry. An interactive seminar on the defence procurement procedures and offset policy along with B2B meetings, exhibitors' press conferences, product launches are regularly arranged to bring the participants abreast with the latest developments. This show also attracts an unprecedented network of International Government and Military Agencies.

We are thankful to the foreign participants for their overwhelming response.

(iii) Apart from these exhibitions DEO has participated/organised the following exhibitions:

- ***Golden Jubilee Celebration of the Submarine Arm of Indian Navy (GJSM) - 2017:*** The Golden Jubilee Celebration of the Submarine Arm of Indian Navy (GJSM)) – 2017 of Indian Navy was held during December 6-9, 2017 in Visakhapatnam, Andhra Pradesh. The event was organised by this organisation.

7.104 ***International Exhibitions Abroad:***

(i) With a view to provide an impetus to export potential to Indian Defence Industry, DEO organizes "India Pavilion" in major defence international exhibitions abroad to develop market for defence products being manufactured by them.

(ii) During the current financial year 2017-2018, India Pavilion was set up at the following overseas international exhibitions:

- Latin America Aerospace & Defence (LAAD) – 2017 from April 4-7, 2017, at Rio-de-Janeiro, Brazil.
- International Maritime Defence Exhibition and Conference (IMDEX) – 2017 from May 16-18, 2017 at Singapore.
- Paris Air Show – 2017 from June 19-25, 2017 at Paris, France.
- International Aviation and Space Salon MAKS – 2017 from July 18-23, 2017 at Moscow, Russia.
- Defence and Security Equipment International Exhibition and Conference (DSEI) – 2017, from September 12-15, 2017 at London, UK.
- Seoul International Aerospace and Defence Exhibition (Seoul ADEX) – 2017 from October 17-22 at Seoul, South Korea.
- Defence and Security – 2017 from November 6-9, 2017 at Bangkok, Thailand.

Table No. 7.1
WORKING RESULTS
Value of Production of Defence PSUs and OFB

(₹ in crore)

Name of DPSU	2014-15	2015-16	2016-17	2017-18 (upto Dec, 2017) (Provisional)
HAL	16288	17152	17104	8939
BEL	6659	7775	9244	6674
BEML	2599.93	2736.90	2623.90	2027.68
BDL	2770.05	4297.82	5011.00	2729.96
GRSE#	1612.66	1660.75	927.85	701.39
GSL	569.55	725.96	1030.19	1010.27
HSL	294.16	593.29	629.04	311.85
MDL#	3592.60	4106.22	3523.67	2887.08
MIDHANI	640.04	678.78	695.64	386.84
OFB	11364	13047	14825	8451
Total	**46389.99**	**52773.72**	**55614.29**	**34119.07**

 # Change in financial figures from 2015-16 to 2017-18 is due to changeover of Accounting system from 'IGAAP'to Ind AS'.

Table No. 7.2
Profit after Tax of DPSUs

(₹ in crore)

Name of DPSU	2014-15	2015-16	2016-17	2017-18 (upto Dec, 2017) (Provisional)
HAL	2388	1998	2616	995
BEL	1167	1307	1548	538
BEML	6.76	63.66	84.44	66.38
BDL	418.57	564.88	524.06	72.60
GRSE	43.45	162.05	12.23	31.01
GSL	78.24	62.28	117.41	110.39
HSL	-202.84	19.00	53.77	-39.60
MDL	491.59	575.23	525.12	322.19
MIDHANI	102.13	118.03	127.29	46.74
Total	**4492.9**	**4870.1**	**5608.3**	**2142.7**

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DEFENCE RESEARCH AND DEVELOPMENT

Defence Research and Development

BACKGROUND

8.1 The Defence Research & Development Organisation (DRDO) has come a long way since its inception on January 1, 1958 to become a major Science & Technology force to reckon with in the country. Starting as a very small organisation with only 10 laboratories, DRDO has grown multi-dimensionally and emerged as a strong and mature organisation with a vast network of 50 laboratories, spread across the country.

8.2 DRDO is dedicated towards progressive enhancement of self-reliance in Defence systems and also enhancement of R&D infrastructure and capability of the country. It has a vision to make the country self reliant and independent of foreign technologies in critical spheres and also to build a reservoir of expertise in the most sensitive scientific and technological domains. DRDO plays many significant roles, like providing scientific and technological advice to the MoD in support of defence policy; as evaluator of defence equipment for the military operational requirements; and generating new technological knowledge to be transferred to the defence industries for development of state-of-the-art weapon systems.

8.3 DRDO has typically worked together with Ordnance Factory Boards (OFBs) and Defence Public Sector Undertakings (DPSUs) to build products/systems for the nation. However, DRDO has also drawn the Indian private sector into its fold both because of requirement and with the view to broadening India's defence industrial base. This is in sync with the Government's vision of 'Make in India' to transform India into a global manufacturing and innovation hub whose products become synonymous with superior quality and inspire confidence among global consumers. DRDO, today and all along in the past have

made efforts to achieve this by developing systems/ products/technologies which provides opportunities for Indian entrepreneurs/ industry and business professionals to manufacture in India.

Organisational Structure

8.4 DRDO is headed by Secretary DD R&D & Chairman DRDO. DRDO labs are grouped into seven technology clusters namely; Aeronautical Systems (AERO), Armament and Combat Engineering Systems (ACE), Electronics and Communication Systems (ECS), Life Sciences (LS), Micro Electronic Devices and Computational Systems (MED & CoS), Missiles and Strategic Systems (MSS) and Naval Systems and Materials (NS&M). Each of these clusters function under cluster Director General (DGs). The seven DG offices are located at Bangalore (Aero and ECS), Pune (ACE), Delhi (MED & CoS and LS), Hyderabad (MSS) and Vishakhapatnam (NS&M). The labs under each cluster DG is given in **Table No. 8.1.**

Table 8.1

Heads of Technology Domain Based Clusters with Constituent Laboratories

Cluster DG's	Laboratories & Establishments
DG (AERO)	ADE, ADRDE, CABS, GTRE
DG (ACE)	Armaments: ARDE, HEMRL, PXE Combat Vehicles: CVRDE, DTRL, R&DE(E), SASE, VRDE
DG (ECS)	CHESS, DARE, DEAL, DLRL, IRDE, LASTEC, LRDE
DG (LS)	DEBEL, DFRL, DIBER, DIHAR, DIPAS, DIPR, DRDE, DRL(T), INMAS
DG (MED & CoS)	Micro Electronic Devices: ANURAG, MTRDC, SSPL Computational Systems: CAIR, JCB, SAG
DG (MSS)	ASL, DRDL, ITR, RCI, TBRL
DG (NS&M)	Naval Systems: NMRL, NPOL, NSTL Materials: DLJ, DMRL, DMSRDE

8.5 DRDO headquarters (HQ) at Delhi, which coordinates the overall functioning of the organisation, is an interface between the Government and the cluster HQs and laboratories There are five corporate DGs (CC R&D designated as DG in April, 2017) to oversee the activities of the corporate HQ namely; DG Human Resources (HR), DG Production Coordination & Services Interaction (PC & SI), DG Resources & Management (R&M), DG System Analysis & Modeling (SAM) and DG Technology Management (TM). In addition, there is a DG (R&D) who functions as CEO & MD BrahMos - the Indo Russian joint venture in which DRDO is a partner.

8.6 DRDO has three human resource institutions i.e. Centre for Personnel Talent Management (CEPTAM), Institute of Technology Management (ITM) and Recruitment and Assessment Centre (RAC).

8.7 The organisation has three certification agencies under DRDO's fold i.e. Centre for Military Airworthiness and Certification (CEMILAC) for airworthiness products, Centre for Fire Explosive and Environment Safety (CFEES) for fire and explosives and Scientific Analysis Group (SAG) for grading of information security products. These certification agencies provide services not just for DRDO but other organisations of Government of India as well. Additionally, Regional Centers for Military Airworthiness (RCMAs) under the aegis of CEMILAC are located at different stations all over the country.

8.8 In addition, Department of Defence R&D has under its fold, one autonomous body viz. Aeronautical Development Agency at Bengaluru, one joint venture viz.

BrahMos Aerospace at Delhi and one Deemed university viz. Defence Institute of Advance Technology (DIAT) at Pune.

Manpower

8.9 DRDO has a total strength of 24,029 employees, out of which 7,435 are in Defence Research and Development Services (DRDS); 8,964 in Defence Research and Technical Cadre (DRTC) and 7,630 are in Admin & Allied Cadre.

Budget

8.10 During the current financial year 2017-18, DDR&D has been allocated ₹ 14,818.74 crore (BE) which is about 5.4% of the total Defence Budget. A total of ₹ 7,552.32 crore has been allocated under Capital head and ₹ 7,266.42 crore under Revenue head.

Programmes and Projects

8.11 DRDO projects are categorized as follows:

- ***Mission Mode (MM):*** These are taken up based on Users requirements with stringent time lines and normally involve more than one lab with Users having a major say in steering the project.
- ***Technology Demonstration (TD):*** These are normally initiated by DRDO as feeder technologies for future or imminent MM projects. The purpose is to develop, test and demonstrate a particular technology.
- ***Science & Technology (S&T):*** These are normally of basic research/applied research type taken up by labs with alignment to future technology needs.
- ***Infrastructure & Facilities (IF):*** Projects which typically involve creation of advanced test & qualification facilities, are taken through IF mode. It is essentially a capital investment which plays a major role in validating the technology/system generated/developed.
- ***Product Support (PS):*** Projects in this category are aimed at up gradation of existing systems in production or maintenance/technical support of the system for a limited period.
- ***User Trials (UT):*** The scope of this category includes conduct of User trials including DRDO support during the trials.

8.12 During the calendar year, 64 new projects have been sanctioned at a total cost of ₹ 21,505 crore (DRDO Share: ₹ 6,114 crore) and 36 projects at a total cost of ₹ 779 crore have been completed.

8.13 DRDO currently has 324 ongoing projects (excluding strategic projects) amounting to approximately ₹ 71,265 crore (including User share). Out of 324 ongoing projects, 52 large projects (cost ≥ ₹ 100 crore) have a cost of ₹ 64,239 crore (DRDO's share~70% of the total share).

8.14 There are 11 major programmes approved by Cabinet Committee on Security (CCS) amounting to ₹ 52,000 crore (DRDO's share: ₹ 23,841 crore). About 54% of the total cost of CCS programme is funded by the User. Out of these, four CCS projects are related to design and development of missiles: Long Range Surface-to-Air Missiles (LRSAM) for Indian Navy and Indian Aircraft Carrier (IAC) of the Indian Navy and Medium Range Surface-to-Air Missiles (MRSAM) for Indian Army & Indian Air Force. The CCS projects in the field of Aeronautics are: Light Combat Aircraft (LCA) Air Force Mk-I, LCA Air Force Mk-II, LCA Navy Mk-I, LCA Navy Mk-II, Airborne Early Warning and Control (AEW&C) System, Medium Altitude Long Endurance (MALE) Unmanned Aerial Vehicle 'Rustom-II' and Kaveri Engine. Airborne Warning and Control System (India) programme has been approved but sanction of funds is yet to be awarded.

8.15 The year 2017 witnessed a number of significant milestones/achievements in DRDO projects, some of which are detailed in succeeding paragraphs:

Light Combat Aircraft (LCA) 'Tejas': Indigenously developed LCA is an advanced technology, supersonic, light weight, all-weather, multi-role fighter aircraft designed for multiple combat roles. During the year 2016, Defence Acquisition Council (DAC) accorded Acceptance of Necessity (AoN) for 83 LCA Tejas Mk-1A aircraft at a cost of ₹ 50,000 crore which is the single largest approval for a DRDO developed system. As on date, 3,716 flight tests on Tejas aircraft (including 406 in the current year) have been completed. LCA aircrafts participated in Republic day fly

past for the first time along with IAF 45 Sqn LCA Series Production aircraft. LCA also participated in Aero India show held during February 14-18, 2017. Derby beyond visual range air-to-air missile in radar guided mode was fired from Tejas aircraft (LSP4) on May 11, 2017 during the trial conducted from IAF base, West Bengal wherein the missile achieved a direct hit. Parameter Identification Trials (PIDs) for aircraft envelope expansion in Ops Clean Configuration were also completed.

Airborne Early Warning and Control (AEW&C) System: The AEW&C System consists of sensors mounted on an aircraft, for locating and providing early warning to air and ground stations of airborne & sea surface targets, and hostile emissions. During the year, 230 mission sorties were conducted for a total duration of 487 hours & 20 minutes. AEW&C aircraft#1135 was accepted by IAF in IOC configuration on February 14, 2017 and deployed at IAF base Bhatinda for operational exploitation w.e.f. April 20, 2017. AEW&C aircraft flew for the first time in the Republic Day parade 2017 and also participated in Akraman exercise at Agra.

Medium Altitude Long Endurance (MALE) Unmanned Aerial Vehicle (UAV) 'Rustom-II': Rustom-II, a multi-mission unmanned aerial vehicle (UAV) is being developed with an endurance of 24 hours to carry out the intelligence, surveillance and reconnaissance (ISR) roles for the three Armed Forces. As on date, seven airframes (AFs) have been realized and nine design validation flights (DVF) of Rustom-II from Aeronautical Test Range (ATR), Chitradurga has been carried out (including eight in the year 2017) with the indigenously developed datalink system. ATR at Chitradurga, Karnataka has been made operational with a 2 km runway and the range was dedicated to the nation by Raksha Mantri on May 28, 2017.

***Controlled Aerial Delivery System (CADS)*:** Airdrop technology is a vital capability for rapid deployment of payloads to specific rendezvous points. During August 2017, 1 no. of CADS-1T 19 Cell Ram Air Parachute function in manual/auto control mode trial was successfully conducted.

Small Turbo Fan Engine: DRDO is involved in the development of technologies for indigenous small turbo fan engine (STFE). It is proposed to develop 5 engine sets for development testing and 3 engine sets for Nirbhay integration to be realized by M/s BATL. Three prototypes (T1, T2 & T3) have been realized. Integrated performance with sub-systems/LRUs has been validated with T1 engine. T3 engine was assembled with engine mounted fuel integrated system (FIS) and tested successfully up to 90% NH speed.

User trials of Inducted Missiles: The following trials were carried out by Users during the year: Agni-2 missile – May 4, 2017, Agni-3 missile – April 27, 2017, Agni-4 missile – January 2, 2017 and Prithvi-II missile – June 2, 2017.

Supersonic Cruise Missile 'BrahMos': BrahMos is a two stage supersonic cruise missile with a solid propellant

booster as its first stage and liquid ramjet as the second stage. The missile operates on 'fire and forget principle' adopting variety of flights on its way to the target. BrahMos has a flight range of up to 290 km with supersonic speed all through the flight and is capable of carrying a conventional warhead weighing up to 300 kg. An enhanced version of 'BrahMos' with an extended range was test fired from ITR Chandipur on March 11, 2017. BrahMos was also test fired from a Su-30 MKI aircraft for the first time on November 22, 2017.

Ballistic Missile Defence (Programme AD): DRDO has taken up development of two layered Ballistic Missile Defence (BMD) programme for defending the vital assets from ballistic missile attacks. The successful demonstration of the BMD system was conducted through interception trials in 2017. Interception at high altitude was demonstrated through an exo-atmospheric interceptor, Prithvi Air Defence (PDV) at an altitude of 100 kms on February 11, 2017 and endo-atmospheric interception using Advance Air Defence (AAD) missile on March 1, 2017 and December 28, 2017 thus validating all the elements of the ballistic missile defence systems in an operation scenario.

Beyond Visual Range Air-to-Air Missile (BVRAAM) 'Astra': BVRAAM 'Astra' (60 km) possessing high single shot kill probability making it highly reliable is being developed by DRDO to engage and destroy highly maneuvering supersonic aerial targets. During the year, seven Astra missiles were successfully launched from Su-30 MKI aircraft in September 2017 which proved supersonic air launch, warhead launch & Banshee PTA destruction, indigenous Ku-band RF seeker evaluation and multi-target launch scenario.

Nirbhay Sub-sonic Cruise Missile: Nirbhay is India's first indigenously designed and developed long range subsonic cruise missile having 1000 km range and capable of carrying up to 300 kg warheads. The system incorporates the ring laser gyroscope (RLG) based inertial navigation system as primary navigation and micro electro-mechanical systems (MEMS) based inertial navigation system as secondary navigation system. A successful flight trial of the missile was carried out on November 7, 2017 from a test range at ITR Chandipur along the Odisha coast.

Long Range Surface-to-Air Missile (LRSAM): LRSAM having a range of 70 km is a joint development programme of DRDO and Israel Aerospace Industries (IAI), Israel for Indian Navy. The missiles are intended to equip three P15 class destroyers of the Indian Navy. During the year, Operational Flight Tests (OFTs) were conducted from 'INS Kochi' in May 2017 which successfully demonstrated interception of a sea skimming missile in centralised mode of operation. First batch of five LRSAM missiles were handed over to Indian Navy by DRDO in 2017.

Third Generation Helicopter Launch Anti-Tank Guided Missile 'HeliNa': HeliNa is a 3rd generation helicopter launch anti-tank guided missile with 7 km lock-on-before-launch (LOBL) range capability with imaging infra-red (IIR) for integration on Advanced Light Helicopter (ALH-WSI). HeliNa weapon system comprises of four launchers, eight missiles and one fire control system. Captive flight trials (CFT) were conducted in April 2017 at Bangalore wherein realization of target handing over scheme for HeliNa was achieved. HeliNa shake down sortie at HAL Bangalore with IAF helicopter was completed during May 2017 in which launch control system with target handing over capability was proven. Direct drive performance of IIR Field of View (FOV) seeker was proven and successfully demonstrated in guided ground flight trials at Rajasthan in September 2017. The range assessment for improved IIR FOV seeker was carried out at HAL Bangalore and at Chennai against tank during October and November 2017 for IAF.

Anti-Tank Missile 'PROSPINA': 'Nag' is a 3rd generation anti-tank missile (ATM) with 'Fire & Forget' and 'Top Attack' capabilities, which can be used in day and night. It is deployed on a specially modified Infantry Command Vehicle (ICV) BMP-2 vehicle called 'NAMICA'. Lab testing and evaluation of 1.5^0 FOV IIR seeker at max range (4 km) was carried out in March 2017. Tracking trials of high resolution IIR seeker were carried out during May/June, 2017 wherein max range capability of IIR seeker was established. Flight performance seeker evaluation trials & flight trials of NAG were carried out at PFFR, Pokhran in June, 2017. Minimum range i.e. 500m static target flight test and 2.5 km moving target flight test were carried out in September, 2017 and NAMICA floatation trials were carried out at Mula dam, Ahmednagar during October, 2017.

Quick Reaction Surface-to-Air Missile (QRSAM): QRSAM weapon system is capable of search on move, track on move and fire on short halts while engaging multiple targets at ranges of about 30 km with two vehicle configuration for area Air Defence. During the year, two developmental flight tests of missile against a simulated target were conducted from ITR Chandipur.

New Generation Anti-Radiation Missile (NGARM): DRDO is involved in the design and development of NGARM having a range of 100 km. AKU-58 launcher after suitable modification will be used for missile integration on Su-30 MKI aircraft. During the year, captive flight trials (CFT-2) sorties were carried out at AF Station, Pune with Su-30 MKI aircraft demonstrating mechanical, electrical and software integration of missile with aircraft. Two passive homing head seekers have been realized and the lab testing evaluation of the seeker with radome has been completed. In addition, integrated static firing of dual pulse rocket motor has also been successfully demonstrated.

Stand-off Anti-Tank (SANT) Guided Missile: DRDO is involved in design, development and technology

demonstration of Stand-off Anti tank (SANT) Guided Missile. During March, 2017, instrumentation and transfer alignment trials from Mi-35 helicopter were carried out at 3BRD, Chandigarh wherein a total of 8 sorties were carried out and the entire helicopter envelope was covered. A combined captive instrumentation and transfer alignment trial was also carried out in July, 2017 at 3BRD, Chandigarh with refined and upgraded TA algorithm in which four helicopter sorties were conducted and vibration data at various locations of SANT weapon system was measured during all sorties. Entire set of SANT hardware with standby for 2 flights worthy SANT missiles have been realized and completed SOFT.

Smart Anti Air Field Weapon (SAAW): SAAW is long-range, stand-off, precision air-to-surface weapon (125 kg class) capable of engaging ground targets. Three release trials with different flight conditions were successfully conducted in November, 2017 from Jaguar aircraft.

Akash Mk-1S Surface-to-Air Missile: Akash Mk 1S is the upgradation of Akash missile with indigenous RF seeker. During the flight test held on December 5, 2017 against Banshee target, the integration of indigenous RF seeker with basic missile configuration was proved.

Ku-band Active Radar Seeker (Ku-band ARS): DRDO has undertaken a project for the development of indigenous Ku-band seekers leading to production. First batch of five seekers are being developed with participation of M/s BEL. Two seekers from this lot have been acceptance tested (AT) and one of the seeker has been flight tested in Akash Mk-1S mission during December, 2017 successfully for the first time. This seeker was also successfully tested in captive flight trials (CFT) with different flight engagement profiles in Astra weapon system configuration on Su-30 aircraft at Pune AF station.

Instrumented and Mechanized Drop Test Facility (IMDTF) at TBRL Ramgarh Range: IMDTF is established at TBRL to study the impact of dropping the system from 12-15m height on the munitions. As per NATO standard for IM compliance (STANAG), 8 tests are required to be performed on ammunition system for qualification and DRDO has already established this capability to carry out these 8 tests.

Advanced Towed Artillery Gun System (ATAGS): DRDO has taken up the task of design and development of 155 mm X 52 calibre ATAGS having higher range, accuracy and consistency for requirement of Artillery of Indian Army. During the year, DRDO technical trials for two gun systems were completed on September 6, 2017 in which maximum range achieved by extended range full bore (Boat Tail) and (Base Bleed) ammunition was more than the desirable range parameter of PSQR i.e. 38 km and 48 km respectively. Firing demonstration of both the gun systems was given to DG Arty on January 4, 2017 and to Raksha Mantri on September 23, 2017.

Guided Pinaka Rocket System: DRDO has developed Guided Pinaka rocket system by integrating the Guidance, Navigation and Control (GNC) kit to the existing Pinaka Mk-II rockets thus making the free flight Pinaka rocket to a guided Pinaka. The requisite design, analysis, hardware realization, testing etc. were completed in a shortest time period of just one year. Trials of the 'Guided Pinaka' rocket up to a range of 75 km conducted at ITR Balasore in two phases in January, 2017. Guided Pinaka rocket configuration and functionality of system was proven during the trials.

New Family of Munitions (NFM): Six types of munitions are being designed and developed by DRDO viz. Soft Target Blast Munition 'NIPUN', Anti-Tank Point Attack Munition 'VIBHAV', Anti-Tank Bar Munition 'VISHAL', Directional Fragmentation Munition 'PARTH', Anti-Tank Munition 'PRACHAND' and Jumping Fragmentation Munition 'ULKA' to improve the existing munitions and enhance its performance. During the year, PSQR based User trials were completed for VIBHAV & VISHAL. Sub-system/ module level functional test & all the environmental tests (on sample basis) were completed satisfactorily on the first batch of 50 prototypes of PRACHAND munition. Functional tests on 10 sets & thermal cycling on six sets were also completed along with completion of final integration trial with kill mechanism for ULKA munition. Private industries were identified for ToT of NIPUN munition.

Bi-modular Charge System (BMCS) of 155 mm Artillery Gun: DRDO has taken a pro-active step in developing BMCS for 155 mm artillery gun for operations at high altitude region. During the year, dynamic firing with BMCS from 52 cal gun (fixed mounting) was carried out in July, 2017.

Canopy Severance System (CSS): CSS has been integrated on 15 Tejas aircrafts, 12 HJT 36 aircrafts, two LCA trainer aircrafts & Naval version Tejas & trainer aircrafts and first HTT-40 aircraft. All aircrafts are undergoing test flights with CSS onboard. During the year, DRDO organised a programme on January 20, 2017 at ARDE for Transfer of Technology (ToT) of canopy severance system to private industries identified as nodal production agencies.

Arjun Armoured Recovery and Repair Vehicle (Arjun ARRV): ARRV is intended for carrying out recovery, repair and replenishing functions pertaining to MBT Arjun in operational areas under a wide variety of field conditions. All the major recovery & repair aggregates have been developed and realised. During the year, the first prototype of the Arjun ARRV was realized and handed over by development partner, M/s BEML to CVRDE during the Raksha Mantri's visit to CVRDE in October, 2017. User Assisted Technical Trials (UATT) are in progress.

Electric Gun and Turret Drive System (ELEGANT): DRDO is involved in the design and development of a gun control system with electric drive for Armour Fighting Vehicles (AFVs). Seven prototypes are to be developed in the project including two for pilot production/production reference. During the year, configuration for dynamic test rig for testing of the integrated turret was finalised. Bench testing of the step-up converter was completed. CAN based gyro was successfully developed by ELOIRA and performance testing is under progress.

Composite Sonar Dome: DRDO has developed the first indigenous composite sonar dome for P15A class ship. By this development, India joins a select group of nations with capability of realizing large composites structure with multi-functional requirements, complex geometry and high structural rigidity with acoustic transparency. During the year, composite sonar dome was fitted to INS Kolkata and INS Chennai and sea trials were conducted.

Wheeled Armour Platform (WhAP): WhAP is a multi-utility armoured platform with modular design, configurable for variety of combat and combat support roles up to 26 ton GVW. During the year, functional testing of electronic systems of AP-II was conducted during May, 2017 and floatation trials of WhAP (AP-II) were conducted at Mula Dam, Ahmednagar during June, 2017.

Bar Mine Layer (BML): This system is used for quickly creating minefield by burying anti-tank bar mines. The system can carry about 500 bar mines and lay/bury them at intervals of 6m to 30m. DRDO internal trials were conducted at Suratgarh in the year 2016. Summer phase User trials were completed in July, 2017.

Advance Light Towed Array Sonar (ALTAS): ALTAS is an efficient sensing system for detection, localization and classification of submarines operating especially in the below surface layer ocean conditions. It is useful in anti-submarine warfare operations and is the apt sensor for warships to locate silent submarines capable of launching high speed torpedoes. During the year, technical trials were completed and first User Associated Trials (UAT-01) was conducted during October 20-21, 2017 to verify active and passive sonar functions.

USHUS – 2: USHUS-2 is a submarine sonar to be installed onboard four EKM submarines considering the long term requirements of the submarine arm and to combat the component obsolescence in the existing Russian sonars onboard these submarines. Design and development of engineered model of USHUS-2 is carried out in NPOL and productionised at M/s BEL, Bangalore. Factory Acceptance Trials (FATs) of first system were completed in January, 2017 at M/s BEL, Bangalore. USHUS-2 sonar was handed over to the Indian Navy on March 24, 2017. The first of the USHUS-2 systems has commenced installation onboard INS Sindhukesari, during the medium refit of the submarine at Severodvinsk, Russia from September, 2017 onwards. Indian Navy has ordered four numbers of USHUS-2 systems for replacement of the presently fitted Russian sonars onboard submarines at a total cost of ₹ 440 crore.

Air-borne Sonar for Coastal Security (ASCS): DRDO is involved in the development of a qualified Low Frequency Dunking Sonar (LFDS), an airborne sonar system for the ALH Mk-III helicopters being acquired by the Navy. The system installed on helicopter platform would provide Airborne ASW capability for Naval operational scenarios. Three nos. of LFDS system will be delivered by the Lead System Integrator/ production agency, of which the 1st system will be utilized for qualification, 2nd system will be earmarked for integration with Integrated Architecture Display System (IADS), ALH installation, AFSC checks & exploitation at HAL and the 3rd system would be kept available as a standby for exigencies during installation and trials at HAL. During the year, new cabin layout for platform & Interface Control Document (ICD) has been completed. Installation (Mechanical) document is also completed. Documents required for certification handed over to RCMA.

Directing Gear for Hull Mounted Sonar Array: Directing Gear designed to operate transducer arrays weighing up to 4.5 tons, easily adaptable to Indian & foreign ships, and which can be directly integrated to the sonar control was handed over to the Indian Navy on March 24, 2017. Indian Navy has installed the first system onboard P16 A class of ship. Till date, Indian Navy has placed orders for 9 more systems for various classes of ships including P15, P15B and P16A, at a total cost of ₹ 108 crore.

Advanced Light Weight Torpedo (ALWT): ALWT is an anti-submarine torpedo launched from ship, helicopter or fixed wing aircraft. ALWT has dual speed capability and endurance of 25 km at low speed (25 knots) and 12 km at high speed (50 knots). Technical trial was conducted in January, 2017 wherein smooth diving of torpedo was established. During July 2017, acceptance tests of 105 kW BLDC motors was completed. Two nos. of motors have been tested and cleared by User for ALWT trials.

Land Based Prototype for AIP: DRDO is involved in the development of indigenous technologies for the development of a Land Based Prototype (LBP) for Air Independent Propulsion (AIP) system for Indian submarines in collaboration with M/s L&T, Mumbai as lead system integrator (LSI) and other industry partners viz. M/s Thermax, Pune and M/s CDAC, Thiruvananthapuram. During the year, AIP development for P-75 submarines cleared definition phase & lab prototype achieved 14 days endurance in trials.

Internal Radar Warning Jammer (RWJ) System for Jaguar Darin III up grade Aircraft (D-JAG System): D-JAG is an integrated Electronic Warfare (EW) system for radar warning and jamming that encompasses radar warning receiver (RWR) and electronic counter measures (ECM) functions. The system intercepts and identifies airborne, ship-borne and ground based radars used for target acquisition, tracking and missile guidance. During the year, aircraft fitment trials of cooling system were completed on JS-163 aircraft. EMI/EMC tests of CEWU (LPRF & HPRF) were also completed in June 2017.

Internal EW System for MiG-29 Upgrade Aircraft (D-29 System): D-29 is an integrated EW system for warning and jamming that encompasses RWR, ECM, and ESM functions and utilizes state-of-the-art active phased arrays for selectively jamming the multiple threat radars. During the year, multiple emitter trials were carried out.

Digital Radar Warning Receiver (DR 118): DR118 digital radar warning receiver is a state-of-the-art, six channel digital radar warning receiver for Su-30 MKI. It is an airborne, tactical EW system that performs the function of creating situational awareness to the pilot about ground-based, air-borne or ship-borne emitters present in the scenario. During the year, Phase-I User evaluation as per approved ATP was conducted in May, 2017. Phase-II User evaluation is in progress.

Software Defined Radio (SDR): DRDO, in a consortium approach with CDAC and WESEE as development partners and BEL as the production partner, is working towards the development of a family of network-enabled, interoperable and modular SDRs viz. Naval Combat (SDR-NC), Tactical (SDR-TAC), Airborne (SDR-AR), Manpack (SDR-MP) and Hand held (SDR-HH) to provide wireless secure communication capability to both mobile and fixed forces as required by the Indian Navy. During the year, UET (sea trials) of SDR-NC onboard INS 'Tarkash' and INS 'Ganga' were completed. Defence Acquisition Council (DAC) has approved placement of order on production agency under IDDM category. Developer sea trials of SDR-TAC, SDR-MP and SDR-AR were also completed.

S-Band Hub and Ground SATCOM Terminals for Tri-Services: DRDO has realized four types of satellite terminal hardware namely, Manpack Satcom Terminal (MST), Satcom Messaging Terminal (SMT), Handheld Satcom Terminal (HST) and Satcom On The Move Terminal (SOTM), through BEL as the production partner. Some of the major trials carried out during the year include: a) MST trials conducted at Bhuj with Intelligence Directorate of Indian Army during January, 2017 b) User trials of HST conducted during April, 2017 c) Trials of MST, HST & SMT carried out by MHA teams at Trivandrum and J&K in September, 2017 d) Confirmatory trials of MST, HST & SMT were also carried out by MHA team in October, 2017.

Digital Tropo Scatter/LOS Communication System for IAF: Tropo scatter communication system

communicates microwave radio signals over considerable distance. During October, 2017, tropo scatter communication link was established between Jaipur & Jodhpur using DRDO developed L-band OFDM Tropo Modem. Link performance tests were conducted and results were as per desired specification.

EW Systems 'Samudrika' for Capital Ships, Aircraft and Helicopters for Indian Navy: DRDO has taken up the development of a family of seven EW systems which includes three ship-borne systems (Shakti, Nayan & Tushar) and four air-borne systems (Sarvadhari, Sarang, Sarakshi & Nikash). Design of each of the above mentioned products has been completed and hardware is under realization. M/s BEL will be the prime production agency for the production of EW systems. During the year, Sea Acceptance Trials (SATs) of 'Nayan' COMINT system were completed during February, 2017 which was followed by completion of UET Phase-I in April, 2017 and UET Phase-II in October, 2017. Phase-II lab demo of 'Shakti' EW suite to the User was also completed during March, 2017.

'VARUNA' ESM System for Indian Navy: 'Varuna' is a modern ESM System capable of interception, detection, classification and identification of pulsed, continuous wave (CW), pulse repetition frequency (PRF) agile, frequency agile radars including low probability of intercept (LPI) radars over wide frequency bands. Harbor acceptance trials of 2nd 'Varuna' production system onboard INS Kirpan was completed during March, 2017. Sea acceptance trials (SAT) of 1st and 2nd 'Varuna' production systems onboard INS Kirch and INS Kirpan were completed in April, 2017. Scheduled delivery of production systems to Navy is in progress by the Production Agency.

Project HIMRAJ for Indian Air Force: The aim of the project is to design and develop ground based ELINT mobile station meeting the requirement projected by the IAF. Production order for 6 nos. of GBMES systems on M/s BEL (H) is under execution. Final integration of COMINT with Control Station (CS) was completed during June, 2017 along with completion of software design documentation for CS. Factory Acceptance Tests (FATs) of 1st production GBMES system were conducted during September, 2017. FoPM of GBMES (Himraj) under ATP was also completed.

Border Surveillance System (BOSS) for Army: DRDO has completed the design and development of border surveillance system comprising of EO payload consisting of thermal and day camera, LRF, GPS and DMC and BFSR-XR for day/night monitoring of border areas to ease man patrolling by automatically detecting intrusions. Phase-I of User Readiness Review was completed during August, 2017. Two systems have been installed in border areas and are under User exploitation.

Medium Power Radar (MPR) 'Arudhra' for Indian Air Force: MPR 'Arudhra' is country's first indigenously designed and developed, fully active aperture, rotating, multibeam, multifunction phased array radar with staring mode. It is also provided with a mode for detection and tracking of low RCS, high speed and highly manoeuvring targets. The radar has met all operational requirements and successfully completed all the three phases of User trials, including 100 hours endurance tests, at Kolar, Jamnagar and Gwalior. MPR 'Arudhra' participated in the Republic Day parade 2017.

Low Level Transportable Radar (LLTR) 'Ashwini' for Indian Air Force: LLTR 'Ashwini' is a ground based S band rotating fully active phased array radar system for air space surveillance to detect and track air targets, under hostile EW operational environments. DRDO evaluation trials and all three Phases of User trials of Ashwini radar at Kolar and Gwalior, including Maintenance Evaluation Trials have been completed. LLTR ' Ashwini' has been selected for participation in the Republic Day parade 2018.

Weapon Locating Radar (WLR) 'Swathi' for Army Artillery: WLR 'Swathi' provides quick, automatic and accurate location of all enemy weapons within its effective zone of coverage and simultaneously handles multiple projectiles fired from different weapons at different locations. DRDO, on March 2, 2017, formally handed over an indigenously developed First off Production Model (FOPM) WLR system 'Swathi' to the Indian Army. Scheduled delivery of production systems to Army is in progress by the Production Agency.

Active Electronically Scanned Array Radar (AESAR) 'Uttam: AESAR 'Uttam' is an airborne fire control radar for our indigenous fighter aircraft LCA 'Tejas'. It is a multi-mode radar which can be configured for fitment on different airborne platforms. One prototype radar and one fully qualified radar have been developed and realized. Both the systems have been integrated and extensive ground evaluation carried out on the radar test platform at LRDE and System Testing & Integration Rig (STIR) at CABS, Bangalore. The qualified radar is ready for installation on the nose cone modified Tejas LSP-2 aircraft.

Prototype Directed Energy Laser Systems: The prototype 10 KW Directed Energy Laser System has been developed for engaging aerial targets like UAVs to meet the requirements of Army and Navy. The system has been integrated on a trailer and functionally tested for target acquisition, tracking and fine pointing on to ropeway moving and aerial targets at CHESS site up to a range of 700m. Pre-trial readiness review has been completed. A vehicle mounted 2 KW DELS has also been developed, realized on a 4x4 TATA vehicle and tested at ATR, Chitradurga up to a range of one km.

ANU Router: The objective of the project is to design and develop indigenous router using commercial multicore processor Tile Gx 36 and indigenous AVADHANI processor. During the year, preliminary design was reviewed and approved by the PDR committee. ANU Router hardware platform is under development with M/s C-DOT.

New Operating System (ANUOS): The scope of the project includes hardening of existing commercial and open source operating systems and design & proto-typing of indigenous trusted OS kernel. During the year, ANURAG Hardened Linux (AHL) v3 based on RHEL 6.2 has been integrated with combat management system (CMS) and delivered at WESEE. AHL solution based on RHEL 5.4 for launch computer software of ASL and AHL solution based SUSE 11.3 for avionics system of CABS has been developed.

C-X-Ku Band Microwave Power Module (MPM) for EW POD: The project involves design and development of phase and gain matched C-Ku band 100 W (CW) compact MPM for EW-POD and high-efficiency C-Ku band 100 W (min) CW micro-TWT. ATP of MPM with indigenous tube successfully completed. Critical Design Review (CDR) was carried out on February 8, 2017. Ten engineered MPMs are being manufactured at M/S BEL for delivery to the User (DLRL).

Ku-band Microwave Power Module (MPM) for Satellite Data Link: The first production model has been manufactured and is being tested at BEL. Qualification tests (QT) have been completed with Regional Directorate of Aeronautical Quality Assurance (RQAQA), IAF. Functional tests along with power burn-in test have been completed successfully.

Verify Organize Maintain Analyze (VYOMA): DRDO has taken a new project to build an easy to use information repository of 'Signal Intelligence Reports' and 'Signal Intelligence Summaries' with semantic querying facilities, social network analysis, spatial and temporal visualization over digital maps. During the year, Preliminary Design Review of the software system was completed.

Indian Maritime Situational Awareness System (IMSAS): IMSAS is being developed by DRDO which incorporates comprehensive situational picture based on Indian Navy's requirements. During the year, development work for Build 1 of IMSAS was completed and field testing at Western Navy Command (WNC) and Eastern Command (EC) was also carried out.

Multi Agent Robotics System (MARS): The objective of the project is to develop a Multi Agent Robotics Framework which enables context based collaboration to achieve mission objectives with multiple heterogeneous robotic platforms. The fabrication and assembly of first prototype of three platforms i.e., Ballbot, Sentry and Mini UGV has been completed. The initial evaluation of multi-robot exploration, localization and mapping algorithm has been completed with two Sentry robots. Integration of various intelligence algorithms with application software and framework is progressing as per plan.

Chaff cartridges: Chaff is one of the most widely used and effective expendable electronic countermeasure devices. During the year, four phases of trials of Chaff cartridges were carried out in collaboration with IAF and CEMILAC.

Bullet Proof Jacket (BPJ): DRDO has successfully designed BPJs as per Indian Army Guidelines (GSQR 1438). The technological s lution so developed has been transferred to M/s MKU, Kanpur.

Fused Silica Radar-dome (RADOME) for 'Astra' missile: Radar-dome (radome) is a critical component of target seeking missile as it protects the navigation system from adverse environment. Fused silica (SiO_2) is one of the ceramic materials preferred for fabrication of radar domes. During the year, successful flight trials of indigenous fused silica radome for Astra missiles were carried out. These radomes will also be used in QRSAM, Pralay, RudraM-II & NGARM missiles in future.

NBC Suit Mk-V: NBC Suit Mk-V has been developed with NBC socks based on ACS developed as per JSQR with two industries. Supply order placed by Army for 50,000 suits is under execution. Laboratory trials for automatic chemical agent detector and alarm (ACADA) and chemical agent monitor (CAM) developed by DRDO have been completed and the items are ready for full fledged user trials.

Solar Snow Melter: Solar snow melters has been developed in order to reduce the dependency on conventional fuel viz. kerosene which is required to be air

lifted adding to the cost and logistic problems. Prototypes have been developed and trials have been conducted at South Pullu, Khardungla and Chang la.

NBC Drugs: NBC Drugs developed for NBC and other life saving drugs for CBRN emergencies in a kit form has been handed over to Indian Army by the Raksha Mantrion March 24, 2017.

8.16 Corporate Initiatives

Services Interaction: Major systems developed/to be developed by DRDO and AoN accorded for induction during the year include: Short Range Surface to Air Missile (SRSAM) system; upgradation of BMP-2 to BMP-2M; procurements of BMP-II based Carrier Command Post Tracked (CCPT) vehicle for 155mm/52 Cal Tracked (SP) regiments, HUMSA UG sonars for Indian Navy ships, Bund Blasting Device Mk-II, Mine Anti-Personnel Blast 'NIPUN' NFM, four battery monitoring systems for Shishumar class submarines and Software Defined Radio (SDR) for Naval communication at a total cost of ₹ 13,760.32 crore. The production value of DRDO developed systems (inducted and approved for induction) today stands over ₹ 2.65 Lakh crore. Annual Acquisition Plan (AAP) 2017-19 of the Services has been analysed and shared with all the labs for taking up and accelerating projects as per the User requirements. DRDO has established mechanisms for regular interaction with the Services to boost up the induction of indigenously developed systems and increase self-reliance of the Armed Forces which is achieved through Annual Joint Reviews between Secretary DD R&D and Chief/Vice Chiefs of Staff of Air Force, Army and Navy; Quarterly Interaction Meetings (QIMs) with the line Directorates of Army; Quarterly Progress Reviews (QPRs) with Air Force; Annual Synergy Meetings (IN-DRDO) with Navy and Biannual Reviews conducted at the VCOAS/ DCOAS level for the Army.

Industry Interface: DRDO has promulgated ToT guidelines/SOPs to provide transparent system for ToT to industries with an emphasis on level playing field for DPSUs/OFs/PSUs and private industries. A user friendly portal has also been launched to facilitate ToT for Cat A (Military Technologies) and Cat B (Spin-off/ Commercial use Technologies). DRDO has also entered into MoUs with four leading industry chambers namely CII, PHDCC, NRDC and ASSOCHAM. A competitive bidding process for finalization of ToT licence fees and selection of industry for ToT has been implemented. During the year, 108 Licensing Agreement for Transfer of Technology (LATOT) were signed. ToT on explosives, propellants, mines and warheads technologies were transferred to private industries for the first time.

The export potential of DRDO developed systems have also increased. A number of countries have shown interest in acquiring DRDO developed systems such as radars, sonars, torpedoes, EW system, AEW&C system, bridging systems, missiles etc. The NOC for export granted to industries by Ministry of Defence reveals that around 55% by value of the NOCs granted are for the products based on DRDO technologies.

Technology Development Fund (TDF) Scheme has been implemented and executed by DRDO for providing funding to public and private sector industry especially MSMEs. The focus will be on development of technologies that will form the kernel of components/ assemblies which will in turn be used to develop defence equipment/systems/sub-systems/platforms. More than 600 industries have been registered in the web-portal launched last year and in the first round, six projects are in advanced stages of approval and award to the industries.

Participation in International Exhibitions: DRDO participated in some of the international exhibitions including NAVDEX-2017 at Abu Dhabi, Mast Asia-2017 at Tokyo, Japan and Seoul International Aerospace & Defence Exhibition (ADEX-2017) at Seoul, South Korea. It also participated in 20 national exhibitions including, 104th Indian Science Congress-2017 at Tirupati, Vibrant Gujarat Global Trade Show-2017 at Gandhinagar, Aero India-2017 at Bengaluru, 5th Bharatiya Vigyan Sammelan and Expo-2017 at Pune, Indian Technology Congress-2017 at Bengaluru, Submarine Technology Exhibition at DRDO Bhawan, India International Science Festival-2017 at Chennai and India Manufacturing Show and Conference-2017 at Bengaluru.

International Cooperation: In the year 2017, DRDO conducted regular annual bilateral Defence R&D meetings with USA, UK, Russia and Singapore. DRDO jointly conducted a workshop on Medical and Chem Bio Defence Technologies with the US DoD in January/February 2017. Some strong possibilities for cooperation leading to possible information exchange and project agreements have been identified during the workshop. Six project agreements with USA (under JTG) and one with Russia (under IRIGC) were signed by DRDO. DRDO hosted foreign visits including NDC delegations (Australia, USA, UK, Thailand, Vietnam, Nepal, Bangladesh, Indonesia etc.) and held major technology show at Aero India during the year 2017. DRDO participated as a part of Intra-Ministerial Working Group (IMWG) under DGFT, Ministry of Commerce on matters relating to import/export of SCOMET items. DRDO also participated at the MTCR (Ireland), Certain Conventional Weapons Session (Geneva) and Australia Group (Paris). DRDO also participated in the Industry Outreach programs conducted in conjunction with Ministry of External Affairs and DGFT for harmonization of SCOMET list and Wassenar arrangement at Delhi and Bengaluru.

Initiatives in Project Management: DRDO has evolved its XIII Five Year Plan (2017-22) Projections document after detailed deliberations with labs/cluster DGs and series of interactions with the three Services. Under the aegis of HQ IDS, a concerted effort was made to evolve the plan, especially the 'Mission Mode' (MM) projects of DRDO, through mutual consultation and consensus between the DRDO and the three Services. For the first time, MM projects have been duly factored-in to the integrated plan of the Ministry of Defence/Services, lending much needed synergy to the plan formulation process. The visionary document will provide a pathway and an ideal opportunity to make our country self-reliant in Defence technologies in turn stimulating collaborators from industry, academics and international organisations.

Academia Interaction: Three advanced technology centers established in the year 2016 viz. Jagadish Chandra Bose Centre of Advanced Technology (JCBCAT) at Jadavpur University, Centre of Propulsion Technology (CoPT) at IIT Bombay & Madras and Joint Advanced Technology Centre (JATC) at IIT Delhi began its operations this year and are fully functional now. During the current year, 6 projects at a total cost of ₹ 36.85 crore were sanctioned to JCBCAT for pursuing research in the identified areas of cyber security, high power directed energy, robotics and unmanned technologies. 39 projects were sanctioned to CoPT at a total cost of ₹ 109.39 crore in the focused areas of futuristic aero engines, hypersonic propulsion for long duration flight, solid propellant combustion modeling and morphing aircraft & associated technologies. 23 projects at a total cost of ₹ 157.82 crore were also sanctioned to JATC to pursue directed research in identified areas of ballistic, special structures & protection; electromagnetic devices and terahertz; smart & intelligent textiles; brain computer interface & brain machine interface and photonics, plasmonics and quantum photonics. 64 projects costing ₹ 150.65 crore were sanctioned to various academic institutes through the extra mural (ER) initiative of DRDO and 97 projects were sanctioned at a total cost of ₹ 33.63 crore to various academic institutes through the four Research Boards (Aeronautics, Naval, Armaments & Life Sciences) functioning under DRDO.

Intellectual Property Rights (IPR): About 155 IPR applications (including 13 in foreign countries) were filed. 78 patents (including 5 in foreign countries) were granted during the period. In addition, 1 copyright and 2 design were registered in India. In order to promote IPR awareness among DRDO scientists, five IPR awareness programmes were held during the period in different DRDO laboratories.

8.17 ***Implementation of Government Initiatives:*** Annual and five year action plans for 'Swachh Bharat' has been prepared and the activities are being pursued as per the plan e.g. cleanliness drive, tree plantation etc. International Yoga Day was celebrated across all labs. As a tool for promoting Digital India, E-procurement across labs have been actively taken-up, E-ticketing through Defence Travel System have been implemented and online review meetings for critical projects are being undertaken through video conferencing (VC) between labs and HQ wherein more than 100 meetings

are being held on VC every month. Giving an impetus to the mission of 'Make in India' initiated by the government, workshops on the theme are being organised by DRDO labs. Steps have also been taken for initiatives pertaining to 'Minimum Government, Maximum Governance' in an integrated manner.

Special Mention: Prime Minister of India inaugurated the Dr. APJ Abdul Kalam Memorial at Rameswaram on July 27, 2017.

8.18 With commendable achievements across most of its technology domains, DRDO stands committed to delivering cutting edge technologies/system to the Indian Armed Force as part of its mission towards self-reliance in Defence systems.

Prime Minister of India inaugurated the Dr. APJ Abdul Kalam Memorial at Rameswaram on July 27, 2017.

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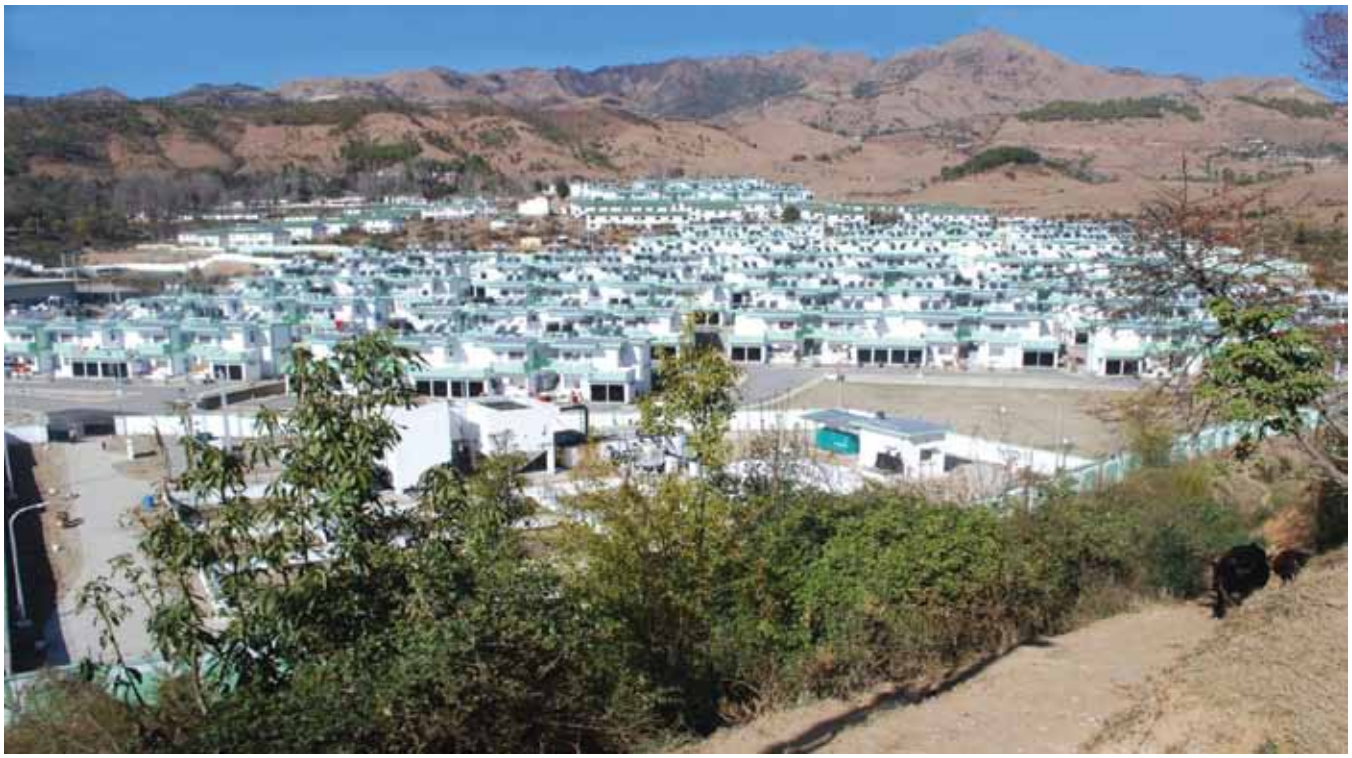
INTER SERVICE ORGANISATIONS



Inter Service Organisations

9.1 The following Inter-Service organizations 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) Services Sports Control Board

(vii) Armed Forces Films and Photo Division

(viii) National Defence College

(ix) History Division

(x) College of Defence Management

(xi) Defence Services Staff College

(xii) Ministry of Defence Library

MILITARY ENGINEER SERVICES (MES)

9.2 Military Engineer Service (MES) provides support to the three services at Strategic and Operational level. The organization is manned by professional and technically competent officers and subordinate staff.

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 Service Chiefs on all facet of works related issues. MES has an annual budgetary work load exceeding ₹ 17,000 crore. As a part of modernization plan of Defence Forces, a large number of infrastructure projects have been planned to be executed. MES has also been supporting military diplomatic initiatives by creating infrastructure abroad for friendly foreign Governments/ countries. The MES organization, comprising of proficient personnel who are deployed across the length and breadth of the country at remote locations in all types of

terrain and inhospitable climatic conditions, has been playing an important role in empowering the combat effectiveness of the Armed Forces. The organization is not only geared up to provide works services support during peace time but is also equipped to provide dedicated support during war.

9.4 ***Annual Major Works Program (AMWP)***

(a) ***AMWP 2016-17:*** In 2016-17, AMWP for the three Services including Coast Guard works costing ₹ 15501.31 crore were listed against a ceiling of ₹ 12754.90 crore, out of which works costing ₹ 9839.68 crore were sanctioned for execution.

(b) ***Budget:*** In financial year 2016-17 under capital head total ₹ 7693.20 crore allotted to the three Services including Coast Guard and MAP works out of which, the total expenditure carried out by MES was ₹ 7645.05 crore. Under Revenue Head a budget of ₹ 10514.37 crore was allotted for all the three Services, including Coast Guard. The total expenditure under this head was ₹10126.42 crore in the financial year.

9.5 ***Important Projects under Progress***

(a) *Modernisation of Central Ordnance Depots (COD) Agra and Jabalpur:*

(i) As part of overall "Modernisation Drive", Army Ordnance Depots are being upgraded with Modern Infrastructure and Automation. CCS approved Modernisation Project of CODs Agra and Jabalpur on April 11, 2007 for an amount of ₹ 751.89 crore. The work, originally to be executed by DRDO, was transferred to MES in March, 2008. The modernisation project primarily comprises of construction of PEB warehouse buildings equipped with integrated storage and retrieval system, Mechanized Handling Equipment including allied services and administrative/ OTM buildings.

(ii) The Phase-I of the project has been completed and the overall progress of Phase-II of the project is 49% and 40% at COD Agra and COD Jabalpur respectively. Two tenders for integrated storage system at COD Agra & COD Jabalpur for ₹ 14.9 crore and ₹ 10.4 crore respectively have been accepted and the works are under progress.

(b) ***Improvement of Habitat and Living Conditions of Troops in High Altitude Areas (HAA Pilot Projects):***

(i) Pilot Projects of Phase-I and Phase-II for improvement of habitat and living conditions of troops in high altitude areas to shortlist design and construction technique was successfully completed at 54 platoon locations with overall outlay of ₹ 194.86 crore.

(ii) In Phase-III, 11 out of 12 platoon locations have been completed and assets handed over to the users. Work in one location is under progress. The trial evaluation of the assets created is under progress and decision to launch the main project covering 320 platoon locations would be taken post the trials.

(c) ***Infrastructure Development in Eastern Command:***

(i) Cabinet Committee on Security (CCS) accorded approval for infrastructure development in Eastern Sector for ₹ 9243.64 crore in 2010. Out of these, works costing ₹ 7374.70 crore are being executed by MES for which specially empowered CCEs organisations were raised. The scope of work includes permanent defences and habitat for troops, communication network and other strategic infrastructure.

(ii) Presently, land has been made available for 105 works which are under planning/ execution. As on date, five works have been completed, 30 works are under execution, and 8 works are under tender planning. 11 DPRs have been completed and have been processed for Administrative Approval/ under scrutiny. 16 DPRs are under preparation and 30 works are at pre-DPR stage.

(d) **National War Memorial and National War Museum (NWM&M):**

(i) The project for construction of National War

Memorial and National War Museum for an approximate cost of ₹ 500 crore was approved by the Cabinet on December 11, 2015.

(ii) A global level design and architectural competition was held for selection of design for the National War Memorial and National War Museum in August, 2016. The jury for both the competitions comprised of 25 members of international repute including ADG (Architecture) at E-in-C's Branch. After examination of various submissions, the jury selected three entries each for National War Memorial and National War Museum respectively. The result was announced on March 3, 2017.

(iii) The Government Sanction Letter for nomination of executing agency and delegation of powers to Project Director for construction was issued on June 21, 2017. The executing agency will be headed by a Project Director of the rank of Brigadier with 04 officers and other supporting staff. As on date the consultancy contract for the preparation of DPR for National War Memorial has been concluded. Tender for main work uploaded by Project Director NWM&M on November 1, 2017.

(e) ***Solar Photo Voltaic (SPV) Projects by MES:*** In the first phase MES has been entrusted for provisioning of 150 MW of Solar Power Plants across 113 locations of Army, Navy and Air Force in the country on behalf of Ministry of Defence. Against this, 156.93 MW of SPV works are under implementation by the MES. These works are to be commissioned by December 2018 in all respect. While a few of the projects have already been completed in some of the stations, certain works up to 5 MW capacity are under various stages of implementation. The progress of the SPV works being undertaken by MES till date is given in **Table No. 9.1.**

Table No. 9.1

Service	Planned (MW)	Total Stations	Administrative Approvals Accorded (MW)	Tender Issued (MW)	Tender Received (MW)	Remarks
(a) **AMWP 2015-16**						
Air Force	10.43	12	10.43	10.43	5.92	Proposed Date of Completion for all works is March 31, 2018.
Army	27.115	17	27.115	27.115	17.115	
Navy	1	1	1	0	0	
Total	38.545	30	38.545	37.545	23.035	
(b) **AMWP 2016-17**						
Air Force	24.36	26	24.36	17.51	14.01	Proposed Date of Completion for all works is March 31, 2018.
Army	73.67	44	64.52	59.12	58.92	
Navy/IDS	20.355	13	17.305	12.05	12.05	
Totals	118.355	83	106.185	88.68	84.98	
Grand Total	**156.93**	**113**	**144.73**	**126.225**	**108.015**	

9.6 Married Accommodation Project (MAP) Works:

(a) **MAP Phase-II:** In MAP Phase-II, a total 69992 Dwelling Units (DUs) at a cost of ₹ 13681.90 crore was sanctioned out of which, MES is carrying out works costing ₹ 3500 crore. However, construction of 88 DUs could not be taken up due to non-availability of land Therefore, 69904 DUs are being constructed in Phase- II out of which 60694 DUs are being constructed by DGMAP and 9210 DUs by MES. MES is providing external services costing ₹ 1400 crore. MES is also responsible for provision of furniture and arboriculture in all stations costing ₹ 300 crore and ₹ 100 crore respectively. Presently, 5539 dwelling units have been completed and handed over by MES and 38086 DUs have been constructed by DGMAP and balance works are under progress.

Construction of 1054 DUs at Pithoragarh under MAP (Phase-II)

(b) ***MAP Phase-III:*** In MAP Phase-III, total 71102 DUs were approved in Phase-III and Phase-IV (now combined with Phase-III). Out of these, 70432 DUs are for Army and 670 DUs for the Air Force. The workload between DGMAP & MES has been divided in ratio 57% to 43% respectively. Presently, the DPRs for these works are under preparation.

MAJOR INITIATIVES/DECISIONS/ POLICIES

9.7 The following major initiatives decisions/policies have been undertaken/issued which will have great impact on the functionality and performance of the organisation.

(a) ***MES Organisation and Officers Establishment 2016-17:*** 16 MES establishments have been newly raised.

(b) ***Certain important cases are under consideration which include:***

(i) Revision of DWP 2007.

(ii) Revision of Scales of Accommodation 2009.

(iii) Adoption of Green Building (GRIHA) norms for MES construction- sanction orders have been issued on December 14, 2017

(iv) Adoption of New Construction Technology (Design Build) to meet work load and quality in the MES.

(v) Revision of Maintenance norms for Buildings and Roads in MES to be at par with CPWD.

9.8 ***Important Projects Completed for the Army, Air Force and Navy:***

(a) ***Upgradation of Nursing School at Command Hospital, Lucknow:*** The work was sanctioned for an amount of ₹ 8.09 crore and completed on February 28, 2017.

(b) ***Accommodation for 450 Cadets of ACC Wing with Motivation Hall & Offices at IMA (Phase I):*** The work was sanctioned for an amount of ₹ 14.71 crore and completed on March 31, 2017.

(c) ***OTM Accommodation for Coast Guard Station at Minicoy:*** The work was sanctioned for an amount of ₹ 23.42 crore and completed in March, 2017.

(d) ***Infrastructure at AF Station Maharajpur:*** The work was sanctioned for an amount of ₹ 10.23 crore and completed in February, 2017.

9.9 ***Completed MAP Accommodation:***

(a) Umroi (Phase-II).

(b) Construction of 1054 DUs at Pithoragarh under MAP (Phase-II).

ARMED FORCES MEDICAL SERVICE (AFMS)

9.10 The AFMS has a distinguished record of providing dedicated, dependable and comprehensive health care to the defence personnel and their families. Medical services are also provided to personnel of para-military organizations, while posted in the field and other Central Police/ Intelligence organizations and General Reserve Engineering Force Units, operating in the disturbed and forward areas of the country. AFMS also provides medical care to the Ex-servicemen and their dependents within the country. During natural calamities, disasters and operational areas, it also serves civilian population.

9.11 The Armed Forces Medical Services (AFMS) consist of the Medical Services of the Army, Navy and Air Force and the Directorate General, Armed Forces Medical Services. Each Medical Service is under a Directorate General Medical Service (DGMS) in the rank of Lt. General or equivalent. The Directorate General, Armed

Forces Medical Services (DGAFMS), who heads the Service, is also medical advisor to the Ministry of Defence and the Chairman of the Medical Services Advisory Committee. The AFMS include officers of the Army Medical Corps (AMC), AMC (Non-Tech), the Army Dental Corps (ADC) and the Military Nursing Services (MNS). There are 132 Armed Forces Hospitals. The authorized strength of AMC, ADC, MNS and AMC (NT) is 7139, 725, 5317 and 373, respectively.

9.12 ***Important decisions/activities undertaken during the year:***

(I) ***Augmentation of manpower in AFMS:*** In May, 2009, the Government had approved augmentation of the manpower of AFMS by 10,590 personnel in three equal phases of 3530 personnel each. The recruitment of manpower in three phases have been completed. The Government has approved manpower of 525 Medical Officers (MOs) and 32 Dental Officers (Dos) under Training Draft and Leave Reserve in AFMS in the initial phase.

(II) ***Commission in AFMS:***

(a) ***Grant of Short Service Commission from Civil Sources:*** 510 MO's including 180 Women have been granted SSC in the year 2017.

(b) ***Grant of Short Service Commission/ Permanent Commission to Cadets of AFMC, Pune:*** A total of 102 cadets (Permanent Commission-51, Short Service Commission-51) from AFMC, Pune have been granted PC/SSC in AFMS during the year 2017.

(c) ***Grant of Departmental Permanent Commission to Short Service Commissioned Officers:*** 59 serving Short Service Commissioned officers have been granted Departmental Permanent Commission during the year 2017.

(d) ***Grant of Departmental Permanent Commission AMC (NT) to Short Service Commissioned Officers:*** 5 serving Short Service Commissioned officers of AMC (NT) have been granted Departmental Permanent Commission during the year 2017.

(e) ***Grant of SSC in AMC (NT) to JCOs/ORs:*** 6 JCOs/ORs of AMC (NT) have been granted Short Service Commission during the year 2017.

(III) ***Armed Forces Medical College (AFMC), Pune:*** The College provides training to under graduate and post graduate Medical and Nursing students with assured career prospects in the Defence Services. Admission for MBBS was conducted centrally through the National Eligibility Entrance Test (Under-Graduate) (NEET-UG) and a total of 51228 candidates applied online for admission to AFMC, Pune for the year 2017. Based on the merit, 1690 candidates were called for interview. A computer based Test for English language, Logic and Reasoning (TOELR) was also conducted at AFMC for the shortlisted candidates and finally 130 (105 boys and 25 girls) students were admitted into the MBBS course for the year 2017.

(IV) ***Modernization of AFMS:***

(a) ***Modernisation of Medical Equipment Profile of AFMS Hospitals and Medical Units:*** O/o DGAFMS has given a major impetus to the modernisation of Armed Forces hospitals through the prioritized procurement in Annual Acquisition Plans (AAPs). Specialised medical equipment, worth ₹ 102 crore were procured in the FY 2014-15. Supply orders for more than ₹ 110 crore and ₹ 122 crore have been placed in the FY 2015-16 and FY 2016-17 respectively. ₹ 37.77 crore have been placed in the FY 2017-18 under capital budget head till October 31, 2017. This has translated into a quantum improvement of the diagnostic, therapeutic and specialised services being provided to the combatants, their dependents and the Ex-servicemen fraternity.

(b) ***Establishment of Joint Replacement Centre at 7 AFH, Kanpur:*** The Joint Replacement Centre (JRC) established at 7 AFH has undertaken Joint Replacement for both serving and Ex-servicemen. A total of 745 Joint replacement programs have been carried out at this centre since January, 2016 out of which 405 surgeries were carried out on Ex-servicemen.

(c) ***Cardiothoracic and Vascular Surgery (CTVS) Centre at Army Hospital Research and Referral (R&R):*** A 200 bedded, 'State of the Art' Cardiothoracic

and Vascular Surgery Centre (CTVS) has been established as a super-specialty wing of Army Hospital (R&R). This centre has been equipped with high end, sophisticated medical equipment, 6 Operation Theatres, Cardiac Catheterization Labs, Electro-physiology Lab, ICU, Specialized CTVS Instruments, Laboratory and OPD Services.

(d) ***Procurement of medical equipment:*** The massive drive for bulk procurement of the essential, life saving and regular use medical equipment across the various armed forces hospitals has a force multiplying, salutary impact on the patient care services and all clientele satisfaction indices.

(e) ***Procurement and Upgradation of Aero-medical Simulators:*** IAF is in the process of upgrading the existing aero-medical simulators and procuring new ones to enhance the operational training of aircrew using these simulators with the ultimate aim of achieving aerospace safety.

(V) ***Automation of Armed Forces Medical Stores Depot (AFMSD & Supply Chain Management):***

(a) ***Telemedicine:***

(i) ***Telemedicine Phase-I:*** Radio based telemedicine to connect forward isolated posts to Regimental Aid Post (RAP) has been planned with Defence Bio-engineering and Electrochemical Laboratory (DEBEL).

(ii) ***Telemedicine Phase-II:*** Telemedicine to connect Regimental Aid Post (RAP) to Specialist in hospital has also been planned with DEBEL using telemedicine software developed by DEBEL. First phase of cyber security test of telemedicine software by Army Cyber Group has been completed.

(iii) ***ISRO Telemedicine nodes:*** Indian Space Research Organisation (ISRO) had initially provided 18 telemedicine nodes to the Armed Forces in 2001. All nodes are functional and being regularly used for Continuous Medical Education (CME) organized by Army Hospital Research and Referral and Development Education and Communication Unit, ISRO Ahmedabad. 12 CMEs have been conducted in this year. Two additional nodes have been installed during the year 2017.

(b) ***Tele-Education project over National Knowledge Network (NKN) with Mercury-Nimbus Telemedicine:*** Presently, there are 7 major post graduate teaching establishments in AFMS which run advanced courses in many basic subject specialties. Army Hospital (R&R) and Command Hospitals (CH) and Medical Council of India (MCI) and National Board of Examinations (NBE) recognized training centers for post-graduate medical education, as are colleges and schools of Nursing recognized by the Nursing Council of India (NCI). MCI, NBE and NCI mandate holding of regular Continuing Medical Education (CMEs) in the form of Seminars, Symposia and Workshops. The NKN project has been approved in Information Technology Priority Procurement Plan (IT PPP) FY 2017 and budget has been allocated to all CHs &Military Hospital (MH), Secunderabad.

(c) ***Digitisation of Medical Services:*** As part of digitization of medical services in Indian Air Force (IAF), a web based Hospital Information System (HIS) has been implemented. The system is intended to automate all the processes related to patient care in all IAF hospitals. A similar software 'MEDNET' is being used in Station Medicare Centres (SMCs), for complete digitization of patient's records.

(d) ***E-Vetting of Medical Boards:*** DGMS (Air) has introduced a procedure for E-Vetting of Medical Boards. E-Vetting of all boards held at Boarding Centers [Institute of Air Medicine (IAM)/Air Force Central Medical Establishment (AFCME)/ Medical Evaluation Centre (MEC) (East)] are being done at Air HQ. This ensures early upgradation of aircrew.

(e) ***Dhanwantri Software Up gradation:*** The application software, Dhanwantri IT, which enables the Resignation -Admission -Discharge -Transfer (RADT functionalities of a hospital, was developed in-house to address the urgent needs of military hospitals. It replaced the functionality of various local software running in the environment and added additional functionalities like discharge notes from wards, Chief Ward Master (CWM)

Discharge parade, Creation of movement order, OPD Registration, etc. Medical Store Module for Command Hospital (Western Command) has also been developed.

(f) ***I REACH Program:*** For capacity building and enhancing the healthcare at periphery Medical Services in IAF, it has launched an innovative program called I-Reach (Involving Resources and Experts in Augmenting Community Health). The program capitalizes on the Information Technology and the existing communication facilities to impart target oriented training to primary health care physician of IAF with an aim to augment primary health care.

(g) ***Launch of Mobile Health App 'Med Watch':*** On the occasion of 85th Anniversary, the Indian Air Force has launched an innovative mobile health App named 'Med Watch' which was developed by Directorate of Information Technology (DIT) as android based app. The app consists of stepwise First Aid management to provide Basic Life Support during 'Golden hour', Health Information on important health topics and reminder tool for Annual Medical Examination, Medical Category and Vaccination.

(h) ***Common Drug List-2016:*** Prior to 2016, two separate lists of drugs, Common Drug List (CDL) for serving personnel and Essential Drug List (EDL) for ECHS beneficiaries was existing. It was perceived that the CDL for serving & EDL for ECHS have not achieved the desired clientele satisfaction. Hence a Board of Officers (BoO) was convened by competent authority after taking into the consideration inputs from AFMS procuring agencies, World Health Organization (WHO), Essential Medical Lists (EML), National Lists of Essential Medicines (NLEM) and CDL/EDL of the other Government Organisations. One Common Drug List (CDL) has been formulated by the BOO, duly approved by the DGAFMS.

(VI) ***Foreign Aid provided to Friendly Countries:*** Medical Stores amounting to ₹ 4.30 crore have been made available to friendly foreign countries (Tajikistan, Seychelles & Common Wealth of Dominica).

(VII) ***Important Activities undertaken during the year:***

(a) Approval was accorded to carry out 156 research projects at a cost of ₹ 8.35 crore during 55th AFMRC meeting held at Pune in February, 2017.

(b) ***Completed AFMRC Projects:*** 75 Armed Forces Medical Research College (AFMRC Projects have been completed during the period from October 1, 2016 to September 30, 2017.

(c) ***New Proposals:*** Out of 264 new proposals received, 171 have been recommended for consideration at the 55th Armed Forces Research Committee meeting.

(d) ***Bombay Medical Congress:*** The 73rd Annual Conference of the Bombay Medical Congress was held at INHS Asvini from February 11- 12, 2017. A total of 301 delegates attended the conference, which provided a platform to discuss on the topics of contemporary interest and paveway ahead for frequent interactions between Defence and Civilian doctors.

(e) ***XXXVIII Senior Naval Medical and Dental Officers Conference:*** XXXVIII Senior Naval Medical and Dental Officers Conference for the year 2017 was conducted in conjunction with XXXVIII Annual Conference of Marine Medicine and Allied Sciences on August 30, 2017 at Mumbai.

(f) ***XXXIII Annual National Conference of the Marine Medicine and Allied Sciences:*** The XXXIII Annual National Conference of the Marine Medicine and Allied Sciences was held at INHS Asvini from August 31 - September 1, 2017. 22 delegates from 8 Friendly Foreign Navies (FFNs) (Indonesia, UAE Navy, United States Navy (USN) Navy Bangladesh, Kenya, Oman, Sri Lanka, Myanmar, Vietnam) participated in the conference.

(g) ***56th Annual Conference of Indian Society of Aerospace Medicine:*** The 56th Annual Conference of Indian Society of Aerospace Medicine (ISAM) was organized at IAM IAF Bangalore from August 25 to 27, 2017. The conference provided an academic forum for participation from leading Aerospace Medicine professionals and Scientists to discuss and provide solutions to the aero medical problems.

(h) ***42nd ICMM World Congress on Military Medicine, New Delhi (December 19-24, 2017):*** The Armed Forces Medical Services India hosted the 42nd

World Congress of the International Committee on Military Medicine (ICMM) at Vigyan Bhawan, New Delhi from November 19 to 24, 2017. The International Committee on Military Medicine (ICMM) is an international and intergovernmental organization created in 1921 with the primary mission of maintaining and strengthening the bonds of cooperation and knowledge between the Armed Forces Medical Services of all Member States. There are currently 112 member nations and six associate member nations of the ICMM, with India as a permanent member since 1949. India hosted this prestigious international event for the first time.

The conference was attended by a total of 1187 delegates, including 227 international delegates and leading military medicine experts representing 74 countries. The President of India delivered the valedictory address of the Congress on November 24, 2017.

(i) ***Swachh Bharat Abhiyan:*** New Bio Medical Waste Management policy was formulated in line with Ministry of Environment and Central Pollution Control Board guidelines and disseminated to all units for strict implementation.

(j) ***Family Welfare Organisation:*** The Family Welfare Organisation in the Armed Forces was established in 1969 with authorisation of 139 Family Welfare Centres (FWCs) under DGAFMS. The FWCs, which are attached to various Armed Forces Hospitals under Army, Navy, Air Force and DGOF are rendering valuable service to promote Family Welfare Programme among service personnel and civilians residing in Cantonment areas.

(VIII) ***International Cooperation:***

(a) ***Defence Cooperation with Maldives:*** Indian AFMS team comprising of 2 Medical officers and 4 paramedics joined the MNDF Medical services on September 9, 2012 to assist in establishment and operationalisation of 25 bedded Senahiya, MNDF Hospital at Male. The Medical Team is deputed for duration of one year.

(b) ***Defence Cooperation with Oman:*** Government has approved deputation of 3 Special Medical Officers to Oman. A draft MoU received from Defence Attache Oman is under consideration with Ministry of Defence.

(c) ***Deputation to Saudi Arabia:*** A team comprising of 9 Medical officers has been deputed to Saudi Arabia to provide medical assistance to pilgrims from India and South Asia for Haj pilgrimage.

(d) ***India Tajikistan Friendship Hospital, Tajikistan:*** Based on recommendations of NSA and direction from COAS a 50 bedded permanent hospital was established at Qurghon Teppa, Tajikistan in 2012. 2nd Rotation of the medical team was deployed at ITFH in August, 2016. The Government has now accorded sanction for the team upto July 31, 2018.

(e) As a measure of goodwill being extended by the Government of India, the Armed Forces Personnel from countries like Afghanistan, Bhutan, Nepal, Bangladesh and Maldives are accorded treatment facilities in AFMS hospitals.

(IX) ***Training to Foreign Nationals in Medical/ Dental Courses:*** Training was provided to Foreign Nationals in Medical/ Para Medical Courses in 20 MD/ MS courses and Para Medical Courses to the candidates sponsored by friendly neighbour foreign countries by AFMS in its training Institutions/ Hospitals based upon the requests received from these countries.

DIRECTORATE GENERAL DEFENCE ESTATES (DGDE)

9.13 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. It 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, i.e. 38 Defence Estates Offices, 3 Assistant Defence Estates Offices and 62 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.

9.14 The Ministry of Defence owns approximately 17.57 lakh acres of land throughout the country which is managed by the three Services and other Organizations like DGDE, Ordnance Factory Board, DRDO, DGQA,

CGDA etc. The Army has the maximum of the land holdings under its control and management i.e. 14.147 lakh acres followed Air Force 1.40 lakh acres and Navy 0.44 lakh acres. The defence land inside the notified Cantonments is approximately 1.57 lakh acres and the remaining around 16.00 lakh lie outside the Cantonments.

9.15 Details of land are maintained in General Land Register (GLR) prescribed in Cantonment Land Administration Rules (CLAR), 1937 and details of defence land situated at outside cantonments in Military Land Register (MLR) prescribed in Acquisition, Custody, Relinquishment (ACR) Rules, 1944. Both the registers are maintained in every DEO Circle. GLR is maintained in every Cantonment Board Office also for land placed under the management of Cantonment Boards. The register record Sy. No. area, name of occupant/owner, transfer/sale transaction and other summary details.

9.16 The Directorate General has undertaken computerization of land records, survey and demarcation of all defence lands and digitization of records in order to strengthen control and management over defence land. Raksha Bhoomi software has been developed by DGDE to store electronically the information in GLR and MLR in respect of areas under all the Defence Estates Officers and Cantonment Boards. The main feature of Raksha Bhoomi is that land data from various offices can be consolidated at one place.

9.17 Demarcation survey of entire defence land outside Cantonments and detailed polygon survey of defence land inside Cantonments have already been undertaken. About 98.62% and 99.85% survey work of defence land has been completed in outside cantonments and inside cantonment respectively and Cantonment Boards. Survey reports have been finalized/issued in respect of 79.85% of total Defence lands while in respect of other land, reports are under finalization. The second phase of survey is underway in respect of 30% of defence land.

9.18 DGDE has also been entrusted with the task of conducting land audit keeping in view the importance of land as a national resource. The Land audit reports for the three years period (2011-12 to 2013-14) and for first year of second cycle (2014-15) have been published and circulated for necessary follow-up action. Defence land audit is a continuing process. Land Audit for the year 2015-16 has been completed and report is under finalisation. Land Audit in r/o 14 DEO circle for the year 2016-17 is under way.

9.19 The management of Defence Lands necessarily warrant proper maintenance of land records. The maintenance of land records, its preservation and safety standards were suffering due to high volume, lack of adequate storage space, lack of fire safety measures and the problems related to ageing of documents etc. in all 103 field offices i.e. 38 Defence Estates Offices, 3 Assistant Defence Estates Offices and 62 Cantonment Boards in the country. All these issues where addressed by way of application of modern technology for preservation and protection of documents. Activities improvement of record rooms (renovations) in all DEO offices', and establishment of AU&RC have completed. Activities like indexing, scanning and microfilming of Records are continuous process. Out of which, phase-I of the work has been completed in DEO offices and Cantonment Boards. Phase-II of the work is in progress. Microfilming of digitized documents has been done by DEO Secunderabad as a pilot project. It has been decided to do microfilming of digitized records of other DEOs in a centralized manner for which a Technical Evaluation Committee (TEC) has been constituted at DGDE level.

9.20 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.

9.21 Directorate General Defence Estates is also responsible on behalf of the Ministry of Defence to control, monitor and supervise the Civic administration in Cantonment. There are 62 Cantonments in India located in 19 States, including National Capital Territory of Delhi. Cantonment Areas are administrated by Cantonment Boards which are 'Body 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.

9.22 To provide education, Cantonment Boards run Higher Secondary Schools and Intermediate/ Junior Colleges. The total number of schools and colleges maintained by Cantonment Boards is 204, besides 46 "Skill Development Centres" providing training in tailoring, embroidery, beautician courses, stenography, sewing, computer application, automobile repairing, electrical & electronics and IT applications. The Boards have also established 36 "Centers for Differently-abled Children" to address their special needs like medical examination, counselling, physiotherapy and special education. Cantonment Boards maintain 88 hospitals and dispensaries for providing various services to the general public of Cantonment and nearby areas.

9.23 Cantonment Boards have taken measures like tree plantation, enforcing ban on polythene bags and municipal solid waste management etc. for protection of environment. A public grievances redressal system called "Samadhan" and an employee's information system, called "Suvidha" have also been implemented in all Cantonments.

(i) Under the programme of Government of India, the Swachh Bharat Abhiyaan (SBA), all Cantonment Boards have been taking earnest steps for creating clean and green Cantonment areas. As a first step, efforts are on for declaring Cantonments as ODF (Open Defecation Free) areas. Total 57 Cantonments have already been certified by the Ministry of Housing and Urban Affairs (MoHUA) as ODF. For this, the entire civic infrastructure related to sanitation services is being revamped. New sewer lines are being laid, Sewage Treatment Plants (STPs) are being installed (wherever feasible), public toilets are being repaired/constructed, Solid Waste Management (SWM) projects being undertaken, drains being covered/ converted to underground system and intensive cleaning along with aggressive awareness campaign is being launched.

(ii) Under the "Digital India" initiatives, the Cantonment Boards have been making rapid strides for switching over to digital platforms in various aspects of Cantonment administration. "Samadhan" – an on-line public grievances redressal system has been implemented by all Cantonment Boards to make their administration more responsive to the public. "Suvidha"- a software to address the grievances of the staff has also been installed by the Boards. In e-governance initiatives, Cantonment Boards have been continually automating their office processes. Now, e-tendering and e-procurement are implemented by all Cantonment Boards. Steps are being taken by the Boards to register themselves on the GEM portal for procurement of stores. Scanning and digitization of important records, particularly land records, and inventorisation of records has been completed. Raksha Bhoomi software for computerization of land records has been installed. Most of the Boards are already providing e-services to the residents in taxation, birth/death registration, hospital management, etc. They have also strengthened e-service delivery by including online property tax payments, water charges payments, etc.

(iii) During the current financial year, the Cantonment Boards have gone an extra mile in their endeavour to switch over to LED lighting and to install roof-top solar panels to tap solar energy. About 48% of the existing light points have already been converted into LED lights and the figure is expected to reach to 70% by March 31, 2018. In so far as harnessing solar power is concerned, a capacity of 1368.5 KW has already been installed by the Cantonment Boards which is expected to reach 2815 KW by March 31, 2018.

(iv) International Yoga Day was celebrated on June 21, 2017 by all the Cantonment Boards with great enthusiasm. People of all age-group including officers, staff, their families as well as students of Cantonment Board schools and local residents participated in the event.

(v) The Cantonment Boards are taking all possible steps to tap local sources of revenue for augmentation of their revenue; and provide efficient and responsive administration to the residents of the Cantonments.

OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER

9.24 The Office of the Chief Administrative Officer (CAO) provides civilian manpower and infrastructural necessities to the Services Headquarters and the Headquarter Offices of Inter-Service Organisations (ISOs) under the Ministry of Defence. The Chief Administrative Officer (CAO) also discharges the functions of Director (Security) and Chief Information Security Officer (CISO).

9.25 The functions of the CAO's Office are carried out by the following ten Divisions under Director (E & A) and Director (HR):

(a) ***Manpower Planning and Recruitment Division:*** This Division is responsible for recruitment to various categories of the AFHQ Cadre/Ex-Cadre posts, compassionate appointment, 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. In the year 2017-18, cadre restructuring of AFHQ Civil Service was carried out with approval of Union Cabinet, 10 Recruitment Rules of AFHQ Civilian cadres were revised and total of 222 new incumbents (59 Group 'B' & 163 Group 'C') were recruited in AFHQ.

(b) ***Personnel & Legal Division:*** The Personnel & Legal Division is responsible for the Cadre Management including posting/promotion/ deputation of the civilian personnel in about 200 grades, posted in the three Service Headquarters and 27 Inter-Service Organisations. This Division also handles the Court cases of the CAO's Office. During the year 2017-18, 616 probationers were removed from probation; promotions to 528 employees (Gp A- 34, Gp B- 318, Gp C- 176) were granted in the various AFHQ Civilian Cadres, also 507 employees of AFHQ Civilian Cadres were granted financial benefit under MACP and NFSG. A total of 346 cases were reviewed under FR 56(j).

(c) ***Departmental Discipline, Coordination and Welfare Division:*** This Division deals with disciplinary cases of AFHQ Civilian employees, coordination matters relating to implementation of Official Language policy, welfare activities, JCM, Women Cell, Sports & Cultural activities, Departmental Canteens, appointment of AMAs, Defence Civilian Medical Aid Fund (DCMAF) etc., as also administration of MoD(Library) and grant from NDF for purchase of reading material of entertainment of troops. During the year 2017-18 the MoD(Library) has added 875 books, subscribed to 156 Journals/Periodicals and 36 Newspapers.

(d) ***Defence Headquarters Training Institute (DHTI):*** The mandate of DHTI is to provide training to civilian personnel posted in the Service Headquarters and Inter – Service Organisations. Besides cadre training courses DHTI also organizes, Specialized courses on Procurement, RTI, Cabinet Notes, Parliament procedure for the Officers from the three Service Headquarters and ISOs. During the year 2017-18, 120 courses were conducted at Delhi by the DHTI. In addition to this, 33 training programmes were also conducted in unit cadres spread throughout the country.

(e) ***Administration Division:*** This Division deals with all matters pertaining to pay & allowances and administrative works (except medical, pension and budget cases) of civilian employees working in IHQ of Ministry of Defence (Army)/ISOs except those under the Admin control of CAO/A-2.

(f) ***Medical, Pension & Budget Division:*** This Division deals with all matters pertaining to medical, pension and budget of all civilian employees employed in IHQ of Ministry of Defence (Army). This Division also looks after the matters relating to implementation of e-governance, Electronic Data Processing and maintenance of website of CAO's Office. During the year 2017-18, 4780 cases for pre 2016 pension were processed for revision and 3849 e-PPO were issued as per direction of Ministry of Personal PG & Pension in time bound manner.

(g) ***Finance and Material Division:*** This Division provides material requirement to the ISOs which includes procuring and provisioning of office equipment, stores, furniture, stationery and IT equipment. During the year 2017-18 Surveillance and Access Control Management System (SACMS) were made operational in National Defence College (NDC) and Sena Bhawan.

(h) ***Works Division:*** The Division is responsible

for renovation/maintenance and hiring of office accommodation in Defence HQrs Zone. During the year 2017-18 an 11KVA Electricity sub-station has been established to augment the power supply in DHQ Zone.

(i) ***Quartering Division:*** This Division deals with all matters pertaining to management and allotment of Ministry of Defence Pool Married Accommodation, reimbursement of bill for Hired Accommodation and grant of NAC-HRA to the service officers posted in AFHQ/ ISOs. During the year 2017-18, 341 residential Quarters have been additionally released to Service Officers which resulted in substantial reduction of waiting period. Ministry of Defence pool accommodation rules is being revised. A comprehensive data base of Service Officers posted at AFHQ/ISOs has been developed.

(j) ***Special Project Division:*** This Division deals with all matters pertaining to Special Projects assigned to O/o JS & CAO which includes the conceptualization, execution and handing over to the user. The Special Projects include construction of National War Memorial and the National War Museum in Delhi, Nau Sena Bhawan, Thal Sena Bhawan and monitoring of civil and electrical works associated with Surveillance & Access Control Management System (SACMS) at Sena Bhawan & South Block. Dy. CAO (Spl Project) also functions as Estate Officer.

9.26 During the year 2017-18, formal permission was obtained from MoUD to construct the National War Memorial at 'C' Hexagon, East of India Gate. MoUD has allotted 14.173 acres of land at Princess Park Complex to Ministry of Defence for construction of proposed War Museum. Construction of the two monuments of national importance is expected to be completed as per schedule.

Security Office

9.27 The Security Office is responsible for physical security, surveillance and access control, prevention of breach of security & fire within the Defence Headquarters Security Zone comprising of 22 buildings. It also looks after prevention of breach of security and fire fighting arrangements in DHQ Security zone.

9.28 During the year 2017-18, a Small Arms Firing Simulator has been installed within the premises of Security Office to provide firing practice to Defence Security Troops.

DIRECTORATE OF PUBLIC RELATIONS

9.29 The Directorate of Public Relations (DPR) is the nodal agency for the dissemination of information to the media and public, about 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 and branch offices spread 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.

9.30 The Directorate brings out a fortnightly journal, Sainik Samachar, for the Armed Forces in 13 languages. The Broadcasting Section of the Directorate produces a 40-minute programme 'Sainikon Ke Liye' that is broadcast daily on All India Radio for Armed Forces personnel. The Photo Section of the Directorate provides photo coverage to important events related to Defence. The Photo Archives of the Photo Section of the DPR is now undergoing the digitisation process.

9.31 As in previous years, the Directorate conducted the Defence Correspondents' Course for media persons from August 28 to September 28, 2017 to enhance their knowledge about defence matters. Thirty-six journalists including eleven women drawn from all over the country attended the month-long course which was conducted in different establishments of Army, Navy and the Air Force.

9.32 During the year, DPR provided coverage on different incidents events including Smt. Nirmala Sitharaman taking charge of Raksha Mantri (RM), Raksha Mantri attending 4th ASEAN Defence Ministers' Meeting Plus (ADMM Plus) at Clark in Philippines, US Secretary of Defence visit to India, French Minister of Armed Forces visit to India, Minister for

Defence of the Republic of Singapore visit to India and other Defence Ministers' level interactions.

9.33 Media coverage of major policy decisions such as Minister of Defence delegating substantial financial powers to the Armed Forces, then RM handing over additional ex-gratia to next of kin of battle casualties, enhancement of penury grant to non-pensioner ex-servicemen and widows, Defence Acquisition Council finalising contours of engagement with indigenous industry for manufacturing high-tech defence equipment in India. The Directorate widely publicised President attending the closing ceremony of the 42nd ICMM World Congress on Military Medicine at Vigyan Bhawan, New Delhi, which had delegates from all around the globe and other events organised by agencies of the Ministry.

9.34 During the year, DPR provided coverage on different incidents of ceasefire violations in the Line of Control in J&K, DRDO conducting successful flight trial of 'NIRBHAY' sub-sonic cruise missile, successful flight test of anti-tank guided missile Nag, successful launch of surface to air missile AKASH with indigenous radio frequency seeker, Brahmos Flight test from IAF's Su-30MKI fighter aircraft making India capable of its launch from land, sea and air completing the tactical cruise missile triad, Indian Air Force Landing Operations on Agra-Lucknow Expressway, Aero India – 2017, Unified Commanders' Conference.

9.35 DPR also covered various joint military exercises by the three Services with Armed Forces of other friendly countries both in India and abroad. Giving Indo-Russian defence cooperation a major boost, Exercise INDRA-2017, in the first ever Tri Services format between Indian and Russian Armed Forces was conducted in the Eastern Military District of Russia from October 19 to 29, 2017. Naval exercise between the Indian Navy and the Indonesian Navy, 11th Indo-Nepal Joint Army Exercise, Malabar Naval Exercise were also given prominence. Indian Navy and Indian Coast Guard provided Humanitarian Assistance and Disaster Relief when cyclone Ockhi hit Western and Southern coast. DPR publicised efforts related to these HADR activities.

9.36 The Directorate arranges all media facilities related to the Republic Day Celebrations, including Beating the Retreat Ceremony at Vijay Chowk and brings out a commentary book for the 'parade on Rajpath'. Other important calendar events such as Independence Day celebrations at Red Fort, Defence Minister's annual customary message to the Armed Forces on the eve of Independence Day, Combined Commanders' Conference, Prime Minister's NCC Rally and Defence Investiture Ceremonies at Rashtrapati Bhawan are also accorded due publicity.

SERVICES SPORTS CONTROL BOARD (SSCB)

9.37 SSCB conducts and co-ordinates various sports activities in the three Defence Services. Inter-Service championships comprising of four teams (Army Red, Army Green, India Navy and Air Force) are conducted under the aegis of SSCB in 19 Sports disciplines and trials are conducted in 14 disciplines to select the Services team for participation in the National Championship /Games/ Military World Championships.

9.38 During the year 2017, SSCB fielded Senior Men's teams in the National Championships conducted by Sports federations/associations which are recognised by Ministry of Youth Affairs and Sports. Services team won the National Championship in many events.

9.39 During the year more than 100 Services sportsmen represented India at various International Championships including Wushu Championship, Sr. Asian Wrestling Championship, Asian Athletics Championship, Asian Karate Championship, Thailand Open Fencing Championship, Asian Indoor Marital Arts Games, and Cycling Track Asia Cup where Services won 16 Gold, 9 Silver and 10 Bronze medals, and also 1 Team Silver medal in Open International Hand ball Championship.

ARMED FORCES FILMS & PHOTO DIVISION (AFFPD)

9.40 AFFPD is an Inter Services Organization of the Ministry of Defence entrusted with the responsibility of producing films for training, documentary and promotional purposes for the three services; as also Photo and Video Coverage of ceremonial functions and other important events of the MoD for record purposes. AFFPD also stocks and preserves a rich collection of rare films and photographs of world war-II Vintage and current and past

Defence Training Films, at its Central Defence Film Library (CDFL).

9.41 In the current year AFFPD has completed and released ten training films for the Army in association with ARTRAC (Army Training Command), 11 training films are under various stages of production, 4 have been completed and is awaiting user approval 1 film is at editing stage and 6 films are at shooting stage.

9.42 The Central Defence Film Library of this Division is responsible for distribution of training films to various units / formations / training establishments / commands, to meet their specific training requirements. The Library holds 587 titles (Positive) 543 (Master Negative) in 35mm sizes, 1165 titles in 16 mm sizes, 225 titles in VHS format, 272 titles in U-matic format, 166 Betacam format, 34 titles in VCD format and 89 titles in DVD & HD format 253 AFVC, 26901 Photographs of World War-II and 26901 Negative of World War-II. During the current year, 1579 DVDs have been dispatched/ issued on loan to various units/ formations of Army/Navy/Air Force.

9.43 AFFPD has a rich collection of rare films and photographs of the II World War, this material inherited from the British are of great historical value and are maintained and preserved at the Central Defence Film Library of this Division. These photographs and films depict the Indian Forces in action in various theatres of Second World War, its parades, festivals, personalities and training activities etc. Some important films like Battle of Britain, Battle of Russia, Battle of China, Desert Victory, Japanese Surrender, Nazis Strikes, Burma Campaign, Churchill the Man, London Victory Parade etc. are some of the film preserved along with many other historical films. Copies of many of these World War-II films have been preserved at National Film Archive of India (NFAI) Pune.

9.44 The Mobile Cinema Unit (MCU) of this Division also procured/distributed Documentary films to the troops. During the year MCU has issued films on 82 topics to various Defence Establishments.

NATIONAL DEFENCE COLLEGE (NDC)

9.45 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 57th NDC Course consisted of 100 officers comprising Army (40), Navy (06), Air Force (12), Civil Services (16) and Friendly Foreign Countries (25). 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 that are essential for planning of National strategy. The course curriculum comprises study Capsules, Lectures/Panel Discussions, Strategic Game Exercise, Field Tours, Research Activities/Writing of theses and Seminars. Towards this end, six study capsules are conducted for the course. On successful completion of the Course, eligible officers are awarded M.Phil degree from the Madras University. Some of the alumni of the College have occupied the very distinguished positions in their field and country.

9.46 During the Course, the Course officers have the benefit of face to face interaction with various foreign delegates and dignitaries of national and international repute. On April 11, 2017, Prime Minister of Australia addressed the Course Officers at the College. On April 12, 2017, Secretary of State of Defence of United Kingdom visited the college and addressed the Course Officers.

9.47 Towards enhancing mutual cooperation in the field of national Security, Development and Strategic Studies, a Memorandum of Understanding was signed for exchange of faculties and conduct of Joint Seminars between National Defence College of India. As a premier Defence training institution, the college also represents India in the Annual Meet of Heads of Defence Universities/ Colleges and Institutions of the ASEAN Regional Forum (ARF).

HISTORY DIVISION

9.48 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 independence. Till now, it has compiled and published 18 volumes including the History of Operations in Jammu & Kashmir 1947-48, Operation Polo, Operation Vijay (Goa), Military Costumes of India, Stories of Heroism (two volumes), The India-Pakistan War of 1965: A History, The India-Pakistan war of 1971: A History and Saga of Valour (Param Vir Chakra & Ashoka Chakra Winners). The Division has also reprinted twelve volumes of Official History of the Indian Armed Forces in the Second World War 1939-45. The histories of operations conducted by the Indian Armed Forces on UN Peace Keeping Missions have also been published. These include the History of Indian Armed Forces in UN Operations in Congo, History of the custodian force (India) in Korea 1953-54, Operation Shanti (Indian Troops in Egypt) and Terrific Responsibility (The Battle for Peace in Indo-China). Some of these books have been published both in Hindi and English.

9.49 Presently, the Division is working on two projects 'The role of Indian Armed Forces in World War-I' and 'The History of Kargil War.' The Division is also engaged in 'Digitization of Records'.

9.50 The History Division functions as the research, record and reference office of the Ministry of Defence and the Indian Armed Forces. It receives records pertaining to military matters from the Ministry of Defence and three Services HQs on a regular basis for preservations and use. The Division also vets the regimental histories and other manuscripts related to military history before publication. The Division runs a Fellowship scheme under which two Fellowships are granted every three years to encourage research in military history. So far twenty two Research Fellows have benefitted under the scheme.

9.51 The Heraldic Cell of the Division assists the three Services Headquarters including Coast Guard 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 mottoes. The Cell also Vetts the histories of the IAF Units which are presented with Colours and standards by the President.

9.52 The Departmental Library houses more than five thousands titles, including books, periodicals and foreign publications of military importance. About 150 books have been added to the library during past one year.

COLLEGE OF DEFENCE MANAGEMENT (CDM)

9.53 CDM is a tri-Service institution which imparts the skills of contemporary management thought, concepts and practices, that leads to effective decision making, enlightened leadership and efficient resource management in a knowledge centric environment to the senior leadership of the three Services, Para Military Forces, officers of the Ministry of Defence and International participants at the Conceptual, Directional and Functional levels. The Higher Defence Management Course (HDMC) is the flagship course, which is conducted over a period of 44 weeks. Besides the HDMC, CDM conducted a number of Management Development Programmes (MDPs), Defence Management Course (DMC) for SAARC Nations and Senior Defence Management Course (SDMC) for participants from tri-Services as also participants from friendly foreign countries. The College imparts training through a networked environment supported by state of the art information and communication technology.

9.54 From January 1, 2017 to December 31, 2017, CDM conducted one Higher Defence Management Course, two Senior Defence Management Course, Nine Management Development Programmes and one Combined Operational Review and Evaluation Programme for the Officers of the rank of Maj Gen & Equivalent. The College has trained 550 Officers of the three Services including BRO, PMF & Government Organisations apart from imparting knowledge on Defence Management to 1350 Officers at various Institutes of Higher Learning including National Security Council Secretariat through external capsules.

9.55 Since 2016, CDM is among the top 60 out of 5200 NAAC accredited institutions with a coveted grading of 'A+'. The College is a Centre of Excellence in the disciplines of 'Net Assessment'. CDM is the only Accredited Training Organisation (ATO) for Indian Armed Forces for IPMA Certification in 'Project Management'. The College is also at the forefront in

imparting 'Data Analytics & Visualization' training in the Indian Military.

9.56 The education imparted at CDM in 2017-18 has a vast international footprint that includes Military Officers (Col & Equivalent) from over 21 countries from Asia, Africa, South America and Pacific Islands.

DEFENCE SERVICES STAFF COLLEGE (DSSC)

9.57 DSSC, nestled in the sylvan environs of Nilgiris in Tamil Nadu, is a premier Tri-Services joint training institution in the world training selected officers of the Indian Armed Forces, Civil Services/Paramilitary Forces and friendly foreign countries. The Staff College affords an invigorating environment serving as a Cradle for Middle Level Military Leadership, creating excellent staff officers and stellar leaders as the cutting edge of the armed forces with accentuated levels of professionalism and steadfastly upholding the virtues of 'Duty, Honour and Valour'.

9.58 DSSC was awarded the President's Colours in September, 2016 by the President of India, in recognition of the commendable service rendered as a flagship joint training institution, providing excellent world class staff and command training.

9.59 The Staff College is today undergoing a renaissance of unparalleled magnitude, with infrastructural development aligned to the multi-faceted resplendence of this magnificent institute. The College is progressively bracing itself for training 500 student officers. The strength of the current Staff Course has been enhanced to 466 including three officers from the Civil Services/Paramilitary Forces, two from Coast Guard and 36 International officers from 31 different nations.

MINISTRY OF DEFENCE LIBRARY

9.60 The Ministry of Defence library provides literature on subjects relevant to planning and policy formulation in Ministry of Defence, three Services Headquarters, Inter-Service Organisations and other allied Defence Establishments located in Delhi. It specializes in Defence and related subjects, besides catering to the needs of general readers. During the year the library added 875 books, subscribed to 156 Journals/Periodicals and 36 Newspapers.

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RECRUITMENT AND TRAINING

Recruitment and Training

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

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, which lasts 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 course, they are sent to the respective Service Academies for their pre-commissioning 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 by Integrated Headquarters of Ministry of Defence (Army).

INDIAN ARMY

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

(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 Officers Training Academy, Gaya 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):*** 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 one year ante-date seniority on commissioning. Selection for this entry however, stands temporarily suspended.

(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 M.Sc. in Agriculture/ Dairy 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. Engineering Graduates through this entry are also entitled to one year 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 one year's ante-date seniority on commissioning.

(e) ***National Cadet Corps (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. 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.

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

(g) ***Short Service Commission Women (SSCW):*** Eligible women candidates are recruited in the Army as

Short Service Commission Officers. Commission is granted in Corps of Electronics 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 for permanent commission for officers in Army 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. Shortlisted candidates appear for SSB interview and Medical Test, thereafter. The applicants for Non-Technical Graduate stream, however, is required to apply through UPSC and after written examination, come up for SSB interview. A total of 20% allotted seats from Non-Technical stream have been reserved for NCC 'C' certificate holder women candidates with minimum 'B' grade and 50% aggregate marks in graduation examination. For Judge Advocate General Branch, applications are invited from Law Graduates with minimum 55% marks. Widows of Defence Personnel who meet the laid down eligibility criteria are granted four years age relaxation and 5% seats of each course (2.5 each in Tech and Non-Tech) are reserved for them. Short Service Commission Women (Tech), NCC entry and Judge Advocate General Branch are exempted from written examinations.

(h) ***Service Entries:*** Recruitment of Junior Commissioned Officers (JCOs) & Other Ranks (ORs) into officers cadre is done through Service Selection Board in the following:

(i) ***Army Cadet College (ACC) Entry:*** The eligible ORs in age group of 20-27 years and minimum two years of service, having 10+2 pass qualifications can apply for Regular Commission. After qualifying in written examination conducted by the Military Training Directorate, 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 at 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. The scheme not only improves the career prospects of the existing JCOs and OR but also helps in making up the deficiency of the support cadre officers in the Army.

(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 ***Automation of processing application for Officers entries:*** Online processes which were earlier limited to submission of online application have since been upgraded. Candidates can now see the course notifications, submit application (less UPSC and Service entries), select SSB dates (including UPSC entries), view merit lists, receive joining letters, forward queries/feed back and receive responses as well as updates at every stage of the selection process, in an online mode.

10.5 ***Intake:*** Intake of candidates for pre-commission

training as officers during the year 2017 is given in **Table No. 10.1.**

Table No. 10.1

S.No	Academy	Entry	Induction
1.	NDA	Army	417
		Navy	97
		Air Force	115
		Total	**629**
2.	IMA	IMA (DE)	203
		ACC	107
		SCO	39
		PC (SL)	19
		AEC	14
		Total	**382**
3.	OTA	SSC (NT)	135
		SSCW (NT)	19
		NCC	75
		NCC (W)	09
		JAG	11
		JAG (W)	12
		Total	**261**
4.	Tech Entries	SSC (Tech)	214
		SSCW (Tech)	40
		10+2 TES	178
		TGC	69
		Total	**501**
		Grand Total	**1773**

10.6 ***Recruitment of Junior Commissioned Officers (JCOs) & Other Ranks (ORs):*** Recruitment in the Army is done through Zonal Recruiting Offices, two Gorkha Recruiting Depots, one Independent Recruiting Office and 59 Army Recruiting Offices in addition to 48 Regimental Centres which carry out recruitment through rallies in their respective areas of jurisdiction. Recruitment of JCOs & ORs is carried out through Online Application System for soldier General Duty, Soldier Tradesman, Soldier Technical, Soldier Clerk/Store Keeper Trade and Soldier Nursing Assistant, Havildar Education, Havildar Auto Cartographer and Religious Teacher JCO (RT JCO), JCO Catering categories. The current recruitment for JCOs and ORs comprises screening of aspiring candidates at rally site in the 1.6 km run followed by document checking, Physical Fitness Tests (PFT), Physical Measurement Test (PMT) and Medical Examination. This is followed by a written examination for those candidates who have qualified in all tests. Finally, a merit list is prepared and candidates in merit are dispatched to respective Regimental/Training Centres for training. Efforts are made to ensure each district of the country is covered at least once in a recruiting year.

10.7 ***Revised Recruitment Rallies System:*** Indian Army is one of the biggest recruiters in the country which recruits almost 60,000 youths into the Army each year. Previously, recruitment was carried out through an 'Open Rally System' wherein candidates could walk in for recruitment without applying for a rally. The 'Revised Recruitment System' has been introduced wherein a candidate is required to register online with the overall aim of reducing masses which turn up for recruitment by a regulated call up system. Thus connected administrative and discipline issues that arise due to large crowd have been negated. Till date, 225 rallies have conducted with the 'Revised Recruitment System' and approximately 55 lakh aspirants have applied online through the directorate of Recruiting website: www.joinindianarmy.nic.in. The revised Recruitment Rally System is being implemented in the following phases:

(a) ***Phase-I: Replacement of open rally system with call up system:*** Implementation of On-Line Registration for Recruitment of Junior Commissioned Officers/Other Ranks into the Indian Army was carried out w.e.f. July 18, 2015 and has been a major success, which has revolutionized the complete recruitment process. This initiative has streamlined our recruitment system and is also giving a boost to Government 'Digital India' programme where candidates from remote areas/rural areas are using internet to apply for this popular career option.

(b) ***Phase-II: Pilot project for online examination prior to physical and medical tests:*** Pilot project for online examination has recently been approved by the Ministry of Defence and Recruiting Directorate is in the process of implementation of the project. This will be the major achievements once implemented. Initially the pilot project is being implemented in three zones as under and

subsequently will cover Pan India:

(i) HQ Recruiting Zone, Ambala

(ii) HQ Recruiting Zone, Chennai

(iii) HQ Recruiting Zone, Jaipur

10.8 ***Recruitment Rallies:*** A total of 52447 candidates have been recruited for the Recruiting year 2016-17. For the Recruiting year 2017-18, 100 rallies were planned.

INDIAN NAVY

10.9 Indian Navy (IN) carries out recruitment of personnel to effectively man ships, submarines, aircraft and shore establishments to the optimum levels. Recruitment in the Navy is carried out on all India basis. The number of uniformed personnel recruited/ inducted depends on the number of eligible applicants (men and women) who are able to qualify in the written test, Services Selection Board (SSB) interview, medical examination and their relative position in the merit list. No distinction is made on the basis of gender/religion/caste/creed, either during recruitment or at any point of time thereafter.

10.10 ***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 Service Selection Boards located at Bengaluru, Bhopal, Coimbatore and Visakhapatnam. Results of qualified candidates are forwarded to UPSC for making the final merit. Medically fit candidates, who are in the merit, are selected for training at NDA/Naval Academy. 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 Scheme (GSES), the UPSC holds the Combined Defence Services Examination (CDSE), twice a year. Graduates with B Tech degree or candidates in their final year of B. Tech are eligible to appear in the examination. Successful candidates join the Naval Academy 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 Ministry of Defence (Navy) based on percentage in the qualifying exam. 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.

(c) ***10+2 (Cadet Entry Scheme):*** This scheme is a permanent commission entry in the Executive, Engineering and Electrical branches of the Indian Navy. 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 Navy.

(d) ***University Entry Scheme (UES):*** The UES was re-launched in August, 2005 as a Short Service Commission Scheme. Seventh and Eighth semester Engineering college students are eligible for induction into the Executive and Technical Branches of the Navy. The scheme also caters for the induction of Permanent Commission Executive Officers w.e.f. 2014. Naval selection teams from the IHQ of Ministry of Defence (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, undergo 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 and availability of vacancies.

10.11 ***Women Officers:*** Women are being inducted into the Navy, as Short Service Commission (SSC) officers in the Executive (Observer, Pilot in Maritime Reconnaissance stream, Naval Armament Inspectorate Cadre, Air Traffic Controllers (ATC), Law & Logistic), Education Branch and the Naval Architecture of the Engineering Branch.

10.12 ***Permanent Commission to SSC Officers:*** The Government has introduced grant of Permanent Commission prospectively to the Short Service Commission officers, for both men and women, of the Executive Branch (Law Cadre), Education Branch and Engineering Branch (Naval Architecture) w.e.f. 2008.

10.13 ***Recruitment through NCC:*** University graduates possessing Naval NCC 'C' certificate with minimum 'B' grading and 50% marks in the Engineering 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.

10.14 ***Special Naval Architecture Entry Scheme:*** The Government has approved the induction of Naval Architect officers into the Engineering Branch of the IN, as Short Service Commissioned Officers, under a special scheme of 'Special Naval Architects Entry Scheme' (SNAES). An empowered Naval team visits IIT Kharagpur, IIT Chennai, Cochin University of Science and Technology (CUSAT) and Andhra University, where B. Tech (Naval Architecture) 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

10.15 ***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 eligible volunteers. Publicity material is also dispatched 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. Recruitment of sailors in the Navy is carried after the process of a written examination, physical fitness test and medical examination.

10.16 ***Types of Entries:*** The various entries, for recruitment of sailors alongwith the educational qualifications, are as follows:

(a) Artificer Apprentices (AAs) – 10+2 (PCM) – 10+2/ equivalent examination with 60% or more marks in aggregate with Maths & Physics and at least one of these subjects viz.Chemistry/ Biology/ Computer Science.

(b) Senior Secondary Recruits (SSR) – 10+2 (PCM)-Qualified in 10+2/equivalent examination with Math & Physics and at least one of these subjects viz. Chemistry/Biology/Computer Science.

(c) Matric Entry Recruits (MER) for recruitment of Chefs, Stewards, Musicians and Sanitary Hygienist - Matriculation.

(d) Direct Entry (Outstanding Sportsmen).

10.17 ***NCC Certificate Holders:*** The naval NCC 'C' certificate holders are called to appear for written examination irrespective of qualifying cut off percentage for AA/SSR entry. The NCC candidates are to be given additional marks for various NCC certificates and participation in Republic Day camp/contingent which are added to the marks obtained in the written examination for preparation of merit list as given **Table No. 10.2.**

Table No. 10.2

Type of NCC Certificate	Additional Marks Awarded		
	For Certificates	For Republic Day Contingent/Camp	Total Additional marks Possible
C	6	4	10
B	4		8
A	2		6

Publicity for Recruitment

10.18 Measures have been taken to make the youth of our country more aware of opportunities in the IN, for officers (including women officers) and sailors. The means of publicity adopted to attract better talent are as follows:

(a) ***Press Advertisements:*** Advertisements are released through the Directorate of Advertising and Visual Publicity (DAVP) in the Employment News/Rozgar Samachar and in newspapers in different languages for various entries.

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

(c) ***Hoardings:*** Hoardings are planned to be erected at DAVP approved sites to attract youth of the country towards joining the Navy.

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

(e) ***Exhibition and Fairs:*** Each year a stall is set up at the Defence Pavilion, at the India International Trade Fair, New Delhi, where information regarding recruitment in all the three Armed Forces is provided to visitors. This is also done in other organised fairs, which are career oriented or meant for students.

(f) ***Distribution of Publicity Material:*** Every year printed publicity material giving information about Navy and various entries for recruitment into the Navy is distributed to about 8000 schools all over the country.

(g) ***Redevelopment of Naval Recruitment Website:*** The redeveloped recruitment website (www.joinindiannavy.gov.in) launched in December, 2016 has facilitated implementation of recruitment management system and applications for all officer and sailors entries through online applications only.

10.19 ***Ab-initio Training for officers:*** The Indian Naval Academy (INA) located at Ezhimala, Kerala is spread over 2452 acres of coastal upland and has world class facilities in terms of infrastructure, for both academic pursuits and outdoor activities; including state-of-the-art laboratories, workshops, swimming pool and play fields. The Academy has modern residential facilities, an excellent Mess and five will laid-out squadrons, each with its own comprehensive facilities. The INA is already training 1200 officers cadets. The infrastructure of INA is being enhanced in Phase II which is likely to be completed by 2020 to cater for 1200 cadets.

Indian Naval Academy (INA), Ezhimala

10.20 The first B. Tech Course commenced at INA on June 22, 2009. This was a significant step in the evolution of the Navy to meet the technical challenges of the 21st Century. The induction of cadets to the Academy is through UPSC examinations as well as directly by IHQ Ministry of Defence (Navy)/ DMPR based on the 10+2 merit of candidates. B. Tech curriculum has been drawn up by the Navy, in conjunction with Jawaharlal Nehru University (JNU) and the All India Council for Technical Education (AICTE). The Academic Curriculum is accredited by AICTE. In addition to the technical training, the Academy provides its cadets with a healthy mix of humanities and Naval History. This is in keeping with the Navy's goal of providing officers with high-end technical expertise without sacrificing the proven advantage of liberal education. The curriculum not only provides adequate academic grounding for award of a B. Tech degree but also caters to the overall transition of an Officer Cadet to a fine Service Officer who is always ready to defend his country.

10.21 ***B. Tech Streams:*** B. Tech training is conducted in Applied Electronics (AEC) for 'X' Officers, Electronics Communication Engineering (ECE) 'L' officers and Mechanical Engineering (ME) for 'E' and 'NA' officers. Accordingly, B. Tech (AEC), B. Tech (ECE) and B. Tech (ME) degrees are awarded by JNU on completion of the B. Tech course. On completion of a common curriculum in the first three semesters, cadets are separated into different streams for the remaining five semesters. In order to facilitate interaction of cadets passing out of NDA, B Tech course for Naval cadets has been commenced at NDA from July, 2016. The Naval cadets at NDA join INA after completing six semesters of B Tech (AEC) at NDA. The last two semesters for B Tech for these cadets will be conducted at INA.

10.22 ***Ab-Initio Training for Sailors:*** INS Chilka is the premier Sailors Training establishment of the Indian Navy. At present the training load at INS Chilka is proximately 6500 trainees annually (in two batches @ over 3000 trainees per batch including 300 ICG trainees) Due to the enhanced induction since 2009, the infrastructure is being progressively enhanced to keep pace with enhanced rate of induction.

Foreign Training

10.23 ***Training of Foreign Naval Personnel:*** The Indian Navy has been providing training to foreign personnel for more than four decades, during which it has trained more than 15000 foreign personnel from over 41 Friendly Foreign Countries. Navy aim to share and deliver the finest training in order to build capacity and everlasting relationships with Friendly Foreign Countries (FFCs).

10.24 ***Deputation of Indian Navy Mobile Training Teams (IN MTT):*** To address the growing training load of international training, one of the important measures being undertaken is the conduct of customised training courses overseas to meet country-specific requirements. The customised training courses are being undertaken by specially constituted Mobile Training Teams (MTT). So far, IN has deputed MTTs to Oman, Myanmar, Kenya, Vietnam, Mauritius, Bangladesh and Nigeria. Requests from certain other FFCs are under consideration. This endeavour will not only reduce the burden on our own training footprint across the world.

Training – National Cadet Corps (NCC)

10.25 IHQ MoD (N) has directed Commands to liaise with NCC authorities and encourage conduct of NCC camps onboard while alongside in harbour or embark NCC cadets for short duration sea sorties on IN ships. In addition to the above, IHQ MoD(N) had also requested Commands to conduct periodic interactions with Regional NCC HQs to deliberate on NCC training related issues. Training for the Naval NCC has been a priority area for the IN, and the conduct of camps is being facilitated on regular basis, which include sailing onboard ships, thereby giving valuable exposure to the cadets on life at Sea. There are Sea attachments and training camps conducted at various Commands of the Indian Navy several times each year. These camps are for duration of 12 days each, with one day of sailing onboard warships. There is a participation of approximately 240-360 NCC cadets in these camps. Further, as a culmination of the professional training of Naval NCC cadets, a 'Nau Sainik' camp is scheduled each year, wherein approximately 590 cadets participate. This camp also includes sailing onboard warships at sea.

INDIAN AIR FORCE (IAF)

Recruitment of Officers

10.26 There are two modes of induction in the Indian Air Force as Commissioned Officers, viz., UPSC entry and Non-UPSC entry.

10.27 UPSC Entry is applicable only for candidates who want to join the Flying Branch of the Air Force as Permanent Commissioned officers. UPSC conducts written exams twice in a year. This encompasses NDA entry for candidates on completion of 10+2 examination and CDSE entry for graduates or those in final year of graduation.

10.28 Non-UPSC Entry caters for both Short Service Commission and Permanent Commission in various branches of the Air Force i.e. Flying, Ground Duty (Technical Branch) and Ground Duty (Non-Technical Branches). This includes Air Force Common Admission Test (AFCAT), a screening test for graduates which is common to all the branches of the IAF except Permanent Commission in Flying Branch and Meteorology Branch. There is no written examination for Meteorology Branch. University graduates possessing NCC 'C' Certificate in Air Wing are eligible for NCC Special Entry and do not have to appear for AFCAT. Service Entry Commission (SEC) is an entry for airmen already serving in the Indian Air Force.

10.29 ***NCC Special Entry for Women:*** For the first time ever, NCC Special Entry has been extended to women Air Wing Cadets with 'C' Certificate. This would enable them to directly go for SSB without any screening test and become a Short Service Commissioned Officer in the flying branch of the IAF.

10.30 ***Introduction of Option for SSC and PC for NCC Special Entry:*** Option for Permanent commission (PC) or Short Service Commission (SSC) has now been extended to NCC Special Entry for Men. Earlier, option

was available only for Permanent Commission for male candidates. In addition, Short Service Commission has been extended to Women candidates. Both the entries are for flying branch only.

10.31 ***Induction Publicity Exhibition Vehicle (IPEV):*** IPEV, launched on October 8, 2015 as a pilot project, has successfully completed four road drives in northern, eastern, central and southern parts of country. During 2016, the drive covered southern part of India travelling 9960 Kms reaching 263 institutes and resulted in one to one interaction with 53,140 students. IPEV recently covered Punjab and Himachal Pradesh from August 23, 2017 to November 12, 2017 with a total distance of 2,984 km visiting 67 institutes and resulting in one to one interaction with 29,468 students.

Recruitment of Airmen

10.32 Recruitment in Indian Air Force in the airmen cadre is done on All India Merit Basis through Scheduled Selection Tests, generally conducted once in a year at the 14 Airmen Selection Centres. These Selection Centres are geographically spread out and provide reasonable access to candidates desirous of joining IAF as airmen. The Selection Test is open to all eligible citizens of the country without any discrimination of caste, creed, religion, region or community. In addition to the Scheduled Selection Tests, Recruitment Rallies are conducted in remote/ low response/ border/ insurgency affected/ naxal affected/ tribal areas or hilly districts and island territories of the country to provide opportunities to youth from these regions to join national mainstream.

10.33 Online Examination System for AFCAT and Scheduled Test for Airmen Recruitment. Selection for officer and airmen cadre in the IAF is being carried out manually till date. While the system is fool proof, constraints of testing capacity limits the opportunity to all eligible candidates. Moreover, candidates are required to travel long distance to participate in the selection test and the subsequent Medical Examination and Enrolment. This entails difficulty not only in terms of wastage of time and energy but also hard earned money of the poor candidates on these expenses.

10.34 To improve the system and make it more candidate-friendly while ensuring organizational efficiency at the same time, in-principle approval was accorded in October, 2016 for implementation of IT enabled online system of testing and evaluation of officers and airmen cadre. IAF has signed an MoU with CDAC, an advanced computing agency under the Government of India, in October, 2017 to undertake the said project.

10.35 The project will be implemented with effect from January, 2018 for AFCAT and Selection Test for Airmen Recruitment (STAR). In the new system, there would be about 760 examination centres spread all over the country and the maximum distance a candidate would be required to travel will be less than 100 kms from the place of his residence to the examination centre.

10.36 The online examination system will increase transparency, accuracy, impartiality along with reduction of time for conduct of the examination. The entire processing of AFCAT and STAR exams from notification to result would be with minimum human intervention and have high security measure with accountability. Besides, this project contributes to the vision of "Digital India".

Training

10.37 ***Air Force Academy (AFA):*** The Air Force Academy undertakes training of pilots and ground duty officers. Since 1971, the Academy has been meeting the expanding training needs of the IAF as also the Indian Army, Navy and Indian Coast Guard. A number of officers and cadets from friendly foreign countries also undergo training at the Academy.

10.38 ***Training Session at AFA-E-Training:*** In line with Government of India Digital India initiative, IAF has taken a lead to bring about a paradigm change in the present training methodology for ab-initio air warriors. Towards this, an e-Training project for 400 ab-initio trainees at Air Force Station Jalahalli, Bengaluru has been successfully incorporated. A similar model at other Training establishments of the IAF is proposed to be replicated.

10.39 ***Induction of NSQF Certified Candidates in Indian Air Force:*** In partnership with NSDC, Indian Air Force is planning to induct National Skill Qualification

Framework (NSQF) certified individuals in regular service as Airmen in identified trades after necessary selection procedures. In the initial phase, Auto Fit and Auto Tech trades have been identified to be undertaken as a pilot project.

10.40 ***Foreign Training:*** IAF undertakes training of trainees from Friendly Foreign Countries (FFCs) under the Indian Technical and Economical Cooperation (ITEC) scheme of Ministry of External Affairs (MEA). For the training year 2017-18 (July 1, 2017 - June 30, 2018), MEA has allotted a total of 754 vacancies to 22 countries in 125 different courses at 39 Training Establishments of the IAF. IAF officers are also nominated to attend courses in various Friendly Foreign Countries (FFCs).

INDIAN COAST GUARD ((ICG)

10.41 ***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 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 through Coast Guard Selection Board (CGSB) in the following streams:

(a) ***General Duty:*** Male/ Female candidates between the age group of 21 - 25 years having Bachelor's Degree of a recognized University with Mathematics and Physics as subject up to Intermediate or 12th standard of 10+2+3 scheme of education or equivalent are eligible to apply for officers as General Duty stream.

(b) ***General Duty (Pilot/ Navigator):*** Male/ Female candidates between the age group of 21-25 years having Bachelor's Degree of a recognized University with Mathematics and Physics as subject up to Intermediate or 12th standard of 10+2+3 scheme of education or equivalent are eligible to apply for officers as General Duty (Pilot/ Navigator) stream.

(c) ***General Duty (Commercial Pilot License Short Service Entry):*** Male/Female candidates between age group of 19-25 years having 12th Class or equivalent passed and in possession current Commercial Pilot License (CPL) issued/validated by Director General Civil Aviation on the date of submission of application are eligible to apply for Officers in CPL Short Service Entry.

(d) ***General Duty (Short Service Appointment Scheme) for Women:*** Women candidates between the age group of 21 - 25 years having Bachelor's Degree of a recognized University with Mathematics and Physics as subject up to Intermediate or 12th standard of 10+2+3 scheme of education or equivalent are eligible to apply for officers as General Duty stream.

(e) ***Technical Branch:*** Male candidates between age group of 21-25 years with degree in Engineering (Naval architecture/ Mechanical/ Marine/Automotive/ Mechatronics/Industrial & Production/ Metallurgy / Design / Aeronautical / Aerospace/ Electrical / Electronics / Telecommunication /Instrumentation Instrumentation and control/ Electronic & Communication/ Power Engineering/ Power Electronics) or equivalent qualification are eligible to apply for officers in Technical stream.

(f) ***Law Branch:*** Male/Female candidates between the age group of 21-30 years having Degree in Law are eligible to apply for Officer in Law stream. However, the age relaxable up to five years in case of personnel serving in the Coast Guard Organisation or equivalent rank in Army or Navy or Air Force and for the candidates belonging to the Scheduled Castes or Scheduled Tribes, three years for the Other Backward Classes.

10.42 ***Induction of Sub-ordinate Officers as officer:*** Suitable serving Subordinate Officers of the Coast Guard of the rank of Pradhan Adhikari or Uttam Adhikari with one year experience and Adhikari with two years experience are eligible for induction as Officers, subject to qualifying the Departmental Examination as prescribed by the Director General Coast Guard.

10.43 ***Recruitment of Personnel Below Officers Rank (PBORs):*** The PBORs are recruited into Coast Guard bi-annually. The vacancies for PBORs in Coast Guard are advertised in Employment News and leading Newspapers in the month of December/January and June/July. The PBORs are recruited in the following main streams:

(a) ***Yantrik:*** Male candidate 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 12th class 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).

(d) ***Enrolled Followers:*** Male candidates having passed Matric or Industrial Training Institute or equivalent between age group of 18-25 years are eligible to apply as Enrolled Followers.

(e) In accordance with Government of India directives, the interviews for all Group 'B' and 'C' posts has been discontinued and only skill test is being conducted for suitability for these posts.

OTHER ORGANISATIONS

Sainik Schools

10.44 The Sainik Schools are established as a joint venture of the Central and State Governments and are under the overall governance of Sainik Schools Society, Ministry of Defence. At present, there are 26 Sainik Schools located in various parts of the country. There is a growing demand from many States to open new Sainik Schools. The states of Andhra Pradesh, Haryana, Bihar and Karnataka have two Sainik Schools each. The Memorandum of Agreement has been signed with respective State Govt. to set up three new Sainik Schools in Uttar Pradesh at Mainpuri, Amethi and Jhansi, two in Rajasthan at Jhunjhunu and Alwar, one each in Uttarakhand (Rudraprayag), Maharashtra (Chandrapur), Odisha (Sambalpur) and Telangana (Warangal). MoA for opening of a new Sainik School in Arunachal Pradesh (Pasighat) is being processed. Efforts are also being made to commence Sainik School Jhunjhunu w.e.f. April 1, 2018.

10.45 The objectives of Sainik Schools include bringing quality Public School education within the reach of common man, all round development of a child's personality in order to prepare him for entry into National Defence Academy and to remove regional imbalance in the officer's cadre of the Armed Forces. Approximately one fourth of cadets in each batch of National Defence Academy are from Sainik Schools. For the 138 NDA/INA Course which commenced in July 2017 with course strength of 348, a total of 115 Cadets are from Sainik Schools, which is about 33% of NDA course strength.

10.46 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 as per the order of merit on the basis of an All India Sainik School Entrance Examination held in January each year. Admission of girls in SS Mizoram commences on pilot basis from 2018-19. OMR based entrance exam has been introduced w.e.f. academic session 2018-19.

10.47 The Sainik Schools Society has taken a number of measures to achieve academic excellence which has also resulted in achieving record higher Board and NDA results. Towards this end every school is conducting specialised Training/Workshops for the cadets as well as for the staff to improve their performance.

Rashtriya Military Schools (RMS)

10.48 Rashtriya Military Schools are premier and reputed residential public schools of the country run by the Ministry of Defence, Government of India under the aegis of Directorate General of Military Training. These Schools are located at Chail in Himachal Pradesh, Ajmer and Dholpur in Rajasthan, Belgaum and Bangalore in Karnataka. Youngest Rashtriya Military School is at Dholpur established on July 16, 1962. These schools are affiliated to CBSE and the aim of schools is "to impart quality education and prepare the cadets to join Defence Services through NDA"

10.49 Rashtriya Military Schools admit boys through a Common Entrance Test (CET) and interview. The CET written examination for Class VI & IX will be fully automated through Optical Mark Reader (OMR) based. The candidates are tested in four subjects i.e. English, Intelligence Test, Mathematics and General Knowledge. 70% of the seats in RMS are reserved for the wards of Junior Commissioned Officers/ other ranks, 30% seats are reserved for wards of Commissioned Officers and the remaining 13% for the

wards of civilian category. 15% and 7% of the seat in each category are reserved for SC and ST boys respectively 50 seats (not more than 15 in either of the school) are separately earmarked for the wards of person who 'Killed in Action' (KIA) category during war or peace.

National Defence Academy (NDA)

10.50 NDA is a premier Tri-Service institution which trains cadets of all three Services before inducting them into their respective pre commissioning training academies. Keeping in mind the shortage of officers in the Indian Armed Forces and the consequent urgency for making up the deficiency, the intake capacity of NDA was recently enhanced from 1800 cadets to 1920 cadets with the sanction for raising an additional Squadron at NDA i.e. 16th Squadron The construction work for building of 16th Squadron commenced in 2015 and is expected to be completed by March, 2018. Also in order to equip military leaders of tomorrow to cope with the future technology induction, NDA has commenced B Tech curriculum to Naval and Air Force cadets. NDA cadets have displayed their acumen in various competition in sports, cultural and academic fronts.

Military Institute of Technology (MILIT)

10.51 MILIT is a Tri-Services Training establishment which conducts courses for Indian and International Military Officers and DRDO Scientists. The flagship courses conducted at MILIT are Technical Staff Officer Course (TSOC) (Army), TSOC (Air Force), TSOC (Navy) and Naval Technical Staff Course (NTSC) alongwith 18 other courses of varying durations which primarily deal to military technology. The institute is co-located with Defence Institute of Advanced Technology at Girinagar Complex, Pune. It also provides Adm& Faculty support to DIAT in M-Tech courses/other courses at DIAT. The institute also conducts capsule on Military Technology at other institute like Sri Lankan, DSCSC. MILIT trains approximately 700 Officers every year in various disciplines. The institute has affiliation with Savitri Phule, Pune University for award of M.Sc degrees to Officers undergoing TSOC and NTSC. The institute has several labs and facilities for imparting technical education including functional arms, Armoured fighting vehicles, aircraft statue models.

Rashtriya Indian Military College (RIMC)

10.52 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 (NAVAC). 25 cadets are admitted in each term twice a year (January and July) on the basis of All India Entrance Examination. 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

10.53 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.

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

Officers Training Academy (OTA), Chennai

10.55 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.

10.56 With the entry of women officers in the Army since September 21, 1992, around 80-85 lady officers now get commissioned from OTA, Chennai every year in Army Service Corps, Army Education Corps, Judge Advocate

General's Department, Corps of Engineers, Signals, Electrical and Mechanical Engineers and Army Education Corps.

10.57 OTA imparts pre-commission training for the following:

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

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

(c) Judge Advocate General (JAG) Course.

Officers Training Academy (OTA), Gaya

10.58 The Cabinet Committee on Security (CCS), on December 3, 2009 has approved setting up of second Officers Training Academy (OTA) at Gaya, Bihar in December, 2009. Training at this academy commenced in July 2011. At present 322 cadets are undergoing training at OTA, Gaya. The capacity will be progressively built up to a strength of 750 Gentlemen cadets. At present Academy is imparting training to 10+2 Technical Entry Scheme (TES) and Special Commissioned Officers (SCO) Courses.

Army War College (AWR), Mhow

10.59 The Army War College, Mhow is the premier Indian Army institution for all arms training at tactical and operational levels in an inter services environment and is the Alma Mater to all officers of the Indian Army. The college imparts professional military knowledge in the art of warfare, with special emphasis on jointmanship and revolution in military affairs, in an environment conducive to learning. The Army War College, also imparts leadership training for all officers of the Indian Army and performs the important function of encouraging research and evolution of new concepts and doctrines in the fields of tactics and logistics. Officers from friendly foreign countries undergoing various courses alongside Indian Army officers at the Army War College are oriented with the global and regional strategic perspective of India and the nuances of higher defence management.

Junior Leaders Wing (JLW), Belgaum

10.60 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 mission 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 Organisation and friendly foreign countries in commando type of operations and makes them capable of either forming part of special mission groups or leading independent mission in all types of terrain and operational environment.

Junior Leaders Academy (JLA), Bareilly

10.61 JLA, Bareilly, an all arms institute, imparting leadership and management training to the Junior Leaders (JCOs and Senior NCOs) of the Indian Army, Para Military Forces and Friendly Foreign Countries with a view to facilitate in actualising their potential for present as well as future roles and conflicts. The institution is imparting training to 8208 students every year.

High Altitude Warfare School (HAWS), Gulmarg

10.62 The aim of the school is to train selected personnel in all aspects of high altitude mountain warfare (MW) and develop techniques for fighting in such terrains. HAWS conducts two series of courses viz, 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 to the highest peaks in the world including Mount Everest, Mount Kanchenjunga and Mount McKinley in the USA.

Counter Insurgency & Jungle Warfare School (CIJW), Veirangte

10.63 The CIJW conducts low intensity conflict operation (LICO) course to train officers, JCOs/ NCOs of Indian Army, Indian Navy, Indian Air Force, Central Armed Police Force, Central Police Organisations and from friendly foreign countries, for operating successfully in a dynamic Counter Insurgency/ Counter Terrorism (CI/ CT) environment. It also imparts pre induction training for units prior to their induction to insurgency areas in the North East. It is the nodal agency for evaluation of new concepts and doctrines in the field of CI/ CT operations.

Counter Insurgency pre Induction Training Battle Schools

10.64 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. Therefore, Corps Battle schools from within the resources of the Army have been established at Kheru, Sarol and Bhalra for units moving into Northern Command. Besides training for counter insurgency, these schools especially in Northern Commands, are training units for their role along the Line of Control (LOC) and in high altitude areas.

Infantry School, Mhow

10.65 The Infantry School is the largest and oldest military training institution of the Indian Army and conducts Young Officers, Platoon Weapon, Mortar, Anti Tank & Guided Missile, Medium Machine Gun & Automatic Grenade Launcher, Section Commanders, Automatic Data Processing, Sniper and Battalion Support Weapon Courses. In addition, it is also conducting Infantry Clerks Training at Infantry Clerk Training Wing. The institution is not only training officers, JCOs and OR of Infantry but also of other arms and services including personnel from friendly foreign countries, para military forces and civil armed police forces.

College of Materials Management

10.66 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 Vidyalaya) im 1987. The CMM attained as autonomous status in 1990. The College is also registered as a 'Government College' with the University Grant Commission. It also has the approval of All India Council of Technical Education (AICTE).

10.67 The College being the premier Category 'A' Establishment of the Indian Army makes an exceptional contribution in imparting effective and dynamic training to all combatants and civilian of Army Ordnance Corps, selected personnel of all arms, services and Para Military Forces enabling them to discharge logistics and supply chain functions, at different level across the entire spectrum of conflict, both in peace and war. The College continues to empower young leaders and soldiers with information Technology solutions to manage the inventory as the Corps competency lies in evolving processes to ensure availability of inventory' just in time' of requirement. The College also imparts special logistics training to batches of the Afghan National Army and all arms Administrative and Logistics Management Course (ALMC). With a focused approach considerable improvement has been made in the training facilities, encouraging brain storming, generation of innovative ideas and assimilation of best management techniques. Amongst various initiatives taken by College, the award of degree of MBA by Rani Durgawati University has been changed from Materials Management to Supply Chain Management with a view to ensure and promote greater acceptance and utility of the educational qualification acquired by the officers of Indian Army. 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 has also accord ISO 9001 : 2015 certificate of registration with effect from October 14, 2017.

10. 68 The College has been awarded "General Officer Commanding-In-Chief, Army Training Command Unit Citation" on Republic Day 2017. This is the first time that the College has been recognised for its meritorious in all spheres of Training as well as Administration.

School of Artillery, Deolali

10.69 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 India and Foreign, is also carried out.

10.70 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

10.71 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 Friendly Foreign Countries in Air Defence related subjects.

10.72 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 Fire Control Course, Aircraft Recognition Course, Unit Instructor and Crew Based Training and Automated Data Processing Course.

Army Education Corps (AEC) Training College and Centre, Panchmarhi

10.73 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 degree.

10.74 The Department of Map Craft runs a ten week long Map Reading Instructors Course for AEC Officer and JCOs/ OR of all Arms and Services of Indian Army, Para Military Forces personnel and personnel from Friendly Foreign Countries.

10.75 The 12 week long Unit Education Instructor (UEI) Course train ORs from all Army and Services of the Indian Army to be effective instructor in their units.

10.76 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 to digitized language labs, each with a capacity of 20 students.

Military Music Wing, Panchmarhi

10.77 The Military Music Wing (MMW) raised in October, 1950 under the patronage of the then C-in-C General (later Field Marshal) K.M. Carriappa, OBE as a part of the AEC Training College & Centre, Panchmarhi 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

10.78 The remount Veterinary Corps (RVC) Centre and College, located in Meerut Cantt aims at training Officers, JCOs and OR of all Arms and Services, PMF, CAPF, IN and FFC on animal management and veterinary aspects. Eleven courses for Officers and seven for JCOs and ORs are conducted. The total strength of students trained is 250.

Army Sports Institute (ASI), Pune

10.79 With a view to produce 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.

10.80 About 213 elite sportsmen of the Army are being trained in seven disciplines namely Athletics, Archery, Boxing, Diving, Fencing, Weightlifting and Wrestling. In addition, around 161 talented young boys in the age group of 11 to 15 years are also being trained in the Boys Sports Company in conjunction with Sports Authority of India (SAI). The sportsmen are trained by experienced Indian and Foreign coaches and given competition exposure both in India and abroad. The Sports Medicine Science Centre (SMC) in the institute is one of its kind in the country. A large number of athletes and sportsmen of node are participating in National Camp and at the same time National Camp are also being planned to be held in the Node.

Army Institute of Physical Training (AIPT), Pune

10.81 Army School of Physical Training (ASPT) was renamed Army Institute of Physical Training (AIPT) in 2005. It is a premier institution of imparting systematic and comprehensive instruction to personnel of the Army regarding the conduct of physical training in units and sub-units. It also imparts basic training in Sports and Games with a view to improving the standards 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. It is conducting training Courses for JCOs and OR in six allied subjects in Boxing, Volleyball, Basketball, Swimming and Life Saving, Karate and Yoga Courses.

Combat Army Aviator Training School (CAATS), Nasik Road

10.82 Combat Army Aviator School (CAATS) raised at Nashik Road in May, 2003 aims to train aviators in aviation skills and handling of aviation units in various operations of war, train aviation instructor to develop Standard Operating Procedure (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 Commander Course and New Equipment Course.

Military College of Electronics and Mechanical Engineering (MCEME), Secunder-abad

10.83 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, repair and inspection and to provide training and 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 JCOs/ORs

10.84 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 which is being taught at MCEME.

Corps of Military Police Centre and School, Bangalore

10.85 The role of School is to train officers and JCOs/ ORs on Military Police duties in Law Enforcements, Investigation, vigilance and Traffic Management. Four courses for Officers and Nineteen Courses for JCOs/ ORs of CMP Corps and three tailor made courses on Military Policing cadre for Afghan National Army & Sri Lanka Army are being conducted. The total strength of students being trained in a calendar year is 941.

Army Airborne Training School (AATS), Agra

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

Military College of Telecommunication Engineering (MCTE), Mhow

10.87 MCTE, Mhow trains Signal Officers in Combat 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 logistics 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 so as 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

10.88 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 1390 junior Commissioned Officers/Non Commissioned Officers of all the arms at a time. The school trains approximately over 350 Officers and 1100 JCOs every year.

Electrical and Mechanical Engineering School (EME), Vadodara

10.89 The EME School conducts post graduate level courses for officers and diploma certificate level courses for JCOs/ORs. A number of foreign officers and JCOs/ ORs from Friendly Foreign Countries have been attending various courses conducted at EME School.

Institute of Military Law, Kamptee

10.90 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 the 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 (ACC&S), Ahmednagar

10.91 In 1948, the Training Wings, the Recruits Training Centre and Armoured Corps Depot and Records were shifted to Ahmednagar where the Fighting Vehicles Schools were 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 Welfare, School of Technical Training Basic Training Regiment, Driving and Maintenance Regiment, Automotive Regiment and Armament and Electronics Regiment for specified training in these disciplines.

Foreign Training

10.92 ***Training for Friendly Foreign Countries in India:*** With significant increase in scope and reach of India's foreign training cooperation, there has been a distinct rise in requests from countries across the world to engage with the Indian Army, reflecting upon the Indian Army's professionalism and training standards. Demands for subscription to courses from the Friendly Foreign Countries have been continuously increasing. In training year, 2017-18 a total of 2650 vacancies in 238 different courses have been offered to 56 Friendly Foreign Countries. There has been an increase of offer of more than 300 vacancies in the last five years.

10.93 ***Tailor-Made/ Group Training:*** Tailor-made courses/ Group Training for capability building and professional enhancement in selected fields are being conducted to address training needs/ aspirations of Friendly Foreign Countries in the neighbourhood and for countries which are of strategic importance to India. In current training year, 54 such courses to train 1464 trainees have been planned from Afghanistan, Sri Lanka, Tajikistan, Turkmenistan, Nigeria, Myanmar and Bangladesh.

10.94 ***Training of Indian Army Abroad:*** Subscriptions of courses abroad is also an important facet of our foreign training endeavours with a aim to enhance military learning, technical advancement and defence cooperation through training interaction with Friendly Foreign Countries. The number of personnel undergoing courses abroad has increased from 58 in 2013-14 to 90 in the present financial year. It is aimed to subscribe more number of courses in niche domains in future.

10.95 ***Training Visits/ Exchanges by Personnel from Friendly Foreign Countries:*** Visit of delegations to/ from Indian Army training establishments and exchange programmes with many Friendly Foreign Countries have been conducted as part of our defence engagement policy. A total of 36 inbound visits of 229 personnel from 14 Friendly Foreign Countries and 26 outbound visits of 200 personnel to 16 friendly foreign countries have been progressed / planned in this year.

Army Marksmanship Unit (AMU), Mhow

10.96 Shooting has been the forte of the Army. Currently, around 85 ace shooters of the Army are under training in AMU. Two Olympic Silver medals have been won by Shooters during Athens Olympics 2004 and London Olympics 2012. In addition, one Gold and one Bronze medal have been won by Sub Jitu Rai in ISSF World Cup 2017.

Army Rowing Node (ARN), Pune

10.97 ARN has a world class rowing channel of 2.2 km length, only channel of its kind in the world. Currently around 80 top oarsmen of the Army are being trained in the node. Army rowers have done the country proud in various international competitions including Asian Games and Olympics.

Army Yachting Node (AYN), Mumbai

10.98 Army sailors trained at AYN have dominated the national circuit and won scores of medals at international level to include Asian Games and have also participated in Olympics. Currently about 60 sailors of the Army are training in various classes of boats at AYN, Mumbai.

Army Equestrian Node (AEN), Meerut

10.99 AEN has world class training infrastructure for show-jumping, dressage and Eventing. The Army Equestrian Team has done the country proud by winning international medals at continental level (Asian Games).

RESETTLEMENT AND WELFARE OF EX-SERVICEMEN

Resettlement and Welfare of Ex-Servicemen

11.1 The Department of Ex-servicemen Welfare (DESW) 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, Kendriya Sainik Board Secretariat (KSB Secretariat), Directorate General (Resettlement) (DGR) and Central Organisation, Ex-servicemen Contributory Health Scheme, (CO, ECHS). KSB Sectt. is responsible for the welfare of Ex-servicemen and their dependents and also for the administration of welfare funds. KSB Sectt. is assisted in its task by 32 Rajya Sainik Boards (RSBs) and 392 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 for pre and post retirement training, re-employment and self-employment etc. of ESM. The DGR is assisted in its task by 5 Directorates of Resettlement Zones (DRZs) at each of the 5 Commands. CO, ECHS is responsible for healthcare and medical needs of Ex-servicemen and their dependents.

Welfare

11.2 KSB Secretariat is the apex body of the Government of India responsible for implementing Central Government policies for rehabilitation and welfare of war-widows/ disabled soldiers, Ex-servicemen and their dependents. The welfare schemes are implemented through RSBs located in State capitals and ZSBs located at District level. The establishment expenses of RSBs/ZSBs are shared by the Central and State Governments/UT Administrations. Funding pattern is 75:25 in respect of special category States, namely, Arunachal Pradesh, Assam, Jammu and Kashmir, Meghalaya, Mizoram, Manipur, Nagaland, Sikkim, Tripura, Himachal Pradesh and Uttarakhand, and 60:40 in the case of other States/UTs. The Central share provided to the States/UTs towards establishment/maintenance

of RSBs/ZSBs is reimbursed from the Defence Services Estimate (DSE) budget allocated to KSB Secretariat for this purpose. A sum of ₹ 27.41 crore has been disbursed as Central share up to December 31, 2017.

11.3 In order to provide suitable and affordable accommodation to Ex-servicemen during their short visits to the State Capital/District HQs for settlement of their pension cases and other matters like availing facilities of CSD Canteen, hospitals etc. KSB Secretariat shares 50% cost of construction of Sainik Rest Houses (SRHs) out of DSE. The SRHs are required to be maintained by State Governments/UT Administrations from their own resources/ funds. The Central Sainik Rest House (CSRH) Naraina at Delhi has been inaugurated by the then Raksha Mantri on July 23, 2017. The CSRH would help in resolving boarding/ lodging problems of ESM and their widows visiting Delhi.

Armed Force Flag Day

11.4 Armed Forces Flag Day is commemorated on 7th December every year across the country to commemorate the sacrifices made by the armed forces personnel for the country. On this day, token flags are pinned and voluntary contributions collected from public for welfare/ rehabilitation of war-widows/disabled ESM and their dependents. Armed Forces Flag Day was celebrated on December 7, 2017. During the period from December 1 to December 7, 2017 various activities e.g. telecast of T.V. spots, messages from Celebrities/ icons, use of print/ social media for creating awareness about the significance of the Flag Day were undertaken.

Officials of KSB Secretariat pinning token flag and collecting donation from President of India on December 7, 2017

Officials of KSB Secretariat pinning token flag and collecting donation from Prime Minister on December 7, 2017

Armed Force Flag Day Fund

11.5 Apart from the DSE Budget, Armed Forces Flag Day Fund (AFFDF) is the major source of funding for welfare and rehabilitation of war widows, ESM and their dependents. Out of the interest earned on the AFFDF Corpus, 7.5% is ploughed back into the corpus and balance is used to fund the welfare and rehabilitation schemes for ESM/dependents. A sum of ₹ 24 crore approximately has been collected upto December 29, 2017. The corpus of AFFDF is ₹ 290.70 crore as on December 31, 2017. The Fund is administered by KSB Secretariat under the aegis of its Management Committee headed by Raksha Mantri and Executive Committee headed by Secretary, DESW.

Raksha Mantri Ex-servicemen Welfare Fund (RMEWF) Schemes

11.6 Earlier this fund was known as Raksha Mantri's Discretionary Fund (RMDF) which has now been re-named as Raksha Mantri Ex-servicemen Welfare Fund (RMEWF). Financial assistance under this fund is provided for identified personal needs e.g. Penury Grant, Children Education and Marriage Grants, Medical Grant etc. of Ex-servicemen/ their dependents. During the financial year 2017-18 (Till December 31, 2017) financial assistance of ₹ 46.02 crore have been released in favour of the Ex-servicemen/ their dependents under RMEWF.

Army Battle Casualties Welfare Fund

11.7 A new Fund namely, 'Army Battle Casualties Welfare Fund (ABCWF)' has been set up in Ministry of

Defence, D/o Ex-servicemen Welfare following a large number of requests to Raksha Mantri from members of general public who offered to provide monetary assistance to the families of battle casualties especially after Siachen incident in February, 2016 in which 10 soldiers were buried in an avalanche. The fund has been created under The Charitable Endowments Act, 1890. Deputy Secretary has been appointed the Custodian/ Treasurer of the Fund by Raksha Mantri. The management and administration of the Fund will be overseen by a Managing Committee headed by Raksha Mantri.

11.8 Financial assistance of ₹ 2.00 lakh is provided to the army battle casualties which are fatal, 60% and above disability and battle causalities invalided out due to disability and ₹ 1.00 lakh to disability less than 60%. This will be in addition to financial assistance from Army Groups Insurance, ex-gratia and assistance from Army Welfare Fund. Financial assistance of ₹ 3.24 crore has been released to the first batch of 162 battle casualties out of the Fund.

PM's Scholarship Scheme

11.9 To support higher technical/professional education of dependent wards/widows of ex-servicemen and Ex Indian Coast Guard personnel, the scheme was introduced in 2006. 5500 scholarships are awarded annually under this scheme to the wards and widows of Ex-servicemen. The number of scholarships has been increased from 4000 to 5500 to be distributed equally between boys and girls with effect from Academic Year 2015-16. The scheme is funded out of National Defence Fund administered by Prime Minister's Office. The amount of scholarships is ₹ 2,000/- for boys and ₹ 2,250/- for girls per month and paid annually. An amount of ₹ 37.93 crore has been disbursed to 14680 beneficiaries upto December 31, 2017.

Other Welfare Schemes of AFFDF

11.10 ***Financial Assistance for Serious Diseases:*** Financial assistance up to 90% and 75% of total expenditure subject to maximum ₹ 1.25 Lakh (for heart ailments, joint replacement etc.) and ₹ 0.75 Lakh per year (for treatment of cancer and dialysis) is provided to non-pensioner PBORs and officers including their dependents, respectively. This scheme is also applicable for the Indian ESM residing in Nepal till ECHS becomes operational in the country.

11.11 ***Financial Assistance for Purchase of Modified Scooter:*** Financial assistance of ₹ 57,500/- is provided for procurement of modified scooter for ESM with 50% or more disability who became disabled after retirement from service. ₹ 6,24,441/- has been disbursed upto December 31, 2017 under this scheme.

11.12 ***Grant to War Memorial Hostels (WMHs):*** War Memorial Hostels are being run by the respective Regimental Centre of the Indian Army for welfare of the wards of Ex-servicemen/ War Widows. Under this scheme a grant of ₹ 1350/- per month per child is provided to the wards of war widows/war disabled. ₹ 24.99 lakh has been disbursed upto December 31, 2017 under the scheme.

11.13 ***Grants to Paraplegic Rehabilitation Centres (PRCs):*** In addition to ₹ 30,000/- per annum inmate, annual grant of ₹ 20 lakh and ₹ 10 lakh is provided to PRC Kirkee and PRC Mohali respectively for upkeep / maintenance. In addition to regular annual grant PRC Kirkee has been provided an additional grant of ₹ 1 crore w.e.f. April 1, 2016. These centres are being run as autonomous organizations for rehabilitation of paraplegic/ tetraplegic ESM.

Reservation of Seats in Medical/Dental Colleges

11.14 KSB Secretariat is allotted MBBS & BDS seats by the Ministry of Health and Family Welfare as the Government of India Nominee for wards of ESM. A total 20 seats were allotted and disbursed for the Academic Year 2017-18.

11.15 ***Annual meeting of Directors, DSW/ Secretaries of RSBs of States/UTs:*** Annual meeting of Directors, DSW/Secretaries of RSBs of States/UTs was held on April 6, 2017. Secretary, ESW, chaired the meeting. Main focus of the meeting was to give impetus to welfare, rehabilitation and resettlement of ESM and their dependents and other issues pertaining to welfare of ESM were also discussed.

11.16 ***Zonal Meetings:*** The following zonal meetings were conducted during the current financial year:

(a) 3rd South Zonal Meeting of Directors, DSW comprising States/UTs of Andhra Pradesh, Telangana, Karnataka, Kerala, Tamil Nadu, Andaman & Nicobar and Puducherry was held on May 31, 2017 at Hyderabad under the chairpersonship of Secretary, ESW.

(b) 3rd North Zonal Meeting of Directors, DSW was held on July 19, 2017 at Dehradun (Uttrakhand) under the chairpersonship of Secretary, ESW. The North Zone comprises States/UTs of UP, HP, J&K, Chandigarh, Delhi, Haryana, Punjab and UK.

(c) 3rd Central Zonal Meeting of Directors, DSW was held on December 13, 2017 at Bhopal (MP) under the chairpersonship of Secretary, ESW. The Central Zone comprises States/UTs of MP, Bihar, Chhattisgarh, Jharkhand, Odisha and West Bengal.

11.17 ***Swachhta Pakhwada:*** Swachhta Pakhwada was observed during the period December 1, 2017 to December 15, 2017. All staff members took the pledge of Swachh Bharat Abhiyan on December 1, 2017. During the period, apart from SAP, a workshop was also organized to share suggestions/innovative ideas and to review our Swachhta activities and a slogan writing competition was organized to involve all staff and officers in the programme. Two subject matter specialists from Ministry of Drinking Water & Sanitation participated. They emphasized the need of bringing about behavioural changes in the citizens, through motivation, incentives, behavioural change campaigns by involving the citizens.

Resettlement

11.18 The main thrust of the Directorate General Resettlement (DGR) is on resettlement, rehabilitation and welfare of ESM. 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 need a second career to support their families. These personnel constitute a valuable, disciplined, well-trained, dedicated and talented pool available for nation building. Resettlement is sought to be achieved through the following:

- Upgrading their skills by imparting necessary training to prepare them to take up new assignment/jobs and assisting ESM in finding re-employment.
- Constant endeavor to provide employment opportunities in government/quasi government/ public sector organizations.
- Pro-active action to facilitate re-employment of ESM in the Corporate Sector.
- Providing jobs through schemes for self employment.
- Assistance in entrepreneurial ventures.

Training Programmes

11.19 DGR has been entrusted with the responsibility of enabling a smooth transition of the retiring armed forces personnel to second career. This is done by equipping the retirees with the skills required to excel in the corporate world through resettlement courses. Ministry of Defence signed a Memorandum of Understanding (MoU) with Ministry of Skill Development & Entrepreneurship (MSDE) in July, 2015, to ensure that all skill training courses by DGR are aligned to the Nation Skill Qualification Framework (NSQF). From August, 2016 DGR is conducting Resettlement Courses only in the Institutes of Central Government/State Government, Institutes run by Regulatory/Institutes aligned with Regulatory Body only and all courses conducted by DGR are minimum NSQF Level-5 (except when a change of field is involved for the individual, where it would be level 4). MSDE has also brought out “Common Norms” related to skill training with

respect to standards and costs. An MoU was also signed by Ministry of Defence with Skill Development Network Trust (SDNT) of the Wadhwani Foundation to assist Ministry of Defence in achieving the transition and targets in skill training for Defence personnel. These initiatives have helped in raising the standard of resettlement training courses by DGR, apart from ensuring standardization of costs.

11.20 ***Officers' Training:*** All Officers' Training courses envisaged from 2016-17 were revised and only those courses that are conducted by government/autonomous institutes of Government were continued. Officers' courses would be short duration certificate courses (3-6 Months) in management, part from select skill training courses. The fee for officers' courses is shared by government and the individual officers in the ratio of 60:40.

11.21 ***JCOs/ORs & Equivalent Training:*** DGR conducts diploma/certificate courses for JCOs/ORs and equivalent for a maximum duration of upto one year. These courses are run at accredited institutes and 100% of the course fee is paid by the Government. Till March 2016, training courses for JCOs/ORs/Equivalent were being conducted both at Regimental Centers (4 weeks duration during the retirement or pension drill of an individual) and at training Institutes pan India. From April, 2016 onwards, training courses at Regimental Centers conducted by DGR have been stopped and process reviewed. Army is bringing in the transition to conduct Recognition of Prior Learning (RPL) Courses at various Regimental Centers, conforming to the NSDC protocol. DGR is confining its role to conduct of training courses at Training Institutes pan India. From August, 2016 onwards, only those courses conducted by government institutes or certified by government bodies/universities or certified by NSDC with minimum NSQF level 4, are being conducted. With the enhanced standards and standardization of skill training for JCO/ORs, better job/resettlement prospects are expected to ensue. The implementation of job oriented courses by DGR will open more avenues for placement of JCO/ORs, and equivalent.

11.22 The details of training imparted from January, 2017 to December, 2017 are as under:

(a)	Officers at Institutes	:	476
(b)	JCO/ORs at Institutes	:	5,192
(c)	Total for calendar year 2017	:	5,668

Employment Opportunities

11.23 Employment Opportunities in Central Government for ESM: Central Government has provided reservations in Government jobs for ESM towards their resettlement in civil life to the following extent:

(a) 10% of vacancies in the posts up to the level of the Assistant Commandant in all Para-Military Forces.

(b) 10% of the vacancies in Group 'C' Direct Recruitment posts; and 20% of the vacancies in Group 'D' Direct Recruitment posts in Central Government Departments.

(c) 14.5% vacancies in Group 'C' Posts and 24.5% vacancies in Group 'D' posts (including 4.5% for disabled ESM/ dependents of servicemen killed in action) are reserved in Central Public Sector Undertakings.

(d) 14.5% vacancies in Group 'C' Posts and 24.5% vacancies in Group 'D' posts (including 4.5% for disabled ESM/ dependents of servicemen killed in action) are reserved in Public Sector Banks.

(e) 100% in Defence Security Corps DGR is the nodal agency for compiling the data and monitoring the implementation of these reservations.

11.24 ***Registration for Employment:*** DGR is primarily responsible for assisting Defence Officers, to settle down by providing adequate employment opportunities after their retirement. Ex-servicemen are registered in DGR, (subject to fulfilling conditions) for further empanelment to various schemes of DGR like General Employment (Jobs in Government/PSU/Corporate), Security Agency Scheme, CNG Scheme, COCO Scheme, Petrol Pump Management and Coal Transportation Company etc. Statistics of personnel sponsored for permanent/contractual jobs through DGR and RSB except self employment schemes is as under:

(a) Through DGR : 9604 (as on December 31, 2017)

(b) Through RSB/ZSB : 14622 (as on June 30, 2017)

11.25 ***Security Agency Scheme:*** The aim of the scheme is to facilitate some kind of earning by the ESM through ESM (Officer) till he gets a job and also to keep ESM occupied and contribute positively towards society. Many Government Offices, Central PSUs, Banks, Corporates and Educational Institutes etc. are seeking security cover from DGR empanelled security agencies. The number of ESM employed during 2017 under the scheme till date are 33394 and a total of 458 Security Agencies have been empanelled.

Schemes for Self Employment

11.26 ***Employment Opportunities through DGR:*** DGR runs schemes for officers and JCOs/ORs and their equivalent and widows for their employment and welfare as Second career. The major schemes and employment generated are given below:

(a) ***Coal Transportation Schemes and Tipper Attachment:*** The scheme is administered based on an MoU signed between Coal India Limited and DGR. Under the scheme, the ESM (Officer) forms an ESM company consisting of three ESM (Officer) and registered under Companies Act, 1956 (now Companies Act, 2013). The Company engages in transportation and loading of coal. The service is provided to all the subsidiaries of Coal India Limited (CIL). In the year 2017, 21 Officers, 127 JCOs/ORs and 67 Widows/Disabled ESM/ dependents have been benefited from this scheme.

(b) ***Mother Dairy Milk Booth and Fruit and Vegetable (SAFAL) Shop:*** Mother Dairy India Pvt. Ltd. Provides ready built and fully equipped milk shops/booths to ESM (JCOs and ORs) while its Fruit and Vegetable shops (SAFAL) are open for ESM and their dependent sons in the NCR. In the year 2017, 320 ESM have been benefited from Mother Dairy and SAFAL Scheme.

(c) ***Gopaljee Food & Dairy Ltd:*** This is a time tested well paying self-employment scheme for ESM JCOs/ORs and their equivalent.

(d) ***Gopaljee Farm Fresh Ltd :*** This is a time tested well paying self-employment scheme for ESM JCOs/ORs and their equivalent.

(e) ***Management of CNG Station by ESM (Officer) in NCR:*** Based on requirements projected by IGL, DGR has been sponsoring names of Retired Officers of Army, Navy and Air Force upto the rank of Brig/Equivalent to IGL to manage these CNG Pumps in NCR. The selection process out of this panel is the sole prerogative of IGL. The scope of scheme has been extended to cover entire NCR to include Faridabad and Gurugram. 35 ESM (Officers) have been benefited from this scheme up to December 31, 2017.

(f) ***Allotment of Army Surplus Class V 'B' Vehicles:*** Ex servicemen and widows of Defence personnel, who died while in service, are eligible to apply for allotment of Army surplus class V 'B' vehicles. A total of 33 ESM were registered with DGR during the year 2017.

(g) ***Issue of DGR Eligibility Certificate for allotment of LPG/Retail Outlet (Petrol/ Diesel) against 8% Reservation Quota:*** As per the existing Government policy on allotment of Oil Product Agency to ESM/widows/dependents of Armed Force Personnel, Ministry of Petroleum & Natural Gas (MoP & NG) has a reserved quota of 8% for distributorship of LPG agency and Retail Outlets (Petrol & Diesel). The office of DGR issues required eligibility certificate to the entitled ESM/Widow/Dependent which is required to be submitted in original to the Oil Company at the time of selection. The final selection is done through draw of lots by the Oil Company. A total of 384 DGR Eligibility Certificates has been issued to ESM/widows/dependents during the period January 1, 2017 to December 31, 2017.

(h) ***Management of Company Owned Company Operated Retail Outlets:*** As per the policy of MoP & NG, Company Owned Company Operated (COCO) Retail Outlets are made available for management by Retired Defence Officers & JCOs on contractual basis for a maximum period of three years. The scheme is operational Pan India. Officers are required to be sponsored by the office of DGR and JCOs through their respective RSBs. A total of 66 Officers have been sponsored by the office of DGR against requisitions received from Oil Marketing Companies during the period January 1, 2017 to December 31, 2017.

11.27 ***ESM Job Fairs:*** Based on the Memorandum of Understanding (MOU) signed between DGR and the Confederation of Indian Industry CII in August 2014, DGR ESM Job Fairs are being organized Pan India with the support of all the three Service headquarters. These events have been a huge success and managed to achieve its desired objective in providing such a simple, direct, no cost platform for employment of ESM in the corporate sector. Five Job Fairs for ESM were organized in the year 2017 as per details given in **Table No. 11.1.**

Table No. 11.1

Location	Date	Participation		Job vacancies offered (approximately)
		Corporate Employers	ESM	
Lucknow	January 22, 2017	38	2485	1200
Visakhapatnam	February 26, 2017	42	2600	1150
Ahmedabad	July 9, 2017	30	650	600
Ranchi	September 22, 2017	27	1600	750
Mumbai	November 25, 2017	45	1100	1000

11.28 ***Publicity and Awareness Campaign:*** Advertisements were issued in various Newspapers (Hindi, English and Regional languages) for the Job Fairs held at Lucknow, Vishakhapatnam, Ahmedabad, Ranchi and Mumbai. In addition, advertisement was placed on PAN India basis in various newspapers for ESM employability. The purpose was to showcase the potentialities of the ESM before the Corporate World and the environment in general. Additionally, two issues of Sainik Punarvas Patrika (Bi-lingual Magazine), containing valuable information for the retiring and the retired soldiers, were published; covering details of a host of activities undertaken by DGR towards the effective resettlement of ESM. Posters containing details of schemes towards ESM resettlement were also got printed and the printed publicity material was distributed all across. Besides this, effective publicity

of DGR activities towards the resettlement of ESM was done through 'Twitter'.

Health Care

11.29 Ex-servicemen Contributory Health Scheme (ECHS) was launched with effect from April 1, 2003. The Scheme was further expanded in October, 2010. ECHS aims to provide quality healthcare to Ex-servicemen (ESM) and their dependents through a network of ECHS Polyclinics, Service medical facilities and civil empanelled/Government hospitals spread across the Country. The Scheme has been structured on the lines of Central Government Health Scheme (CGHS) and is financed by the Government of India. Endeavour is to ensure cashless treatment as far as possible by utilising the empanelled hospitals for the veterans and their dependents.

11.30 Policy framework for the Scheme is laid down by the Government and executive control of the same is exercised by the Department of Ex-servicemen Welfare. The Scheme is managed through the existing infrastructure of the Armed Forces so as to minimize the administrative expenditure.

11.31 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, all Government hospitals and also through civil medical facilities empanelled with ECHS.

ECHS Network

11.32 ***Central Organization:*** At the apex level is the Central Organisation, ECHS located in Delhi, which functions under the Chiefs of Staff Committee through the Adjutant General in the Integrated Headquarters of Ministry of Defence (Army). The Central Organisation is headed by a serving Major General. Executive control of ECHS is vested with the Department of Ex-servicemen Welfare (DESW).

11.33 ***Regional Centers:*** There are a total of 28 Regional Centers spread across the country. The Regional Centers function under the Central Organisation, ECHS and the existing chain of command of the Service Headquarters. These Regional Centers oversee operationalisation and functioning of ECHS Polyclinics placed under them and also take necessary action for empanelment of civil hospitals with ECHS and also responsible for Online Billing.

11.34 ***Polyclinics:*** A total of 432 ECHS Polyclinics including six Polyclinics in Nepal have been sanctioned by the Government. Out of 426 ECHS Polyclinics in India, 424 have been operationalised as on date. These Polyclinics are fully manned by hired trained professionals with certain vacancies reserved for ESM. The Station Headquarters are responsible for hiring of staff and ensuring smooth functioning of the Polyclinics as also for timely acquisition of land and construction of ECHS Polyclinic buildings.

Present Status

11.35 ***ECHS Membership:*** The total beneficiaries under the Scheme are approximately 52 Lakh.

11.36 ***Polyclinics and Civil Empanelled Medical Facilities:*** 240 additional medical facilities have been enlisted with ECHS in last one year (since January, 2017). Now the Scheme has 2540 civil hospitals empanelled with it, for providing cashless treatment to ECHS beneficiaries. The reach now has been extended to Kashmir Valley However, in case of emergency, members are permitted to avail medical treatment at non-empanelled hospital on payment. Their medical treatment bills are reimbursed at approved (CGHS) rates.

11.37 ***Budget:*** Administrative expenditure in ECHS is very low, as the Scheme utilizes existing infrastructure of the Services and the medicare delivered at Polyclinic is through 100 percent contractual employees. Budget

allotment to ECHS has grown over a period of time. The allotment for FY 2017-18 is ₹ 2911.50 crore.

11.38 ***Complaint & Litigation Reduction Scheme (CLRS):*** ECHS launches CLRS, wherein all stake holders including Veterans and their dependents, ECHS employees at all echelons and hospitals/ other service providers are invited for direct communication with Central Organisation ECHS to reduce the complaints and litigation. This will assist in increased focus on formulation of caring policy and implementation initiatives preserving the time and resources of veterans who have served the nation in a selfless manner.

11.39 ***ECHS Toll-Free Helpline:*** ECHS Toll free Helpline has been made available for all ECHS members at 1800-114-115 for resolving queries on Membership, Treatment and Employment. The service is available from Monday to Friday on all working days from 0900-1700 hours. All information regarding ECHS, including list of empanelled facilities, forms for membership and latest policies etc. are available on www.echs.gov.in.

Pension Reforms

11.40 ***Grant of disability element in Pre Mature Retirement cases:*** Government has issued order dated May 19, 2017 regarding grant of disability element to Armed Forces Personnel who were retained in service despite disability attributable to or aggravated by Military service and subsequently proceeded on premature/ voluntary retirement prior to January 1, 2006. It has been decided that all pre-2006 Armed Forced Personnel who were retained in service despite disability and retired voluntarily or otherwise will be allowed disability element/ war injury element in addition to retiring/service pension or retiring/service gratuity, subject to the condition that their disability was acceptable as attributable to or aggravated by military service and had forgone lump-sum compensation in lieu of that disability.

11.41 ***Condonation of deficiency in service for 2nd Service pension for DSC Personnel:*** Government vide MoD letter dated June 20, 2017 regarding condonation of deficiency in service for grant of 2nd Service pension in respect of DSC (Defence Security Corps) personnel has been issued. It has been decided that condonation of deficiency in qualifying service is to be accorded on merit and in the deserving cases to make individual eligible for at least one service pension. Condonation of deficiency in qualifying service for grant of 2nd service pension in respect of DSC personnel has no merit. The intention behind condonation of deficiency in service for grant of service pension is that the individual must not be left high & dry but should be made eligible for at least one service pension and it is clarified that no condonation shall be allowed for grant of second service pension.

11.42 ***Fixed Medical Allowance (FMA) to the Armed Forces Pensioners/Family pensioners:*** Government vide MoD letter dated August 29, 2017, regarding grant of Fixed Medical Allowance (FMA) to the Armed Forces Pensioners/Family Pensioners in such cases where date of retirement is prior to April 1, 2003 and who had opted not to avail medical facilities at OPD of Armed Forces Hospitals/MI Rooms and are not members of ECHS, has been issued. The amount of FMA has been enhanced from ₹ 500/- to ₹ 1000/- per month w.e.f July 1, 2017.

11.43 ***Payment of arrears of pension/family pension in case of no nomination:*** Government order dated August 29, 2017, regarding (i) payment of arrears of pension in cases where valid nomination has not been made under the payment of arrears of pension (Nomination) Rules, 1983; and (ii) payment of arrears of family pension, has been issued. Considering difficulties in obtaining the legal heir-ship-certificate it has been decided that in absence of nominee or any "Will" of the deceased pensioner, the arrear of pension will be paid as under:

(i) Under the orders of the Pension Disbursing Agency (PDA) to the heir without production of legal authority, if the gross amount of arrears of pension claim does not exceed ₹ 25,000/-, provided he is otherwise satisfied about the right of the claimant.

(ii) If the gross amount of arrears of pension claims exceeds ₹ 25,000/- but does not exceed ₹ 2,50,000/-, under the orders of Principal Controller of Defence Accounts(Pension) on execution of an Indemnity Bond in Form IAFA-

642 duly stamped for the gross amount due for payment with such sureties as may be deemed necessary and accepted on behalf of the President by an officer duly authorized under article 299(i) of the Constitution.

(iii) In case of any doubt and also in cases where the amount of arrear exceeds ₹ 2,50,000/-, payment shall be made only to the person producing the legal authority.

11.44 ***Revision of pension on the basis of decision taken by the Government on recommendation of 7th Central Pay Commission (CPC):*** Government order dated September 4, 2017, regarding implementation of Government's decision on the recommendations of the 7th CPC - revision of pension of pre January 1, 2016 Defence Forces pensioners/family pensioners has been issued. Vide this order, (i) disability element of disability pension has been revised by multiplying the existing rate of disability element as had been drawn on December 31, 2015 by factor of 2.57 to arrive at revised rate of disability element as on January 1, 2016; (ii) The Ex-gratia awards payable to Cadet (Direct)/NoKs in cases of disablement/ death shall be payable subject to the same conditions as hitherto in force in the event of invalidment on medical ground/death of Cadet (Direct) due to causes attributable to or aggravated by military training. (a) Monthly Ex-gratia amount of ₹ 9000/- per month, and (b) In cases of disablement, ex-gratia award @ ₹ 16,200/- per month shall be payable in addition for 100% of disability during period of disablement subject to prorate reduction in case the degree of disablement is less than 100%; (iii) Constant Attendance Allowance (CAA) shall now be admissible at the enhanced uniform rate of ₹ 6750/- per month, irrespective of the rank with effect from July 1, 2017.

11.45 Government order dated September 4, 2017, regarding implementation of the Government decision on the recommendations of 7th CPC - revision of provisions regulating Pension/Gratuity/Commutation of Pension/ Family Pension including pensionary awards notified in terms of casualty pensionary awards in respect of Commissioned Officers, Junior Commissioned Officers & Other Ranks, retiring or dying in harness on or after January 1, 2016, has been issued. Vide this order, Government decision on the recommendations of 7th CPC has been implemented for post - 2016 Defence Forces pensioners/ family pensioners.

11.46 Government order dated September 5, 2017, regarding implementation of the Government's decision on the recommendations of 7th CPC - revision of pension of pre January 1, 2016 Defence Forces pensioners/family pensioners, has been issued. Vide this order, Government decision on the recommendations of 7th CPC has been implemented for pre-2016 Defence Forces pensioners/ family pensioners.

11.47 ***Restoration of full pension for PSU absorbees:*** Government order dated September 18, 2017, regarding restoration of full pension in respect of Defence Service Personnel who had drawn lump sum payment on absorption in Public Sector Undertakings/Autonomous Bodies. DoP&PW vide O.M dated June 23, 2017, have decided to extend the benefit of Hon'ble Supreme Court orders dated September 1, 2016 in Civil Appeal No. 6048 & 6371 of 2010 to all such absorbee pensioners who had taken 100% lump sum amount and in whose case 1/3rd pension had been restored after 15 years, by restoring their full pension after expiry of commutation period of 15 years from the date of payment of 100% lump sum amount. It has been decided that the provisions of DoP&PW O.M dated June 23, 2017, shall also apply mutatis mutandis to all Armed Forces pensioner absorbed in PSUs/ Autonomous Bodies.

11.48 ***Family pension to Divorced daughters:*** Vide Ministry of Defence letter dated November 17, 2017 to grant family pension to a divorced daughter of Armed Forced Personnel in cases where the divorce proceedings had been instituted in the competent court during the life time the employee/pensioner or his/her spouse but divorced took place after their death-provided that the claimant fulfils all other conditions for grant of family pension. In such cases, the family pension will commence from the date of divorce.

Highlights

11.49 A new Fund namely, 'Army Battle Casualties Welfare Fund (ABCWF)' has been set up in Ministry

of Defence, D/o Ex-servicemen Welfare to provide financial assistance of ₹ 2.00 lakh to the army battle casualties which are fatal, 60% and above disability and battle causalities invalided out due to disability and ₹ 1.00 lakh to disability less than 60%. This will be in addition to financial assistance from Army Groups Insurance, ex-gratia and assistance from Army Welfare Fund. The management and administration of the Fund will be overseen by a Managing Committee headed by Raksha Mantri. The scheme has been notified on July 17, 2017 and made effective from January 1, 2016.

11.50 Enhancement of Special Pension to blinded ESM has been enhanced from ₹ 500/-p.m to ₹ 4000/- p.m w.e.f June 2017

11.51 Enhancement of Rate of Penury Grant to the Non-Pensioner Ex-Servicemen Widows (above 65 years of age) under the scheme Raksha Mantri Ex-servicemen Welfare Fund (RMEWF) funded out of Armed Forces Flag Day Fund) from ₹ 1000/- p.m per beneficiary to ₹ 4000/- p.m per beneficiary w.e.f April 1, 2017.

11.52 ***Sanction for Authorized Local Chemist (ALC):*** Government has accorded sanction to operationalize the concept of Authorized Local Chemist (ALC) on August 22, 2017. Implementation instructions have been given to all Command Headquarters and Regional Centers on August 29, 2017. In addition, in coordination with O/o DGAFMS, the responsibility of medicine procurement has been de-centralized to Senior Executive Medical Officers (SEMOs).

11.53 ***Veteran Patient Care & Assistance (VPCA) Teams:*** Veteran Patient Care & Assistance (VPCA) teams have been approved and promulgated to the environment on September 8, 2017, wherein such teams will carry out checks under Station Commander to arrest corrupt practices as well as addressing the difficulties of our veterans. These have been operationalised in Delhi, Jallandhar & Trivandrum and will be rolled out Pan India after trial period of six months.

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12

COOPERATION BETWEEN ARMED FORCES AND CIVIL AUTHORITIES

Cooperation Between Armed Forces and Civil Authorities

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.

INDIAN ARMY

12.2 During the year, Indian Army was requisitioned 43 times in which 104 Columns including 6 Medical Teams and 33 Engineer Task Forces (ETF) were deployed in Aid to Civil Authorities. Details of assistance provided in few of the important instances are given in succeeding paragraphs.

Maintenance of Law and Order

12.3 ***Darjeeling (West Bengal):*** In light of the protest by Gorkha Janmukti Morcha (GJM), Army was requisitioned by District Magistrates of Darjeeling and Kalimpong, West Bengal with effect from June 8, 2017, apprehending a breach of peace beyond the control of available police forces. Army columns were provided promptly to the Civil Administration for maintenance of law & order. Columns deployed in Kalimpong & Darjeeling were de-requisitioned on July 18 & 20, 2017, respectively.

12.4 ***Punjab, Haryana and Chandigarh:*** Consequent to requisition by the civil administration in view of deteriorating law and order situation in Haryana, Punjab & Chandigarh due to protest by agitators, post promulgation of verdict against head of a religious Sect on August 25, 2017, Army columns were deployed for maintenance of law and order in various districts of Haryana, Punjab & Chandigarh. Columns deployed in Punjab, Chandigarh & Haryana were de-requisitioned on August 29 & September 8, 2017 respectively.

Flood Relief Operations Assam

12.5 ***Morigaon:*** On July 12 & 15,2017 due to flood situation in Morigaon District and adjoining villages, one

Army Column and one ETF alongwith 3 x BAUTs were deployed. 36 Civilians were rescued during the aid. The Columns were de-requisitioned on July 14 & 17, 2017, respectively.

12.6 ***Dubri:*** On August 11, 2017 for rescue & relief operation in Dubri, one Army Column was deployed on the same day. 13 civilians were evacuated and the Army Column was de-requisitioned on August 20, 2017.

12.7 ***Kokrajhar:*** On August 12, 2017 for rescue & relief operation in Kokrajhar, two Army Columns were deployed on the same day. 524 Civilians were evacuated and the Army Columns were de-requisitioned on August 20, 2017.

12.8 ***Naogaon:*** On August 13, 2017 for rescue & relief operation in Naogaon, one Army Column was deployed on the same day. 68 civilians were evacuated and the Army Columns was de-requisitioned on August 20, 2017.

Gujarat

12.9 ***Surender Nagar:*** Due to flood situation in General Area Kuda and adjoining villages, one Army Column and one ETF alongwith one Medical Officer were deployed on July 22, 2017 at Kuda and adjoining villages for rescue and relief operation. 35 civilians were rescued by the Army Column. The Columns were de-requisitioned on July 25, 2017.

12.10 ***Banaskantha:*** Due to flooding of Banas River in General Area Deesa, Khariya, Thara and adjoining villages, three Army Columns and six ETF alongwith one Medical team were deployed on July 24, 2017 for rescue and relief operation. 2665 Civilians were evacuated by the Army Column. One Column was de-requisitioned on July 26, 2017 & other Columns were de-requisitioned on July 31, 2017.

12.11 ***Patan:*** On July 26, 2017 due to flooding in General Area Radhanpur, Sami and adjoining villages, three Army Columns and seven ETFs were deployed on the same day for rescue and relief operation. 665 Civilians were evacuated by the Army Columns. The Army Columns were de-requisitioned on August 2, 2017.

12.12 ***Anand:*** Due to flooding in General Area Anand and adjoining areas, two Army Columns were deployed on July 27, 2017 for rescue and relief operation. 113 Civilians were evacuated by the Army Columns and the Columns were de-requisitioned the same day.

12.13 ***Ahmedabad:*** Due to flooding in General Area Vinzol, Ahmedabad and adjoining areas, one Army Column was deployed on July 27, 2017 for rescue and relief operation and was de-requisitioned the same day.

Rajasthan

12.14 ***Arniyali:*** Due to flooding in General Area Arniyali and adjoining villages, one Army Column was deployed on July 25, 2017 for rescue and relief operation. 24 Civilians were evacuated and the Army Column was derequisitioned on July 27, 2017.

12.15 ***Jalore:*** On July 24, 28 & 29,2017 due to flooding in General Area Bhetala, Sanchore, Ahor Pavta, Gudha & near Gandhav and adjoining villages, four Army Columns and three ETFs were deployed on the same day for rescue and relief operation. 768 civilians were evacuated and the Army Columns were de-requisitioned on August 1, 2017.

12.16 ***Uttarlai:*** On July 24, 2017, one Army Column was deployed at Air Force Station, Uttarlai on the same day and de-requisitioned on August 2, 2017.

Bihar

12.17 ***Katiharand Kishanganj:*** For rescue and relief operation in Katihar and Kishanganj, one Army Column & one ETF were deployed at Kadwa, Azamnagar & Katihar on August 14, 2017 alongwith six BsAUT and six OBMs for rescue and relief operation. 282 civilians were rescued, 1040 civilians were provided medical aid and 5950 food packets were distributed. The Army Columns were de-requisitioned on August 30, 2017.

12.18 ***Araria:*** For rescue and relief operation in Araria, one Army Column & one ETF were deployed at Araria on August 14, 2017 alongwith four BsAUT and four OBMs for rescue and relief operation. 139 civilians were rescued, 1515 civilians were provided medical aid & 1915 food packets were distributed. Thereafter, the Army Columns were re-

located to Begusarai for rescue and relief operation & were de-requisitioned on August 31, 2017.

12.19 ***Madhubani:*** For rescue & relief operation in Madhubani, one Army Column & one ETF were deployed at Madhubani on August 15, 2017 alongwith two BsAUT and two OBMs for rescue & relief operation. 246 civilians were rescued, 824 civilians were provided medical aid & 3450 food packets were distributed. The Army Columns were de-requisitioned on August 30, 2017.

12.20 ***Sitamarhi:*** On August 14, 2017 for rescue & relief operation in Sitamarhi, one Army Column & one ETF were deployed on August 15, 2017 alongwith two BsAUT and two OBMs for rescue and relief operation. 90 civilians were rescued, 295 civilians were provided medical aid & 1775 food packets were distributed. Thereafter the Army Columns were moved to Muzzafarpur Cantonment on August 20, 2017 for rescue and relief operation and de-requisitioned on August 29, 2017.

12.21 ***Motihari, East Champaran:*** For rescue and relief operation in Motihari, East Champaran, one Army Column and one ETF were deployed on August 15, 2017 alongwith two BsAUT and two OBMs for rescue & relief operation. 160 civilians were rescued, 3091 civilians were provided medical aid and 25455 food packets were distributed. Thereafter the Army Columns were moved to Khagariaon August 26, 2017 for rescue & relief operation and were de-requisitioned on August 31, 2017.

12.22 ***Betiya, West Champaran:*** On August 15, 2017 for rescue and relief operation in Betiya, West Champaran, one Army Column and one ETF were deployed alongwith two BsAUT and two OBMs for rescue and relief operation. 98 civilians were rescued, 755 civilians were provided medical aid and 16350 food packets were distributed. Thereafter the Army Columns were moved to Samastipur on August 27, 2017 for rescue and relief operation and were de-requisitioned on August 31, 2017.

12.23 ***Gopalganj:*** For rescue and relief operation in Gopalganj, troops from Army Columns deployed in Madhubani and Sitamarhi reached Gopalganj on August 19, 2017 alongwith two BsAUT and two OBMs for rescue & relief operation. 100 civilians were provided medical aid and 2180 food packets were distributed. The Army Columns were de-requisitioned on August 30, 2017.

Uttar Pradesh

12.24 ***Gorakhpur:*** On August 17, 2017 for rescue and relief operation in Gorakhpur, one Army Column and one ETF were deployed alongwith five BsAUT & five OBMs for rescue and relief operation. 550 civilians were rescued, 2700 civilians were provided medical aid and 34000 food packets were distributed. The Army Columns were de-requisitioned on August 30, 2017.

Nagaland

12.25 ***Dimapur:*** Due to flood situation in General Area Dimapur and adjoining villages, two Army Columns and one ETF were deployed on July 20, 2017 at three villages near 4th Miles, Dimapur. The Columns were de-requisitioned the same day.

Jammu & Kashmir

12.26 ***Sopore, Awantipura, Panzipura, Hamre:*** On April 4, 2017, three Army Columns were deployed at Sopore, Awantipura, Panzipura, Hamre for rescue and relief operations at different locations. Approximately 70 civilians were rescued from different places. All the teams were de-requisitioned on April 6, 2017.

Manipur

12.27 ***Thoubal:*** On July 2, 2017, one Army Column was deployed at Haibing, Makhaung, Thoubal District, Manipur for rescue and relief operation. The Army Column evacuated marooned civilians from affected places. The Column was de-requisitioned on July 4, 2017.

Rescue and Relief Operation

12.28 ***Cloud Burst Tawaghat, Pithoragarh (Uttarakhand):*** Six Army personnel and two Army ALS vehicles went missing due to flash floods caused by cloud burst at Mangtion August 13, 2017 on Tawaghat Pangla Road. Four Army Columns carried out search operation near Mangti to locate the missing personnel & vehicles.

12.29 ***Rescue of Italian National (Ladakh):*** A request was received from Defence Attaché, Italy on September 20, 2017 through Military Intelligence (Foreign Division) for rescue of one Italian National in Ladakh (Nimaling

Camping Ground). Search operation was carried out and body of the individual was recovered on September 23, 2017.

Other Type of Assistance

12.30 ***Collapse of Building in Kanpur (Uttar Pradesh):*** An under-construction building collapsed near Air Force Station Chakeri in Kanpur, Uttar Pradesh on February 1, 2017. A requisition was received from DM, Kanpur on February 1, 2017 for Army assistance. Two Army Columns and one ETF were deployed for rescue and relief operation on the same day. 18 persons were rescued and four dead bodies were recovered from the site. The Army columns were de-requisitioned on February 4, 2017.

12.31 ***Construction of Bailey Bridge in Kerala:*** A requisition from Government of Kerala was received for construction of temporary Bailey Bridge at Enathu across River Kallada, Kerala. The construction of abutments, curing of concrete and work on approach roads by Civil Administration was completed on April 2, 2017. The bridge construction team comprising a Field Platoon of Engineers was deployed at bridging site and construction of temporary Bailey Bridge by Indian Army Engineers was completed on April 3, 2017 and opened for use for civilian traffic.

12.32 ***Namami Brahmaputra Festival (Assam):*** In connection with the conduct of Namami Brahmaputra Festival in Assam, one 86 meters Foot Bridge and one causeway were constructed at the festival site on March 28, 2017 which was dismantled post culmination of the festival on April 4, 2017. One standby Quick Reaction Team (QRT) with Jammer and one Bomb Disposal Team with dogs were deployed on site with effect from March 31, 2017 and were de-requisitioned on April 5, 2017.

12.33 ***Construction of Bailey Bridge in Araria (Bihar):*** On August 19, 2017 for construction of temporary Bailey Bridge at Araria, reconnaissance of the site was carried out to examine the feasibility of construction of a temporary Bridge. Subsequent to the reconnaissance, 120 Feet Bailey Bridge was constructed at Araria by Army Engineers and the same was handed over to civil administration on August 28, 2017.

12.34 ***Construction of Pontoon Bridge in Katihar (Bihar):*** For construction of Pontoon Bridge parallel to the Railway bridge near Telta railway station in Katihar district, one ETF alogwith bridging equipment were moved on August 22, 2017. The construction of the bridge was completed on August 23, 2017. Post repair of the railway bridge, the Pontoon bridge was de-requisitioned on August 30, 2017 by the Civil Administration.

12.35 ***Kotropi, Joginder Nagar (Himachal Pradesh):*** For rescue of passengers of two civil buses which had fallen into a deep gorge at Kotropi, 15 KM ahead on NH-154 to Mandi, two Army Columns, alongwith one medical team were deployed immediately on the same day. 46 bodies were recovered by Army rescue party and the Army Columns were de-requisitioned on August 16, 2017.

12.36 ***Construction of Railway Foot Over Bridge (FOB) at Three Railway Stations, Mumbai (Maharashtra):*** In view of the recent stampede at Elphinstone Road Railway Station at Mumbai, there was an urgent need to address enhancement of infrastructure in term of construction of additional Foot Over Bridges at selected local railway stations in Mumbai. Accordingly, Indian Army Engineers were entrusted with the construction of three FOB at Elphinstone Road Railway Station, Curry Road Railway Station and Ambivili Railway Station at Mumbai.

12.37 ***Strike by Doctors (Rajasthan):*** A strike was called by Serving Doctors Association of Rajasthan from November 6, 2017. A requisition for emergency temporary employment of Doctors was received from Chief Secretary, Government of Rajasthan and DCs of Jaisalmer, Kota, Alwar, Suratgarh and Udaipur districts. Five Medical teams were deployed for the medical assistance to the state of Rajasthan. 2206 Patients were treated and all Medical teams were de-requisitioned on November 13, 2017.

12.38 A strike was again called by Serving Doctors Association of various Districts of Rajasthan from December 18, 2017. A requisition was received from DC Jodhpur and DM, Alwar through HQ Southern and HQ South Western Command on December 18, 2017 for Medical assistance

from Army. Medical assistance was provided to the patients of Kota, Alwar & Jodhpur districts. A total of 4148 Patients were treated during the aid and Medical teams were de-requisitioned on December 29, 2017.

12.39 ***Fire at Bhopal (Madhya Pradesh):*** A fire incident was reported at Sant Hardaram Complex (Kapda Market), Bairagarh, Bhopal on December 17, 2017. A requisition was received from DM, Bhopal by Headquarter Paschim MP Sub Area for provision of firefighting equipment from Army to control the fire. One Army column was deployed at the site alongwith fire firefighting equipment and fire extinguishers on the same day and the same was de-requisitioned.

Exercise Pralay Sahayam: 2017

12.40 In accordance with the directions of the Prime Minister during Combined Commanders Conference, December 2015, Humanitarian Assistance and Disaster Relief (HADR) exercises are being planned to synergise actions among all stakeholders.

12.41 Exercise PRALAY SAHAYAM 2017 was conducted under the aegis of Southern Command at Hyderabad from September 22-24, 2017. The exercise was based on Humanitarian Assistance and Disaster Relief (HADR) operations during an urban flooding scenario. This was the first exercise conducted by Army with the setting of 'Urban Flooding in Hyderabad' under the aegis of Headquarters Integrated Defence Staff (HQ IDS) in conjunction with the State Administration.

12.42 The exercise was conducted with an aim to synergize the efforts of all stakeholders from the Central Government, State Government, District & Municipal Corporation and other agencies such as National Disaster Management Authority, State Disaster Management Authority, NGOs and the Armed Forces, to assess the effectiveness of the plans, organisational skills and decision support system at each stage of the flood relief effort. The exercise commenced with a Seminar followed by Table Top Exercise (TTE) at College of Defence Management and Multi Agency Exercise involving all stakeholders and Static Demonstration at Hussain Sagar Lake, Hyderabad on September 22 and 23, 2017. Various lessons emerged during the exercise and were shared among all stakeholders for further deliberation.

INDIAN NAVY

12.43 The Indian Navy continues to provide assistance to civil authorities for various rescue and relief operations during natural calamities. These include assistance to the local populace during floods, evacuation operations from overseas, diving assistance at various places, Search and Rescue, etc.

12.44 ***Training and Support for State Coastal Security Forces:*** Indian Navy has been actively involved in the marine orientation training of Central Industrial Security Force (CISF) and Border Security Force (BSF) personnel. This training is conducted at INS Chilka, which is the premier training establishment for newly joined sailors of the Indian Navy. The training is conducted for approximately 240 CISF personnel in batches of 60 every year. CISF deploys these personnel for protection of Ports and Installations near the coast.

12.45 ***Diving Operations to Recover Drowned Body of Foreign Tourist:*** Diving assistance was provided to Goa State Government on September 24, 2017 for recovery of mortal remains of a 29 year old Afghanistan national who had reportedly drowned at Sanquelim, Goa.

12.46 ***Hyperbaric Oxygen Treatment:*** At Andaman and Nicobar Command the Command Diving Unit (CDU) has been at the forefront of providing Hyperbaric Oxygen Treatment (HBOT) and other diving related ailments. CDU has successfully rendered HBOT to Foreign as well as Indian nationals. The benign effort by the divers has resulted in saving the life of civilians and has earned tremendous goodwill to the Andaman and Nicobar (A&N) Command and praise from the Civil Administration. Further, these efforts have also ensured that the A&N Islands are viewed as a safe diving destination by the global community of recreational divers.

Hyperbaric Oxygen Treatment

12.47 ***HADR Exercise:*** Based on the directives of Prime Minister during the Combined Commanders Conference–2016, a multi-agency HADR exercise has been coordinated by the Indian Navy on an annual basis. Annual Humanitarian Assistance and Disaster Relief (HADR) Joint exercise 2017, with the theme 'Response to Tsunami', was held at Karwar from May 18 to 20, 2017. During the exercise eight participants from four friendly foreign countries (Sri Lanka, Maldives, Bangladesh and Myanmar) attended as Observers.

12.48 ***Camp for Internally Displaced Personnel:*** As part of HADR 17 a Camp for Internally Displaced Personal was set up by 54 INF Division, INS Gomati and NCC Cadets from May 18 to 20, 2017 at Karwar. The Camp was equipped to handle up to 2000 victims for seven days. The camp offered shelter, food, clothing as well as medical facilities including Operation theatre facility for emergency cases. The camp had relief stores and ration store to handle the logistics demand of a calamity.

12.49 ***Flood Relief at J&K:*** Two teams of Marcos were deployed for flood relief cum rescue operation in Behrampora and Ningli respectively in April, 2017. The team was able to rescue 25 women and children stranded in flooded houses and provide relief with respect to ration and supplies in conjunction with 22 Rashtriya Rifles (RR) and at the same time maintaining the safety of own personnel and equipment. The efforts of the team were greatly appreciated by the locals.

Flood Relief at J&K

12.50 ***Relief Operations in Odisha:*** Incessant rains resulted in flash floods and inundation of low lying areas in South Odisha on July 16, 2017. IN Seaking and UH3H helicopters were deployed from Visakhapatnam to undertake relief assistance in the affected areas of Rayagada district The helicopters undertook airdrop of 3500 kgs of relief material from July 17 to 19, 2017.

12.51 ***Relief Operations in Gujarat:*** Gujarat received incessant and torrential rains commencing night of July 14/15, 2017 which led to flood like situation leading to breakdown of road-connectivity, communications and electric supplies. To provide flood relief assistance, IN base Valsura immediately deployed two teams of divers and lifeguards in the district of Jamnagar, Dhrol and Morbi. The relief and rescue effort was augmented by nine Diving teams (Ex - Mumbai) which were deployed in the affected areas of Ahmedabad, Porbandar, BanasKantha, Patan, Deesa, Gochnad, Baragpur and Santhalpur from July 26 to August 2, 2017. The teams successfully

evacuated more than 600 villagers from these affected areas.

Relief Operations in Gujarat

12.52 ***Mumbai Flood Relief Operations:*** Mumbai received incessant rains on August 29, 2017 which led to flood like situation leading to breakdown of road-connectivity, communications and electric supplies. Western Naval Command Crisis Management Group proactively swung into action to provide a swift response.

Mumbai Flood Relief Operations

12.53 ***Relief Operations-Cyclone 'Ockhi':*** Cyclone 'Ockhi' had affected South Tamil Nadu, Kerala and Lakshadweep and Minicoy (L&M) Islands on November 30, 2017. IN had launched 'Op SAHAYAM' on November 30, 2017 for relief operations. IN ships and aircraft were deployed to undertake Search and Rescue (SAR) operations for missing fishermen and HADR operations at L&M Islands. All inhabited Islands of Lakshadweep Islands were provided relief material in coordination with the local administration. IN rescued 136 fishermen and also recovered 5 dead bodies. In addition assistance was also provided to 172 personnel at sea.

IN Assistance during Cyclone 'Ockhi'

INDIAN COAST GUARD

12.54 ***Aid to Civil Authorities***

(a) ***Assistance during Floods in Odisha:*** On July 16, 2017, incessant rains over Odisha resulted in heavy flooding at Rayagada District. On request from the Government of Odisha, Coast Guard Dornier aircraft undertook assessment of affected areas on July 16 and 17, 2017 and 450 Kgs of packaged food and relief material were dropped on July 18, 2017 on the request of Civil Administration.

(b) ***Ganesh Utsav-2017:*** During the immersion ceremony of Lord Ganesha Idols across Maharashtra from August 25 to September 5, 2017. Search and Rescue (SAR) cover was provided by one ship, one Hovercraft, 1 Interceptor Boat and one Helicopter of Indian Coast Guard.

(c) ***Search and Rescue Efforts during Cyclonic Storm 'Ockhi':*** On November 30, 2017, Indian Coast Guard launched a large-scale Search and Rescue operation along the Kerala, Tamil Nadu and L&M coast for search of stranded fishermen at sea due to cyclonic weather. ICG ships were deployed for 222 days and ICG aircraft flew for Search & Rescue of missing fishermen. A total of 845 survivors including 5 Sri Lankan fishermen were rescued/ assisted by Indian Coast Guard Search and Rescue Units and various agencies at sea.

RM visiting cyclone affected area in Thiruvananthapuram

Rescue Ops – ICGS Sarathi

Rescue Ops – ICGS C-427

(d) ***Rescue of personnel of MV Lucky Seven at Goa:*** On July 16, 2017, Indian Coast Guard Chetak aircraft CG 809 evacuated 4 crew of MV Lucky Seven from Off Aguada.

INDIAN AIR FORCE

12.55 IAF is invariably the first respondent in case of any crisis in the country requiring quick response. During 2017, the IAF's transport and helicopter fleet carried out myriad operations in aid to civil authorities.

12.56 ***Srinagar Bye Elections:*** C-17 aircraft were tasked to airlift Central Reserve Police Force (CRPF) personnel from Imphal to Srinagar from April 1-4, 2017 in view of Srinagar Bye election. A total of 856 CRPF personnel and 60 tons of loads were airlifted.

12.57 ***Forest Fires (April 14-20, 2017):*** The IAF aircrafts were effectively used to fight forest fire in J&K, Gangtok, Thiruvananthapuram and Rajasthan (Mount Abu & Kota).

12.58 ***Tarasa Island Rescue:*** In May 2017, IAF helicopters were deployed to rescue stranded civilians from Tarasa Island to Carnicobar in the wake of Cyclone Vardha.

12.59 ***Gujarat Flood Relief (July 15-31, 2017):*** IAF responded with alacrity to the flood situation in Gujarat. Both transport aircraft and helicopters were intensively involved in the relief operations. A total of 1,013 National Disaster Response Force (NDRF) personnel and 27 tons of load were airlifted to Ahmedabad by transport aircraft, while helicopters airlifted 778 personnel and dropped 87 tons of relief material.

12.60 ***Attack on Amarnath Yatris:*** Terrorists attacked Amarnath Yatris in J&K on July 10, 2017. C-130J was tasked to airlift 7 mortal remains, 18 injured personnel and 33 other civilians from Srinagar to Surat on July 11, 2017.

12.61 ***Rajasthan Flood Relief (July 24 to August 2, 2017):*** IAF helicopters were used during the flash floods in Rajasthan, air dropping 3.25 tons of food packets in the areas affected by floods.

12.62 ***Flood relief in UP, Bihar and Assam (August 13-24, 2017):*** Heavy rainfall engulfed the areas in and around Purnia in mid August. IAF responded by deploying C-17 and AN-32 fleet to airlift NDRF and Army teams to the affected areas. The aircraft was also used to move relief material to AF Station Purnia to meet the demand of the flood affected region. Mi-17 V5 helicopters were deployed at Purnia to further undertake distribution of relief material and undertake rescue ops. IAF undertook close to 300 missions distributing 570 tons of load and airlifting more than 1,500 people to safety.

Air-warriors in action during HADR mission

12.63 ***Rescue of Foreign Nationals:*** IAF helicopters rescued stranded foreigners from high peaks in Ladakh regions. Air effort was provided for search and rescue to citizens of Switzerland in July, 2017, Israel and Germany in August, 2017 and Italy, New Zealand, Sweden and the USA in September, 2017.

12.64 ***Relief Mission for Rohingya Refugees-Bangladesh:*** Two C-17 aircraft airlifted 107 tons of relief material from Delhi to Dhaka, Bangladesh on September 14-15, 2017 as an aid to the Rohingya refugees in Bangladesh.

12.65 ***Relief Mission for Rohingya Refugees - Myanmar:*** One C-17 aircraft airlifted 42 tons of relief material from Delhi to Yangon (Myanmar) on November 24, 2017 as an aid to the Rohingya refugees in Myanmar.

Brief on Operation Triveni - Left Wing Extremist (LWE) Operations

12.66 ***Mandate/ Deployment:*** Since October 2009, 4 x Mi-17V5 MLHs, 2 x Mi-17 MLHs and 1 x ALH Mk-III helicopters have been deployed in support of MHA for Anti-Naxal operations code named 'Operation Triveni'. The Mi-17V5s are deployed two each at Raipur and Jagdalpur and the Mi-17s operate ex-Ranchi. ALH Mk-III operates ex-Raipur/ Jagdalpur. All operations are undertaken as per 'Joint SOP' and 'Rules of Engagement' for 'OP Triveni' approved by MHA and Ministry of Defence.

12.67 ***Flying Effort:*** Of the stipulated flying effort of 120 hours per month for the six helicopters (20 hours per helicopter per month) deployed in the Anti-Naxal AOR, 95 hours have been earmarked for the Government of Chhattisgarh and 25 hours for the Government of Jharkhand. To economize flying effort, second line servicing facilities have been set up at Nagpur. IAF helicopters regularly undertake tasks of air logistics support, casualty evacuation, reconnaissance, communication duties and training of Central Armed Police Forces (CAPFs) along with other air operations. Requirement of effort, whenever projected by the CAPFs to Ministry of Defence, have been approved to the extent possible. There has been no embargo on casualty evacuation effort over and above the mandated effort for the helicopters at the three detachments. Cross allocation of effort from one state to another has been permitted.

12.68 ***Tasks Accomplished:*** Since induction in 2009, a total of 17,031 hours in 22,068 sorties have been flown in support of Anti-Naxal Operations. During these missions, a total of 93,652 passengers, 1,210 casualties, 528 mortal remains and 2,094 tons of load have been airlifted to support the Anti LWE Operations.

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NATIONAL CADET CORPS

National Cadet Corps

13.1 The National Cadet Corps (NCC) was established under the NCC Act, 1948. It has completed 69 years of existence. The NCC strives to provide the youth of the country opportunities for all round development with a sense of commitment, dedication, self-discipline and moral values, so that they become responsible citizens of tomorrow. The motto of NCC is "Unity and Discipline".

13.2 The Government of India sanctioned an increase in cadet strength from 13 lakh to 15 lakh in 2010. This expansion is planned in five phases of 40,000 cadets each. Three phases have been completed. New NCC establishments sanctioned in 4th Phase on August 2, 2017 is under implementation. The sanctioned strength as on date is 14.20 lakh (upto phase three of new raisings) and the total number of NCC Units are 814.

13.3 Wing-wise distribution of enrolled cadet strength as on September 30, 2017 is as under:

Wing	Boys	Girls	Total	%
Army	8,07,557	369129	1176686	89.45%
Navy	57,766	12778	70544	5.36%
Air	51,173	16998	68171	5.18%
Total	916496	398905	1315401	100%

13.4 As on date NCC covers a total of 16597 institutions, which includes 11022 Schools and 5575 Colleges across the country. Consequent to NCC undertaking a massive exercise on mapping based on directives of the Ministry, it was brought out in 2016 that 709 out of 716 districts in the country have NCC coverage till 2017. The endeavour would be to cover the remaining 7 districts in due course of time.

13.5 ***New Raisings in the 4th Phase of 2 lakh additional NCC Cadet Strength Sanction:*** One NCC Group HQ, eight NCC Army Units, two NCC Naval Units and one NCC Air Unit have been sanctioned by Government of

India on August 2, 2017 for raising in the 4th Phase and the raisings are underway, resulting in increase of the number of NCC Units to 825 and the cadet strength to 14,60,000. The details of the 4th Phase are as under:

NCC Units/ Estt.	IV Phase
Gp HQ	Gp HQ Koraput (Odisha)
Army Units (Girls)	4 Haryana Girls Bn NCC, Nuh
Army Unit	6 Andhra Pradesh Bn NCC, Anantpur
	7 Bengal Bn NCC, Balurghat
	5 Kerala Bn NCC, Wayanad
	5 Karnataka Bn NCC, Chikkaballapur
	1 Chhattisgarh Bn NCC, Korba
	2 Arunachal Pradesh Bn NCC, Tawang
	2 Mizoram Bn NCC,Lunglei
Naval Units	1 Lakshadweep Naval Unit NCC, Kavaratti
	5 Odisha Naval Unit NCC, Paradip
Air Unit	2 Odisha Air Sqn NCC, Jharsuguda

13.6 Currently there are 3,98,905 (30.33%) girls out of total of 13,15,401 cadets in the NCC.

13.7 ***Raising of NCC Girls Battalions:*** In addition to raising new Girls Battalion (Bn), girls are also being encouraged to join the existing mixed Bns with an aim to increase the percentage of girls from 30.33% to at least 33% by next year. This measure has been resorted to with the aim that more girls derive the advantages of NCC training.

TRAINING OF NCC CADETS

13.8 ***General:*** NCC is a premier training organization of the country involved with grooming of the youth. The growing and vibrant NCC alumni strength is testimony to its increasing relevance. In keeping with the changing times, the Training Philosophy was reviewed by introducing the new syllabus which became effective with effect from April 1, 2013.

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:*** The aim of this training is to expose the youth to a regimental way of life and to instil in them discipline, orderliness and personality development. All enrolled cadets go through the Institutional Training in their respective schools/colleges as per specified syllabi for each wing of NCC. Notable improvements during the period included the following:

(a) Training Manuals for Cadets and Associate NCC Officer (ANO) Instructors (both Junior & Senior Wings) have been revised and prepared for both common and specialised subjects. Books issued accordingly to all State Directorates and uploaded on NCC Web Page for universal/ easy access.

(b) Area of emphasis while revising the syllabi were Leadership Training, Personality Development, National Integration, Disaster Management & Combat Survival.

(c) NCC Training Philosophy – 2012 has also been revised and made more relevant. The new document has been issued to all State Directorates and uploaded on NCC Web Page.

(d) An updated and comprehensive Planning and Conduct of Camp Manual, giving out directions/ guidelines for uniform conduct of camps was prepared and uploaded on NCC Web Page.

13.11 ***Camp Training:*** Camp Training is a pivotal aspect of NCC curriculum which aids in developing Camaraderie, Team Spirit, Dignity of Labour, Self-Confidence and most importantly enhancing Unity and Discipline. NCC has further 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, which are of 10 days duration, planned and conducted at State Directorate level to ensure that a minimum of 50% of Junior Division/Junior Wing (JD/JW) cadets and 66% of Senior Division/Senior Wing (SD/SW) cadets attend at least one camp per year. 6,65,980 cadets participated in 1474 Annual Training camps at Unit/ Gp HQ levels Pan India this year.

(b) ***Centrally Organised Camps (COCs):*** These camps are of all India nature and are planned at DG NCC in consultation with nominated Directorates which are attended by selected cadets, as per vacancy allotted to each Directorate. Duration of COCs is 12 days. COCs of following types are conducted:

(i) National Integration Camps (NIC): National Integration Camps are conducted to foster National Integration and increase awareness about heritage and culture of different states and regions amongst cadets. A total of 37 NICs and six Special NICs (SNICs) were conducted this year. Approximately 23,680 cadets from all States and Union Territories participated in these camps. Details of places and the number of cadets attended in the six Special National Integration Camps (SNICs) conducted are given below:

(a) ***SNIC at Leh:*** 170 cadets.

(b) ***SNIC at Peddapuram (Kakinada):*** 300 cadets.

(c) ***SNIC at Badabagh (Jaisalmer):*** 300 cadets.

(d) ***SNIC at North Eastern Region:*** 600 cadets.

(e) ***SNIC at Port Blair:*** 180 cadets.

(f) ***SNIC at Lakshadweep:*** 170 cadets.

(ii) ***Vayu Sainik Camp (VSC):*** Every year an All India Vayu Sainik Camp for Air Wing SD/SW cadets is organized for a period of 12 days. 600 Senior Division/Senior Wing cadets from all parts of the country participate in this camp. For 2017, VSC was conducted from October 23 – November 3, 2017 at Jodhpur.

(iii) ***Nau Sainik Camp (NSC):*** NSC of 12 days duration is organized once in a year to train Naval cadets for all Naval wing activities. 386 Senior Division and 204 Senior Wing cadets of Naval wing from all parts of the country participate in the camp. This year NSC was conducted at Karwar from September 26 to October 3, 2017.

(iv) ***Thal Sainik Camp (TSC):*** One TSC each is conducted at Parade Ground, Delhi Cantt this year for boys and girls, and a total of 1360 cadets (680 Boys and 680 Girls) from all parts of the country participated in the camp from September 18 to 29, 2017.

(v) ***Leadership Camp (LC):*** These camps are conducted on an All India basis. Six Advance Leadership Camps (ALC) including two SSB Screening Capsules were organised this year. A total of 1800 Cadets attended these camps. Focus of ALC was on personality development, leadership skills and orientation for Induction into Armed Forces.

(vi) ***Rock Climbing Training Camp (RCTC):*** Eight RCTC were held this year to expose the cadets to the basics of rock climbing and to inculcate the spirit of adventure. Four of these camps were held at Gwalior in Madhya Pradesh and another four camps were conducted by NCC Directorate, Uttarakhand. A total of 1080 cadets attended these camps.

(vii) ***Republic Day Camp (RDC):*** Republic Day Camp is conducted at Army Parade Ground, Delhi Cantt. from January 1 to 29 in Delhi each year. The Camp is attended by 2070 cadets (approximate) from all over India and approximately 100-110 cadets of friendly foreign countries with whom NCC has an ongoing Youth Exchange Programme. Inter Directorate competitions in training, cultural competitions and National Integration awareness programmes are conducted during this month long camp. Two NCC marching contingents and two NCC bands participated in the Republic Day Parade on Rajpath on January 26, 2018.

13.12 ***Attachment Training:*** The NCC cadets derive first hand experience of immense value through attachment training with the Units of Armed Forces. During the year, attachments conducted were as under:

(a) Approximately 375 officers and 18,000 cadets attended the attachment training with regular army units including women officers and 560 Senior Wing (SW) cadets at Pan India level.

(b) 120 Senior Division cadets underwent attachment training at Indian Military Academy, Dehradun and 48 SW cadets were attached to Officers Training Academy, Chennai.

(c) Approximately 725 Senior Wing cadets were attached with various Military Hospitals.

(d) A total of 100 Air Wing NCC cadets(76 SD and 24 SW from the 16 States NCC Directorates (except J&K) underwent attachment training with Air Force Academy, Dundigal. This training is conducted twice a year for 13 days each in June and December respectively.

(e) 16 Associate NCC Officers (ANO) and 200 Cadets (Senior Division only) of Air Wing were attached to various Air Force Stations for a period of 14 days.

(f) ***Naval Ship Attachment and Sea Training:*** 295 cadets of Naval Wing embarked onboard Naval Ships at Mumbai, Kochi and Vizag for training and attachment for a period of 12 days. Cadets were imparted intensive naval training on various naval subjects and got opportunity to witness naval exercises at sea.

(g) ***Naval Academy Attachment Training:*** Annual Training Camp for 170 Senior Wing cadets was conducted from January 9 to 20, 2017 at Kozhikode.

13.13 ***Flying Training:*** Flying Training is being conducted in NCC with a view to give flying experience to the Air Wing NCC cadets (SD/SW). At present flying facilities are provided at 50 NCC Air Sqn across the all States of the country. 110 New Virus SW 80 aircraft are under induction in NCC and will be operational by October, 2019.

13.14 ***Foreign Cruise (Naval Cruise):*** 10 Cadets and 01 supervisory staff visited Port of Penang (Malaysia), Jakarta (Indonesia) and Colombo (Sri Lanka) from October 3 to November 8, 2017 on board Naval Ships.

13.15 ***Technical NCC Camp for Naval Wing:*** 97 Senior Division and 41 Senior Wing Cadets from Engineering Colleges at Chennai attended the Annual Technical Camp from June 18 to 30, 2017. The cadets were taken to Naval Engineering Establishments at INS Valsura, Shivaji and Naval Dockyard at Mumbai on study tour.

ADVENTURE TRAINING

13.16 ***All India Sailing Regatta at Chilka:*** 51 Senior Division and 51 Senior Wing Cadets from all 17 Directorates participated in All India NCC Sailing Regatta conducted at INS Chilka from November 2-9, 2017.

13.17 ***Sailing expedition:*** Sailing expedition is an interesting feature of the Naval Training. Each NCC Directorate undertakes a minimum of one sailing expedition for a duration of 10 to 12 days and 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. A total of 15 sailing expeditions were conducted Pan India including:

(a) From Bhavnagar to Okha (Dwarka) (702 km), by 40 cadets, of Gujarat Directorate from February 24 to March 7, 2017.

(b) Farakka to Kolkata (430 km), by 60 cadets, of West Bengal and Sikkim Directorate in June, 2017.

13.18 ***Scuba Diving:*** Scuba Diving Camps for NCC cadets are generally conducted at Delhi, Kochi, Vizag, Mumbai, Goa/Karwar, Chennai/Port Blair and Kolkata with assistance from the Naval Diving Teams of Indian Navy. This year Delhi, Kerala & Lakshadweep, Tamil Nadu, Pondicherry and Andaman & Nicobar (TNP & AN) Directorates conducted Scuba Diving Camp. A total of 137 cadets have participated.

13.19 ***Wind Surfing/Kayaking:*** Cadets of Naval Wing are also trained and exposed to the basic skills of Wing Surfing and Kayaking.

13.20 ***Mountaineering Expeditions:*** Directorate General NCC launches two expeditions every year, one each for the girl and boy cadets. 20 Senior Division/Senior Wing cadets participate in the expedition. Following mountaineering expeditions were carried out this year:

(a) 20 Boy cadets to Mt Jogin - III (6116 m) in August– September, 2017.

(b) 20 Girls cadets to Mt Ladakhi (5345 m) in May – July,2017.

13.21 ***Trekking Expedition:*** A total of 28 trekking expeditions have been conducted by NCC Directorate during the training year 2017-18, with a total participation of approximately 13500 cadets.

13.22 ***Para Basic Courses:*** Every year 40 boy and 40 girl cadets are nominated twice for Para Basic course held at Para Training School, Agra. During the year 2017-18, 80 Senior Division and 80 Senior Wing cadets attended the course.

13.23 ***Cycle and Motor Cycle Rallies:*** A number of cycle and motorcycle rallies were conducted by different State NCC Directorate to spread the message of peace, harmony and national integration and educate the rural populace on health, community development and eradication of social evils.

13.24 ***Desert Camel Safari:*** Desert Camel Safari is conducted by Rajasthan Directorate in the deserts of Jaisalmer every year. In training year 2017-18, 12 cadets from Kazakhstan, 15 cadets from Russia, 8 cadets from Bangladesh & 10 cadets from Singapore alongwith 20 Indian cadets participated in Desert Camel Safari from November 18-29, 2017.

13.25 ***Youth Exchange Programme (YEP):*** The Youth Exchange Programme, presently, being carried out with eleven friendly countries including Bangladesh, Bhutan, Kazakhstan, Kyrgyzstan, Maldives, Nepal, Russia, Singapore, Sri Lanka, Turkmenistan and Vietnam, so as to increase awareness among participants and appreciate each other's socio-economic, cultural realities and act as goodwill ambassadors to project our Nation's image abroad. YEP was successfully conducted, with eleven friendly countries including exchange of 158 Indian NCC cadets and 158 foreign cadets.

SOCIAL SERVICE AND COMMUNITY DEVELOPMENT

13.26 ***General:*** Social Service and Community Development activities are undertaken in NCC with the aim to imbibe the cadets' 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 carried out through programmes involving Swachh Bharat Abhiyaan, adult education, tree plantation, blood donation, visit to Old Age Homes, Orphanages, slums, village upliftment and various other social schemes. Major activities in which NCC cadets participated this year at mass level are given in subsequent paras.

13.27 ***National Youth Day (January 12, 2017):*** 3,08,661 cadets participated & spread awareness among 18,32,176 youth/citizens about various modes of Digital Payment.

13.28 ***International Day of Yoga, 2017:*** 7,52,392 cadets participated pan India at 5832 venues, in this year, which was approximately 70,000 cadets more than the previous year.

13.29 ***Swachh Bharat Abhiyan (Cleanliness Drive):***

(a) ***Nagrik Jagrukta Pakhwada (April 12-24, 2017):*** 1,74,650 cadets participated in Nagrik Jagrukta Pakhwada as part of Swachhta Abhiyan.

(b) ***Swachhta Hi Sewa Drive (September 15 - October 2, 2017):*** 11, 53,308 cadets and staff participated in various activities during the Swachhta Pakhwada from September 15 to October 2, 2017 as part of 15 Days Drive.

(c) ***Swachhta Pakhwada Drive (December 1-15, 2017):*** Swachhta pakhwada was again conducted Pan India from December 1 to 15, 2017 in which cadets participated with a total strength of 6,94,780 in the complete Drive/Abhiyan.

(d) ***Swachhta Sankalp Se Swachh Siddhi:*** 5,55,738 cadets participated in Essay writing and 1, 94,832 cadets participated in Film making on the Swachhta Theme. Three cadets each in both categories were awarded during Prime Minister function on October 2, 2017 at New Delhi.

13.30 ***Tree Plantation Drive:*** A total of 4,10,793 cadets planted 5,17,593 saplings during this year include a Special Drive to celebrate Independence day.

13.31 ***Blood Donation:*** A total of 30,066 cadets participated in blood donation including a Special Drive on occasion of NCC Day in November, 2017. Approximately 20,000 units of blood was donated by the cadets.

13.32 ***Mission Indradhanush (Immunisation Drive):*** As part of Mission Indradhanush Immunisation Drive at Pan India level, a total of 79,820 cadets participated in spreading the awareness and implementation of immunisation.

13.33 ***Youth Synergy:*** National Coordination Committee has been formed under Secretary, Ministry of Youth Affairs. DG NCC is one of the members of the Committee which meets every month. As part of the synergy among various Youth Organisations, NCC alongwith NSS and NYKS conducted a number of events as part of Social Service Community Development which emphasized on Digital Literacy, Road Safety and Swachhta Abhiyan.

13.34 ***World No Tobacco Day (May 31, 2017):*** 86,608 cadets participated and spread awareness on World No Tobacco Day on May 31, 2017.

13.35 ***Anti Drug Abuse Day (June 26, 2017):*** 82,267 cadets participated and spread awareness among youth/ citizens about Anti Drug Abuse Day on June 26, 2017.

13.36 ***International Water Day (March 22, 2017):*** 1,20,000 cadets participated pan India in International Water Day on March 22, 2017.

13.37 ***Traffic Control/ Awareness Drive – Vijay Diwas December 16, 2017):*** 86,650 cadets participated to spread Traffic Control Awareness on December 16, 2017.

SPORTS ACHIEVEMENTS

13.38 ***Subroto Cup International Football Cup:*** Junior Girls team (U-17) played final with Bangladesh and Sub Junior Boys team (U-14) reached quarter finals.

13.39 ***Jawaharlal Nehru Hockey Tournament:*** Junior Boys team (U-17) reached the semi finals.

13.40 ***All India G V Mavlankar Shooting Championship (AIGVMSC):*** NCC Shooting team won a total of 14 medals (5 Gold, 6 Silver and 3 Bronze medals) in XXVII AIGVMSC.

DEFENCE COOPERATION WITH FOREIGN COUNTRIES

Defence Cooperation with Foreign Countries

14.1 Defence cooperation with foreign countries witnessed significant dynamism this year. Several established partnerships gained in depth while others were moved to a higher trajectory. A number of key new relationships were established, giving greater diversity to India's defence diplomacy. Cooperation on capacity building, training and other capabilities with near and extended neighbourhood including the Indian Ocean Region continued to be a priority, even as multi-faceted defence partnerships with major powers such as US, Russia, European countries, Japan and other key partners such as Israel were strengthened considerably. Special attention was given to defence and security engagement in the Indo-Pacific under the rubric of the 'Act East' policy and as a key element of the SAGAR framework. Enhanced engagement with countries in the Gulf as well as with African nations was another notable aspect.

14.2 Defence cooperation is taken forward through a wide array of activities comprising high-level political and strategic dialogue and bilateral interactions at Defence Minister level as well as structured interactions at the level of Defence Secretary and senior Officers of the Ministry, visits of the Service Chiefs, defence and military expert exchanges, military training, defence industry cooperation, joint exercises, exchange of observers and subject matter experts, visits of naval ships and military aircraft, gifting of defence equipment, sports and adventure activities, humanitarian assistance and disaster management and cooperation in UN Peace Keeping Operations.

Afghanistan

14.3 Building on India's strong relationship with Afghanistan which is based on historical and cultural links, India continued efforts towards stabilization of the security situation in Afghanistan. India assisted the Afghan National Army (ANA) in building its capacity through military training. Nearly 450 personnel from Afghanistan were trained in Indian military training institutions during

the year. Medical training and medical assistance to military personnel also continued. Vice Chief of Air Staff, Afghan Air Force visited India in July 2017. Chief of General Staff, Afghan National Army visited India from December 7-12, 2017.

Armenia

14.4 Defence cooperation with Armenia was substantively enhanced during the year. A high-level Armenian delegation led by Deputy Defence Minister visited India from December 20-22, 2017 and held meetings with Secretary (DP), Chairman, DRDO and other senior MoD officials, in addition to visits to major Indian defence industries. The visit was preceded by the first ever structured MoD-level interaction at Joint Secretary-level held in Delhi in May 2017. Both sides have decided to expand the scope of their defence cooperation building on the bilateral MoU on Defence Cooperation signed in 2003 through practical steps including enhanced military to military exchanges, training interactions and defence industrial cooperation.

Australia

14.5 Under the rubric of the India-Australia "Framework for Security Cooperation" released during Prime Minister's visit to Australia in November, 2014, both countries have rapidly and substantively enhanced bilateral defence engagement over the past few years. This year witnessed continued interaction in different formats, covering Ministerial meetings, high-level visits, policy dialogue, stronger military to military engagement, joint exercises and training cooperation. Raksha Mantri held a bilateral meeting with her Australian counterpart on the margins of the ADMM Plus Meeting in the Philippines in October, 2017. Both countries have developed a strong institutional architecture to support an expanded defence engagement, including a 2+2 Dialogue between their Defence and Foreign Secretaries, the inaugural meeting of which was held in India on December 12, 2017 as well as a Defence Policy Dialogue and a Joint Working Group on Defence Equipment and Technology. Chief of the Air Staff visited Australia on a good will visit from September 19-22, 2017. All three Services level Staff Talks were held during the year: the 6th Indian Air force (IAF) and Royal Australian Air Force (RAAF) Air Staff Talks at Canberra from August 16-18, 2017, the 5th Army to Army Staff Talks in Australia from October 10-12, 2017 and the 11th Indian Navy (IN) and Royal Australian Navy (RAN) Staff Talks at Canberra from November 21-23, 2017. The 2nd edition of the bilateral Army Exercise AUSTRAHIND on Counter Insurgency/ Counter Terrorism was held in Australia in November, 2017. India has decided to participate at the multilateral Air Force Exercise PITCH BLACK 2018, upgrading participation from the Observer level earlier. The second edition of the bilateral Navy exercise AUSINDEX was held off Perth in June, 2017. Chief Defence Scientist of Australia visited India for interactions with Chairman, DRDO who had visited Australia last year. All women sailing team on board the Indian Naval sailing vessel TARINI circumnavigating the globe also visited Australia.

Bangladesh

14.6 Defence cooperation with Bangladesh, which received a boost with the first-ever Defence Ministerial visit to Bangladesh in December, 2016, continued on an upward trajectory during the year. A bilateral MOU on Defence Cooperation Framework was signed during the visit of the Prime Minister of Bangladesh to India in April, 2017, which provides a formal enabling framework to further expand ties. Both sides have agreed to set up a Defence Secretary level Annual Defence Dialogue, which is to be held in India in 2018 as well as Tri-Services Staff Talks. Military-to-military interaction was at an all-time high, with visits by all three Services Chiefs from India to Bangladesh during the year. Chief of Naval Staff visited Bangladesh for the IONS HADR Exercise hosted by Bangladesh in November, 2017. Chief of Army Staff and Chief of Air Staff undertook bilateral visits in May, 2017 and March-April, 2017 respectively. From Bangladesh, CNS, Bangladesh Navy visited India from August 26-31, 2017 and Chief of Army Staff, Bangladesh Army visited from December 6-10, 2017. Annual staff talks between the navies were held in January, 2017, air force staff talks in May, 2017 and army staff talks in January, 2018. Military training and capacity building continues to be a cornerstone of bilateral cooperation. Indian armed forces personnel availed several training courses in Bangladesh during the year. Over 400 Bangladesh armed forces personnel trained in Indian military training institutions this year. Institutional linkages between leading training institutions were formalized with the signing of

MoUs between DSSC, Wellington and DSCSC, Mirpur for Military Education in the field of Strategic and Operational Studies and between National Defence Colleges of both countries for cooperation in the field of national security, development and strategic studies. A delegation from Bangladesh NDC visited India in August, 2017. Indian Air Force and Navy facilitated the transportation of relief material to Bangladesh for Myanmarese refugees in September-October 2017. Indian material and artifacts such as models of aircrafts, ships &army equipment were sent for display in the Liberation War Museum, Bangladesh. Interaction of war veterans were held on Vijay Diwas/ Victory Day in December, 2017.

Brazil

14.7 Bilateral defence cooperation with Brazil made steady progress, with ongoing exchanges in a range of areas. Raksha Mantri held a bilateral meeting with his Brazilian counterpart on the margins of the Moscow Conference on International Security in April 2017. The 5th meeting of the bilateral Joint Defence Committee [JDC] was held from November 27-28, 2017 in New Delhi. The JDC reviewed ongoing efforts to enhance cooperation identified a number of activities to take forward ties, including in areas of training, defence equipment and future technologies.

Brunei

14.8 Defence cooperation with Brunei was progressed under the MOU on Defence Cooperation signed in February, 2016. The Indian Army polo team visited Brunei from March 7-11, 2017.

Canada

14.9 Defence ties were enhanced by the visit of Defence Minister of Canada to India in April, 2017. Both Ministers reviewed ties and agreed to encourage greater interactions at different levels to strengthen cooperation. Raksha Rajya Mantri led a delegation to Vancouver, Canada to attend the UN Peacekeeping Ministerial Conference from November 14-15, 2017. On the sideline of this meeting, RRM also interacted with the Defence Minister of Canada and discussed matters of mutual interest.

Egypt

14.10 India's defence ties with Egypt were significantly enhanced by the successful visit of the Minister of Defence of Egypt to India from November 9-12, 2017. During the visit, both sides noted the high-level political support for an enhanced defence partnership and agreed to take forward cooperation in a wide range of areas, such as training and joint exercises, defence industry cooperation, exchanges in new and high technology areas, R&D cooperation as well as sharing of information. An Egyptian delegation led by Director, Egyptian Military Intelligence Department (DMID) visited India from July 9-12, 2017. To follow up on the Ministerial visit, a delegation led by Joint Secretary (Naval Systems), DDP and representatives of Indian shipyards, visited Egypt in December, 2017. The bilateral Joint Defence Committee met in Cairo in January, 2017 and identified several steps to take forward bilateral defence cooperation.

France

14.11 India and France continue to improve their wide-ranging, substantive and mutually beneficial defence relationship. An Agreement on reciprocal provisions of logistic support was signed during the state visit of the President of France in March, 2018. Minister of Armed Forces of France visited India on from October 27-28, 2017. During the visit, she held delegation level talks with Raksha Mantri and also called on the Prime Minister. Both sides agreed to strengthen cooperation in a range of areas, including military training, enhanced joint exercises and exchange of visits and specialized interactions at different levels. Information exchanges under the Technical Arrangement on Exchange of White Shipping Information between the two Navies signed Navy in January, 2017 was taken forward. The joint naval Exercise VARUNA was held from April 24-27, 2017 and the joint Army Exercise SHAKTI was conducted earlier in the year. Chief of Air Staff and Chief of Naval Staff paid good will visits to France from July 17-20, 2017 and November 6-9, 2017 respectively. The French Naval Frigate Anuergene made a maiden 'Port Call' at INS Karwar from October 2-6, 2017. This was the first ever port visit by a French warship in Karwar.

Indonesia

14.12 India's defence engagement with Indonesia was

on an upswing during the year, with significant progress in several areas. The bilateral Ministerial Dialogue between Raksha Mantri and Minister of Defence of Indonesia was held in New Delhi on January 17-19, 2018. The Ministers agreed to conduct bilateral naval as well air force exercises. Both sides continue to actively follow up on the outcomes of 5th India-Indonesia Joint Defence Cooperation Committee (JDCC) meeting at Defence Secretary level held in Jakarta in January, 2017, especially the enhanced engagement between their armed forces. Two editions of the bilateral GARUDA Army Exercise focusing on special forces were held this year, most recently in India in February, 2018. This year for the first time the exercise included an air component as well with the participation of Mi-17 helicopters. Maritime Security has emerged as a key area of cooperation, building on the statement on Maritime Cooperation issued during the visit of President of Indonesia to India in December 2016. 8th Navy to Navy Staff Talks were held at Bali, Indonesia from July 4-7, 2017. The inaugural Air to Air Staff Talks were held in New Delhi from July 18-20, 2017. An Indian Navy representative presented a paper at the International Maritime Security Seminar in Indonesia from August 24-25, 2017. The 6th round of Army to Army Staff Talks were held in New Delhi from September 12-14, 2017. In 2017, in addition to the officers undergoing the Staff Course, for the first time, four junior Indian Army officers underwent company and platoon level courses in Indonesia for duration of 4-6 months at the Infantry, Artillery and Armoured Schools. A delegation from the Indian Navy participated in the 7th Asia Pacific Submarine Conference in October, 2017. The 30th edition of CORPAT between India and Indonesia was conducted in October-November, 2017. In addition to the biannual CORPAT, four ships of Eastern Fleet with Fleet Commander onboard made port call at Jakarta and Surabaya in end May and early June, 2017 respectively. INS Kadmatt made a port call at Belawan, Indonesia from November 30, 2017 to December 2, 2017 to commemorate 25 years of India-ASEAN Dialogue.

Israel

14.13 Defence relations with Israel continued to gain in strength. The 13th meeting of the bilateral Joint Working Group on Defence Cooperation was held in Israel on April 25-26, 2017. The meeting was co-chaired by Defence Secretary. Both sides identified new areas of cooperation and finalized a roadmap for cooperation. Chairman, Chief of Staff Committee and Chief of Naval Staff visited Israel on a goodwill visit from June 12-15, 2017. Chief of Ground Forces, Israel visited India from October 29 –November 2, 2017. India participated in the Multilateral Exercise Blue Flag held in Israel from November 5-16, 2017. DG Air (Ops) attended Distinguished Visitor (DV) day of Ex Blue Flag 17 on November 14, 2017.

Japan

14.14 Bilateral defence relations with Japan have witnessed steady and significant growth over recent years. Raksha Mantri visited Japan for the India – Japan Annual Defence Minister's Dialogue on September 5, 2017. Both Defence Ministers also addressed the first ever defence industry seminar in Tokyo, which was attended by a large number of industry representatives from both countries. The Ministers agreed on a range of measures, including enhanced military to military interactions, training and other exchanges to strengthen ties. A Joint Press Statement was issued on the occasion of the visit, covering various defence cooperation initiatives. The bilateral Defence Equipment and Technology Joint Working Group met in Tokyo on September 4, 2017 in the run up to the Ministerial Dialogue. The two sides successfully identified specific areas for future cooperation in defence R&D. Earlier in the year, the 5th Defence Policy Dialogue and 2+2 Dialogue were held in Tokyo. Defence Secretary led the Indian delegation. General, Chief of Staff, Japan Ground Self Defence Force visited India from April 11-14, 2017.

Jordan

14.15 Defence relations with Jordan received a new start with the visit of a four- member senior official delegation from the Ministry of Defence of Jordan to India on December 18-19, 2017 to discuss bilateral defence cooperation issues. The delegation met Joint Secretary (PIC) and agreed upon several initiatives to take forward bilateral cooperation, including finalization of an MoU on defence cooperation to provide an enabling framework for further development of ties, cooperation in defence R&D and training exchanges. The delegation also visited various Indian defence industry units to assess scope for cooperation in this field. The MoU on defence cooperation was signed on March 1, 2018.

Kenya

14.16 Building on the bilateral MoU on Defence Cooperation signed in 2016, defence ties were taken forward by the visit of a delegation headed by Defence Secretary to Kenya in January, 2018. The delegation held wide-ranging interactions with the leadership of Kenyan MoD. Both sides agreed to take forward their cooperation in several areas including training, defence industry, coastal security and defence R&D.

Kazakhstan

14.17 Defence relations with Kazakhstan made significant progress during the year. Chief of the Army Staff visited Kazakhstan from August 1-4, 2017. The bilateral Army Joint exercise 'PRABAL DOSTYK' was held from November 2-15, 2017 at Bakloh, India. Both sides have agreed to enhance the scope and complexity of the exercise in future. Lt Gen, Deputy Defence Minister of Kazakhstan visited India from November 6-8, 2017 and met RM, Chief of Army Staff and Defence Secretary. Both sides have agreed to take forward enhanced cooperation on UN peacekeeping and discussions are underway to finalise modalities in this regard.

Kyrgyz Republic

14.18 Defence cooperation with Kyrgyzstan received a boost with the visit of the Kyrgyz Chief of General Staff (CGS) to India from November 26 to December 1, 2017. CGS met Raksha Mantri on December 1, 2017. Both sides agreed to further enhance cooperation in military training as well as explore other areas of mutual benefit. The annual bilateral joint army exercise KHANJAR was successfully held in the Kyrgyz Republic.

Madagascar

14.19 Defence cooperation was taken forward with the visit of an MoD delegation headed by JS(PIC) to Madagascar in January, 2018. The delegation interacted with the leadership of the Malagasy armed forces and also called on the Minister of Defence and the Minister for Foreign Affairs. Both sides finalized an MoU on Defence Cooperation which was signed during the presidential visit in March, 2018. Key areas identified for future engagement include training and capacity building as well as maritime security.

Malaysia

14.20 Defence cooperation with Malaysia continued to develop further. Chief of Naval Staff & Chairman of Chiefs of Staff Committee visited Malaysia from April 12-15, 2017. The 6th Army to Army Staff Talks were held in New Delhi from May 16-18, 2017. The 7th Navy to Navy Staff Talks were held in India from October 3-5, 2017. The Initial Planning Conference for the bilateral Army Exercise HARIMAU SHAKTI was held from October 25-27, 2017 in Malaysia. During the conference, both sides decided to hold the Exercise in May, 2018. The first ever Field Training Exercise (FTX) between the navies of India and Malaysia was conducted on December 6-7, 2017. Exercise SAMUDRA LAKSAMANA-2017 was a Humanitarian Assistance & Disaster Relief (HADR) exercise, which saw participation of two ships each from both navies, namely INS SATPURA, INS KADMATT from India and KD LEKIR and KD LAKSMANA HANG NADIM from Malaysia.

Maldives

14.21 Common maritime security concerns have been a key aspect of defence cooperation with Maldives. The 2nd Joint Staff Talks were held from May 23-25, 2017 in India, and identified several areas for cooperation. India continued its assistance to the Maldivian National Defence Forces (MNDF) in capacity building through military training, medical training and medical assistance to military personnel. Over 120 personnel of the MNDF received training in Indian military training institutions this year.

Mongolia

14.22 Defence engagement with Mongolia expanded with the successful visit of the Minister of Defence of Mongolia to India from March 6-10, 2018, during which he met Raksha Mantri, Raksha Rajya Mantri and National Security Advisor.

Myanmar

14.23 Defence cooperation with Myanmar continued to gain in strength. Chief of Army Staff visited Myanmar from May 28-31, 2017. During the visit, 10 Ambulances, 15 Sniffer Dogs and 4 English Language Labs were gifted to Myanmar as goodwill gesture. Commander– in–Chief, Myanmar Armed Forces visited India from July 7-15, 2017.

He also met Raksha Mantri. Two Indian mobile training teams conducted United Nations Peacekeeping Training for Myanmar Army during May and August 2017 to assist in planning, preparations and deployment for their UN Mission. Commander-in-Chief (Air) of Myanmar visited India from August 21-25, 2017. C-in-C Myanmar Navy visited India from September 18-21, 2017. Chief of Armed Forces Myanmar Training visited India from October 23-28, 2017. Both countries have signed a Technical Arrangement for exchange of White Shipping information and agreed to take other measures to enhance maritime domain awareness. The sixth round of Indian Navy (IN) and Myanmar Navy (MN) Staff Talks were held at Yangon, Myanmar from November 6-9, 2017. The first edition of Indo–Myanmar Table Top Exercise (TTX) Ex IMBAX-17, based on the theme of UNPKO, was held in India during November 2017. A 35-member Myanmar delegation led by Deputy Commandant of National Defence College (NDC) of Myanmar visited India from November 20-26, 2017. As part of defence cooperation, Myanmar has been provided logistic support in various fields, such as Bailey Bridges. A four-week tailor made training capsule in Low Intensity Counter Offensive was conducted for 35 personnel of Myanmar Army at Counter Insurgency and Jungle Warfare (CIJW) School, Vairengte in December, 2017.

Nepal

14.24 India and Nepal share historically strong defence ties. Training and capacity building continued to be a key facet, with several Indian personnel availing courses in Nepal. Over 250 Nepal Army personnel availed training in defence institutions in India this year Chief of the Army Staff visited Nepal from February 12-14, 2018, and discussed various aspects of bilateral defence ties.

Nigeria

14.25 India's defence cooperation with Nigeria expanded considerably this year. A delegation led by Additional Secretary (DP) visited Nigeria for the 4th meeting of the Joint Defence Cooperation Committee on November 20-21, 2017. Both sides agreed upon several initiatives to strengthen bilateral defence cooperation, including expanded training interactions as well as defence industry cooperation. India has offered specialized training courses in areas such as counter-terrorism and mechanised warfare for the Nigerian side. Navy to navy interactions are also making considerable progress.

Oman

14.26 Defence ties with Oman continued to gain in substance and scope, with both sides building on the momentum imparted by the visit of Raksha Mantri to Oman in 2016 during which four MoUs were signed. Inaugural Navy to Navy Staff Talks were held from January 22-24, 2017 at Oman. Chief of Naval Staff visited Oman from March 1-2, 2017. The Secretary General of the Ministry of Defence of Oman visited India to attend the 9th Joint Military Cooperation Committee on April 17, 2017. Both sides continue to discuss various initiatives to further strengthen bilateral cooperation in areas ranging from training, defence industry and military medical cooperation.

Philippines

14.27 Defence cooperation with The Philippines witnessed sustained and proactive engagement. Raksha Mantri visited the Philippines in October, 2017 for the ADMM Plus Meeting, during which she also held a substantive bilateral meeting with her counterpart, the Secretary of National Defence. SND of Philippines paid a bilateral visit to India from March 8-11, 2018. Both Ministers agreed to step up the tempo of bilateral defence engagement building on the 2nd meeting of Joint Defence Cooperation Committee (JDCC), co-chaired by JS (PIC) held in New Delhi in March, 2017. An MOU on Defence Industry and Logistics Cooperation was signed during the visit of Prime Minister to Philippines in November, 2017, which is expected to give a fillip to defence industrial engagement. Training exchanges and ship visits continued. In 2017-18, nearly 25 course vacancies were availed by the Philippines Armed Forces in Indian training institutions.

Republic of Korea

14.28 Defence engagement with the Republic of Korea (RoK) has made considerable progress over the years. Minister of Defence Acquisition & Programme Administration (DAPA) of ROK visited India in April, 2017. An MOU on Ship Building Cooperation as well as a contract between Indian and ROK firms for manufacturing K-9 Guns in India was signed. During his visit to Seoul in June, 2017, Finance Minister & Raksha Mantri held a bilateral meeting

with his ROK counterpart. A 17- member delegation from the 57th NDC Course led by Commandant, NDC visited RoK from August 27-31, 2017. India participated at the 6th Seoul Defence Dialogue (SDD) & Cyber Working Group in Seoul in September, 2017. A delegation from the Korean National Defence University (KNDU) visited India from September 12-17, 2017. Secretary (Defence Production) visited RoK from October 15-18, 2017 and co-chaired the 7thJoint Committee Meeting (JCM). Secretary (DRDO) visited RoK from December 3-7, 2017 to attend 4th Steering Committee Meeting (SCM). Three RoK Navy ships visited Mumbai including CHOI YOUNG (Destroyer) in June, 2017 and "Kang Gam Chand" and "Hwancheon" in October, 2017. DG Coast Guard attended the 8th edition of the bilateral Coast Guard High Level Meeting in Seoul from December 12-15, 2017. ICG Ship "SHAURYA" also visited RoK from December 11-15, 2017. A delegation of RoK Army visited India to discuss border management issues in December, 2017.

Russia

14.29 India and Russia share a long standing defence relationship, based on mutual trust and understanding. Russia continues to be India's most significant partner in terms of defence equipment. It is also the only country with which India has an institutionalized defence cooperation mechanism at the level of the Defence Minister. Raksha Mantri visited Russia from April 26-27, 2017 to participate in the 6th Moscow Conference on International Security, during which he also held bilateral meetings with Deputy Prime Minister and Defence Minister. Raksha Mantri also visited Russia in June, 2017 to co-chair the inaugural India-Russia High Level Committee on Science and Technology meeting in Novosibirsk and the 17th India-Russia Inter Governmental Commission on Military Technical Cooperation in Moscow on June 21 and 23, 2017 respectively. A Road Map on bilateral defence cooperation was signed by the two Defence Ministers, which envisages a broad range of interactions covering enhanced military to military interactions, training and subject matter level exchanges. Raksha Mantri also held a bilateral meeting with her Russian counterpart on the margins of the ADMM Plus meeting in the Philippines in October, 2017. During Russian Deputy Prime Minister visit to India in December 2017, a bilateral meeting was held with Raksha Mantri in South Block. These meetings imparted further momentum to India-Russia interactions. A highlight of defence cooperation this year was the historic joint tri-services exercise INDRA-2017 held in in Russia from October 20-29, 2017. This was the first ever joint military exercise for both countries in a tri-Services format. Commander-in-Chief of Russian Navy visited India from March 15-18, 2017. The 2ndround of Navy Staff Talks was held in India from June 28-30, 2017. Indian Armed Forces participated in the International Army Games-2017 held in Russia from July 29 to August 12, 2017. A tri Services Band participated in the International Military Music Festival "Spasskaya Tower" held at Red Square, Moscow from August 26 to September 3, 2017. Defence Secretary visited Russia for bilateral talks in September, 2017. The 3rd round of Staff Talks between General Staff of the Armed Forces of Russian Federation and HQ-IDS was held in Russia from November 13-15, 2017.

Saudi Arabia

14.30 India and Saudi Arabia have expanded their defence relations in recent years. A delegation from Saudi Arabia visited various Indian DPSUs and private industries from April 17-21, 2017. The 3rd Joint Defence Cooperation Committee (JDCC) meeting with Saudi Arabia, co-chaired by JS(PIC), was held on November 29-30, 2017 in New Delhi. The meeting helped identify several new areas for mutual cooperation in the field of defence for furthering ties between the two countries. Chairman, Chiefs of Staff Committee and Chief of Naval Staff visited Saudi Arabia in February, 2018. This was the first visit at this level between the two countries. Various initiatives to expand military to military ties, such as bilateral joint exercises were discussed. For the first time, Saudi Arabian cadets joined the National Defence Academy this year for pre-commissioning training.

Sweden

14.31 Defence relations with Sweden made good progress. State Secretary of the Ministry of Defence visited India from December 10-13, 2017. He met Defence Secretary as well as Chief of Naval Staff and Deputy Chief of Air Staff. Both sides have finalized negotiations on a General Security Agreement. Defence industry interactions continued to develop.

Singapore

14.32 Defence cooperation with Singapore witnessed significant augmentation this year. Defence Minister of Singapore visited India from November 28-29, 2017 for the 2nd Annual Defence Minister Dialogue (DMD) with Raksha Mantri. Both Ministers agreed on wide-ranging measures to further defence relations, including regular naval exercises in shared maritime space. A bilateral Agreement for Navy Cooperation, including provisions for mutual logistics support was also signed. Singapore Defence Minister also became the first foreign defence minister to fly the Tejas LCA. The 11th round of the Defence Policy Dialogue (DPD) was held in Singapore in January, 2017 co-chaired by Defence Secretary and Permanent Secretary (Defence), Singapore. During the DPD, the Air Force Agreement for Military Training and Exercises in India was renewed and extended till October, 2022. The 10th meeting of India- Singapore Defence Working Group (DWG) was held on September 29, 2017 at New Delhi co-chaired by JS (PIC) and Director (Policy), Singapore MoD. Chief of Naval Staff visited Singapore for the RSN50 celebrations/ International Maritime Review and IMDEX Asia from May 14-18, 2017. Bilateral navy exercise SIMBEX was held in May, 2017. Chief of Singapore Navy attended the Goa Maritime Conclave in November, 2017. The 11th Army Staff Talks were held in Singapore in February, 2017 and 12th Navy Staff Talks in New Delhi in March, 2017. Army Exercise BOLD KURUKSHETRA, based on mechanised warfare, was held in India in March, 2017. The 10th edition of Joint Military Training (JMT 17) between air forces of both countries was held at Kalaikunda from November 6 to December 14, 2017.

Seychelles

14.33 India and Seychelles share close defence cooperation marked by exchange of high level visits, training cooperation, supply of defence equipment and capacity building. The bilateral Army Exercise L'Amitye was held in the Seychelles in February, 2018. The first meeting of the bilateral Joint Working Group on Hydrography was held in Seychelles in March, 2018. Both sides continued consultations on expanding maritime security cooperation to counter shared threats and challenges. Nearly 70 personnel from the Seychelles Defence Forces attended training courses in India in 2017-18.

South Africa

14.34 Defence ties with South Africa witnessed steady progress. The 8th bilateral Joint Defence Cooperation Committee meeting, co-chaired by Defence Secretary, was held on December 6-7, 2017 in New Delhi. The meeting reviewed ongoing efforts to strengthen defence cooperation and identified new measures to step up engagement. A bilateral Defence Industry Conference was organized by FICCI on December 7, 2017 in Delhi, which was also attended by an industry delegation from South Africa. The South African delegation also held meetings with DRDO to identify areas for bilateral cooperation. The 10th Navy to Navy Staff talks between India and South Africa were held on December 5, 2017 in New Delhi.

Sri Lanka

14.35 India and Sri Lanka share close defence ties. The bilateral Annual Defence Dialogue at Defence Secretary level was held in New Delhi in January, 2018. The ADD agreed upon several measures to strengthen defence cooperation, covering Army, Air Force and Navy aspects. In particular, several initiatives to enhance cooperation in security in the shared maritime domain were discussed and key outcomes arrived at. India continues to support capacity building of the Sri Lankan armed forces with over 1750 personnel from Sri Lanka availing of training slots in Indian military training institutions this year. Several Indian officers also availed of specialized training offers from Sri Lankan armed forces training institutions. Military to military interactions continued regularly. The Commander of Sri Lanka Army visited India from March 6-9, 2018 and the Commander of Sri Lanka Navy visited India from March 14-17, 2018. Chief of Air Staff visited Sri Lanka from December 11-14, 2017. Chief of Naval Staff participated in the International Maritime Conference – Galle Dialogue 2017 in Sri Lanka. Annual Army staff talks were held in March, 2017 and Navy Staff Talks in September, 2017.

Tajikistan

14.36 Traditionally close defence cooperation with Tajikistan received a fillip with the successful visit of Minister of Defence of Tajikistan in February, 2018. In addition to delegation level talks with RM, the Minister also visited Pune. Both sides have agreed to step up cooperation in training and capacity building.

Thailand

14.37 Defence cooperation with Thailand made progress. The 9th Navy-to-Navy Staff Talks were held in Bangkok from May 29-31, 2017. The inaugural Army Staff Stalks were held in New Delhi from June 20-22, 2017. Ex MAITREE, based on the theme of Counter Insurgency/ Counter Terrorism (CI/ CT), with a participation of 45 persons from both sides, was held in India in July, 2017. The 8th round of Air Staff Talks was held in Thailand from September 19-21, 2017. India actively participated in Ex Cobra Gold-2017 from during November 6-10, 2017 at Bangkok. The annual Defence Dialogue at Additional Secretary level was held in Bangkok in February, 2018. Both sides discussed measures to strengthen ties, especially maritime cooperation.

Turkmenistan

14.38 Defence relations with Turkmenistan have gained momentum in recent years, following the bilateral Agreement on Defence Cooperation signed in July, 2015. Chief of Army Staff visited Turkmenistan from August 4-6, 2017. Turkmen Deputy Defence Minister led delegation visited India in August, 2017 and met senior MoD officials to discuss ways and means to enhance bilateral defence cooperation. He also interacted with a cross-section of Indian defence industry during the visit.

Uganda

14.39 Following upon the visit of Lt Gen, Deputy Chief of Defence Forces to India in 2017, defence cooperation with Uganda was strengthened with the hosting of a 50 member delegation from the Uganda Defence Staff College to India in February, 2018.

United Arab Emirates

14.40 Defence cooperation has emerged as a key facet of the strategic ties with the UAE. A bilateral MoU on cooperation in the field of Defence Industry was signed on January 25, 2017 in New Delhi. Rajya Raksha Mantri led a delegation to Abu Dhabi, UAE from February 19-21, 2017 to attend the International Defence Exhibition (IDEX) and also held bilateral meetings. Chief of Naval Staff visited UAE from February 26-27, 2017. 6th Navy-to-Navy Staff Talks between India and UAE were held from September 18-20, 2017 in New Delhi. The 9th Joint Defence Committee meeting was held on December 7, 2017 in New Delhi. A delegation from Air Force and Air Defence of UAE held meetings on December 20-21, 2017 to discuss logistics and technology cooperation aspects related to air force equipment.

United States of America

14.41 Defence relations with the USA have gained in strength and depth through sustained and substantive interactions at various levels and agreements such as the New Framework for the India-US defence relationship and the Logistics Exchange Memorandum of Agreement (LEMOA). US Secretary of Defence visited India in September, 2017, during which he met Raksha Mantri and also called on the Prime Minister. The visit imparted significant momentum to the relationship in a range of areas, and identified potential areas for greater engagement covering military to military ties, defence industry cooperation and technology partnerships. Raksha Mantri held a bilateral meeting with US Defence Secretary on the margins of the ADMM Plus Defence Ministers Meeting in the Philippines in October, 2017. Maritime cooperation has emerged as a key driver in the relationship. The second India-US Maritime Security Dialogue was held at the US Naval War College, Rhode Island in May, 2017. To facilitate technical interactions between the Navies, India joined the PAC-HOSTAC agreement in December, 2017. The India, USA and Japan Navy Exercise MALABAR was held off Chennai from July 8-17, 2017. The bilateral Army Exercise YUDH ABHYAS was held from September 14-27, 2017 in the USA. Chief of the Air Staff visited the USA on an invitational visit to attend the Pacific Air Chiefs Symposium from September 26-28, 2017. India-US Army Exercise Ajeya Warrior was held in India in December, 2017. A meeting of the bilateral Defence Trade and Technology Initiative was held in USA in October, 2017. The bilateral Military Cooperation Group and the Services level Expert Steering Groups met through the year, and agreed on several practical measures for cooperation. Both countries continue to remain engaged on a range of cooperative efforts to elevate bilateral defence cooperation to a higher trajectory.

United Kingdom

14.42 Defence Cooperation with the United Kingdom

witnessed steady progress. There is regular exchange by way of high level visits, training and other professional exchanges between armed forces of both countries. UK's Secretary of State for Defence visited India in April, 2017 and held delegation level meeting with Raksha Mantri. The bilateral Naval Exercise KONKAN was held from May 2-6, 2017 in UK. Commander-in-Chief of Defence Services of the United Kingdom visited India from July 19-23, 2017. The 18th Defence Consultative Group (DCG) meeting, co-chaired by Defence Secretary, was held from October 9-10, 2017 in London. Chief of Air Staff, Royal Air Force, UK visited India from November 15-17, 2017.

Vietnam

14.43 Defence cooperation with Vietnam has been progressing well. Defence Secretary visited Vietnam in March, 2017 for the 10th India Vietnam Annual Security Dialogue. To mark the 10th anniversary of establishment of the bilateral Strategic Partnership, an Indian Army Symphony Band visited Vietnam from April 20-23, 2017. Military to military engagement was regular and substantive. Chairman Chief of Staff Committee and Chief of the Naval Staff visited Vietnam from October 4-7, 2017. Chief of the Air Staff visited Vietnam from October 31 – November 3, 2017. Chief of General Department of Political Affairs of Vietnam People's Army led a delegation to India from November 12 to 15, 2017. During the visit, the delegation held bilateral interactions with Defence Secretary, the three Service Chiefs and called on Raksha Mantri. The inaugural India – Vietnam Army to Army Staff Talks were held at New Delhi from July 11-12, 2017. The 2nd Navy Staff Talks were held from December 18-20, 2017 at New Delhi. As part of defence cooperation, an Indian Army mobile training team conducted training in UN Peace Keeping for Vietnam Army in December, 2017.

Zambia

14.44 Defence cooperation with Zambia was renewed with the visit of a Technical Committee (TC) delegation comprising 9 officials from Ministry of Zambia to India in October, 2017. The primary purpose of the visit was to study best practices from the Indian Armed Forces and Military Justice System in the Indian Armed Forces.

ASEAN DEFENCE MINISTERS MEETING (ADMM) - PLUS

14.45 The ADMM Plus Defence Ministers Meeting has emerged as a key platform for dialogue at the level of the Defence Ministers on cooperation on defence and security issues aimed at contributing to regional peace and security through capacity building and enhancing coordination. ADMM-Plus is supported by ADMM Plus Senior Officials' Meeting (ADSOM) and seven Expert Working Groups in the areas of practical cooperation, namely Maritime Security, Counter Terrorism, Humanitarian Assistance and Disaster Management, Peacekeeping Operations, Military Medicine, Humanitarian Mine Action and Cyber Security. India attended meetings of the EWGs and has participated actively in various ADMM Plus practical initiatives. India is currently co-chairing the EWG on Military Medicine with Myanmar, Raksha Mantri headed the Indian delegation to the 4th meeting of ADMM-Plus from October 23-25, 2017 in Clark, Pampanga, Philippines. On the sidelines of the event, RM also held bilateral meetings with the Defence Ministers of USA, Australia, Russia, Singapore, Philippines, Myanmar and Vietnam.

15

CEREMONIAL AND OTHER ACTIVITIES

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 Defense Studies and Analyses (IDSA), New Delhi.

(ii) Nehru Institute of Mountaineering (NIM), Uttarkashi.

(iii) Himalayan Mountaineering Institute (HMI), Darjeeling.

(iv) Jawahar Institute of Mountaineering and Winter Sports (JIM& WS), Pahalgam.

(v) National Institute of Mountaineering and Allied Sports (NIMAS), Dirang.

15.2 The important activities of these institutions during the period under review are enumerated in the succeeding paragraphs.

INSTITUTE FOR DEFENCE STUDIES AND ANALYSES (IDSA)

15.3 The Institute for Defence Studies and Analyses (IDSA), established in November 1965, is a registered body under the Registration of Societies Act III of 1860 (Punjab Amendment Act 1957) as amended from time to time. The Institute is an autonomous body dedicated to research and policy relevant studies on all aspects of defence and security.

15.4 IDSA is funded by the Ministry of Defence and functions autonomously. IDSA Scholars are drawn from academia, the defence forces and the civil services. IDSA has a research faculty of 50 scholars including 8 Serving Officers on study leave. The organizational research structure of IDSA is grouped under 13 Centres. IDSA provides annual training programmes to Civilian, Military and Para-Military Officers of the Government of India. The Institute also hosts Visiting Fellows and interns from

foreign countries under its 'Visiting Fellowship Programme' and 'Internship Programme' respectively.

15.5 The Institute conducts several national and international conferences every year, and regularly holds roundtables discussions and workshops on important developments. The Weekly Fellows' Seminars also serve as a forum in which IDSA experts interact with a cross-section of analysts, scholars, journalists, and policy makers. IDSA publishes journals, monographs, briefs and books. In addition, the news media also carry the views of IDSA experts in the form of op-eds, interviews and participation in debates.

15.6 Developments in the neighbourhood remains a priority area for IDSA scholars. With India engaging vigorously with the region and the world, IDSA's interaction with the strategic community has correspondingly increased through bilateral and other interactions. The Institute is continuously focussing on emergence of new challenges and India's responses.

15.7 IDSA also carries out policy relevant studies. A number of research projects were undertaken on behalf of Ministry of External Affairs, Ministry of Home Affairs, Ministry of Information Technology and other Government departments. The Institute continued to invest in research activities including field trips, the library, IT infrastructure including website, recording of events etc. IDSA's website (www.idsa.in) has also become a valuable source of information on a wide range of security and defence issues for researchers, students and public alike.

15.8 ***International Conferences:*** Many international conferences were organized by IDSA throughout the year, important of which are:

8th Annual Y B Chavan memorial lecture on "Power Trading and National Security"

- ***March 28-29, 2017:*** The 10th South Asia Conference on the theme: "Strengthening Connectivity in South Asia" was held at IDSA with a keynote address by Minister of Electronic and Information Technology, Government of India.
- ***September 15-18, 2017:*** The 2nd series of IDSA-GIGA (German Institute of Global and Area Studies) bilateral conference on the theme "Changing Asia 2017: Perspectives on Regional and Global Cooperation" was organized by IDSA.
- ***September 22, 2017:*** IDSA organised the 1st Meeting of BIMSTEC Track 1.5 Security Dialogue Forum.
- ***November 7-8, 2017:*** IDSA in collaboration with the Ministry of External Affairs, Government of India organised the 2nd Indian Ocean Rim Association (IORA) conference on "Maritime

Safety and Security". Foreign Secretary, delivered the keynote address.

15.9 ***Round Table Discussions:*** The institute organized seveal round table discussions during the year, including:

- ***April 7, 2017:*** A roundtable interaction was held with former Ambassador of Afghanistan to India on "Terrorism and Pakistan-Afghan Relations."
- ***April 11, 2017:*** A closed door interaction was held with Vietnamese delegations on "India-Vietnamese Relations, Act East Policy, Defence and Economic issues and China-ASEAN Relations."
- ***April 17, 2017:*** A closed door interaction was held with members of the US Congress, Congressional Staffers and Federal Administrative officials, visiting India under the framework of the US Mutual Educational and Cultural Exchange Act (MECEA). Discussion was held on several subjects ranging from US-India economic relations to defence.
- ***April 20, 2017:*** A closed door interaction was held with Director General for Policy Planning of the Ministry of Foreign Affairs of the Republic of Korea on "Developments in Korean Peninsula, India-Korea Relations and Regional Security Issues"
- ***April 26, 2017:*** A roundtable interaction was held with President of the International Centre for Strategic, Security and Military Studies, Tunisia on "Rise of Extremist Violence in North African Region."
- ***May 8, 2017:*** A closed door interaction with a 16 member delegation from the Command and Staff College of Saudi Arabia, led by Colonel was held to discuss Saudi Arabia's military concerns in West Asia.
- ***May 17, 2017:*** To commemorate the founding day of the Organization of African Unity, the Institute for Defence Studies and Analysis in collaboration with the African Studies Association, organized a roundtable discussion on "Africa's Security Challenges."
- ***May 18, 2017:*** A roundtable interaction was held with former Ambassador of Sri Lanka to India and Admiral, Pathfinder Foundation, Sri Lanka on "Prime Minister Modi's visit to Sri Lanka."
- ***June 20, 2017:*** A closed door interaction was held with Australian Defence Force Academy on "South China Sea and the Indo-Pacific Regional Order."
- ***July 3, 2017:*** To commemorate 25 years of diplomatic relations between India and Israel, IDSA organised a roundtable discussion on the special issue of Strategic Analysis "India-Israel Relations at 25".
- ***July 10, 2017:*** A roundtable discussion was held with Lecturer in Criminalistics and Coordinator of Forensic Sciences, Berlin School of Economic and Law on "Role of Forensic Science and New Technology in Combating Terrorism"
- ***July 21, 2017:*** An interaction was held with former Ambassador to Bhutan, on "The Current Doklam Border Tension".
- ***July 28, 2017:*** A roundtable discussion was held with Ambassador of the Islamic Republic of Iran to India on "India-Iran Relations"
- ***September 20, 2017:*** A roundtable discussion was held with a 10 member delegation headed by Lt. Gen., Chief of General Staff, Kuwait on "India-Kuwait relations and Kuwait Mediations effort on Qatar".
- ***November 10, 2017:*** A roundtable discussion was held with Senior Fellow at the Hudson Institute on "India-U.S. Relationship in the changing Strategic Context".
- ***November 13, 2017:*** A roundtable discussion was held with a 16 member delegation of journalists from Indian Ocean Rim Association (IORA) member states on issues ranging from

economic to political sphere of the member countries.

- ***December 18, 2017:*** A roundtable discussion was held with members of the Congressional Staffers and Federal Administrative Officials. Discussion was held on several subjects ranging from US-India economic relations to defence.

15.10 ***Talks/ Bilateral Interactions:*** The Talks/ Bilateral interactions undertaken by the Institute included:

- ***April 3, 2017:*** A bilateral dialogue with Shanghai Institute of International Studies (SIIS), wherein bilateral discussion was held on: "China-India Bilateral Relations on Trade and Security; Regional Security; Multilateral Cooperation."
- ***April 17, 2017:*** Lt. Gen. (Retd.), delivered a talk on "Management of the India China Border - A Case Study of Ladakh".
- ***April 20, 2017:*** Head of the Centre for Energy and Security Studies (CENESS), Moscow delivered a talk on "The Global Agenda on Disarmament and Non-Proliferation".
- ***April 20, 2017:*** Visiting Fellow at IDSA delivered a talk on "Thailand: Policing of Anti-Government Protests".
- ***May 22, 2017:*** Director General, Eritrean Center for Strategic Studies delivered a talk on "Regional Outlook in the Horn of Africa".
- ***May 24, 2017:*** IDSA organised a one-day workshop on "Geopolitics of Cyberspace: Creating Space for India." The objective of the workshop was to comprehend cyber conflict and international law, particularly with reference to Tallinn Manual 2.0 and the role of India for multilateral cooperation.
- ***June 2, 2017:*** A bilateral dialogue with National Institute of Defence Studies (NIDS), Japan was organized, wherein bilateral discussion was held on wide range of security issues concerning India and Japan.
- ***June 19, 2017:*** Chief of Integrated Defence Staff to the Chairman Chiefs of Staff Committee (CISC) delivered a talk on "Establishment of Suitable Structures for Integrated War Fighting in the Indian Context." Former Vice Chief of Army Staff chaired the talk.
- ***July 12, 2017:*** Professor at the Department of International Studies, National Defence University, Washington D.C., delivered a talk on "March of the Black Flags & Threat to India".
- ***August 7, 2017:*** Founder and CEO of Beed, Nepal-based International Management Consulting and Financial Advisory, delivered a talk on "Steps India could take to improve India-Nepal Economic Exchanges"
- ***November 22, 2017:*** 4th Round of the India-Australia Track 1.5 Defence Strategic Dialogue on the theme "India-Australia Relations: Strategic Challenges and Prospects".

15.11 ***Training Programmes:*** Following training programmes have been organized by the Institute:

- ***April 24-28, 2017:*** IDSA organized Strategic Orientation Capsule for Naval Intelligence Course.
- ***July 3-7, 2017:*** IDSA organised the Strategic Orientation Module for DIG's of Border Security Force.
- ***September 11-22, 2017:*** IDSA organised the Strategic Orientation Module for Senior Commandants of Border Security Force.

15.12 ***IDSA Publications:*** The work published by the institute during the year includes:

- ***Arab Spring and Sectarian Faultlines in West Asia:*** Bahrain, Yemen and Syria, Prasanta Kumar Pradhan, Pentagon Press.
- ***The Geopolitics of Gas:*** Common Problems, Disparate Strategies, Shebonti Ray Dadwal, Pentagon Press.

- ***The Arthasastra in a Transcultural Perspective:*** Comparing Kautilya with Sun-Tzu, Nizam al-Mulk, Barani and Machiavelli, Michael Liebig, Saurabh Mishra (eds), Pentagon Press.
- ***Fifty Years of the Outer Space Treaty:*** Tracing the Journey, AjeyLele (ed), Pentagon Press.
- ***India-China Relations:*** Politics of Resources, Identity and Authority in a Multipolar World Order, Jagannath P. Panda, Routledge

MOUNTAINEERING INSTITUTES

15.13 The Ministry of Defence jointly with the concerned State Governments administers four Mountaineering Institutes, namely, Himalayan Mountaineering Institute (HMI), Darjeeling in West Bengal; Nehru Institute of Mountaineering (NIM), Uttarkashi in Uttarakhand; Jawahar Institute of Mountaineering & Winter Sports (JIM & WS), Pahalgam in J&K and National Institute of Mountaineering and Allied Sports (NIMAS), Dirang in Arunachal Pradesh. These Institutes are being 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 separate Executive Councils consisting of members elected by the General Body of each Institute, nominees from amongst donors and/ or persons who are likely to promote the cause of the mountaineering and representatives of Central and State Governments.

15.14 These Institutes provide an impetus to mountaineering as a sport, give boost to mountaineering discipline 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 among the youth;

(c) to encourage and provide training in Winter Sports; and

(d) to generate a sense of preservation of environment and ecology in the Himalayan region through nature workshops.

15.15 These Institutes conduct courses in the Basic and Advanced Mountaineering, Method of Instruction (MOI), Search & Rescue (S&R) and Adventure. Trainees to these courses come from all parts of the country and also comprise personnel from Army, Air Force, Navy, Indo-Tibetan Border Police (ITBP), Border Security Force (BSF) and National Cadet Corps (NCC). Foreigners are also permitted to join these courses. The syllabi, duration, grading, age limit of participant and other details for admission to courses are available on the website of these Institutes.

15.16 The courses being conducted are almost uniform at all the Institutes. The regular courses and special courses conducted by the Institutes and number of trainees participated in these courses from April 2017 to December 2017 are given in **Table No. 15.1.**

Table No. 15.1

Institute	Basic Course		Advanced Course		Adventure Course		MOI Course		S&R Course		Special Courses	
	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. of Trainees	No. of Courses	No. of Trainees
HMI	06	312	03	149	01	42	-	-	-	-	07	213
NIM	05	370	03	88	05	262	01	29	01	42	09	363
JIM	06	432	01	62	04	89	01	20	-	-	-	-
NIMAS	04	122	02	36	02	266	-	-	01	35	10	116

15.17 JIM has conducted three expeditions to Mt Tololing (Drass) (6153 Mt) before Kargil in August-September, 2017 for 75 Air Force Personnel. 15 Instructors of JIM participated in these expeditions. NIMAS also conducted two expeditions i.e. one mixed (Men & Women) expedition of 24 persons in May, 2017 to Mt Gorichen of (6488 Mt) in which 17 persons scaled the Peak and the other comprising of 20 persons to Mt Trishul (7120 Mt) in October, 2017 in which 10 persons scaled the peak.

CEREMONIALS, HONOURS AND AWARDS

15.18 The responsibility for organising National functions like the Republic Day Parade, Beating the Retreat Ceremony, Martyr's Day and the 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 2017-2018 are detailed in the following paragraphs.

15.19 ***Independence Day Flag Hoisting Ceremony:*** The celebration of the 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. Twenty one 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.

15.20 The details of the Gallantry Awards announced on the eve of the Independence Day-2017 are given in **Table No. 15.2.**

Table No. 15.2

Award	Number of Awards	Posthumous
Kirti Chakra	05	03
Shaurya Chakra	17	06
Sena Medal (G)	85	10
Nao Sena Medal (G)	03	-
Vayu Sena Medal (G)	02	-

15.21 ***Vijay Diwas:*** Vijay Diwas was celebrated on December 16, 2017. On the occasion, the Raksha Mantri laid a wreath at the Amar Jawan Jyoti at India Gate.

15.22 ***Amar Jawan Jyoti Ceremony, 2018:*** The Prime Minister laid a wreath at the Amar Jawan Jyoti at India Gate in the morning of January 26, 2018. A two minute silence was observed for paying homage to those who laid down their lives in safeguarding the integrity of the nation.

15.23 ***Republic Day Parade, 2018:*** The unfurling of the National Flag at Rajpath marked the beginning of 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. Head of States/Governments from 10 ASEAN countries were Chief Guests on the occasion.

15.24 In addition, various mechanised columns, marching contingents and bands of the three services, DRDO, Para Military Forces, Delhi Police, NCC, NSS etc. were part of the parade.

15.25 Out of eighteen children conferred with National Bravery Awards, three were posthumous. Fifteen 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 were part of the parade. The parade concluded with a motorcycle display by women officers of BSF followed by an impressive fly past by the Indian Air Force.

15.26 The Gallantry and distinguished service awards announced on the Republic Day, 2018 are given in **Table No. 15.3.**

Table No. 15.3

Name of the award	Total	Posthumous
Gallantry Awards		
Ashok Chakra	01	01
Kirti Chakra	01	-
Shaurya Chakra	14	02
Bar to Sena Medal/Nao Sena Medal/ Vayu Sena Medal (Gallantry)	02	-
Sena Medal/Nao Sena Medal/ Vayu Sena Medal (Gallantry)	90	07
Distinguished Awards		
Param Vishisht Seva Medal	28	-
Uttam Yudh Seva Medal	04	-
Bar to Ati Vishisht Seva Medal	02	-
Ati Vishisht Seva Medal	49	-
Yudh Seva Medal	10	-
Bar to Sena Medal/ Nao Sena Medal/ Vayu Sena Medal (Devotion to duty)	02	-
Sena Medal/Nao Sena Medal/Vayu Sena Medal (Devotion to duty)	65	
Bar to Vishish tSeva Medal	01	-
Vishisht Seva Medal	121	-

15.27 ***Beating the Retreat Ceremony, 2018:*** Beating the Retreat is a centuries old military tradition practised by the troops at the time of disengaging from battle at sunset. The Beating the 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, 2018, which brought down the curtain on the Republic Day festivities. Bands of the three Services along with State and Central Armed Police Force (CAPF) Band 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. During the Republic Day Parade and Beating the Retreat Ceremony, 2018, as a new initiative, booths for depositing remote control car keys by the invitees were set up.

15.28 ***Martyrs' Day Ceremony, 2018:*** On January 30, 2018, 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.

15.29 ***Online Portal on Gallantry Awards:*** An online portal dedicated to gallantry awards winner since Independence i.e. https://gallantryawards.gov.in was launched on August 15, 2017 by the Ministry of Defence. The portal was inaugurated by the Prime Minister. The objective is to sensitize citizens about gallantry awards – Paramvir Chakra, Mahavir Chakra, Vir Chakra, Ashoka Chakra, Kirti Chakra and Shaurya Chakra – and provide information at one place.

OFFFICIAL LANGUAGE DIVISION

15.30 The Official Language Division is functioning in the Ministry of Defence for implementation of the official language policy of the Union Government. This Division provides assistance and guidance to the officers and employees of the Ministry of Defence (Secretariat), the three Services Headquarters, all Inter-Service Organizations and Defence Undertakings for proper implementation of the provisions of the Official Language Act and rules made thereunder and the directions/ orders issued by the nodal Department viz. Department of Official Language, Ministry of Home Affairs in this regard from time to time. There are two separate Hindi Advisory Committees, one for the Department of Defence, Department of Ex-Servicemen Welfare and Department of Research and Development and other for the Department of Defence Production have been constituted under the chairmanship of Raksha Mantri in the Ministry. These Committees are constituted with a view to advise the respective Department(s) of the Ministry on matters relating to the progressive use of Hindi for official purposes. The work relating to Official Language implementation comprises achieving of targets prescribed by the Department of Official Language every year for the progressive use of Hindi in official work, imparting training of Hindi, Hindi typing and Hindi Stenography to the officers and staff working in the Ministry and organizing Hindi workshops for the staff to enable them to work in Hindi without any hesitation. The work relating to monitoring includes carrying out official language inspections of subordinate offices, defence undertakings and divisions/ sections of the Ministry, organizing quarterly meetings of both the Official Language Implementation Committees (OLICs) of the Ministry, taking part in the meetings of OLICs of the three Services Headquarters and Inter-Service Organizations located at New Delhi by senior officers of the Division as representative of the Ministry and reviewing the quarterly progress reports received from the above offices for taking remedial measures.

15.31 ***Annual Programme:*** Annual Programme for the year 2017-18 issued by the Department of Official Language was circulated to all defence organizations for achieving targets laid down therein. Emphasis is being laid on enhancing the original correspondence in Hindi, issuing all communications falling under Section 3(3) of Official Language Act, 1963 in bilingual form, conducting Hindi workshops regularly and getting the officers/ employees trained in Hindi under the Hindi Teaching Scheme. In the quarterly meetings of the departmental OLICs, progress made in this regard is being reviewed regularly.

15.32 ***Translation Work:*** Substantial material for translation received from various offices and sections of the Ministry was disposed of during the year which included MP/VIP references, communications issued from Raksha Mantri/ Raksha Rajya Mantri offices, Cabinet Notes, CAG audit paras, documents submitted to Standing Committee on Defence and Consultative Committee, Annual Report of the Ministry, Parliament Questions and Agreements etc.

15.33 ***Meeting of Hindi Advisory Committees:*** The meeting of the reconstituted committee of Department of Defence, Department of Ex-Servicemen Welfare and Department of Research and Development took place on the July 27, 2017 under the chairmanship of Raksha Mantri in New Delhi. Minutes of this meeting was circulated with instructions to implement the decisions taken in the meeting.

15.34 ***Incentive Scheme for writing books in Hindi on subjects relating to Defence and Award scheme for in-house journals:*** Under the scheme for the block year 2011-13, The book "Hind Mahasagar Chunoutiyan Evam Vikalp" written by Shri Harisharan & Shri Harsh Kumar Sinha was awarded first prize of ₹ 50000/- (Fifty Thousand) and the book "Dwitiya Vishwayudha" written by Captain Rajpal was awarded second prize of ₹ 30,000/- (Thirty Thousand).

15.35 ***Notifying Defence Offices under rule 10(4) of OL Rule, 1976:*** Notifications under rule 10(4) of Official Languages Rules, 1976 in respect of 16 defence offices wherein 80% or more officials have attained working knowledge of Hindi, were issued. Offices notified under rule 10(4) were directed to specify sections/proficient officials in their offices under rule 8(4) of the said rules to do their entire official work in Hindi. Instructions were issued to Services Headquarters etc. to carry out in-depth review at Headquarters level in this regard and expedite action to get the eligible office notified under the rule.

15.36 ***Hindi Pakhwara:*** Hindi 'Pakhwara' (fortnight) was held in the Ministry from September 14 to 28, 2017 for encouraging the officers/employees to use Hindi in their day-to-day official work. A number of competitions were organized during the period, which included Hindi noting and drafting, Hindi typing, Hindi stenography and essay writing competitions etc. More than 200 officials participated in the above competitions and 120 successful candidates were awarded cash awards/gifts.

15.37 ***Inspections of Parliamentary Committee on Official Language:*** Like in previous years, the Committee of Parliament on Official Language undertook inspection tours of various defence organizations at different stations in the country during the year. The Ministry guided and assisted the offices under inspection by reviewing their questionnaires and suggesting amendments wherever required. Assurances given by the offices at the time of their inspection are being fulfilled as per the directions and requirements of the Committee.

15.38 ***Strengthening Institutional Arrangements:*** With a view to achieving the objectives laid down in the "The Official Languages Act, 1963" and "The Official Languages (Use for official purposes of the Union) Rules 1976" made there under, a comprehensive review was undertaken in the Ministry and a number of directions were issued to all entities in the Department of Defence including the three Services Headquarters for strengthening the existing institutional arrangements for dealing with Rajbhasha related work.

WELFARE OF PERSONS WITH DISABILITIES

15.39 The representation of Persons With Disabilities (PWD) in Group 'A', 'B' and 'C' posts in Ministry of Defence (Department of Defence) and in attached and Subordinate Offices under Department of Defence Production is presented in **Table No. 15.4** and **Table No. 15.5** respectively.

Table No. 15.4

Annual Statement showing the representation of the persons with disabilities in services (As on January 1, 2017)

Representation of Visually handicapped (VH)/Hearing Handicapped (HH)/ Orthopedically Handicapped (OH) (As on 1.1.2017)					Number of Appointments made during the calendar year 2016											
					By Direct Recruitment				By Promotion				By Deputation			
Groups	Total Employ-ees	VH	HH	OH	Total	VH	HH	OH	Total	VH	HH	OH	Total	VH	HH	OH
A	4430	1	0	27	138	1	0	9	199	0	0	0	21	0	0	0
B	27899	38	39	227	198	0	0	2	2119	1	2	5	3	0	0	0
C (Excluding Safai Karmchari)	206310	360	529	1233	7041	27	47	89	3332	4	10	22	83	0	0	0
C (Safai Karamchari)	7784	52	87	124	243	1	8	3	201	0	0	0	0	0	0	0
Total	**246423**	**451**	**655**	**1611**	**7620**	**29**	**55**	**103**	**5851**	**5**	**12**	**27**	**107**	**0**	**0**	**0**

Table No. 15.5

Annual Statement Showing the Representation of the Persons with Disabilities in Service in Attached and Subordinate Offices under Department of Defence Production (As on January 1, 2017)

Representation of Visually Handicapped (VH)/ Hearing Handicapped (HH)/ Orthopedically Handicapped (OH) (As on 1.1.2017)					Number of Appointments made during the calendar year 2016											
					By Direct Recruitment				By Promotion				By Deputation			
Groups	Total Employ-ees	VH	HH	OH	Total	VH	HH	OH	Total	VH	HH	OH	Total	VH	HH	OH
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
A	2579	01	02	14	16	--	--	--	18	--	--	--	--	--	--	--
B	30357	20	37	261	22	04	02	07	66	--	--	02	--	--	--	--
C (Excluding Safai Karmchari)	62634	145	239	1297	100	26	24	44	42	07	05	20	--	--	--	--
C (Safai Karamchari)	114	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total	**95684**	**166**	**278**	**1572**	**138**	**30**	**26**	**51**	**126**	**7**	**5**	**22**	**0**	**0**	**0**	**0**

15.40 ***Department of Defence Production:*** All Defence Public Sector Undertakings (DPSUs) 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 Governments, are also extended to Persons With Disabilities.

15.41 ***Defence Research and Development Organisation:*** 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.

Department of Ex-Servicemen Welfare

15.42 ***Special Medical Care for disabled Soldiers:*** A number of soldiers become disable during action or due to accident and other causes and are invalidated 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, viz. Paraplegic Rehabilitation Centres at Mohali and Kirkee, which are supported financially by Kendriya Sainik Board (KSB) Secretariat out of Armed Forces Flag Day Fund.

15.43 ***Prosthesis Centres:*** 53 Prosthesis Centres of Endolite and Ottobock Companies across 40 Cities have been approved for empanelment under Ex-servicemen Contributory Health Scheme (ECHS) to provide latest prosthesis treatment to disabled ESMs.

भारत

ACTIVITIES OF VIGILANCE UNITS

Activities of Vigilance Units

16.1 The Vigilance Division in the Ministry of Defence has been entrusted with the task of dealing with complaints regarding corrupt practices, misconduct and irregularities in respect of employees of the 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 inter-alia initiates measures with a view to combat corruption and review procedures.

16.2 For administrative convenience, vigilance wing of the Department of Defence also looks after the vigilance work of Department of Ex-Servicemen Welfare and Department of Defence Research and Development. The Department of Defence Production have a separate vigilance wing.

16.3 In accordance with the directives of the Central Vigilance Commission, all Departments/Organizations/ Units viz. Navy, Air Force, DRDO, DGBR, E-in-C's Branch, DGDE, CAO & DGAFMS etc. under Ministry of Defence, observed Vigilance Awareness Week from October 31 to November 4, 2017 with the theme "My Vision – Corruption Free India" and wide range of activities like Integrity Pledge, workshops, distribution of pamphlets, display of banners/posters, debates, lectures, essay/poster making competitions, quiz programmes etc. were organized to spread vigilance awareness among their staff.

DEPARTMENT OF DEFENCE

16.4 In keeping with the need to ensure transparency, fair play, accountability and integrity, efforts are being made continuously in the Ministry of Defence for sensitization of all the stakeholders against corrupt practices.

16.5 The Chief Vigilance Officer maintains liaison with all concerned offices to ensure timely completion of various reports/cases/tasks relating to vigilance work.

16.6 The Ministry keeps a close watch over vigilance cases pending at different stages including cases pending in the concerned Wings/Divisions so that such cases are disposed of in a time bound manner. The status of pendency is monitored by the CVO at regular intervals. Regular meetings are held by CVO with the officers of vigilance cells of various organizations under the Department of Defence, DRDO etc. to monitor the pendency.

16.7 During the year a total of 14 complaints (4 from CVC + 10 others) and 2 Chief Technical Examiner (CTE) Paras were received, on which action was initiated. In this period, 42 complaints were closed in consultation with CVC/CVO. Sanctions for prosecution were conveyed against 26 officials and 27 disciplinary cases of CVC jurisdiction were finalized. Out of the above 27 cases finalized during the year, 'Major Penalty' was imposed in 10 cases, 'Minor Penalty' was imposed in 4 cases and in rest 13 cases, the charged officers were exonerated.

DEPARTMENT OF DEFENCE PRODUCTION

16.8 ***Mazagaon Dock Limited (MDL):*** 4 CTE type examinations were carried out by the Vigilance Department during 2017 resulting in overall systemic improvements.1 0 numbers of Spot checks/Inspections were conducted.

16.9 Integrity pledge was administered to MDL employees. Vigilance in-house journal 'SUCHARITA' Vol. XX was released. Essay/Debate competition was organised in 3 colleges and 2 schools. Gram Sabha was held at Village Parner, District- Beed (Maharashtra). An eminent speaker was invited for a talk to the executives of MDL. CVO held an interactive session with MDL Executives. Vendors meet was also organized during the Vigilance Awareness Week.

16.10 6 sensitization programmes were held and 115 executives participated.

16.11 Rotational transfer policy was implemented and 21 executives working on sensitive posts were transferred.

16.12 ***Bharat Earth Movers Limited (BEML):*** User friendly updated version of 2nd edition of Vigilance Manual was published in August, 2017.

16.13 As part of preventive vigilance all tenders above ₹ 1 crore have been brought under the purview of Integrity pact, 417 surprise checks, 569 Periodical checks, 633 Purchase Order checks, 829 reimbursement claims, 332 Annual Property Return (APR) checks and 6 CTE type inspections were carried out during the year 2017.

16.14 CCTV Cameras were installed at sensitive areas and Vigilance Boards were displayed at Prominent Locations across the BEML complexes.

16.15 Three Induction Training Program on Vigilance Awareness were conducted for newly joined trainees in BEML.

16.16 After risk assessment exercise, the sensitive areas list was reviewed and fresh areas were notified as sensitive.

16.17 Various activities were undertaken during the vigilance awareness week which inter-alia included:

(i) Administering of Citizens Integrity pledge to the Students and Staff at Schools and Colleges where BEML had organised events as part of Observance of Vigilance Awareness Week – 2017.

(ii) Organizing a vendor meet wherein vendors from all over India were invited to share business prospects of BEML and also to address their grievances.

16.18 ***Bharat Dynamics Limited (BDL):*** Works Manual and IMM Manual were revised in tune with the modern day requirements and in line with DPP/ (GFR)-2005.

16.19 Computerized File Tracking System (FTS) has been implemented.

16.20 Civil Works-Vendor Meet was arranged and held through Civil Engineering Department on June 24, 2017 at BDL, Hyderabad.

16.21 Systemic Improvement along with Vigilance Reports were sent to the Management on various issues such as Procurement of Capital/ Revenue items, etc.

16.22 Vigilance Awareness Week was observed from October 30 to November 4, 2017 with the Central theme of "My Vision – Corruption Free India".

(i) Integrity Pledge was administered through video conferencing to the employees in various offices of BDL located in different cities.

(ii) Grama Sabha was held at Village Bhanur Gram Panchayat office, wherein the Sarpanch, Ward members, MPTC member and Villagers participated and interacted with the CVO/BDL.

(iii) Essay writing competition on "How to make India Corruption Free" and Slogan writing Competition on "Eradication of Corruption" were conducted wherein employees of BDL, students of various schools and colleges participated.

16.23 ***Goa Shipyard Limited (GSL):*** CVC guidelines to ensure transparency by leveraging technology was implemented through effective use of website, e-tendering and on-line vendor registration and by bringing down the threshold value for e-tendering from ₹ 5 Lakhs to ₹ 2 Lakhs.

16.24 Orientation, Lecture and Presentations on Vigilance Awareness matters is being given to newly inducted officers, management trainees etc.

16.25 Vigilance Awareness Week was observed with the theme "My Vision – Corruption Free India" and various activities undertaken such as Outreach activities for college and school students. A 'Talk' followed by an 'Interactive Session' with DGP, Goa on various aspects of corruption was held.

16.26 As a preventive vigilance, notices are put up at the selection proceeding venues with details of CVO's IDs and contact numbers for receiving complaints, if any, and CCTV coverage is given at the venues where written tests for recruitment are conducted. Vigilance status of Board level executives and senior officials are updated on SOLVE portal in line with Government directives on the subject. Electronic attendance system has been made compulsory in all tenders of labour supplies in GSL.

16.27 ***Hindustan Aeronautics Limited (HAL):*** During the course of Vigilance investigation/ checks, the lacunae noted in the following areas were brought to the notice of the Management and fresh guidelines have been issued to streamline the procedure:

(i) Engagement of Contract Labourers

(ii) Appointment of Enquiry Officers

(iii) Delay in installation and commissioning of machineries

(iv) Tender Evaluation (change of specifications after opening of bids)

16.28 Studies of various activities were carried out and the points observed during the course of studies were brought to the notice of the Management for necessary intervention in the areas like (i) Time lag between raising of requisition to placement of POs (ii) Company's Legal Cases (iii) Vendors Master List (Outsourcing) (iv) Medical System etc.

16.29 Various activities were conducted in 25 colleges to bring vigilance awareness amongst the students. Integrity pledge was taken by 90% HAL employees, 480 HAL customers and 7270 public members. Sessions/workshops were conducted covering Transparency in Public Procurement, Tendering Process, Purchase procedure and GST etc. during the Week.

16.30 Interactive Sessions were held to address the grievances of the vendors.

16.31 566 routine/surprise checks on corruption prone areas were conducted. Out of which 18 cases were taken up for detailed investigation.

16.32 ***Mishra Dhatu Nigam Limited (MIDHANI):*** Vigilance Awareness Week was observed from October 30 to November 4, 2017 focusing on CVC theme of "My Vision - Corruption Free India". Chief Justice (retd), High Court of Patna was the Chief Guest. As part of outreach activity, competitions were held among students of various schools and colleges.

16.33 Integrity Pledge was taken by the employees and stakeholders, the message for promoting integrity pledge, was widely circulated through official ring back tune on all company mobiles and through website.

16.34 Fifth issue of In-house vigilance magazine "JAGRUTI" covering the articles relevant to the current year theme was released and circulated.

16.35 Workshop-cum-Interactive Session was organized on October 6, 2017 in MIDHANI on the topic 'Improving Vigilance Administration'. Updated Purchase Policy & Procedures Manual, 2017 was released by the CVC during the occasion.

16.36 Following activities were also performed during the year as part of preventive vigilance:

(i) Four CTE type examinations were carried out during the year and advisories were suggested.

(ii) High value procurement files and low tender response files were scrutinized.

(iii) Regular Inspections and surprise checks were carried out.

(iv) All tenders above ₹ 50 lakh have been brought under the purview of Integrity Pact.

16.37 Based on vigilance advisory, 'Online Payment' gateway for receipt and refund of Earnest Money Deposit and Security Deposit transactions has been implemented.

16.38 ***Bharat Electrical Limited (BEL):*** File Life Cycle Management on SAP platform has been implemented across all the units of BEL. 90.31 % is the average implementation across the company.

16.39 BEL received 'CVC Vigilance Excellence Award' on October 30, 2017 under the Management category of the 'Best Institutional Practice to Fight Corruption'.

16.40 1378 Regular inspections and 762 Surprise inspections were carried out across nine units of BEL, 1187 POs/ Contracts were reviewed and CTE Type Intensive Examination was conducted in respect of 66 Contracts during the year.

16.41 Meet on 'Ethics, Ethical Practices and Procedures and Effectiveness of Integrity Pact' was held on July 25, 2017 at BEL, Bengaluru. IEMs, CVOs and Vigilance Executives of Bangalore based PSUs and PSBs attended the meet.

16.42 Workshop on 'Disciplinary Proceedings and framing of Charge Sheet' was organised by BEL on July 20-21, 2017. Secretary CVC inaugurated the workshop. 66 participants from 29 organisations attended the workshop. Similar two day workshop was conducted on September 21-22, 2017 at BEL, Bengaluru. BEL also organized one day program on Alternate Dispute Resolution on December 8, 2017 at Bengaluru in association with ICADR.

16.43 The Vigilance Awareness Week was observed in Corporate Office and in the Nine Units of BEL.

16.44 ***Garden Reach Shipbuilders and Engineers Limited (GRSE):*** As a preventive vigilance measure, regular and surprise inspections and verification of files were carried out. Annual Property Returns filed by the officers were scrutinised. Vigilance status of officers was assessed at various stages.

16.45 Sensitive Posts were identified and action initiated for rotation of officers in a phased manner.

16.46 GRSE observed Vigilance Awareness Week, 2017 both within the organization and outreach activities for citizens/public in general. The activities within the organization include display of Banners and Display of Anti-Corruption themes in various Units and departments, taking Integrity Pledge by employees, distribution of pamphlets on preventive vigilance activities, conducting workshops and sensitizing programmes for employees and other stake holders on policies/procedures of the organization.

16.47 Banners at prominent places with the message to participate in the fight against corruption were displayed for citizens/ public in general with the request to log in CVC website for taking e-integrity pledge. Competition and taking of Citizen Integrity pledge and the message of ill effects of corruption was carried out in schools and colleges. Bulk e-mail was sent to vendors the message to participate in the fight against corruption by taking e-Pledge in CVC website.

16.48 ***Hindustan Shipyard Limited (HSL):*** Four CTE type inspections were conducted and Reports were prepared and forwarded to CMD, giving Vigilance observations and suggestions for improvement.

16.49 Online payment gateway for EMD, tender fee and vendor registration was inaugurated and put into action w.e.f. November 15, 2017.

16.50 Twelve Nos. of Surprise checks were conducted by the vigilance dept. at General Stores, Bond stores, Disposal yard, Integrity pact at Purchase dept. periodic inspection of EMDs, Vendor development in Commercial dept. and Yard Dispensary.

16.51 Following activities were undertaken during Vigilance Awareness Week:

(i) Essay writing, Slogan writing and Quiz competitions were conducted for employees on the theme "My vision-Corruption Free India". Painting and Elocution competitions were held for schools and college students on the theme 'My vision-Corruption Free India'.

(ii) A vigilance work shop was conducted at WISTM Engineering College, Pinagadi. The students and faculty were taken 'On-line Integrity Pledge'.

(iii) A vendor meet was conducted at Commercial department and mass Integrity Pledge was taken by the vendor.

(iv) Walkathon was conducted on Visakhapatnam beach Road by all the PSUs of Visakhapatnam i.e. HSL, DCI, VPT, HPCL, RINL. Human vigilance EYE was formed on beach and Integrity Pledge was administered.

(v) A seminar was conducted on November 2, 2017 on the theme of "My vision-Corruption Free India".

16.52 Eight templates have been designed for collecting various data from factories and created in the PPC package of the factories. The templates analyses would generate action report on various points such as - Instances where deviations have taken place and where investigation is required; Further Vigilance Measures to streamline vigilance activities/ process; Areas Prone to Corruption'; Areas of concern as a Risk Management Strategy; Other areas of concern like cartelization, repeated order to same vendor etc.

16.53 Eight CTE Type inspections have been conducted during the Year, Agreed List was prepared and Officer of doubtful integrity list was prepared

16.54 Forty Two training courses were organized in different factories. Vigilance workshops were organized in OFB, chaired by CVO/OFB on the different case studies related to Recruitment Procedure, Capacity Verification, procurement etc.

16.55 ***Action taken by Department of Defence Production:*** To increase the level of transparency in various activities of Defence PSUs and Ordnance Factory Board, Actionable Points were identified and circulated to all the DPSUs and OFB for necessary action which includes Inter Organisation Audit, Covering 90% contracts under Integrity Pact, reduction in proportion of Limited/ Single tenders through gradual vendor development, 90% of procurements (by value) through e-Procurement, streamlining the mode of procurement in DPSUs, updation of all Works and Procurement manuals etc.

16.56 Structured Meeting between CVOs of all DPSUs/ OFB and CVO/ DDP was held on July 19, 2017. Various issues relating to vigilance matters were discussed and all the CVOs of DPSUs and OFB were advised that audit for the year 2017 may be conducted within a time frame and the CVOs may fix time schedule for conducting the audit with the respective DPSUs/OFB. This will improve the working culture of the Vigilance setup in an organization.

16.57 Interactive sessions were held by DS (Vig)/DDP with the officers of OFB holding the posts of JWM and Chargeman at three different locations i.e., at Kolkata, Kanpur and Dehradun to sensitize them of the vigilance angle and importance of applicability of rules/ guidelines in the discharge of their duties relating to procurement, purchase and labour contract etc. About 109 officers put together, participated in the interactive sessions.

16.58 During the Year 2017, the DDP/ Vigilance has undertaken following actions in respect of Group 'A' officers of OFB/ DGQA and Board Level officers of DPSUs under the punitive vigilance:

Sl. No.	Action Taken	Number of Officers involved
1.	Major Penalty imposed	8
2.	Major Penalty Charge Sheet issued	8
3.	Minor Penalty Charge Sheet issued	1

17

EMPOWERMENT AND WELFARE OF WOMEN

Empowerment and Welfare of Women

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 in the Armed Forces. With the induction of women in various branches of the Armed Forces like flying, 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 in 1943. In the Armed Forces Medical Services, there are both Permanent and Short Service Commission Officers (SSCOs).

17.3 In a significant step the tenure of Women Officers in Short Service Commission has been increased from 10 years to 14 years which would attract more women to join the Army. 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. They 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 Keeping in view the role and responsibility of the Armed Forces in defending the nation and protecting the territorial integrity of the country, the future policy on induction and employment of women in Armed Forces has

been enunciated in November, 2011 which is 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 The Indian Navy (IN) is committed to the welfare, well-being and dignity of the women. It is a constant endeavour of Indian Navy to provide maximum support to women employees and women family members in order to maintain high morale and motivation at all times. IN has taken concerted efforts to empower women employees and ensure their active participation in activities/ work at respective units. The following measures have been implemented to ensure women empowerment and safe working environment for women employees:

(a) Creation of positive environment by giving freedom for women at workplace and equal status with men which enables development of women by realising their full potential.

(b) Equal participation/ involvement of women employees in decision making or activities of the unit/ establishment at all levels.

(c) Sensitisation of all employees to ensure equal rights with men and congenial atmosphere at workplace.

(d) Elimination of violence/ all forms of harassment of women employees, whether physical or mental, at workplace.

17.7 ***Women Officers:*** Women are being inducted into the Navy as Short Service Commission Officers (SSCOs) in the Executive (Observer, ATC, Law & Logistic), Education Branch and the Naval Architecture of the Engineering Branch. In March, 2016, approval of Ministry of Defence has been accorded for induction of women SSCOs as Pilots in Maritime Reconnaissance (MR) stream and in the Naval Armament Inspectorate (NAI) cadre. One woman officer has been inducted as MR aircraft pilot and four women officers in the NAI cadre in year 2017.

17.8 ***Permanent Commission to SSCOs:*** The Government has introduced grant of Permanent Commission prospectively to the SSCOs for both men and women, of the Executive Branch (Law Cadre), Education Branch and Engineering Branch (Naval Architecture) w.e.f. 2008.

17.9 ***Vishaka and Nirbhaya Acts:*** "Visakha Guidelines" and "The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013" have been implemented at Integrated Headquarter (IHQ)MoD (Navy), all Commands and outlying units. Committees have been constituted at the three Commands to inquire into complaints of sexual harassment of women employees at workplace. The main aim is to prohibit/ eliminate any sort of harassment/ violence against women employees at workplace. Suitable women officers have been nominated as the chairman of Internal Complaint Committee (ICC) Cell of all units.

17.10 ***Naval Wives Welfare Association (NWWA):*** In order to encourage building self-confidence amongst women and to boost morale of naval ladies, a large number of activities are organised by naval officers' wives on a voluntary basis. The Naval Wives Welfare Association (NWWA) provides an opportunity to undertake genuine

welfare and educational activities through its innumerable welfare programmes. Examples of such activities include running of play schools for children, reaching out to people outside the community, running of schools for special children, care for senior citizens and patients with chronic diseases, rehabilitation of naval widows, helping in resolution of family disharmony through professional counselling and guidance, conduct of vocational training classes for women towards other skill development and economic empowerment. NWWA also provides opportunities to the naval families to develop and showcase their talents in the field of social, cultural and sports activities through vocal and instrumental music, dance, drama, health activities, yoga and organised games and sports.

17.11 ***Navika Sagar Parikrama:*** It is an expedition wherein a team of women officers of the Indian Navy are circumnavigating the Globe on an Indian-built 56-feet long Sail boat, INSV Tarini. This is the first ever Indian circumnavigation of the Globe by an all women crew. The expedition was flagged-off from Goa on September 10, 2017, by the Raksha Mantri. The vessel is expected to return to Goa in April 2018 after port halts at Fremantle (Australia), Lyttelton (New Zealand), Port Stanley (Falklands) and Cape Town (South Africa).

Navik Sagar Parikrama - an Interaction with Prime Minister

Welfare Activities

17.12 ***Revised Spouse Co-location Policy:*** It has been the endeavor to post spouses serving in the Armed Forces at the same station so far as feasible, subject to Service exigencies. To outline clear modalities and conditions for spouse Co-location, which meet individual aspirations, as also organisational goals, policy on Spouse co-location has been revised and provisions have been aligned with those in the Indian Army, the Indian Air Force (IAF) and Department of Personnel and Training (DoP&T) guidelines.

17.13 ***Naval Regimental System (NRS):*** In keeping with the traditional camaraderie and brotherhood that is prevalent in the Defence Services, Naval Regimental System (NRS) was established in January 2011 to institutionalise the support system and provide proactive and extended support to Widows/ Next of Kin (NoK) of deceased sailors. Under this system seven Command Regimental System Officers (CRSOs) and their teams reach out to every family after the demise of a naval colleague, regardless of whether the individual was in harness or retired and ensure that their welfare and accrual of all entitled dues reach them in time. Regimental State Units (RSUs), which have their footprint on ground, reach out to the widows and educate them on related welfare issues e.g. family pension, identity card, canteen cards, Ex-servicemen Contributory Health Scheme (ECHS) memberships etc.

17.14 Reaching out to Widows and Retired Community: To facilitate early resolution of issues impinging on their wellbeing the following have been instituted:

(a) 'Directorate of Ex-Serviceman Affairs Toll Free Help Line' which provides round the clock coverage through its Integrated Voice Recording (IVR) Facility.

(b) 'Commodore Bureau of Sailors (CABS) Toll Free Help Line' to resolve pension related issues.

(c) Dissemination of important issues through IRFC web site.

(d) Publication of quarterly e-newsletter covering latest policies/ developmental issue related to welfare of veterans.

(e) Interaction with Directorate of Ex-Serviceman Affairs through e-mails.

17.15 ***Widows' Hostel at Delhi:*** A plot measuring 2050.39 Sqm was acquired by the Navy from DDA for

construction of a hostel for widows of naval personnel. Necessary approvals from concerned authorities, including "Build Permit" from MCD have been obtained. Construction of the hostel is in progress. It will have 34 dwelling units with all amenities including parking.

17.16 ***Well Woman Clinic:*** Well Woman Clinic was conducted under the aegis of Arogya Wing of NWWA from February 20-22, 2017 at Varunika Auditorium, Chankyabagh, Chankyapuri. The event was aimed to sensitise wives of naval personnel on the merits of positive women's health and to promote optimal health and well-being.

INDIAN AIR FORCE

17.17 IAF has been at the forefront in providing equal opportunities to women and maintains gender neutral policies. Presently, all branches and streams in the IAF are open for induction of women as officers.

17.18 ***Induction of Women Pilots in the Fighter Stream:*** Induction of women in the IAF started in 1992. Initially, women were inducted in certain branches and streams as Short Service Commission Officers (SSCOs). Subsequently, more branches and streams were opened up for them. The roles and tasks assigned to women officers have also progressively expanded in the IAF over the last decade and a half.

17.19 Induction of women in flying branch of the IAF commenced in the year 1994. However, they were inducted only in transport and helicopter streams. Induction of women in the fighter stream in IAF was approved in 2015, a move that is largely seen as a positive step towards gender equality in Armed Forces. On June 18, 2016, three Flight Cadets - Avani Chaturvedi, Bhawana Kanth and Mohana Singh became the first women pilots to be commissioned into the fighter stream. These women pilots, now Flying Officers, have been posted to Bison and Hawk units as Sqn Pilots on successful completion of fighter flying training. A second batch of three women cadets has been selected for fighter stream in June 2017. These officers are undergoing training at Air Force Station Hakimpet and will be commissioned into the Fighter stream after successful completion of training.

IAF Women Pilot in cockpit

INDIAN COAST GUARD

17.20 Indian Coast Guard (ICG) has been inducting women officers since 1997 as permanent appointee Assistant Commandant in General Duty (GD) and Aviation Cadre (Pilots) since 1998. Presently 133 women officers are on the active rolls of the service which also include women officers as Short Service Appointee (SSA) in General Duty and aviation cadre. The strength of women officers in ICG approximates to about 10% of the total strength.

17.21 The service has taken proactive steps towards empowerment and welfare of women officers. Their experience, talent and dedication have been effectively utilised in areas where their competence are fully harnessed like Pilots, Observers and aviation support services. They are also employed in equally responsible task in coastal security mechanism. The women officers are also posted in remotely located stations at par with the men officers. In addition, Command appointments in Coast Guard store depots are also being offered to type specialized women officers. All these measures have ensured equal opportunities to women officers for career progression and profiling in service.

17.22 The lady officers in ICG have matched their male counterparts step by step. Opening new avenues for woman officers in service, ICG has appointed junior level women officers as co-pilots onboard Air Cushion Vehicles (ACVs) akin to Fixed Wing Aircraft. Towards this, four women officers have already been trained in ACV as operator and subsequently appointed onboard ACV'S while another 3 women officers are undergoing ACV training. These woman officers are being operationally deployed for about 8-10 hours at sea. This has helped in improving their domain awareness and professional acumen.

DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION

17.23 Defence Research and Development Organisation (DRDO) as an employer is committed for creating a healthy, safe work environment that enables employees to work free from unwelcome, offensive and discriminatory behavior, which enable them to deliver their best at work without fear of prejudice, gender bias and sexual harassment. It is ensured that women employees are accorded equal opportunities for enhancement of their skills and knowledge and fulfillment of their potential. This has resulted in many women scientists having top positions in DRDO and achieving organizational objectives.

17.24 Every year DRDO commemorates International Women's Day at national level across the country. A one day national level workshop on "Mahila Unleashing Dynamism in Research Areas (MUDRA-2017)" was hosted by ASL at Hyderabad where more than 270 women scientists, technologists, officers and staff from different laboratories/ establishments of DRDO from all over the country participated.

International Women's Day

DEPARTMENT OF DEFENCE PRODUCTION

17.25 ***Ordnance Factory Board (OFB):***

- Installation of crèche facility in OFB on July 21, 2017.
- As per the Government order issued by DOP&T, complaint committee have been constituted in each unit to look into complaints of sexual harassment. OFB has already issued instruction for wide publicity of the provisions of the sexual harassment of women at workplace (Prevention, Prohibition and Redressal) Act, 2013 to all OFs/ Units for compliance.
- Women employees are not deployed at odd hours duty shift.

- All basic amenities like proper working area, separate toilets, restrooms have been provided to women employees in all OFs/Units.
- Women officers are entitled to reach at the highest position i.e. DGOF/Chairman/OFB.
- Training facilities are being provided to women employees at par with their men counterparts.

17.26 ***Hindustan Aeronautics Ltd. (HAL):*** The strength of Women employees in HAL was 2393 as on December 31, 2017. HAL is a Member of the "Women in Public Sector (WIPS)" Forum under the aegis of the Standing Conference of Public Enterprises (SCOPE) Opportunities to participate in the programmes/ activities of the WIPS Forum are extended to Women employees.

17.27 In line with the Provisions of the Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal) Act, 2013, necessary actions are being taken to prevent sexual harassment of women at workplace. Internal Complaints Committees as per Section 4 of the said Act are put in place.

17.28 ***Bharat Electronics Ltd. (BEL):*** BEL has around 2076 women employees. Gender diversity is appreciated & acknowledged for women empowerment. Fair opportunities are provided in recruitment, career progression, learning & development, welfare measures etc. Women have assumed leadership positions in critical roles (GMs & Director) in BEL and play a vital role in business growth. In the light of Supreme Court's directions on 'Prohibition of Sexual Harassment of Women at Work Place', an "Internal Complaints Committee" has been constituted and functions with a Senior Woman Executive as its Chairperson. Awareness programmes are being conducted for women and men employees so as to make BEL a safe place for women employees.

17.29 ***Garden Reach Shipbuilders & Engineers Ltd. (GRSE):*** In the GRSE representation of women is 4.8% of the total strength in the Company and 12.5% of recruitment during 2017-18 (upto December, 2017). GRSE WIPS Chapter regularly interacted with Eastern Region WIPS Chapter and Company nominated women employees to participate in different workshops conducted by the WIPS Wing of various Public Sector Undertaking at Kolkata and Orissa.

17.30 ***Goa Shipyard Ltd. (GSL):*** Women at GSL are given at par opportunities with their men counterparts. Regular awareness and training programs are organised for them. An 'Internal Complaints Committee' for prevention of sexual harassment at workplace and redressal of complaints has been constituted.

17.31 ***Hindustan Shipyard Ltd. (HSL):*** A "Gender Budgeting & Women in Public Sector Cell" has been constituted. The cell comprises of four women officers for effective implementation of general development program for women employees such as training, advancement of skills and provision of welfare amenities at work place etc. and also to enhance the effectiveness of women employees in their employment, career management and overall personality development. There are presently 56 women employees on permanent rolls of the yard.

17.32 ***Mazagon Dock Shipbuilders Ltd. (MDL):*** MDL has provided Apprenticeship Training for skill enhancement to 94 girl Apprentices in various trades during Financial Year 2017-18. There are around 68 women employees (executives and staff) members in the Forum of Women in Public Sector (WIPS).

17.33 ***Bharat Earth Movers Ltd. (BEML):*** BEML is creating a condusive environment of work for women employees/executives. The Company has constituted Women Cells in all the Production Units including Corporate Office to address the issue connected to Women Employees/Executives. A dedicated intranet mail-id has been provided to facilitate free exchange of ideas & views among women employees/executives of the Company.

17.34 ***Bharat Dynamics Ltd. (BDL):*** There are 337 women employees working in BDL as on December 1, 2017 which constitutes 10.69 % of the total workforce. Women employees (Executives & Non-Executives) are also nominated in Trade Union and Officer's Association.

17.35 ***Mishra Dhatu Nigam Limited (MIDHANI):*** MIDHANI has extended all facilities as per the statutes for the welfare of all its women employees. Women employees of MIDHANI belonging to Executive, supervisory and Non-Executive cadre are involved in all areas of operation of

the Company right from Material procurement, production, maintenance, dispatches to support services such as Civil, Finance, HR, Marketing etc. At present there are 71 women employees collectively working at par with men towards achieving the Company goals.

17.36 ***Directorate General of Quality Assurance (DGQA):*** All opportunities and benefits as per the guidelines and policies issued by the Government of India and other statutory authorities from time to time with regard to women empowerment and welfare are being implemented.

DEPARTMENT OF EX-SERVICEMEN WELFARE

17.37 Department of Ex-servicemen Welfare deals with the rehabilitation and welfare of about 30 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. Kendriya Sainik Board (KSB) Secretariat provides financial assistance for education and marriage of daughters of ESM, widow re-marriage and vocational training of widows. Widows are also eligible for dual family pension subject to conditions.

17.38 Higher Education scholarship amount is provided to girls under Prime Minister's Scholarship Scheme (PMSS). 5500 number of scholarships under PMSS has been divided equally between boys and girls. The amount of scholarships is ₹ 2,000/- for boys and ₹ 2,250/- for girls per month and is paid annually.

17.39 Widows of ESM are eligible for Resettlement Training under Directorate General of Resettlement (DGR). A number of DGR Employment Schemes like Coal Tipper Scheme, Oil Produce Agencies, Surplus Vehicles, Safal Booths, etc. are given priority to certain categories of widows of ESM. War widows are exempted from payment of one time contribution for ECHS membership.

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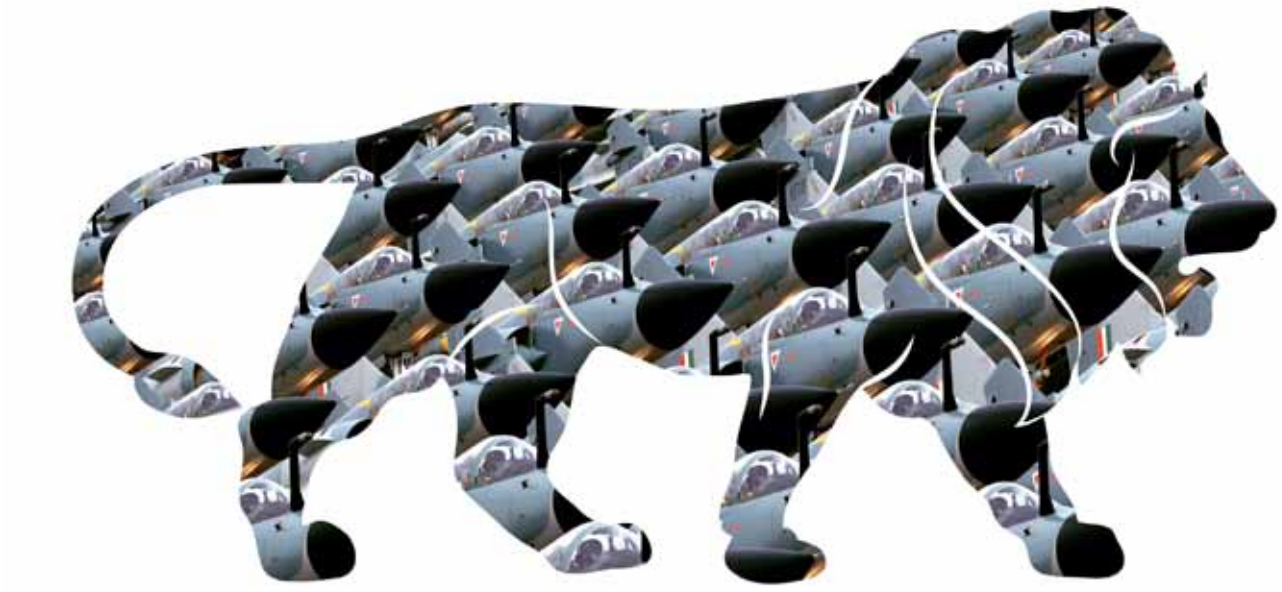
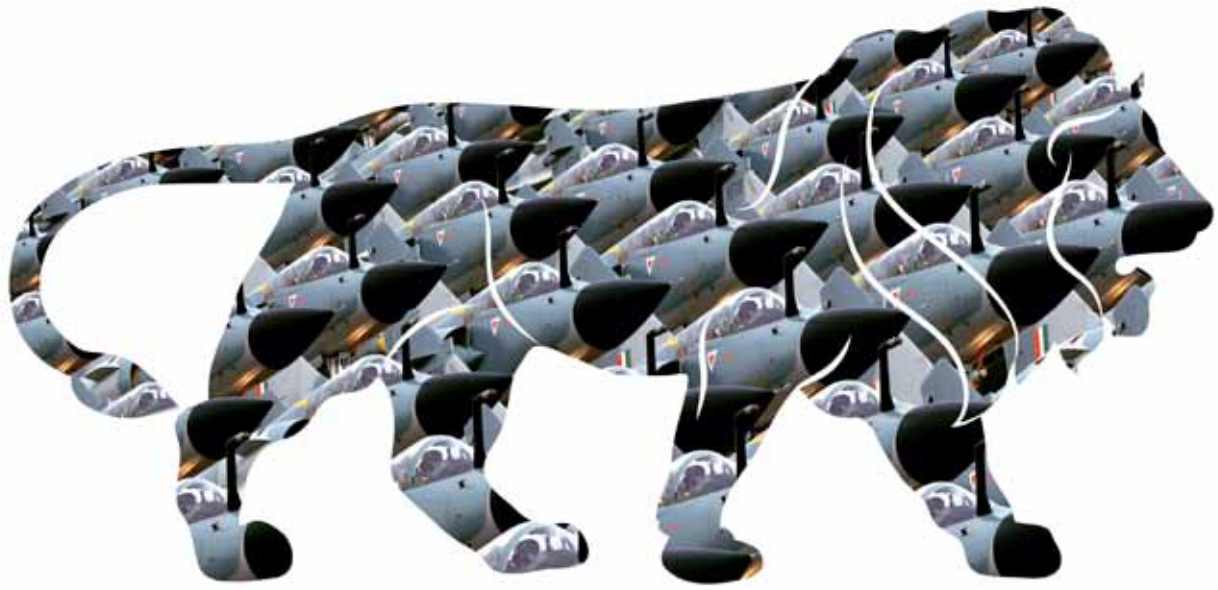
INITIATIVES TOWARDS SIMPLIFICATION, DECENTRALIZATION AND ENHANCING THE EASE OF DOING BUSINESS





Initiatives Towards Simplification, Decentralization and Enhancing the Ease of Doing Business

18.1 In keeping with the Government's agenda of 'Minimum Government, Maximum Governance' and in furtherance of the avowed objective of enhancing the ease of doing business, a number of initiatives were taken during the year for simplification and streamlining of procedures and decentralisation of decision-making. Additional powers have been delegated to the Service HQrs and other subordinate entities with a view to facilitating faster decision- making. An overview of such initiatives has been provided in this chapter.

Delegation of Financial Powers and Decentralisation of Decision-making

18.2 With a view to empowering the Armed Forces and other subordinate entities under the Ministry of Defence, as also to reduce the time taken in decision-making, it has been decided to delegate a number of powers exercised hitherto by the Ministry to the Service Headquarters and other entities. Some of the areas where such delegation has been made are outlined below:

(a) With the approval of Cabinet Committee on Security (CCS) the following delegation of financial powers was made in February 2017 for sanctioning capital acquisition proposals covered in the Services Capital Annual Acquisition Plans:

Upto ₹ 150 crore	Service HQs [Vice-Chiefs and DG (Coast Guard)]
Above ₹ 150 crore and upto ₹ 300 crore	Defence Secretary
Above ₹ 300 crore and upto ₹ 2000 crore	Raksha Mantri
Above ₹ 2000 crore and upt ₹ 3000 crore	Finance Minister
Beyond ₹ 3000 crore	Cabinet Committee on Security

(b) With the intent to bring transformational changes in the Border Roads Organisation, in order to improve the pace of execution of works and to achieve the desired outcomes as per the requirement of the Armed Forces, the Ministry has delegated substantial administrative powers to BRO in August, 2017, right up to the level of Chief Engineer and Task Force Commander. It is expected that with this significant delegation of powers to BRO, the pace of road construction in the border areas would improve significantly and BRO would be able to complete ongoing as well as new projects in compressed timelines.

(c) The powers to issue permits for use of Army Aviation bases and Army controlled Advanced Landing Grounds (ALGs) and Helipads for scheduled flights, which were till now vested with the Ministry of Defence, have been delegated to Integrated Headquarters of Ministry of Defence (Army) to reduce the channel for approval for the security clearance and to avoid unnecessary delays which caused inconvenience to the state dignitaries using army aviation bases.

(d) Powers for undertaking works for perimeter security of sensitive military installation have been fully delegated to the Service Headquarters in order to expedite decision making.

(e) Certain powers, in respect of post-contract management of capital acquisition contracts as well as for revenue procurement, hitherto exercised by the Ministry, have been delegated to Service Headquarters. These include extension of Delivery Period with imposition of LD and Extension of Letter of Credit (LC); amendments to financial implications of contracts on account of change in statutory levies; payment of additional Bank charges/ LC charges/ transportation charges, additional cost in opening of LC; amendments to delivery Terms/ Consignee for specific operational reasons; to invoke Guarantee/ Warranty clauses including free of cost repairs/ replacement; approval to conclude all AMC/ CMC. Contracts with value upto ₹ 25 crore in case of STE and Full Powers in case of OTE/ LTE can be concluded,

(f) Additional financial powers have been delegated to the Director General and other authorities of National Cadet Corps (NCC) and the Indian Coast Guard.

(g) Ministry of Defence has delegated Financial Powers for Critical Ammunition/Spares to the Service Headquarters to be exercised by Vice Chief of the Services in consultation with their respective Integrated Financial Advisor (IFA)/ Principal Integrated Financial Advisor (PIFA).

(h) Powers have been delegated to Vice Chiefs of the Services in respect of approval in principle for procurement of operational vehicles to replace condemned vehicles.

(i) Powers were also delegated to Commandant/ Principals of Category 'A' institution for hiring of Civilian Academic Officers on contract basis for one year.

(j) The work of distribution of Medals has also been delegated to Service Headquarters.

Simplification of Acquisition Procedures

18.3 For expeditious processing of proposals for acquisition of various items, the procedure for vetting the Government Sanction Letter (GSL)/Contract/Supply Order and allotting U.O. number has been simplified.

18.4 The new Defence Procurement Procedure (DPP) 2016 which came into effect from April 1, 2016 (DPP-2016) focuses on institutionalizing, streamlining and simplification of procedures. Enhancing the role of MSMEs in defence sector, and cutting down permissible time frames for various procurement activities, are the other defining features of DPP-2016.

18.5 The new DPP has inter-alia enhanced and rationalised indigenous content, broadened the scope of Services Qualitative Requirements (SQR), eased and rationalised offset requirements, incorporated new provisions for involving private industry as Production

Agencies and Technology Transfer Partners. Single vendor cases at bid-submission and TEC stages will no longer be automatically retracted but can be progressed with due justification and approval of the DAC. The DPP specifically addresses the issue of delay through a number of measures including submission of RFP along with proposal for seeking AON, providing for change of name of the vendor and enlarging the scope of use of certifications and simulations.

18.6 Taking these initiatives forward, the Offset Policy has been streamlined so that the vendor has the option to provide details of Indian Offset Partner (IOP)/Products at a later stage. Flexibility has been provided for changing IOP/Offset component in contracts under previous DPPs. 'Services' have been re-introduced as an avenue for discharge of offset obligation.

18.7 After the recent delegation of financial powers, a decision was taken that in respect of procurement cases for which RFPs were issued under previous delegated financial powers, irrespective of the authority which approved the proposal in-principle or considered the case during the procurement process, the final sanctioning authority will be determined as per the present delegation of financial powers.

18.8 Tax anomalies between Public Sector and private sector have been removed in order to provide a level playing field. Foreign Exchange Rate Variation (FERV) protection has been extended to the private sector on full imported content.

Enhancing the Ease of Doing Business

18.9 As part of liberalisation of the licensing policy to enhance the ease of doing business, 65 to 70 per cent of items, including parts, components etc. under IDR Act, have been de-licensed and the validity of Industrial Licence has been extended to 15 years with a provision of further extension for 3 years.

18.10 Green Channel Policy was promulgated in March, 2017, which provides for deemed registration status, waiver of pre-dispatch inspection and acceptance of stores under supplier's warranty/guarantee. Further, renewal of registration has been allowed on self-certification basis.

18.11 DPSUs have been mandated to provide 'deemed registration' i.e., vendors, registered with one DPSU automatically get registered with other DPSUs for specified products.

18.12 Provisions have been made for OFBs and DPSUs to make payment through 'Letter of Credit' (LC) to Indian vendors in global tenders.

18.13 Test facilities of Government entities have been opened to private sector.

Boost to "Make in India"

18.14 The DPP 2016 has given significant thrust to 'Make in India' through unequivocal preference to indigenous design, development and manufacture. Taking the initiative forward, a revised 'Make' procedure was promulgated which provides for Government funding upto 90 percent and preferential treatment to MSMEs.

18.15 The 'Make' procedure under the Defence Procurement Procedures which was introduced initially in 2006, provides for collaboration between Government and private Indian Industry for indigenous design, development and manufacture of defence equipment. Two sub-categories of 'Make' viz. 'Make-I' and 'Make-II' were introduced in 2016. Make-II procedure is for projects of prototype development without Government funding. As a major boost to 'Make in India' in the defence sector, the Defence Acquisition Council (DAC) on 16th January 2018 cleared a simplified 'Make-II' procedure after a series of consultations with the industry. Salient features of the simplified procedure are as follows:

- Inviting suggestions for project from the industry, start-ups and individuals, especially in respect of items which are currently being imported;
- 'Approval-in-Principle' of project by a collegiate comprising DRDO, HQ (IDS), DoD under a Committee chaired by Secretary (DP);
- Hosting of Expression of Interest (EoI) in respect of approved projects on MoD websites;
- No limit on number of industry players who may show interest and offer a prototype;

- Project shall not be foreclosed once Project Sanction Order is issued. The winning bidder is assured of an order;
- Service HQrs to constitute a Project Facilitation Team to facilitate the process;
- Case to be progressed even if only one entity has offered an innovative solution;
- Industry which develops the project will retain the title, ownership and IPR (except for specified reasons like national security);
- Normally no negotiations in multi-vendor contracts.

18.16 The simplified 'Make-II' procedure will reduce the total time from in-principle approval to placing of order by 50 percent. The estimated time to finish the whole process will come down from 103 weeks to 69 weeks.

18.17 A key development during the year which is expected to become a game-changer in development of industrial base in the defence sector in India in the years to come was the promulgation of the Strategic Partnership model in Defence sector on May 31, 2017 in the form of Chapter VII of DPP 2016 entitled 'Revitalization of Defence Industrial Ecosystem through Strategic Partnerships'. The policy is intended to encourage broader participation of private sector in the manufacture of defence platforms and equipment. The Policy will serve to enhance competition, increase efficiencies, facilitate faster and more significant absorption of technology, create a tiered industrial ecosystem, ensure development of wider skill base and trigger innovation, leading to reduction in dependence on imports and greater self-reliance in meeting national security needs.

Other Simplification and Rationalization Measures

18.18 In order to simplify the procedure for obtaining approval of Ministry of Defence for Passage Exercise (PASSEX), the activities which are to be undertaken during PASSEX have been defined in consultation with countries, with whom PASSEX can be undertaken. Indian Navy has been authorised to undertake PASSEX exercise with the 28 identified countries within the parameter of these defined activities while on overseas encounter and during Port Visits to these countries. The Navy has also been authorised to do PASSEX with these countries during the visit of the ships of these countries to Indian Ports. The Naval Headquarters need approval of MoD only when they either engage with the countries other than the said 28 countries or the scope of PASSEX is beyond identified activities.

18.19 The policy on Restriction of Sale, Publication & Distribution of Maps dated August 25, 1967 has been revised. This was necessitated by the need to bring it in tune with the liberal economic regime and to accommodate the technological changes that have taken place in the field of Cartography and advancement in space based technology and due to implementation of National Map Policy 2005, wherein two series of maps have been introduced viz. Defence Series Maps (DSMs) to cater for defence and national security requirements and Open Series Maps (OSMs) for open distribution. As per the revised guidelines maps of only 1:50,000 or larger scale are classified as restricted as against the earlier guidelines which specified maps of 1:1 Million or larger as classified. Further, map of scale: 4 Million or smaller are removed from the requirement of vetting of Ministry of Defence.

18.20 The policy for obtaining In-Principle Approval (IPA) of Raksha Mantri in Land acquisition cases has been revised. Under the revised procedure IPA will be issued at the level of Defence Secretary and approval of the Raksha Mantri is to be obtained only at the time of actual acquisition of land. The relevant rules have been amended to this effect.

18.21 The Ministry has approved a Pilot project for on-line examination prior to physical and medical test for recruitment in Army. Initially, the project is being implemented in three Headquarters Recruiting Zone of Ambala, Chennai and Jaipur.

18.22 Quantification System of Selection was introduced on December 31, 2008. Quantified System brought along enhanced transparency and objectivity in the Selection Process. The QSS was last reviewed on

January 4, 2011. In the year 2017-18, the QSS has been reviewed to improve the present system by bringing certain changes in the overall allocation of marks, CR weightages and overall course weightages.

18.23 With a view to infusing more objectivity, transparency and fairness in the system and to streamline the holding of Selection Board, the new promotion policy for promotion to the rank of Maj Gen. and above have been promulgated.

18.24 NDC Course and APPPA Courses are conducted every year at the National Defence College and Indian Institute of Public Administration (IIPA), New Delhi. The existing policy has been reviewed to bring transparency in the process for nomination of Services officers for NDC, APPPA.

18.25 In a major initiative to streamline and rationalize the system of hiring seasonal porters and to bring it in tune with the directions of the Supreme Court of India, a comprehensive new scheme entitled "Terms and Conditions for Hiring of Seasonal Porters" has been promulgated by the Ministry. Seasonal porters hired by the Armed Forces often work in high altitudes and under harsh climatic conditions in the border areas, and alongside the Line of Control. The Scheme inter alia lays down the eligibility conditions for hiring of such porters, the wages to be paid to them, the terms and conditions of hiring, benefits eligible (including medical facilities, accommodation, insurance, compensation on death, one-time financial grant upon severance etc.). It also opens a window for providing regular employment to them as Multi Tasking Staff (MTS). The Scheme provides for computerised record-keeping to regulate proper functioning of the entire Scheme.

18.26 ***Procurement of ATV:*** Approval-in-principle for the procurement of 9 All Terrain Vehicles (ATVs) for 14 Corps in Northern Command, for extremely urgent operational requirements, under the powers delegated to the VCOAS, has been approved by the competent authority.

18.27 ***Procurement of LBPV:*** Approval-in-principle for one-time procurement of 50 Light Bullet Proof Vehicles (LBPV) for troops in Northern Command, for extremely urgent operational requirement, under the delegated powers of the VCOAS, has been approved by the competent authority.

Matters Dealt with by the Departments of the Ministry of Defence

A. DEPARTMENT OF DEFENCE (Raksha Vibhag)

1. Defence of India and every part thereof, including preparation for defence and all such acts as may be conducive in times of war to its prosecution and after its termination to effective demobilization.

2. The Armed Forces of the Union, namely, the Army, the Navy and the Air Force.

3. Integrated Headquarters of the Ministry of Defence comprising 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.

19. All matters relating to Border Road Development Board and Border Road Organisation.

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 and 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; weapons 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 an d 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 (Part 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 Services 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 the 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, 2017 Onwards

RAKSHA MANTRI

Shri Manohar Parrikar — From November 9, 2014 to March 13, 2017
Shri Arun Jaitley — From March 13, 2017 to September 3, 2017
Smt. Nirmala Sitharaman — From September 3, 2017 onwards

RAKSHA RAJYA MANTRI

Dr. Subhash Ramrao Bhamre — From July 5, 2016 onwards

DEFENCE SECRETARY

Shri G. Mohan Kumar
From May 25, 2015 to May 24, 2017

Shri Sanjay Mitra
From May 25, 2017 onwards

SECRETARY DEFENCE PRODUCTION

Shri Ashok Kumar Gupta
From May 25, 2015 to October 31, 2017

Dr. Ajay Kumar
From December 1, 2017 onwards

SECRETARY EX-SERVICEMEN WELFARE

Shri Prabhu Dayal Meena
From November 1, 2014 to July 31, 2017

Ms. Sanjeevanee Kutty
From July 31, 2017 onwards

SECRETARY (DR&D)

Dr. S. Christopher
From May 29, 2015 onwards

SCIENTIFIC ADVISOR TO RAKSHA MANTRI

Shri G. Satheesh Reddy
From June 5, 2015 onwards

SECRETARY DEFENCE FINANCE

Shri S.K. Kohli
September 30, 2016 onwards

CHIEF OF ARMY STAFF

General Bipin Rawat,
UYSM, AVSM, YSM, SM, VSM
From January 1, 2017 onwards

CHIEF OF NAVAL STAFF

Admiral Sunil Lanba,
PVSM, AVSM, AD
From June 1, 2016 onwards

CHIEF OF AIR STAFF

Air Chief Marshal BS Dhanoa,
PVSM, AVSM, YSM, VM, ADC
From January 1, 2017 onwards

EXECUTIVE SUMMARY

The defence pension is disbursed to over 25 lakh pensioners involving an expenditure of over ₹ 60,000 crore every year. The defence pension management system rests primarily on four pillars comprising the Record Offices that maintain the service records, the pension sanctioning authorities, the pension disbursing agencies and the RBI, which manages the cash balance of the government and reimburses the pension disbursed by the banks to the pensioners.

Pension is sanctioned by the Principal Controllers of Defence Accounts, at Allahabad, Mumbai (for Navy) and Controller of Defence Account, New Delhi (for Air Force), working under the Controller General of Defence Accounts, Ministry of Defence. Pension is disbursed by the Defence Pension Disbursing Offices (DPDO) of the Defence Accounts Department, banks, Indian Embassy, Nepal, State Treasuries, Pay & Accounts Offices and Post Office, Kathua (J&K).

Why did we do this Review?

The review was undertaken to ascertain the efficiency and effectiveness of the Pension Disbursement System including the budgeting, accounting and internal controls existing in the four pillars of the defence pension system viz., the Record Offices, the Pension Sanctioning Authorities (PSAs), the Pension Disbursement Agencies (PDAs) and the Reserve Bank of India. The objective of the review was to report on the efficiency and effectiveness issues, including the Information Technology applications in place, with a view to make appropriate recommendations.

Key Findings

1. Incomplete accounting of pension expenditure

We observed that every year substantial amount of expenditure was not booked to the pension head of account and was lying under RBI Suspense head because of the inability of the banks to furnish the Pension Payment Scrolls on the basis of which the Principal Controller of Defence Accounts, Pension [PCDA (P)] would book the amounts to the final head of account. This resulted in incorrect depiction of pension account, with attendant implications for the revenue deficit figures of the government. The cumulative amount lying in the suspense head at the end of March, 2016 was ₹ 6,831.95 crore.

2. Inefficiencies in the pension authorisation process

We observed that the process for authorization of the pension involved several players and multiple stages, often resulting in avoidable delays in issue of the pension payment order (PPOs). There was a need for review of the authorization process, so that it is less cumbersome and less time consuming.

We also observed that although the information is being captured electronically at the Record Offices, the PSAs and the PDAs, the lack of their integration results in an inefficient flow of information that is prone to transcription errors and the resultant error in the pension payments.

(Paragraph 3.2)

3. Deficiencies in the pension disbursement system

We observed that the transmission errors as well as other mistake in the banks, which account for nearly 75 per cent of the pension disbursements, had resulted in numerous cases of underpayments and overpayments. The main points noticed were:

(a) We identified, based on test check for one month, cases of 21,434 pensioners who were under-paid amounting to ₹ 106.17 crore. Major reasons for underpayments were non-revision/ incorrect revision of pensions, non-restoration of commuted portion of pension, wrong revision of disability element, and non-revision of fixed medical allowance. Analysis of bulk data for the period 2011-12 to 2015-16 indicated possible underpayment of ₹ 228.85 crore. These cases needed detailed investigation.

(Paragraph 4.2)

(b) Similarly, we observed overpayment of ₹ 118.23 crore to 11,973 pensioners based on test audit of the records of one month. Major reasons for over-payment were incorrect revision of pension, non-deduction of commuted portion of pension, and irregular payment of fixed medical allowance. Analysis of bulk data for the period 2011-12 to 2015-16 indicated an overpayment of ₹ 518.70 crore. These cases needed detailed investigation.

(Paragraph 4.3)

(c) Out test audit also indicated several cases of double payments and other irregularities in disbursement of pension such as pensions of multiple pensioners being credited to one account, pension being paid by the PDA without the Pension Payment orders (PPOs), and certain instances of pension being paid from the defence head to the pensioners of other departments.

(Paragraph 4.4 and 4.5)

(d) We also observed instances of delays in recovery by the PDAs of the amounts overpaid by them.

(Paragraph 4.6)

(e) Analysis of the pensioners' bulk data maintained by PDAs showed several deficiencies in the data maintained such as missing account number, name or the PPO number, errors in the data of birth recorded in the system, pension for the same PPO credited to different accounts, and pension for different PPOs being credited to one bank account etc. There were also mismatches between the information in the banks' payment scrolls and the information maintained by the sanctioning authority i.e., PCDA.

(Paragraph 4.7)

(f) Lack of validation checks and missing information were also noticed in the Aashraya software used by the Defence Pension Disbursing Offices.

(Paragraph 4.8)

(g) There were several cases of non-deduction of Income Tax at source.

(Paragraph 4.9)

4. Control deficiencies

We observed control deficiencies in all the four pillars of the pension disbursement system which adversely impacted the efficiency and effectiveness of the system. Some of the major control deficiencies were:

(a) Delays in getting information from the units contributed significantly to the delays in processing of the pension cases.

(Paragraph 5.1)

(b) The control deficiencies at the PCDA (P) included absence of controls on maintaining information about the exact number of pensioners, lack of control on correct accounting, inadequate audit, and inadequate monitoring of the cases of overpayments, fraudulent payments, and overseas claims etc.

(Paragraph 5.2)

(c) Similarly, the RBI had weak or deficient controls for ensuring that the banks made correct disbursements of the pensions, and submitted accounts of the disbursements made by them in time. An example of this was the fact that there was a difference of ₹ 179.55 crore between the account reimbursed by RBI to Bank of Baroda (BOD) and the amount paid by BOB to the

pensioners during 2011-12 to 2015-16.

(Paragraph 5.3)

5. **Key Recommendations**

Some of the key recommendations made by us in light of the audit findings are as follows:

- RBI should make the reimbursement to the banks conditional upon the proof of submission of the payment scroll to the PCDA (P). Alternatively, RBI should introduce financial disincentives for not submitting the electronic-scroll (e-scrolls) to PCDA (P) Allahabad.
- While the existing monitoring system for timely authorisation of the pension should be strengthened, the existing procedure should be reviewed to see if it could be simplified to make the process less cumbersome and less time consuming. Lessons learnt on the non-defence, civil pension side, including delegated powers to Heads of the Offices to sanction pension, could be explored for adoption.
- PPOs should be sent by the PSAs directly to the PDAs, in electronic form.
- The three pillars-Record Offices, PSAs, and PDAs-should be connected online, enabling automated flow of information, in a secure mode, with proper validation and security checks.
- PCDA (P) should implement comprehensive e-audit of the scrolls for timely detection of deviations, including under and overpayments, to enable prompt corrective action.
- PAN number should be captured in the original profile maintained by the Record Offices and travel through the claim of transmission to the PDAs to facilitate TDS.
- In order to provide the pensioners a hassle-free method of submitting life certificates to the PDAs, Aadhaar number should be captured to take advantage of the JeevanPraman initiative of the Government.

OVERVIEW

The total expenditure of the Defence Services during the year 2015-16 was ₹ 2,43,534 crore Of this, the Indian Air Force (IAF) spent ₹ 53,047 crore which was 21.78 per cent of the total expenditure on the Defence Services. The major portion of expenditure of IAF was Capital in nature, constituting 58.81 per cent of their total expenditure.

This Report relates to matters arising from the audit of the financial transactions of IAF and relevant records relating to IAF in the Ministry of Defence (MoD), Defence Accounts Department, Military Engineer Services (MES), Defence Public Sector Undertakings and Defence Research and Development Organisation (DRDO) and its laboratories dedicated primarily to IAF. An amount of ₹ 21.57 crore was recovered after having been pointed out by Audit. Highlights of findings included in the Report are as under:

I Induction of Strategic Missile System in 'S' Sector

In view of the threat perception, Government of India approved the induction of Strategic missile in the 'S' sector to provide the necessary deterrence. The missile systems were to be installed at the six designated sites, between 2013 and 2015. But till date none of the missile systems has been installed. The main reason for the delay in installation of the missile systems procured at ₹ 3,619.25 crore from M/s Bharat Electronics Limited (BEL) was, delay in execution of civil works at the sites.

(Paragraph 2.1)

II Installation of autopilots of Jaguar Aircraft

Against requirement of 108 autopilots projected by IAF in 1997 for 108 Jaguar aircraft only 35 autopilots were procured between 2006 and 2008 through a contract concluded in August 1999. Repeat contract for 95 autopilots could be concluded only by March, 2014. Out of 35 autopilots procured earlier, only 18 autopilots could be integrated on the Jaguar aircraft as of March, 2017. The integrated autopilots were also functioning sub optimally due to malfunctioning of their vital component i.e. Auto Pilot Electronic Unit (APEU). 30 autopilots received through the repeat contract are yet to be integrated. Thus, the flying aid capability envisaged by IAF for the Jaguar

Aircraft in 1997 remains largely unrealised even after 20 years.

(Paragraph 2.2)

III Premature procurement of mini Crash Fire Tenders

IAF procured mini Crash Fire Tenders (CFTs) at a cost of ₹ 31.34 crore much before completion infrastructure works at eight Advanced Landing Grounds (ALGs) in Eastern 'C' command. This resulted in under utilization of these CFTs for more than three years since their delivery and only five CFTs were deployed at the respective ALGs in 2016.

(Paragraph 2.3)

IV Delay in overhaul of aero-engines

Non-dispatch of contracted quantity of aero-engines abroad for overhaul and life extension during 2013 and 2014 led to non-utilisation of the aero-engines for grounded helicopters. Besides, there was an additional expenditure of ₹ 3.86 crore due to higher rates of the overhaul in succeeding years.

(Paragraph 2.4)

V Limitation of Recce capability in 'S' Sector

Reconnaissance (Recce) and Surveillance capability in 'S' sector was affected due to delay in construction of support and maintenance facilities at Air Force Station 'BB'. Besides, there was an additional expenditure of ₹ 34.40 crore during 2011-16 as Recce missions in 'S' sector had to be undertaken from Air Force Station 'CC'.

(Paragraph 2.5)

VI Non-functioning of under vehicle scanning systems at Air Force Bases

Indian Air Force procured 57 under vehicle scanning (UVS) systems during March 2012 to November 2012 at a cost of ₹ 17.09 crore to strengthen the security at the entry gates of 50 Air Bases. Only 17 UVS systems are functioning as on date.

(Paragraph 2.6)

VII Serviceability and Maintenance of IL Series Aircraft

Serviceability of the IL fleet of the Indian Air Force (IAF) was low because of delay in servicing and repair. This was in turn largely attributable to poor availability of spares and delay by IAF in signing maintenance support contract with Original Equipment Manufacturers (OEM). The avionics of IL fleet has not been upgraded; as a result they continued to fly with 1985 vintage avionics. There was delay in carrying out first and second overhaul of IL-76 aircraft which meant that aircraft were flown without overhaul, well past the due date for overhaul. Air to Air refuelling is a crucial capability both during combat as well as peace time operations. IL-78 aircraft are dedicated for this purpose. However, due to inadequate infrastructure and support facilities the Air to Air fuelling capability was hampered.

(Paragraph 2.7)

VIII Non-operationalization of 'D' level facility

Lack of due diligence on part of the Ministry/Indian Air Force in ensuring the availability of transfer of technology (ToT) for re-equipment/avionics (RE) systems of AN-32 aircraft prior to conclusion of the Contract/Addendum for 'D' level facility, resulted in dependency on multiple original equipment manufacturers and accumulation of repairable with serviceability and financial concerns.

(Paragraph 2.8)

IX Irregular availing of LTC by Officers in Indian Air Force during their private visits to foreign countries

Officers in Indian Air Force (IAF) were taking approvals from competent authority to proceed abroad on leave on personal grounds. However, though they visited foreign destinations during the sanctioned leave, they were allowed claim for Leave Travel Concession (LTC) for cities in India, which they did not visit. Permissions of LTC for journeys to foreign destination and payments of ₹ 82.58 lakh by the respective authorities were irregular and in gross violation of provision of LTC contained in Defence Travel Regulations.

(Paragraph 2.9)

OVERVIEW

The total expenditure of the Defence Services during the year 2015-16 was ₹ 2,43,534 crore. Of this, the navy spent ₹ 35,196 crore while Coast Guard spent ₹ 3,034 crore, which constituted approximately 14.45 percent and 1.25 percent respectively of the total Defence Expenditure. The major portion of the expenditure of the Navy is capital in nature, constituting almost 56.47 percent of the total expenditure whereas expenditure of Coast Guard was equally distributed between Capital and Revenue Heads amounting to ₹ 1,517 crore for each.

This report contains major findings arising from the test audit of transactions of the Indian Navy and the Indian Coast Guard. Some of the major findings included in the Report are discussed below:

I Performance Audit on the Inventory Management of Naval Stores, Equipment and Spare Parts in Indian Navy

Material planning has many areas of responsibility, but the most significant ones are provisioning, inventory management and issue management. Good inventory management is vital to reduce inventory carrying cost. Information technology has a vital role to play in provisioning and continuous improvement in this area through automation in the form of Integrated Logistics Management System, an on-line, data linked computer system supporting the Navy's material planning.

The procurement quantity generated by the system based provisioning formula was on the higher side and was projecting quantities equivalent to three to six years' annual consumption requirements due to an algebraic anomaly in the existing formula. Inventory control mechanism in the Indian Navy is deficient to the extent that it was not following the ABC categorisation norms. This impacts the quality of review provisioning and assessment of maximum and minimum stock levels of inventory. Laid down timeline for processing of indents was not adhered to leading to cascading effect in procurement of stores. Items procured under Proprietary Article Certificate and Single Tender Enquiry were significantly more vis-a-vis items procured under Open Tender Enquiry and Rate Contracts, which led to reduced competition/ monopolistic situation. Procurement of obsolete items worth ₹ 46.92 crore indicated lack of due diligence while making procurement decisions. Average demand compliance at Material Organizations was around 70 per cent. Inventory worth ₹ 7359.37 crore was held by Material Organizations above the Upper Stock Level resulting in avoidable liability of inventory carrying cost of ₹ 588.75 crore per annum with corresponding risk of deterioration and obsolescence of stores held.

(Chapter-II)

II Accidents of ships and submarines in Indian Navy

The loss of a ship/ submarine adversely affects the operational preparedness of the Navy, as acquisition of new ships/ submarines involves procurement/ construction process of more than eight to ten years. It is therefore, imperative that Navy maintains its assets free from accidents during peace time evolutions. Between 2007-08 and 2015-16, Indian Navy ships and submarines were involved in 38 accidents, primarily attributable to fire/explosion/flooding. The Indian Navy since inception had no institutionalized framework to deal with safety issues. A dedicated organization for dealing with safety issues was setup by the Indian Navy only in 2014, however, it awaits Government's sanction.

(Paragraph 3.1)

III Functioning of Marine Gas Turbine Overhaul facility

INS Eksila is overhauling the M3E Gas Turbines since 11991, but continued to encounter abnormal delays in completion of the overhaul of the Gas Turbines, inter-alia, due to non-availability of spares and manpower. The facility required for overhaul of M-15 Gas Turbines was yet to be completed though the facility had been planned to be set up since 1986. Meanwhile, two out of twelve 1241 RE class ships, which employ the M-15 Gas Turbines, had been decommissioned by April 2006. Overhaul facility for M-36 Gas Turbines planned in 2008, has also been delayed for want of synchronization between civil works and procurement of equipment. Consequently, Navy continued to depend on Original Equipment Manufacturer (OEM)

for overhaul of Gas Turbines, incurring an expenditure of ₹ 317.77 crore. INS Eksila is grappling with inadequate availability of technical expertise, due to non-retention of manpower for long duration.

(Paragraph 3.2)

IV Operation and Maintenance of UH-3H helicopters

The UH-3H fleet of helicopters, procured as an integral part of Landing Platform Deck, was unable to maintain the desired levels of serviceability in six out of seven years of its operations since commissioning despite reduction of the Unit Establishment of the squadron from four to three helicopters. In absence of clear targets, the deck based flying remained significantly low. Non-existence of dedicated depot level maintenance, facilities and non-availability of spares adversely impac-ted the maintenance of the fleet. Further, Navy continues to be dependent on the foreign repair agency for maintenance, servicing and logistics issues due to lack of training of Naval personnel.

(Paragraph 3.3)

V Risky exploitation of Sindhughosh class submarines due to delay in installation of periscopes

Delay of more than 34 months in according approval by the Ministry for amendment to contract for change in ownership of the seller and delivery period extension, required for supply of the periscopes, led to delay in delivery and installation of periscopes for Sindhughosh class submarines. This resulted in risky exploitation of submarines for 22 to 62 months till next refit.

(Paragraph 3.4)

VI Non-installation of a mandatory system comprising the flight safety of aircraft

Non-availability of a critical flight safety equipment on board the Indian Navy's and Coast Guard's aircraft, has impacted their safe operation for the past 12 years. The situation would persist for another four years due to asynchronous time lines for delivery of the equipment and its installation on board the aircraft. Further, failure to take cognizance of de-induction of one of the aircraft fleet, resulted in excess procurement of ten equipment worth ₹ 5.58 crore.

(Paragraph 3.5)

VII Fleet tankers rendered vulnerable due to delay in fructification of offset obligation

Non-availability of the defence systems onboard the fleet tankers, since their delivery in 2011, rendered them vulnerable to external threats. Further non-linking of payment with the supply/installation of vital defence systems catered for under offset clauses of the contracts for two fleet tankers, resulted in premature payment of ₹ 26.73 crore to the foreign vendor.

(Paragraph 3.6)

VIII Deficient small arms practice firing by Naval Officers in Delhi Area

All Indian Navy personnel are required to have working knowledge of handling all types of small arms. It was noticed that the coverage of Naval officers in practice firing was meagre in Delhi Area creating concerns about their ability to handle small arms.

(Paragraph 3.7)

IX Unwarranted Procurement of aero-engines for a helicopter fleet

Indian Navy, while placing the order for procurement of four aero-engines for two helicopters damaged in an accident, did not take into consideration one helicopter which was declared Beyond Economical Repairs before the conclusion of the contract and16 aero-engines received post-overhaul. Although, these excess engines were absorbed in subsequent procurement of five helicopters, Beyond Economical Repairs declaration of another helicopters resulted in inventory holding of the aero-engines more than its authorization and unproductive expenditure of ₹ 16.62 crore on the procurement of three excess aero-engines.

(Paragraph 3.8)

X Avoidable procurement and installation of Mobile Satellite Service Terminal for an aircraft

Failure of the Indian Navy to take cognizance of the

de-induction plan of Tu-142M aircraft fleet, resulted in procurement of an excess Mobile Satellite Service Terminal for an aircraft at ₹ 0.95 crore. Further, de-induction of another three aircraft by 2017 would render installation of Mobile Satellite Service terminals on these aircraft, largely unfruitful.

(Paragraph 3.9)

XI Procurement of weather radars for Dornier aircraft

Non-supply of a critical component viz., display units, as part of procurement of weather radars impacts the operational exploitation of the Dornier aircraft fleet.

(Paragraph 3.10)

XII Avoidable expenditure on procurement of rice

In deviation from the existing policy on provisioning and procurement of dry rations, Indian Navy resorted to local purchase of rice for the naval contingent in Delhi Area, thereby, incurring extra expenditure of ₹ 0.89 crore in procurement of rice.

(Paragraph 3.11)

XIII Irregular payment of ₹ 5.23 crore as Foreign Exchange Rate Variation to a shipyard

Indian Coast Guard authorities made a payment of ₹ 5.23 crore to M/s Goa Shipyard Limited, Goa as Foreign Exchange Rate Variation due to misinterpretation of contractual provisions.

(Paragraph 4.1)

OVERVIEW

This Report contains the results of audit of the financial transactions for the year ended March 2016 and performance reviews of projects/schemes of Ministry of Defence pertaining to Army, Ordnance Factories, Department of Defence, Department of Defence Production, Defence Research and Development Organisation, Military Engineer Services and Border Roads Organisation.

The significant audit findings as brought out in the report are summarized as follows:

Functioning of Directorate General Married Accommodation Project (MAP)

Directorate General Married Accommodation Project (DG MAP) was created as a special organization, to construct deficit married accommodation for the defence services personnel in an expeditious and time bound manner. Audit of the Directorate revealed that only 80,692 Dwelling Units (DUs) were constructed up to March 2016 against a target of 1,98,881 DUs, which were to be constructed in four phases of four years each from 2002 onwards. Incorrect prioritization of stations, inaccurate assessment of deficiency and construction of accommodation beyond authorization accentuated the impact of shortfall.

(Paragraph 2.1)

Loss in procurement of Jelly Filled Cable

Lack of clear direction from Director General Quality Assurance (DGQA) regarding conduct of the tests for which they do not have their own facility led to inordinate delay of 15 months in completion of evaluation of Jelly Filled Cables. As a result, commercial offer was revised by the vendor culminating in loss of ₹ 1.28 crore to the Government in procurement of 3000 Km Jelly Filled Cable.

(Paragraph 2.2)

Overhauling and procurement of microlite aircraft

In deviation from the extant policy, 34 engines of existing microlite aircraft were contracted for overhaul at a cost exceeding 50 percent of the cost of a new engine by the Director General, National Cadet Corps (DG NCC)Further, additional 110 microlite aircraft were procured at a cost of ₹ 52.91 crore despite low utilization of the existing fleet.

(Paragraph 2.3)

Management of Defence owned Railway Wagons/ Coaches

In audit of management of Defence owned Railway Wagons/Coaches, various deficiencies were noticed such as excess scaling of 17 AC Coaches/Military Langars (₹ 50 crore), loss of interest on advance payment (₹ 23.87 crore), excess payment due to non-uniformity in in cost calculation of Military Special Trains (₹ 30.44 crore), non monitoring of Additional Rail Facilities

(ARF) projects and non adjustment of ₹ 356 crore paid to Railway on account of ARF projects. Despite these deficiencies there is no mechanism in Army HQ to check commercial exploitation of Defence owned Railway Wagons/Coaches by the Railways.

(Paragraph 3.1)

Ammunition Management in Army – Follow up Audit

Despite serious concerns highlighted by Audit in Performance Audit report on Ammunition management in Army, no significant improvement took place in the critical deficiency in availability of ammunition and quality of ammunition supplied by the Ordnance Factory Board (OFB) since March 2013. Shortfall in meeting the production target by OFB continued. Further, majority of the procurement cases from other than OFB which were initiated by Army HQ during 2009-13 were pending as of January 2017. There were persisting delays in completion of the defect investigation by DGQA and replacement/repair of rejected/unserviceable ammunition by OFB. Ammunition depots with shortage of fire fighting staff and equipment remained accident prone.

(Paragraph 3.2)

Loss due to non-recovery of rent and premium in respect of Mobile Towers installed in a military station

13 mobile towers of private telephone companies were installed at Chandimandir Military Station without the requisite approval of the Ministry of Defence, leading to loss of ₹ 4.33 crore on account of non-recovery of rent and premium.

(Paragraph 3.4)

Wasteful expenditure on procurement of incompatible equipment

Outboard Motors (OBM) costing 1.26 crore, which were procured by invoking Army Commander Special Financial Powers to meet immediate requirement in Northern Command, could not be utilized. 46 out of 50 OBMs have been used for less than 10 hours in seven years. User units attributed low utilization of the motors to lack of compatibility with the boats held and to absence of scope for training in the available terrain.

(Paragraph 3.5)

Unnecessary expenditure on cattle perimeter fencing

General Officer Commanding (GOC), Headquarters Delhi Area sanctioned jobs in piecemeal for construction of cattle perimeter fencing around Officers married accommodation in Delhi Cantonment although perimeter wall around complexes was already existing. This had resulted in unnecessary expenditure of ₹ 3.42 crore.

(Paragraph 3.6)

Loss due to procurement of defective equipment

In procurement of 20 numbers of Photowrite Systems, Director General Military Intelligence had accepted separate Performance Bond and warranty bonds of each system by violating the contract provisions. Eleven systems became non functional within 3 to 22 months of procurement resulting in loss of ₹ 21.28 crore. Despite poor performance of the firm during delivery and warranty period of the systems, warranty bonds were allowed to lapse without encashment.

(Paragraph 3.7)

Unfruitful expenditure of ₹ 4.46 crore on part construction of security walls at Central Ordnance Depot, Agra and along the eastern boundaries of Cantonment area at Dehradun Failure to ensure availability of site resulted in part construction of security walls thereby impinging on security of Central Ordnance Depot, Agra and Cantonment area of Dehradun besides an unfruitful expenditure of ₹ 4.46 crore.

(Paragraph 4.2 and 4.4)

Unwarranted expenditure on execution of work

Against the requirement of cantilever type racks on First-in- First- Out system of operation, 2000 racks were constructed for ₹ 5.88 crore at Central Ordnance Depot, Jabalpur with Last-in-first-Out system of operation. This had resulted in unfruitful expenditure of ₹ 5.88 crore. Further, an over payment of ₹ 1.57 crore had been made to the contractor by giving an unwarranted deviation order.

(Paragraph 4.3)

Excess payment of electricity charges amounting to ₹ 32.13 crore

Maharashtra State Electricity Distribution Company (MSEDCL) introduced, in August 2012, a new tariff for consumers providing public services, which also included defence establishments. MSEDCL further introduced separate tariff, in June, 2015, for government educational Institutes and hospitals and other Defence establishments falling under the category of public services. However, seven Garrison Engineers, who received electricity in bulk from MSEDCL for supply to defence educational institutes, hospitals and other defence establishments, failed to exercise checks on the correctness of tariff applied before making payment to MSEDCL, resulting in excess payment of ₹ 32.13 crore.

(Paragraph 4.5)

Non utilization of assets

Failure of Chief Engineer, Bareilly to make clear provision of bypass road in drawings and to incorporate the complete scope of work in the contract had resulted in non-completion of the road. As a result, Explosive Dump constructed in May, 2014 at a cost of ₹ 7.65 crore could not be utilized.

(Paragraph 4.6)

Avoidable extra expenditure

Failure of Director General, Border roads in accepting tenders within the validity period and inadequacies in tender documents resulted in retendering and avoidable extra expenditure of ₹ 6.47 crore.

(Paragraph 5.1)

Development of an Integrated Aerostat Surveillance System

Import of a balloon costing ₹ 6.20 crore by a DRDO's lab under a project for development of aerostat surveillance system lacks rationale. Further, the project itself did not achieve its objectives despite an expenditure of ₹ 49.50 crore.

(Paragraph 6.1)

Irregular sanction and expenditure of ₹ 5.20 crore on construction of vehicle testing ground after completion of the project

Director General, Research & Development accorded sanction for construction of Vehicle Testing Ground at Vehicle Research & Development Establishment, Ahmednagar (VRDE) at a cost of ₹ 5.20 crore in April, 2009 based on VRDE's proposal of March, 2005 to meet the specific requirement of testing the Unmanned Ground Vehicle(UGV) being developed on 2.5 Ton 'B' vehicle. However, by then UGV Project was closed. The expenditure is rendered infructuous because the Testing Ground cannot be gainfully utilized as Army's requirement is of a 50 Kg UGV for which existing VRDE Test Tracks would suffice.

(Paragraph 6.2)

Infructuous expenditure of ₹ 19.53 crore

To demonstrate the missile in the range of 1200M and 1500M as stipulated by the Army, Combat Vehicles Research & Development Establishment (CVRDE), Avadi procured 20 LAHAT missiles in spite of reservation of the foreign supplier due to technical constraints related to stability of the missile. During demonstration trials, the missiles failed to achieve the stipulated criteria/range of 1200M to 1500M. Army refused to accept the missile, thereby the payment of ₹ 19.53 crore made to the supplier was rendered infructuous.

(Paragraph 6.3)

ORDNANCE FACTORY ORGANISATION

Performance of Ordnance Factory Board

Ordnance Factories: 41 in number divided under five operating groups produce a range of arms, ammunition, equipment, clothing etc. primarily for the Armed Forces of the country. The factories function under the Ordnance Factory Board.

The Board received budgetary grant of ₹ 14,750/- crore and ₹ 687 crore in 2015-16 to meet its revenue expenditure and capital expenditure respectively. During the last five years, both revenue and capital expenditure have shown increasing trends.

During 2015-16, the Cost of Production at the Board was ₹ 18,294 crore with the share of Stores, Labour, Direct Expenses and Overhead costs at 57 per cent, 11 per cent, 2 per cent and 30 per cent respectively. Cost of Production showed 11 per cent increase over the figures of 2014-15. Over the period 2011-16, the average overhead charges per annum was ₹ 4674 crore which constituted around 28 per cent of the average annual Cost of Production (₹ 16,462 crore) of Ordnance Factories Organisation. Major elements of the overheads are supervision charges and indirect labour cost which together registered 60 to 70 per cent of total overhead cost during 2011-12 to 2015-16.

Value of issues increased by 12 per cent from ₹ 16,664 crore in 2014-15 to ₹ 18,624 crore in 2015-16. The Army is the major indentor for the products of the Ordnance Factories, accounting for nearly 80 per cent of the total issues during the year 2015-16. Deficit incurred in respect of issues to the Army was ₹ 128 crore in 2015-16 against surplus of ₹ 161 crore in 2014-15. Though, total Defence issues reported a deficit of ₹ 91 crore in 2015-16, losses in their issue, are offset by surplus generated by the IFD factories (₹ 227 crore) resulting in an overall profit of ₹167 crore in 2015-16.

(Paragraph 7.1)

Management of Import Contract in Ordnance Factories

Ordnance Factories import crucial part of its stores and plants & machineries. Audit examination of selected import contracts concluded by the five factories during 2012-15 revealed that there were deficiencies in management of the contracts at pre-contract as well as post-contract stages.

Audit found that undue time was taken in negotiations and approval of supply orders as only 2 out of 28 test checked supply orders had been placed within the stipulated time frame. Provision for constitution of collegiate committee,as instructed by the Ministry with a view to reduce the time taken in negotiation and approval, had not been incorporated in the procurement manual. Further, owing to non-inclusion of clause relating to 'Liquidated Damages' with cost implications in two orders, Factories were rendered weak in enforcing timely delivery of stores from the supplier.

There were also delays in supplies ranging from 2 to 17 months: in eight cases due to delay in conduct of Pre-Despatch Inspection (PDI)/ opening of Letter of Credit (LC) by the Factories and in balance cases, on the part of suppliers. We also noticed instances of delay both in referring quality claims by the Factories and subsequent resolution of the same by the suppliers resulting in quality claims worth ₹ 2.24 crore remaining pending for settlement from seven to ten months. Ordnance Factory Board may consider including a provision of Liquidated Damage (LD) for delayed supply as well as delay against quality claims.

(Paragraph 7.2)

Non-revision of Labour Estimates after introduction of CNC machines and incorrect payment of Piece Work Profit

Ordnance Factories are required to revise the Labour Estimates after introduction of Computer Numerically Controlled (CNC) machines. The Estimates quantifies the unit labour cost for each item of production and serves as the template for labour planning, deployment and control on costs. But in three-fourth of the sampled cases examined, the selected four Factories did not revise the labour estimates.

In deviation from the norms laid down by the Board, two Factories over-estimated the labour hours (SMH) required for meeting production targets in 2013-14 and 2014-15. All the four Factories under-estimated the available SMH in eight out of 10 instances by applying incorrect norms during 2012-15. The Target SMH and Available SMH figures being unreliable, labour planning in the Factories was deficient to that extent. At Metal & Steel Factory (MSF) Ishapore, actual output SMH was less that those reported in three production shops in 99 out of 102 instances. This resulted in excess payment of Piece Work Profit (PWP) aggregating ₹ 2.60 crore to direct Industrial Employees (IEs). Further, payments of PWP to indirect workers (not eligible for PWP) were also noticed in all the four Factories.

Despite outsourcing, the in-house IEs were paid on the basis of Estimates from which the outsourcing element (in the form of SMH) had not been deducted. This led to excess payment of ₹ 10.94 crore made to the IEs in two Factories for sampled items during 2012-13 to 2014-15.

(Paragraph 7.3)

Management of Manufacture Warrants

Manufacture Warrant is the authority of the Ordnance Factory Management to the production shops for deployment of labour to undertake work placed on the Factory. It records the number of authorised Standard Man hours (SMH) required to manufacture the order quantity based on estimate.

Keeping the warrants open for unduly long periods beyond the stipulated six months of its issue is fraught with risk of allowing unauthorised adjustments. Only 189 (27 per cent) of 693 warrants sampled in Audit and issued between 2012-13 and 2014-15 were closed within the six-month period across the four sampled factories. While 403 (80 per cent) of the remaining warrants were closed after the stipulated period, 101 warrants (15 per cent) were still open and awaiting closure (March 2015). Open warrants provided an opportunity to the Factories to spread rejections across warrants (in order to keep it within the normal rejection limits) or transfer excess material or excess labour drawn to other warrant through Transfer Vouchers. Transfer Vouchers were being used in the Factories without following the relevant internal controls.

(Paragraph 7.4)

Procurement of defective Radiators

Heavy Vehicles Factory (HVF), Avadi placed an order for Radiators to be fitted in T-90 tanks on a firm which had no prior experience of manufacturing required Radiators. The Factory accepted Radiators worth ₹ 2.78 crore which did not conform to the stipulated technical requirements and rendered T-90 tanks fitted with such Radiators unacceptable to Army.

(Paragraph 7.5)

Avoidable loss of ₹ 31.32 crore towards rejection of empty Fuze A-670M due to delay in defect investigation

Despite repeated failure in production of Empty Fuze A-670M in two Factories since 2008-09 onwards, OF Board constituted Joint team only in April, 2014 which could give its recommendation in July, 2016. Meanwhile, the production continued and empty Fuze A-670M valuing ₹ 31.32 crore were lying as rejected in two Factories as of July, 2016.

(Paragraph 7.6)

Avoidable rejection due to failure to diagnose exact causes of earlier rejections

Failure of Ordnance Factories and the Quality Assurance Establishments in identifying exact causes of rejection resulted in continued rejection of lots of 105mm HE ammunition valuing ₹ 10.02 crore during 2013-16

(Paragraph 7.7)

Under utilisation of costly machines

Two tooled-up CNC machines were purchased at a total cost of ₹ 9.32 crore by Rifle Factory Ishapore despite the existing capacity to meet the targets. One tooled-up machine is non- functional since July 2014 for want of special purpose tools (as of April 2016) and the prospect of utilization of the other machine engaged in production of two components is also bleak in view of procurement of these components from trade at a much cheaper rate.

(Paragraph 7.8)

Delay in production of BLT variant of Tank T-72

As per Indent, T-72 Bridge Laying Tanks (BLT) variants were scheduled to be delivered by HVF, Avadi in a phased manner during 2012-2017. On account of delays in execution of infrastructure projects and frequent changes in the sealed design of T-72 BLT, HVF was yet to commence issue of T-72 BLT variant and the advancing tank column of the Armoured Regiments, therefore, remained incomplete to that extent.

(Paragraph 7.9)

Appendix-IV

Position of Action Taken Notes (ATNs) for the year 2017-18 in respect of observations made in the C&AG Reports/PAC Reports

Sl. No.	Year	Details of Para/PA reports on which ATNs are pending as on 31.12.2017			
		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 observations and Audit is awaiting their resubmission by the Ministry	Total Pending Audit Paras
1	1991	0	0	0	0
2	1993	0	0	0	0
3	1997	0	0	0	0
4	1998	0	0	0	0
5	2001	0	0	1	1
6	2003	0	0	0	1
7	2004	0	0	1	1
8	2005	0	0	1	1
9	2006	0	0	0	0
10	2007	0	0	1	1
11	2008	0	0	0	0
12	2009	0	0	2	2
13	2010	0	0	1	1
14	2011	0	1	5	6
15	2012	0	0	1	1
16	2013	0	2	3	5
17	2014	0	12	3	15
18	2015	0	9	9	18
19	2016	0	4	8	12
20	2017	21	12	12	45
	Total	**21**	**41**	**48**	**110**

Antisubmarine rocket firing from INS Satpura

Back Cover : Launching of Artillery Missiles

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