स्वच्छ भारत
एक कदम स्वच्छता की ओर

ANNUAL REPORT
2019-20

सत्यमेव जयते

MINISTRY OF DEFENCE

Government of India

AKASH
333

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DEPARTMENTS AND ORGANISATIONS UNDER MINISTRY OF DEFENCE

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. In 2019, a new department namely Department of Military Affairs was created with the aim to facilitate optimal utilization of resources and to promote jointness among the three services.

The Defence Secretary functions as head of the Department of Defence and is additionally responsible for coordinating the activities of the five Departments in the Ministry.

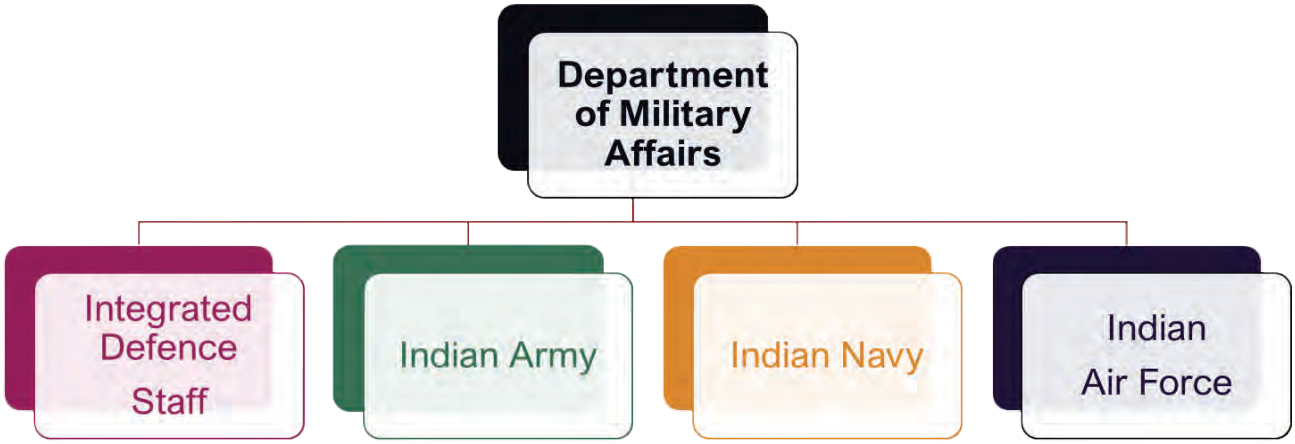
Departments Of Ministry

Departments of Ministry

(i) The **Department of Defence (DOD)** headed by the Defence Secretary deals with Defence Budget, establishment matters, defence policy, matters relating to Parliament, defence co-operation with foreign countries and co-ordination of all defence related activities.

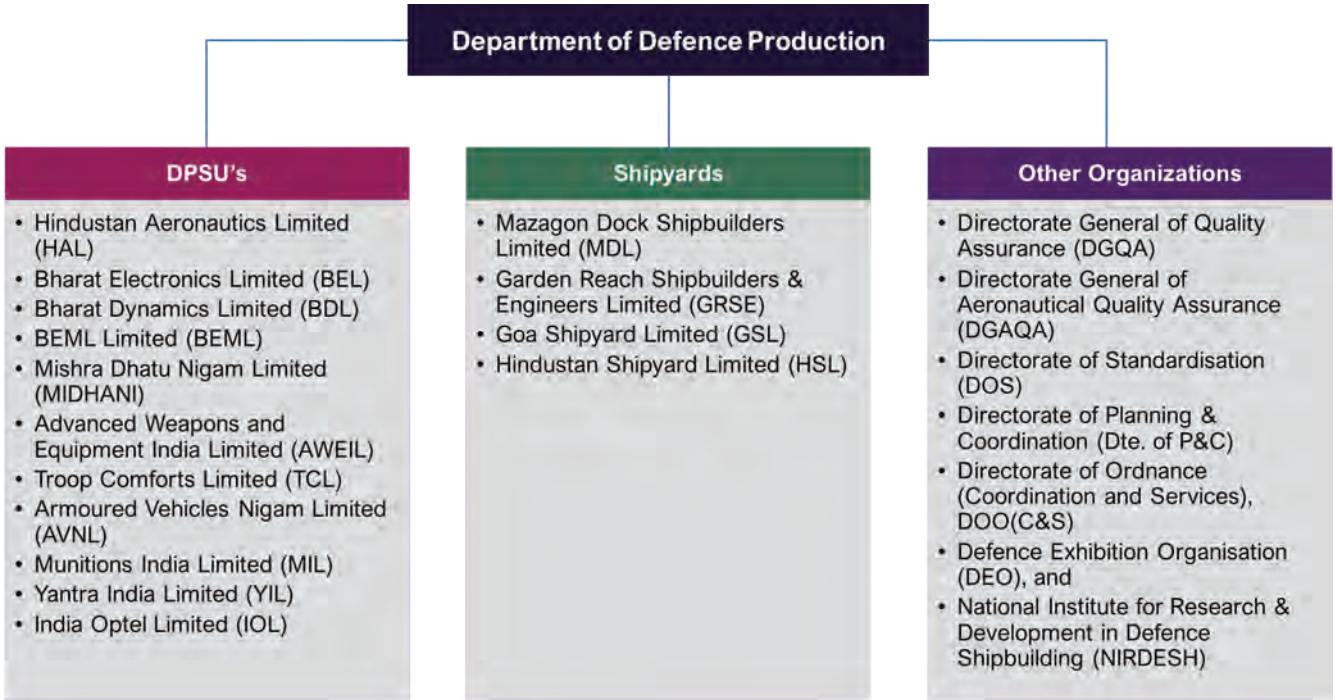
Organizations of Department of Defence

(ii) The **Department of Military Affairs (DMA)** headed by Chief of Defence Staff as its Secretary deals with the promotion of jointness in procurement, training and staffing for the services. Facilitation of restructuring of Military commands for optimal utilization of resources and promotion of use of indigenous equipment is also the mandate of this department.



Organizations of Department of Military Affairs

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



Organizations of Department of Defence Production

(iv) The **Department of Defence Research and Development (DRDO)** is headed by a Secretary DD R&D & Chairman, DRDO. 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.

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

Organizations of Department of Ex-Servicemen Welfare

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Department of Defence

रक्षा मंत्रालय
MINISTRY OF
DEFENCE

सत्यमेव जयते

CEREMONIALS, HONOURS AND AWARDS

The responsibility for organizing National functions like the Republic Day Parade, Beating the Retreat Ceremony, Martyr's Day and the Independence Day rests with the Ministry of Defence. The Ceremonial functions organized during 2019-2020 are detailed in the following paragraphs.

Independence Day Flag Hoisting Ceremony

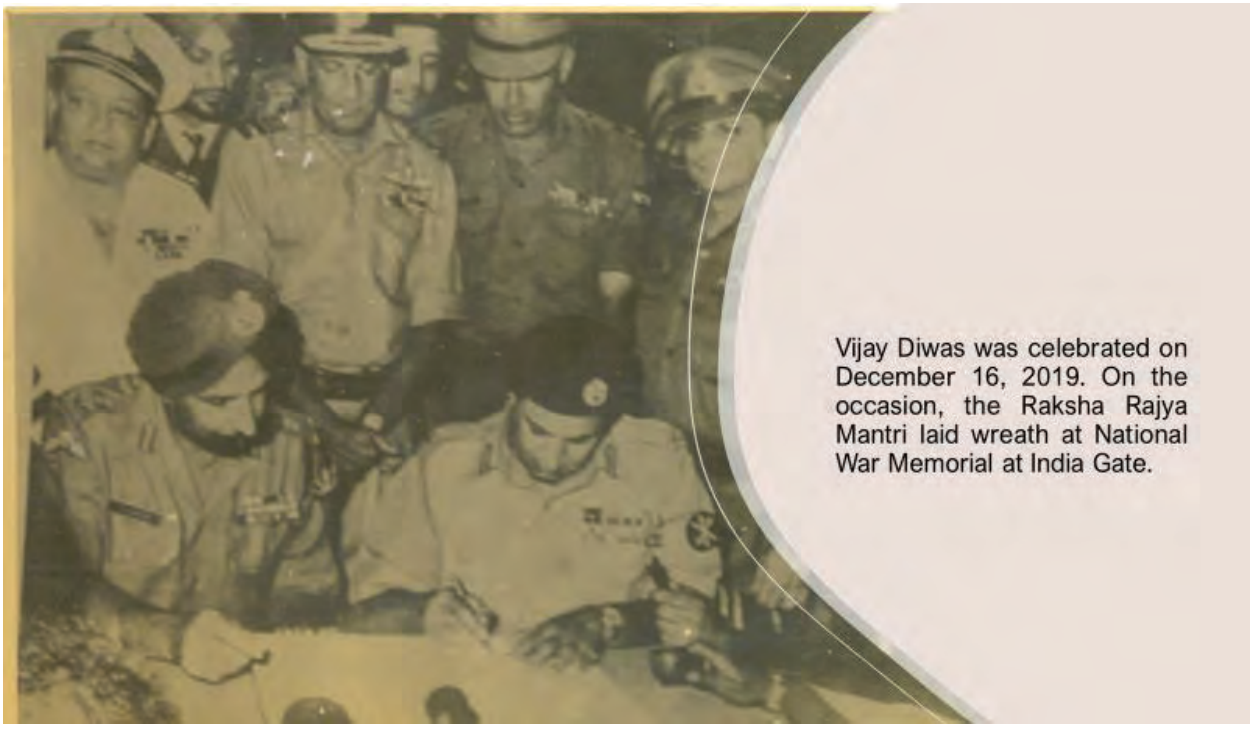
The celebration of the Independence Day began with singing of patriotic songs in different Indian languages by the school children's choir at Red Fort. The three Services and Delhi Police presented the Guard of Honour to the Prime Minister.

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. Later, during the day, the President laid wreath at National War Memorial at India Gate to pay homage to those who sacrificed their lives for the freedom of the motherland

Kirti Chakra	Vir Chakra	Shaurya Chakra	Sena Medal (G) (including bar to Sena Medal)	Nao Sena Medal (G)	Vayu Sena Medal (G)	Yudh Seva Medal
Awards 1	Awards 1	Awards 14	Awards 98	No. of Awards 5	No. of Awards 7	No. of Awards 5
Posthumous 1	Posthumous 0	Posthumous 7	Posthumous 9	Posthumous 0	Posthumous 0	Posthumous 0

Gallantry Awards announced on the eve of the Independence Day-2019

Vijay Diwas



Ceremony At National War Memorial

The Prime Minister laid wreath at National War Memorial in the morning of 26th January 2020. A two minutes' silence was observed for paying homage to those who laid down their lives in safeguarding the integrity of our nation.

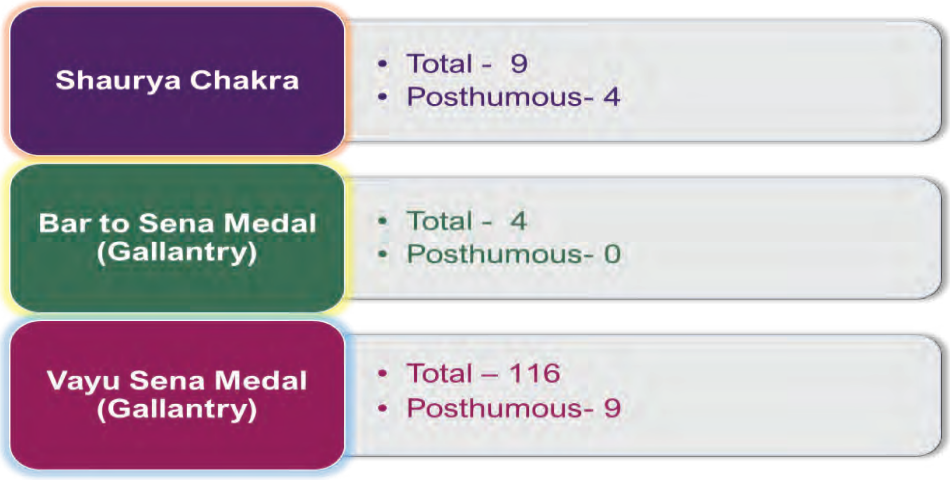
Republic Day Parade, 2020

The unfurling of the National Flag at Rajpath marked the beginning of Republic Day Parade. President of the Federal Republic of Brazil was the Chief Guest on the occasion.

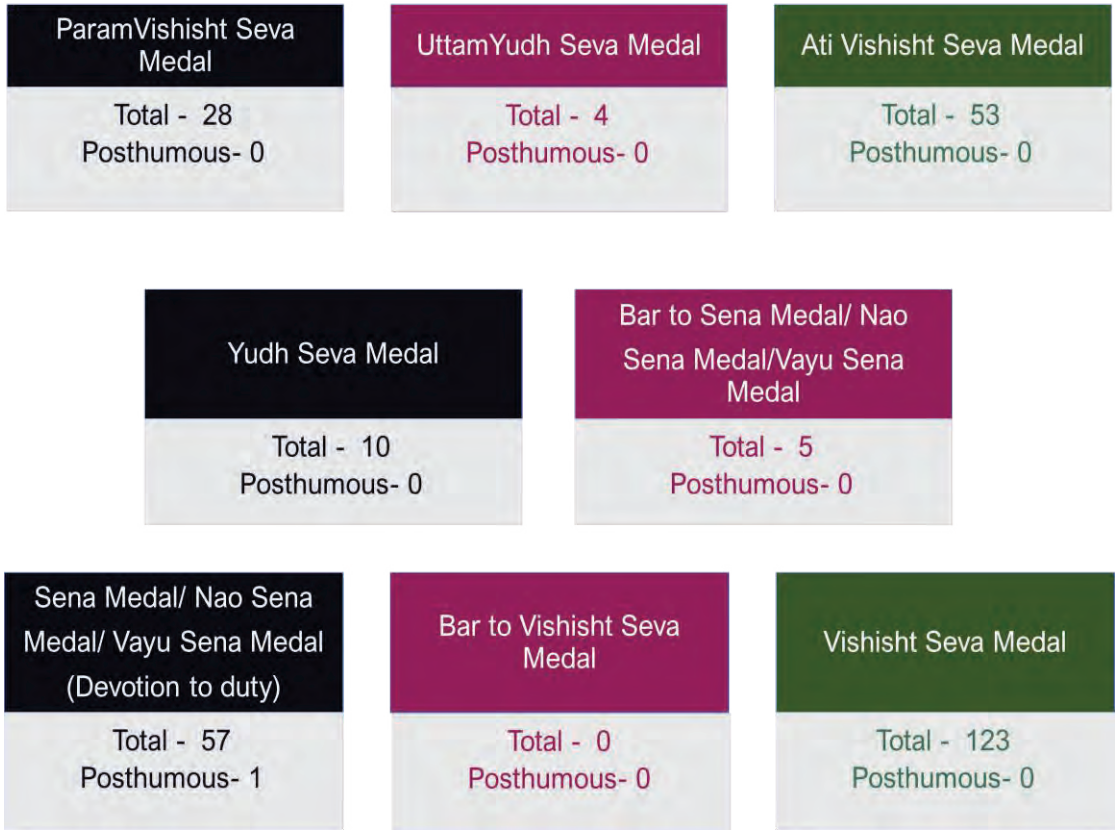
Forty-Nine children were conferred with Pradhan Mantri Rashtriya Bal Puraskar. Award winning children, seated in decorated Army Jeeps, participated in the Parade. Tableaux of States, Central Ministries/ Departments and cultural items presented by school children were the other attractions of the Parade. 22

tableaux and 4 school children's items were part of the parade. The parade concluded with an impressive Fly Past by Indian Air Force.

Gallantry service awards announced on the Republic Day, 2020



Distinguished awards announced on the Republic Day, 2020



Beating The Retreat Ceremony

'Beating Retreat' is a centuries old military tradition practiced 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 organized at Vijay Chowk on January 29, 2020, 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.

Martyrs' Day Ceremony

On January 30, 2020, the President laid wreath at Mahatma Gandhi's samadhi at Rajghat. The Vice President, the Prime Minister, the Raksha Mantri, the 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.

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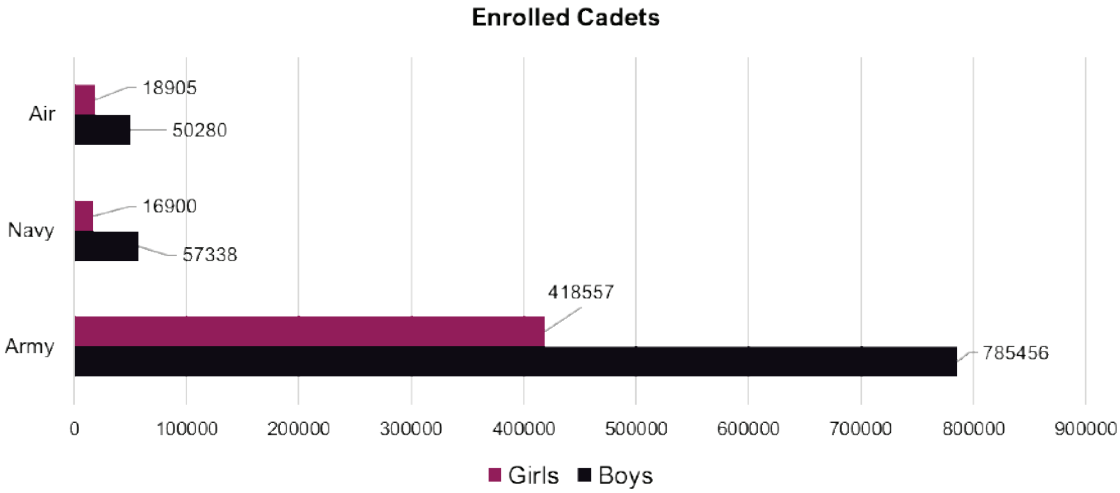
NATIONAL CADET CORPS

The National Cadet Corps (NCC) was established by virtue of the NCC Act, 1948. 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**".

Wing-wise distribution of enrolled cadet strength as on September 30, 2019



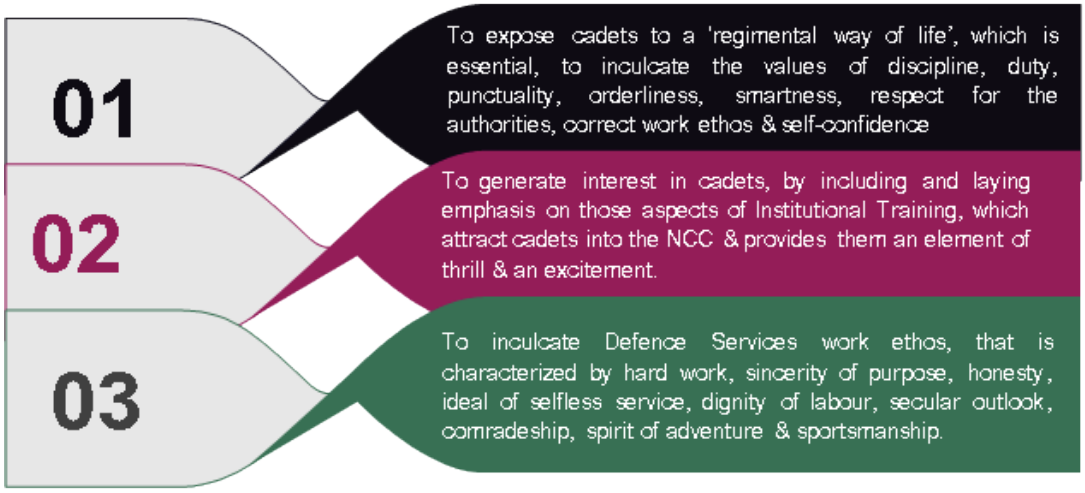
As on date NCC covers a total of **17644** institutions, which includes **12401** schools and **5243** colleges across the country.

1 NCC Group HQ, 8 NCC Army Units, 2 NCC Naval Units and 1 NCC Air Unit have been sanctioned by Government of India, on August 2, 2017, for raising in the 4th Phase. The raisings are currently underway. This will increase the number of NCC Units to **825 and the cadet strength to 14,60,000.**

Training

Institutional Training

Institutional training includes basic military training to the cadets as part of the curriculum and prepares them to join the Armed Forces. Following are the specific purposes for training: -

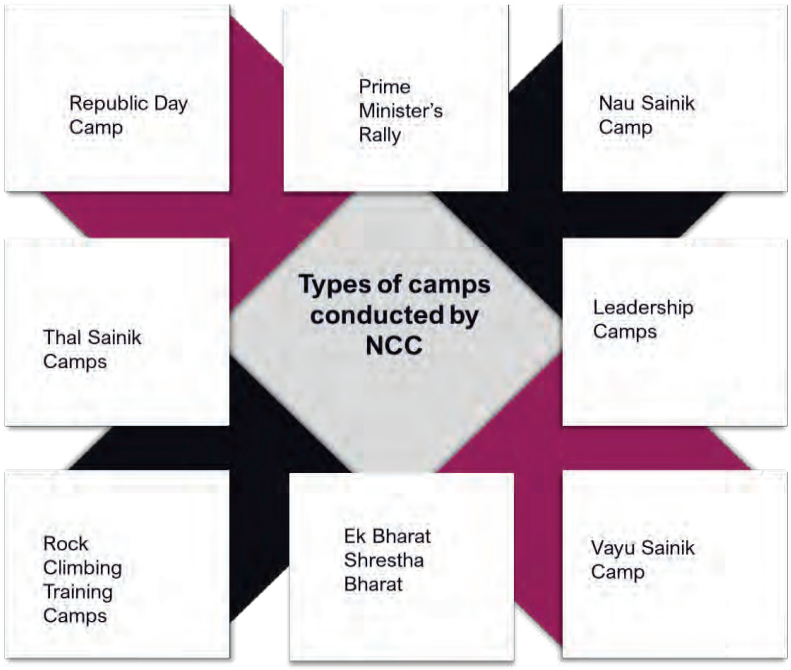


Camp Training

The cadets are exposed to the excitement of camp life, where they apply the theoretical knowledge that they had gained in Institutional Training. It is mandatory for Junior Division/Junior Wing (JD/JW) cadets, to attend at least one camp and Senior Division/ Senior Wing (SD/SW) cadets, to attend a minimum of two camps, during the period of their enrolment.

(a) Annual Training Camps (ATC): In 2019, 1633 camps have been conducted in different venues across the Nation and approx. 7,32,363 cadets participated in these camps.

(b) Centrally Organized Camps (COCs): COCs are of following types



Types of Centrally Organized Camps

(a) **Republic Day Camp (RDC):** Republic Day Camp is conducted, at Army Parade Ground, Delhi Cantt from January 1 to 29, every year. The Camp is attended by approximately 2155 cadets, from all over India and approx. 100-120 cadets of friendly foreign countries, with whom NCC has an ongoing Youth Exchange Programme. 2 NCC marching contingents and 2 NCC bands, participate in the Republic Day Parade, on Rajpath on 26th January every year.

(b) **Prime Minister's Rally:** The Prime Minister's Rally, the most prestigious event of the NCC Republic Day Camp is held on 28th January every year. Contingents from all the 17 State NCC Directorates participate in the March Past.

PM Rally 2019

Other Trainings

(a) Flying Training
(b) Yachting Special Training Camps
(c) Attachment Training

Training of Trainers/ SSB Training

Details of trainings conducted for trainers are as follows:

Officers Training Academy (OTA) Kamptee

- Imparting training to ANOs, JCOs and NCOs (maximum 550 at a time) is the principal task of this Academy
- SSB Capsules are also conducted for potentially selected approx 102 NCC Cadets for induction into Armed Forces each year.

Officers Training Academy (OTA) Gwalior

- The courses are conducted for the lady ANOs, GCIs and WTLO's.
- SSB Capsules are also conducted for potentially selected approximately 100 NCC Cadets for induction into Armed Forces each year.

No. of trainers who are trained in these two institutes this year in a programmed manner is as under:

(a) ANOs – 775
(b) Refresher Course for ANOs – 550
(c) PI Staff Orientation for JCOs/ NCOs – 5000

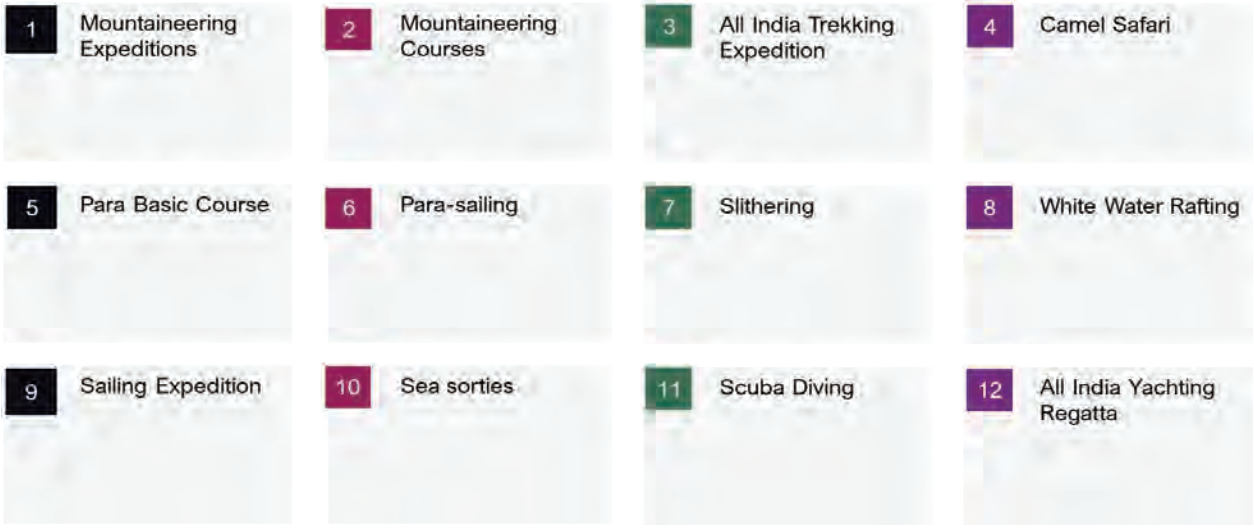
Improvements in Training

a. **110 Microlites Virus inducted** into NCC Air Wing.
b. **Special Yachting Camps increased** from 1 location to 5 locations .
c. **Over Seas Deployment by Indian Navy increased** from 20 cadets to 30 cadets in a year.
d. **Cadets' vacancies increased by** 85 for Republic Day Camp, by 151 for Army Thal Sainik Camp and by 17 Naval Nau Sainik Camp.
e. **Increase in Army attached training by 8000 cadets'** vacancies and IMA attached training by 130 cadets' vacancies.
f. **39 cadets joined OTA in September 2019** in one course.
g. **Institutional Training Syllabus and Training Précis** revised and disseminated in the NCC

Improvements in training

Adventure and Sports Activities

Adventure Activities -The aim of adventure activities is to inculcate a spirit of adventure, explorative inquisitiveness, develop stamina, endurance, self-confidence, team spirit Espirit-de-corps amongst the cadets. Adventure based activities enable cadets to hone leadership skills and enhance their character qualities. Potential cadets are given opportunities to participate in expeditions requiring higher degree of expertise and proficiency.



Types of adventure activities undertaken

(a) **Mountaineering Expeditions:** This year NCC Girls cadets have already scaled Mt Tenchenkhang (6010 m) in Sikkim region during May-June 2019 and Boys cadet have scaled Mt Hanuman Tibba (5982 m) in Himachal region in September 2019.

Successful mountaineering expeditions in 2019

(b) **Mountaineering Courses:** 426 Cadets vacancies of Basic, Advance, Adventure, Method of Instructions (MOI) and Search & Rescue are subscribed by NCC from following Institutes this year.

i. Atal Bihari Vajpayee Institute of Mountaineering & Allied Sports, Manali.
ii. Nehru Institute of Mountaineering (NIM), Uttarkashi.
iii. Himalayan Institute of Mountaineering (HMI), Darjeeling.
iv. Jawahar Institute of Mountaineering & Winter Sports, Pahalgam (J&K).
v. National Institute of Mountaineering & Allied Sports, Dirang, Arunachal Pradesh

(c) Sailing Expedition**:** Each NCC Directorate undertakes a minimum of one sailing expedition for a period of 10 to 12 days, covering a total distance of 400 to 500 kms. 40 to 60 cadets from each Directorate participate in the event. During these expeditions, cadets also undertake social agendas and Swachhta Abhiyan in remote coastal villages. This year Hatsin Sailing Expedition of Northeast Region Directorate over R Brahmaputra entered Limca Book of Records.

The Hatsin Sailing Expedition of NCC entered Limca Book of Records

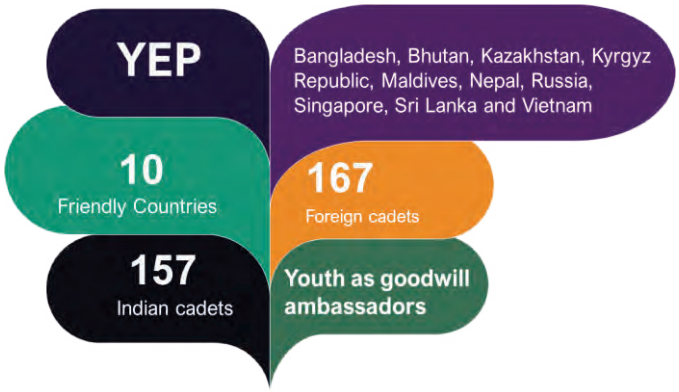
Sports

NCC Cadets from all NCC Directorates actively participate in various sports activities at the National level. Some of the major sporting activities conducted are as follows:

Major sporting activities

Youth Exchange Programme (YEP)

The Youth Exchange Programme, presently, being carried out with ten friendly countries to include Bangladesh, Bhutan, Kazakhstan, Kyrgyz Republic, Maldives, Nepal, Russia, Singapore, Sri Lanka and Vietnam, so as to heighten 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 has successfully conducted with ten friendly countries including exchange of 157 Indian NCC cadets and 167 Foreign cadets.



YEP Details

Social Service and Community Development (SSCD) Programmes

The social service and community development activities include, Fit India Campaign, Swachh Bharat Abhiyan, Tree Plantation, Jal Shakti, Anti-Drug Rally, Cancer Awareness, Disaster Relief, Blood Donation and Immunization, Beti Bachao Beti Padhao, AIDS Awareness, Care for the Blind, Women Health & Sanitation, Assistance in Natural Calamities, Road Safety & Discipline, Yoga Day, Digital Literacy, Skill Development Awareness and other similar relevant contemporary social issues. The SSCD activities are now also included in the revised syllabus for NCC cadets.

As part of SSCD Action Plan for the year, following guidelines have also been disseminated:

Guidelines for SSCD Action Plan

Government of India's Missions

a. Mass level Swachhta Abhiyan was launched by NCC Cadets based on Mahatma Gandhi's vision of a Clean India with Sanitization and Hygiene awareness including Toilets.

b. During the duration of last three years a total of Eight Swachhta Pakhwadas have been conducted by NCC Cadets to commemorate 150th Gandhi Jayanti involving over 45 Lakh cadets and impacting three crore citizens. Following activities have been conducted Pan India in a programmed manner:
   i. Adoption of 3600 Villages/Slums and 4300 central Parks/ Statues.
   ii. Cleanliness Drives in Schools/Colleges, Hospitals, Important Public Places, Historical Monuments, Beaches and Water Bodies.
   iii. Mass Swachhta awareness campaigns including mobilizing masses through Rallies, Banner display, Nukkad Natak, Door to Door visit, Lecture/ Seminars and Competitions.
   iv. Issues of ODF and compost pits were deliberately addressed through physical assistance in adopted villages/slums and awareness programmes.

Plastic Waste Management: As a part of Prime Minister directions on conduct of 'Swachhta Hi Sewa' campaign to be focused on Plastic Waste Management, NCC conducted the Pan India Swachhta Pakhwada from September 11 to October 27, 2019 commemorating 150th birth anniversary of Mahatma Gandhi wherein over 9 Lakh NCC cadets enthusiastically participated in various awareness and cleanliness programmes focusing mainly on Plastic Waste Management including its physical disposal by October 27, 2019. A Pan India Swachhta cycle rally was also organized which culminated at India Gate, New Delhi in presence of Hon'ble Raksha Rajya Mantri. 'No Plastic Use' has been taken up as a social theme also by many State Directorates, for carrying local Foot Policing by NCC cadets with placards for awareness on a regular basis in respective localities.

Jal Shakti: 'Jal Shakti', an initiative on water conservation has been taken up by NCC in a big way. 'Jal Shakti/Water Conservation has been taken up as a social theme also by many of the State Directorates, for carrying local Foot Policing by NCC cadets with placards for awareness on a regular basis in respective localities. A total of 3,25,780 NCC Cadets have participated in these Water conservation programmes.

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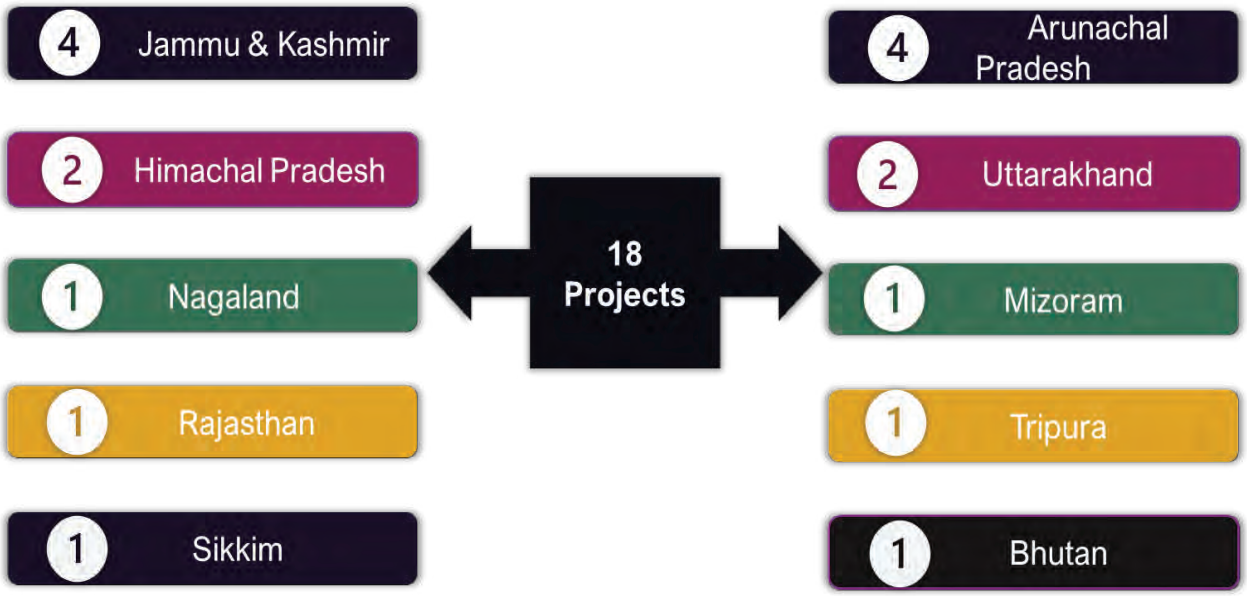
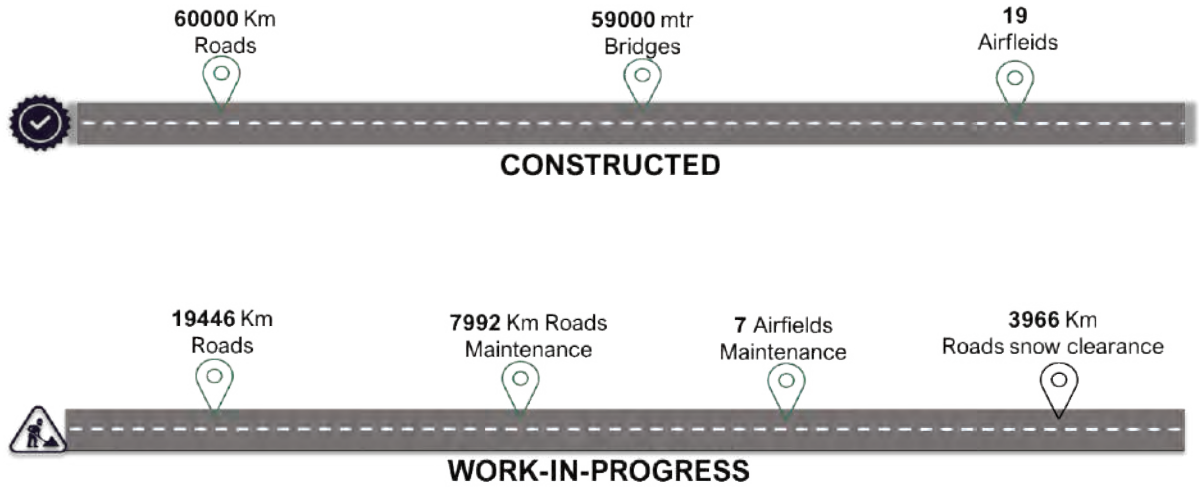
BORDER ROADS ORGANIZATION

Border Roads Organization (BRO) is a premier road construction agency raised to meet the road infrastructure requirements of the Armed Forces. Starting operations in May 1960 with two Projects, it has now grown to 18 Projects.



Project Details

BRO has earned a reputation of being the only road construction agency to construct and maintain roads in difficult, isolated and inhospitable terrain under inclement weather conditions.



Construction Details

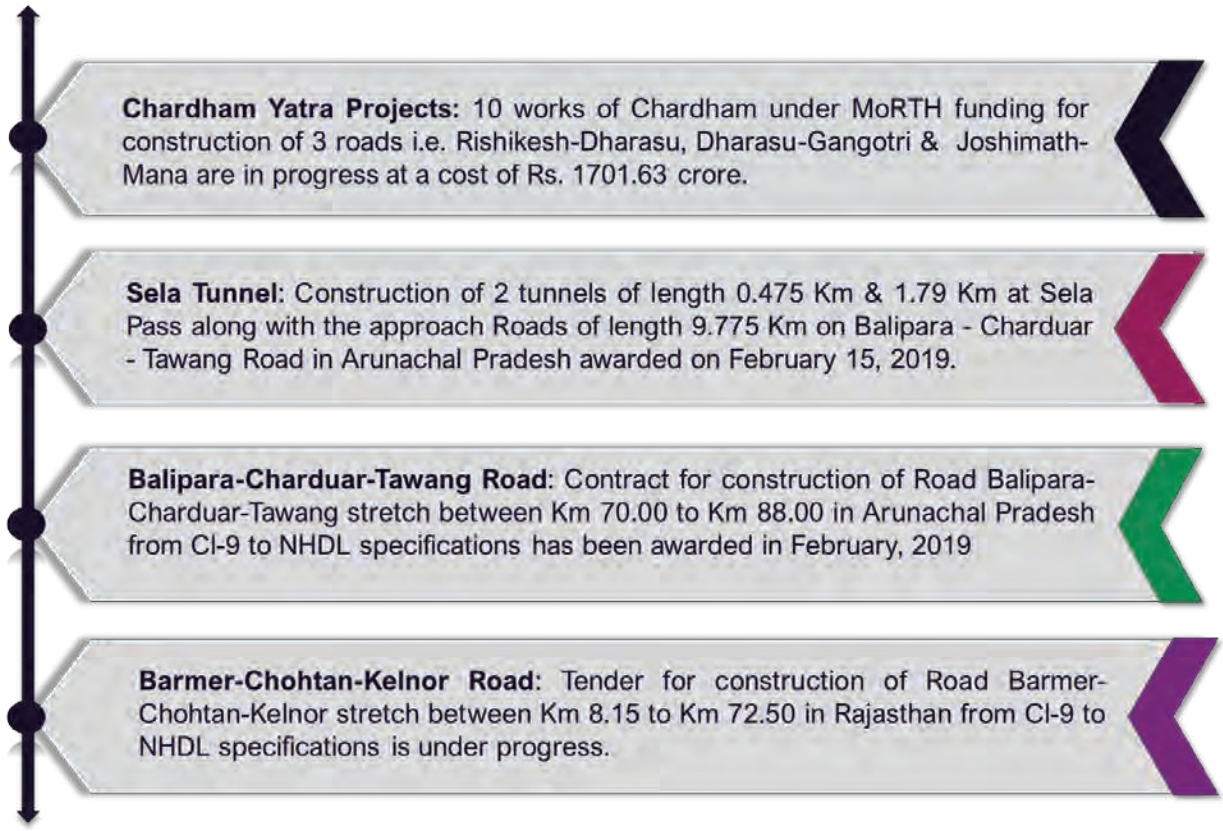
Major Accomplishments in BRO

1. Completion of Indo-China Border Roads (ICBRs)

61 Roads (3323 Km) have been entrusted to BRO for construction/ development. As on date 36 Roads have been completed. Length of road completed is 2501 Km (75%) and connectivity achieved is 3296 Km (99%).

2. Adoption of EPC mode in BRO

Adoption of Engineering Procurement Contract (EPC) mode of execution was approved by Ministry of Defence on August 29, 2017. Accordingly, all works costing more than Rs 100 crore are being executed through EPC mode. Out of 43 numbers of works planned to be outsourced through EPC mode, 31 contracts have been awarded for preparation of DPR.



Civil works awarded for construction on EPC mode

Sela Tunnel Project

3. Under water Tunnel across Brahmaputra

BRO has started the feasibility study and DPR preparation for the proposed under water tunnel for road and rail connectivity across the Brahmaputra River. Feasibility and DPR is expected to be completed in 24 months.

4. Road Nimu-Padam-Darcha (N-P-D)

Alternate connectivity to Kargil through Shinkunla Pass has been achieved. Existing Padam Kargil Road has been connected to the N-P-D road at Padam in FY 2019-20.

5. Road Ghatiabagarh – Lipulekh

Out of 79 Km Road length, connectivity of 72 Km length has been achieved. The road is planned to be connected in 2020 and completed by 2022-23. The road is also important for facilitating Mansarovar Yatra from Tawaghat in Uttarakhand.

6. Bridges Completed & Inaugurated

28 numbers of bridges of length 3476 Meter having different spans have been completed upto December 2019. Some of the important bridges inaugurated & dedicated to the Nation by Raksha Mantri, are given below:

Sessri Bridge: 200 Meter long bridge at Km 594.945 on Ranaghat - Mebo - Dambuk - Bomjir on NH-13 in Arunachal Pradesh State on November 15, 2019.

Col Chewang Rinchen Setu :426 meter long Triple Double Reinforced Extra Wide Bailey Bridge at Km 150.40 on Darbuk-Shyok-Daulat Beig Oldie (D-SDBO) Road in UT of Ladakh on October 21, 2019.

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INDIAN COAST GUARD

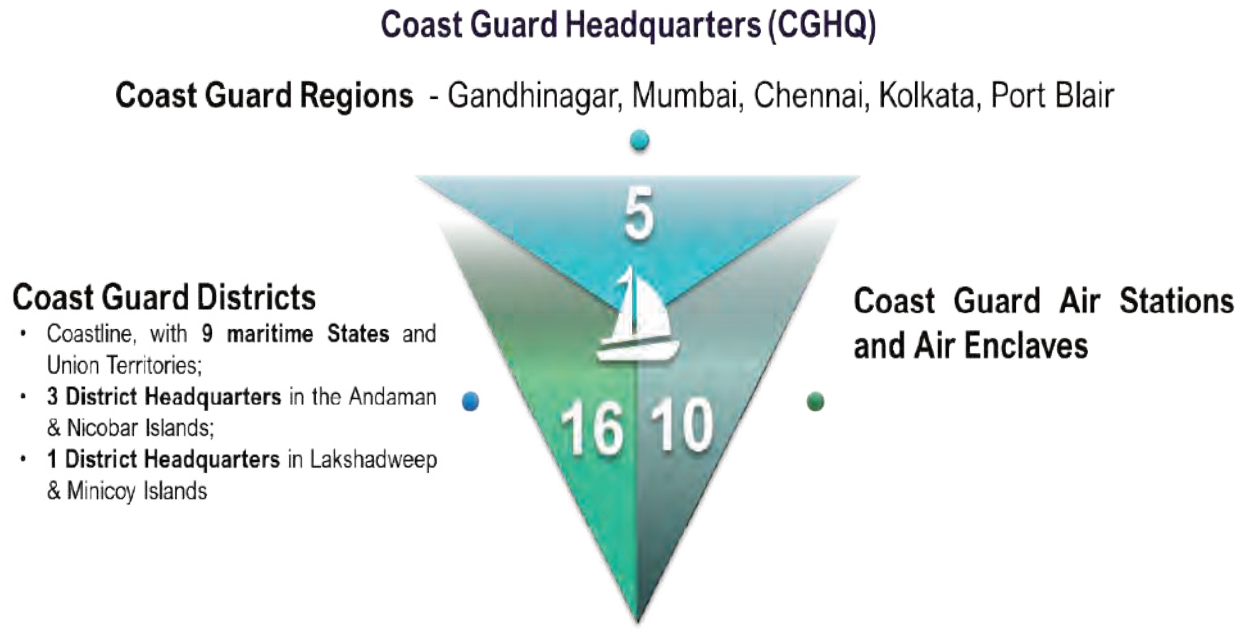
In 1977, Union Cabinet approved the setting up of 'Coast Guard' with a fleet strength of 02 Ships ex-Indian Navy and 5 Patrol Boats ex-Customs.

Indian Coast Guard (ICG) was formally established as an Armed Force of the Union on August 18, 1978, by the Coast Guard Act, 1978 passed by the Parliament. ICG functions under the Ministry of Defence.

Organization

The Coast Guard organization is headed by the Director General Indian Coast Guard (DGICG) exercising his overall command and superintendence from Coast Guard Headquarters (CGHQ) located at New Delhi.

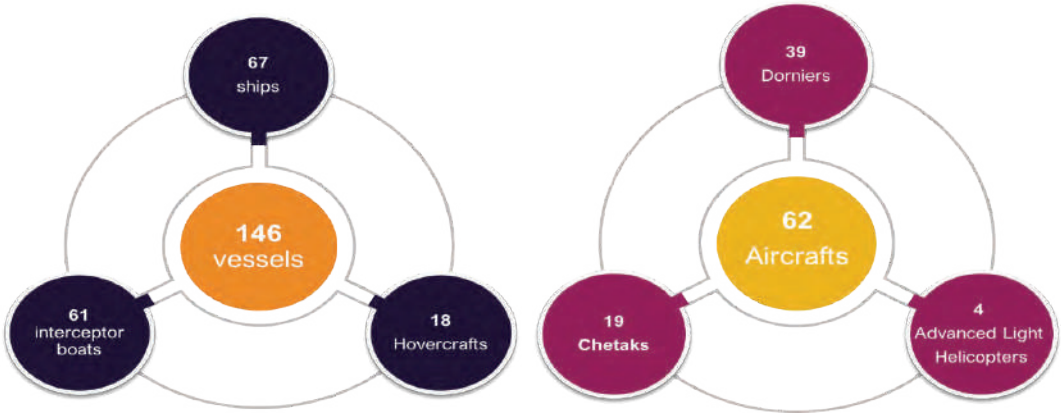
For effective command and control, the Maritime Zones of India have been divided into five Coast Guard Regions with a Regional Headquarters each at Gandhinagar, Mumbai, Chennai, Kolkata and Port Blair.



Indian Coast Guard Organization

The ICG has also been given additional responsibilities of Coastal Security in Territorial Waters, Enforcement, Monitoring and Surveillance of Deep-Sea Fishing, Maritime Search and Rescue and Marine oil spill response measures. It is also the Lead Intelligence Agency for coastal and sea borders.

Existing Force Level



Existing force level

Extended 'Exclusive Economic Zone' (EEZ) Surveillance:

ICG ships and aircrafts are deployed for undertaking maritime surveillance of littoral states. In 2019, ICG undertook five extended EEZ deployments in the Maldivian EEZ. Three ICG ships and two aircrafts were deployed in the Maldivian EEZ.

Coastal Security

Coastal Security Exercises: ICG, in coordination with Indian Navy (IN), has been undertaking patrol and surveillance of the entire coastline. Since 2009, a total of 196 Coastal Security Exercises have been conducted.

Coastal Security Operations: With the sustained impetus on Coastal Security, a total of 419 Coastal Security Operations have been conducted since 2009, in coordination with all stakeholders.

Community Interaction Programmes:

Since 2009, Indian Coast Guard has conducted a total of 8240 Community Interaction Programmes to sensitize the fishermen on safety and security issues and to create awareness about usage of lifesaving equipment like Disaster Alert Transmitters, lifebuoys and life jackets etc.

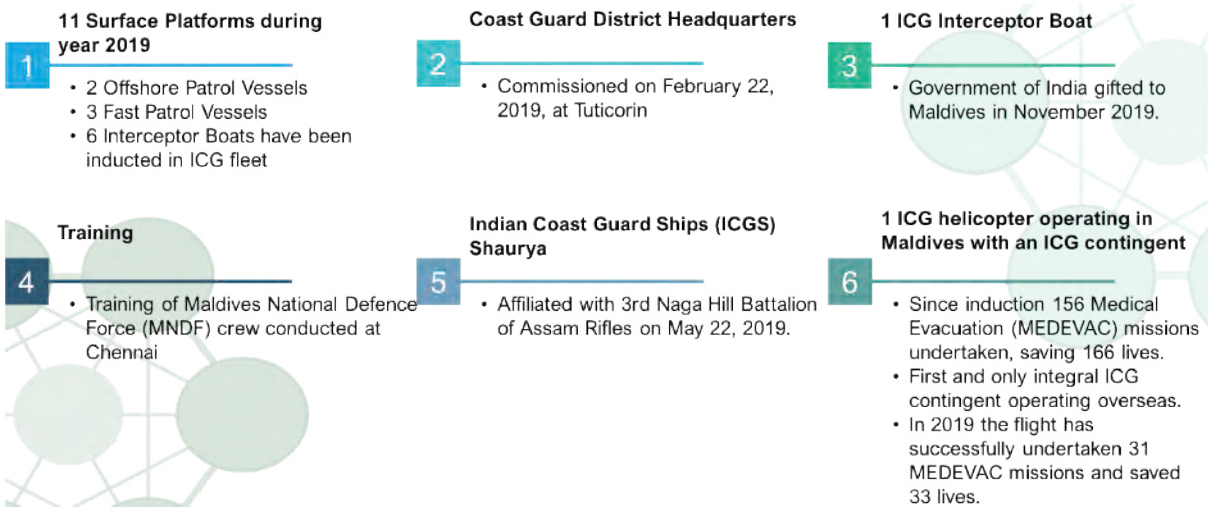
Boarding Operations:

Since 2009, a total of 2,39,724 Boarding Operations have been conducted by ICG ships out of which a total of 42,911 boarding operations have been carried out in 2019.

Training of Marine Police Personnel:

With a view to enhance professional skills of Marine Police personnel, ICG has provided training to 4792 police personnel so far.

Significant Milestones and Achievements



International Cooperation

High Level Meetings (HLMs)

10

high level meetings

- 2 hosted by ICG
- ICG participated in 8 HLM's

International cooperation high level meetings		
Host	**Participant**	**Remarks**
Indian Coast Guard, Kochi	Australian Border Force	Second HLM on bilateral cooperation on May 9, 2019
Bangladesh Coast Guard, Dhaka	Indian Coast Guard	5th HLM under the provisions of MoU signed between the two Coast Guards during September 16-17, 2019
Japan Coast Guard, Tokyo	Indian Coast Guard	18th HLM, during January 21-25, 2019
Korea Coast Guard, Incheon	Indian Coast Guard	10th HLM, during March 26, 2019
Myanmar Navy, Myanmar	Indian Coast Guard	Bilateral cooperation of ICG with maritime agencies of Myanmar during May 6-9, 2019
Indian Coast Guard, New Delhi	Sri Lanka Coast Guard (SLCG)	4th HLM between ICG and SLCG during August 20, 2019
Vietnam Coast Guard, Hanoi	Indian Coast Guard	3rd HLM on April 25-27, 2019
Singapore	Indian Coast Guard	13th Governing Council Meeting of the ReCAAP Singapore on March 19-22, 2019
Sri Lanka Coast Guard, Columbo	Indian Coast Guard	15th Heads of Asian Coast Guard Agencies Meeting (HACGAM) during October 7-11, 2019
Tokyo, Japan	Indian Coast Guard	2nd Coast Guard Global Summit

Visit of Foreign Ships to India

3

Foreign ship visits

March 20-23, 2019 (Port Blair)

- Ship - Syed Nazrul, Bangladesh Coast Guard
- Professional interaction with ICG under the provisions of MoU

May 13-16, 2019 (Port Blair)

- Ship - K N Tanjung Datu
- Joint exercise

August 23-27, 2019 (Chennai)

- Ship - Stratton, United States Coast Guard
- Professional interaction and joint exercise

Overseas Deployment of ICG Ships to Foreign Ports:

Indian Coast Guard Ships are being deployed overseas from time to time to interact with foreign Coast Guard and other Maritime Agencies in the region. A total of 6 ICG ships visited 15 foreign countries from January 2019 till date.

Search and Rescue (SAR) Operations

Search and Rescue (SAR) Operations carried out successfully

264 fishermen rescued

On December 3, 2019, 4 ICG ships and 3 Dorniers rescued 264 fishermen who were caught in adverse weather conditions off Goa in Arabian Sea by diverting a total of 13 Merchant Vessels (MV).

Marine Environment

The 7th National Level Pollution Response Exercise (NATPOLREX-VII) was conducted by ICG on January 7-9, 2019, at Mumbai. During the exercise, 24 foreign delegates from 19 countries and 75 delegates from Central and State Departments, major ports, non-major ports, oil handling agencies and oil installation onshore participated in the exercise. A workshop and tabletop exercise were also conducted on January 7-8, 2019.

Towards ongoing efforts of the Government for the 'Swachh Bharat Abhiyan', ICG conducted International Coastal Cleanup Day-2019 (ICC-2019) in all Coastal States/ Union Territories on September 21, 2019. A total of 19,479 volunteers participated in the ICC-2019 campaign, which resulted in collection of 71,220 Kgs of marine litter.

Fisheries Protection

Coast Guard apprehended 21 foreign fishing boats along with 108 foreign crew under the provisions of the Maritime Zone of India (MZI) Act, 1981 since January 2019.

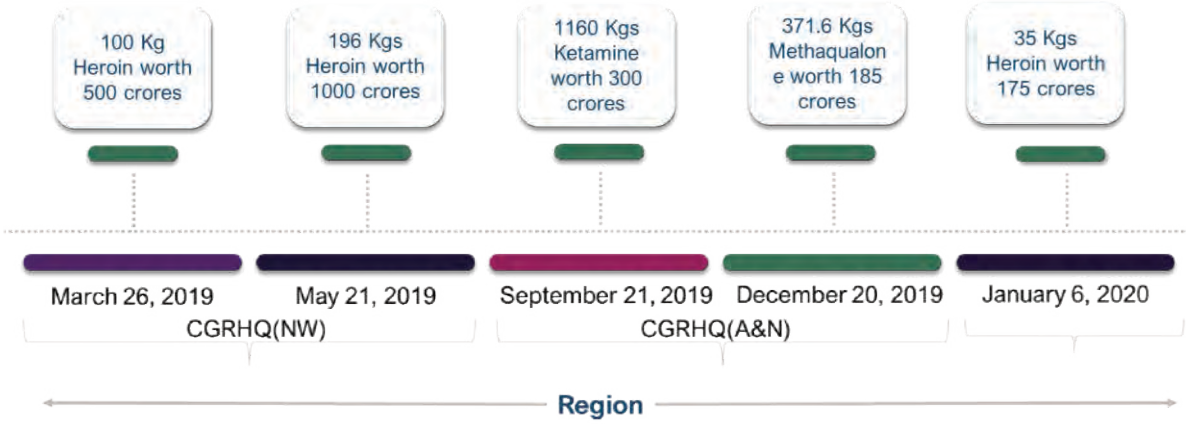
The repatriation operations of fishing boats/ fishermen are directly coordinated by the Coast Guard with extensive liaison with MEA, the Indian High Commission in the respective countries, State Fisheries Departments and District Administration.

The details of repatriation since January 2019 are as follows:

Repatriation	Since January 2019 till date	
	Boat	Crew
Indian fishing boats and fishermen from Sri Lanka	38	45
Indian fishing boats and fishermen from Pakistan	Nil	200
Sri Lankan fishing boats and fishermen from India	Nil	50

Intelligence &Anti-Smuggling and Narcotics Control (ASNC)

Based on Intelligence Inputs, ICG in coordination with various stakeholders and Coast Guards of neighboring countries successfully apprehended 1862.6 Kgs of Narcotics amounting to Rs. 2160 crore (in open market) in the year 2019-20.



Contraband apprehended by ICG

Cooperation between India Coast Guard and Civil Authorities

Fire Fighting Assistance to Fishing Boat Garib Nawaz off Pipavav Port: On February 10, 2019, a fire incident occurred on fishing boat 'Garib Nawaz' when it was at anchorage off Shiyal Bet Island, Pipavav, after around 150 local villagers had disembarked the boat for a religious visit to a local Durgah at Sawai Bet.

On receipt of information, ICG Ship Pipavav was immediately deployed for assistance. The fire was brought under control. No casualty was reported during the incident.

Assistance to fishing boat 'Garib Nawaz' by ICG Ship

Firefighting Assistance to Ocean Research Vessel (ORV) Sagar Sampada (Owned by Ministry of Earth Sciences): On March 15, 2019, Maritime Rescue Coordination Centre (MRCC), Mumbai received an e-mail from Deputy General Manager, SCI Ltd regarding fire onboard Research Vessel 'ORV Sagar Sampada' in position 37 nautical miles South-West of New Mangalore with 46 person (36 crew and 16 scientists) onboard.

On receipt of the information, ICG Ships Vikram and Sujay whilst on patrol were immediately diverted to proceed for rendering assistance to the distressed vessel and reached datum on March 16, 2019. All 46 crew onboard were ascertained safe.

ICG ships launched Fire Fighting teams with firefighting equipment to the distressed vessel and firefighting was carried out under challenging conditions with limited access. The fire was successfully brought under control in 8 compartments of the vessel by ICG firefighting team and thereafter ICG teams undertook de-flooding using submersible pumps. The vessel thereafter proceeded towards New Mangalore under escort of ICG ships and safely entered New Mangalore on March 16, 2019.

ICGS Vikram & Sujay in Fire Fighting Operation

Fire Fighting Assistance to Fire Onboard 'MV APL Le Havre': On August 9, 2019, Master of MV APL Le Havre telephonically intimated MRCC, Mumbai regarding fire onboard. ICG Ship Sangram on patrol was immediately diverted to provide necessary assistance.

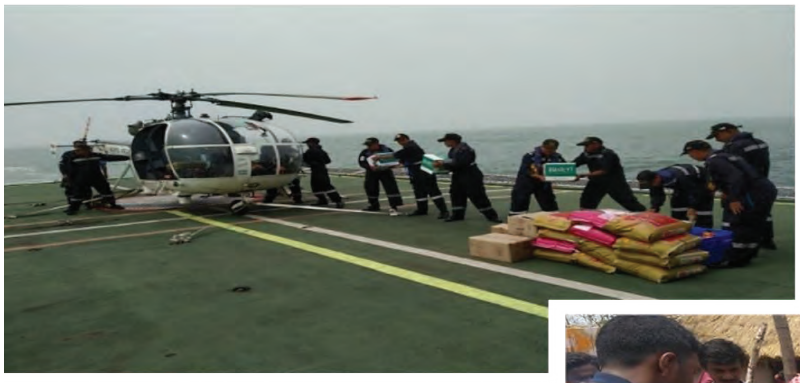
Meanwhile, another vessel MV Nord Copenhagen operating in vicinity of MV APL Le Havre was diverted and the vessel was requested to assist MV APL Le Havre till arrival of ICGS Sangram. ICG ship Sangram arrived datum on August 9, 2019, and the ship operated external fire-fighting system for extinguishing the fire. Thereafter, the vessel was escorted inside Gulf of Kutch and the vessel arrived Mundra anchorage area on August 10, 2019.

Rescue of 29 Personnel by ICG from Offshore Supply Vessel (OSV) Coastal Jaguar on Fire off Visakhapatnam: On August 12, 2019, Remote Operating Station (ROS), Visakhapatnam noticed smoke emanating from Offshore Supply Vessel "Coastal Jaguar" (31 crew onboard) which was engaged in Pollution Response Operation off Visakhapatnam harbour.

The crew had jumped overboard post occurrence of fire. ICGS Rani Rashmoni in coordination with Tug "Sindhu" and a Port Utility Boat rescued 29 crew of OSV "Coastal Jaguar". The injured rescued crew were admitted in Visakhapatnam Port Hospital. ICGS Samudra Pehradhar along with Visakhapatnam Port Trust Tugs "Sindhu" and "Kohinoor" undertook firefighting operation. With continued efforts, the fire was brought under control.

ICGS Samudra Paheredar Extinguishing Fire Onboard OSV

ICG Efforts during Cyclone 'Fani' in Bay of Bengal: IMD issued intimation on formation of cyclone 'Fani' on April 27, 2019. Weather warnings were circulated to fisheries authorities. ICG Dornier and ships were deployed to broadcast warnings on VHF and advise fishermen to return to harbour. All units and stations on the eastern coast were placed on emergent readiness for SAR and Disaster response.



Medical Camp by ICG

Safe Evacuation of Stranded Police Personnel from Jackson Creek: On July 2, 2019, ICGS Vijit evacuated 10 Police personnel with arms and ammunition from Jackson Creek during inclement weather.

ICG Efforts Towards Disaster Relief Operation at Maharashtra, Karnataka and Kerala: Consequent to issuance of warning of heavy to very heavy rainfall in coastal states, Indian Coast Guard District and Stations were placed on high alert for assisting Civil Administration on August 4, 2019.

A total of 53 CGDRTs were mobilized in states of Maharashtra, Karnataka and Kerala with lifesaving/ rescue gears and were deployed on rotation as per the requirements projected by the SDMAs/ State Administration in the State of Maharashtra, Karnataka and Kerala. A total of 4418 persons were evacuated.

Pre-emptive Measures during Cyclonic Storm 'Kyarr': Consequent to issuance of warning by IMD regarding formation of low pressure, ICG initiated a series of pre-emptive measures since October 21, 2019, onwards to prevent loss of lives.

A total of 1678 fishing boats were guided for safe return to harbour by ICG Remote Operating Stations (ROS). On an average, 10-12 Ships and 2-3 Dornier sorties were undertaken daily for area scan, location of stranded fishing boat and issuance of warning for safe return to harbour. 44 fishermen lives were saved by ICG units.

Pre-emptive Measures during Cyclonic Storm 'Maha': Consequent to issuance of warning by IMD regarding formation of low pressure, ICG initiated a series of pre-emptive measures since October 28, 2019, onwards to prevent loss of fishermen lives.

A total 20 relief camps were conducted and around 759 persons were evacuated safely to relief camps by UT Administration from low lying areas. On an average 6-8 ships and 2-3 Dornier were deployed daily for issuance of warning, area scan, location of stranded fishing boat and assistance.

ICG Efforts towards Cyclonic Storm 'Bulbul': Consequent to issuance of warning by IMD regarding formation of depression, ICG initiated series of pre-emptive measures since November 5, 2019, onwards to prevent loss of fishermen lives.

A total of18 fishing boats along with 148 fishermen were guided by ICG units at sea and Remote Operating Stations (ROS) for safe return to harbour.60 Civilian labours ex-MES were provided shelter in Coast Guard Residential Area, Paradip. On an average 10-12 ships and 2-3 Dornier sorties were undertaken daily for issuance of warning, location of stranded fishing boat and assisting them to safer shelters.

Meeting with Stakeholders

CIP at Namkhana, West Bengal

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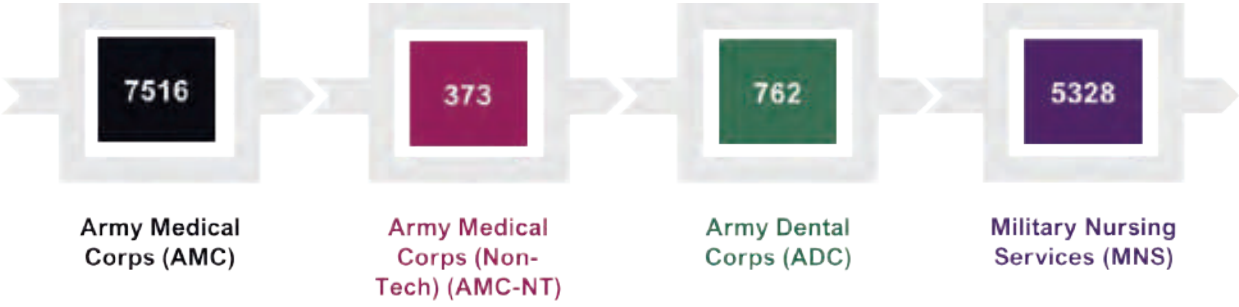
ARMED FORCES MEDICAL SERVICES (AFMS)

AFMS provides 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 (GREF) Units operating in the disturbed and forward areas of the country. The medical care is also provided to ex-servicemen and their dependents within the country. During natural calamities, disasters and operational areas, it also serves civilian population.

Each Medical Service is under a Director General Medical Service (DGMS) in the rank of Lt General or equivalent. The Director General Armed Forces Medical Services (DGAFMS), who heads the Service, is also medical advisor to the Ministry of Defence and the Chairman of the Medical Services Advisory Committee. There are 132 Armed Forces Hospitals. The authorized officer's strength of AMC, ADC, MNS & MNC (NT) is as under.



No. of Authorized Officers in AFMS

Telemedicine

At present, life and / or limb threatening medical emergencies at sea which require specialist care are either evacuated, or the vessel abandons mission to enter nearest port. Sometimes, even evacuation is impossible, due to weather, lack of aircraft / boats or nature of casualty. Telemedicine would provide remote health care & monitoring for use on board operational platforms & at remote shore locations.

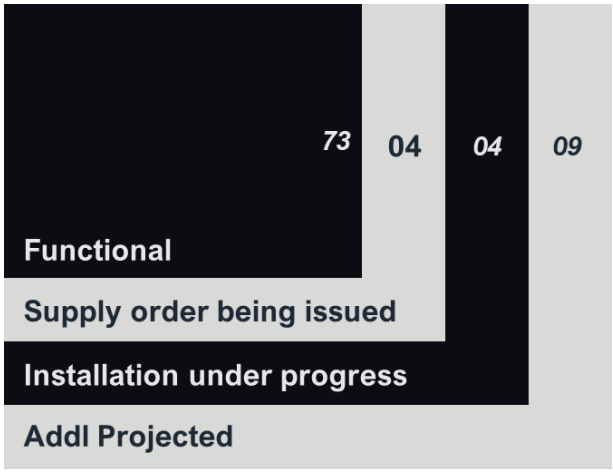
The Telemedicine contract has been signed on April 22, 2019. Following signing of contract telemedicine equipment will be installed on 107 ships / submarines & remote locations by early 2021.

a) **Telemedicine (Tier-I):** Radio based telemedicine to connect forward isolated posts to Regimental Aid Post (RAP) has been planned with Defence Bioengineering and Electrochemical Laboratory (DEBEL). Training on handling of telemedicine equipment i.e., Portable Physiological Vital Para Monitor (PPVPM) was conducted successfully.

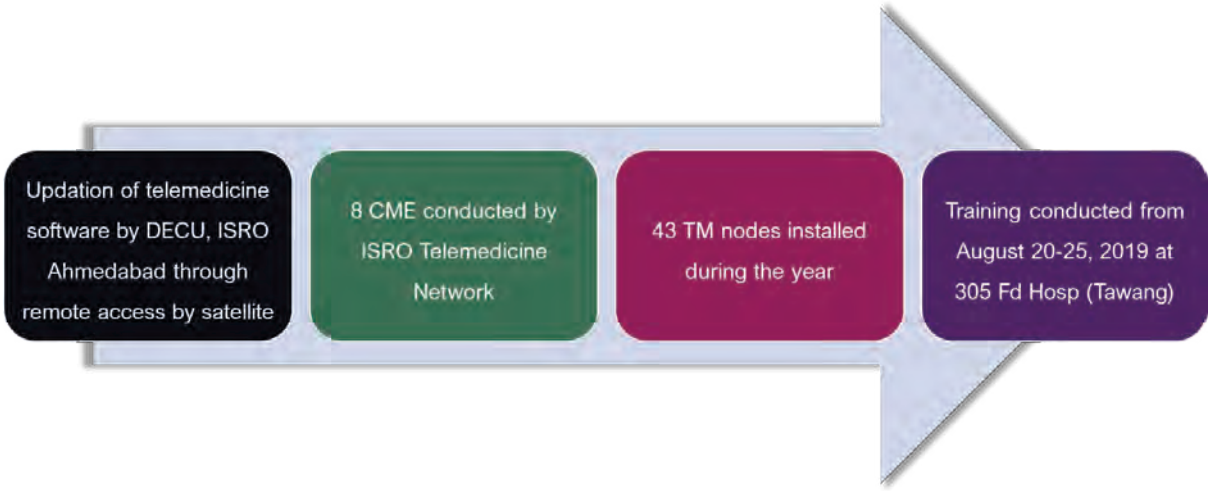
b) **Telemedicine (Tier-II):** HQIDS (Med) is collaborating with DEBEL for providing telemedicine facilities in remote area connecting 10 RAPs to 150 GH in Northern Command using Army Intranet. It involved real time video interfacing of personnel deployed in the Infantry Battalions with specialists at 150 GH.

It also includes the real time transmission of critical medical parameters like Pulse, BP, Temp, Respiratory rate, Oxygen saturation in Blood (SPO2) ECG and data from Digital Stethoscope, Derma-scope and Aero-scope.

c) **Telemedicine (Tier-III):** DECU, ISRO, Ahmedabad in collaboration with HQ IDS (Medical) has provided 20 Telemedicine Nodes through Satellite Communication to Armed Forces Medical Units. Presently all nodes are functional and provide Continuous Medical Education Programs. Request for additional 83 nodes received was forwarded to Director DECU ISRO out of which 53 additional Telemedicine nodes have been approved. Procurement order has been placed for establishment of additional 53 Telemedicine nodes for Army, Navy & Air Force. The summary of telemedicine nodes are as under: -



Summary of telemedicine nodes



Progress in 2019

Important Activities

(a) Medical Camps: The Army Medical Corps conducts a large number of medical outreach campaigns under the aegis of OP SADBHAVNA in the remote regions of J&K and Northeast regions. Further, the following additional multi-specialty medical camps were held:

Medical Camp in Northern Command	Initiatives for Disabled Soldiers	Medical Camp Held at Sarli	Operation Himrahat
A multi specialty medical camp was organized at Block Gool, District Ramban of J & K on January 19, 2019 to provide health care services to the clientele of underdeveloped border areas. 4652 civilians were given treatment at this camp.	A disabled Soldier's Conclave Cum Rally was organized under the aegis of HQ 51 Sub Area in Assam. An extension of the Artificial Limb Sub Centre was established at the camp site to facilitate disabled veterans.	A medical camp was conducted by 456 Field Hospital on February 23, 2019 at Sarli under project 'OP Samaritan' A total of 126 Medical and 29 Dental Patients were examined and 34 Lab test done during the camp.	On December 28, 2018 due to heavy unprecedented snowfall about 2900 tourists visiting Nathula (Sikkim), were stranded. Medical Teams of 317 Field Hospital, as part of "OPERATION HIMRAHAT" provided emergency medical services and life saving treatment

Additional multi-specialty medical camps were held

(b) Raksha Mantri Trophy for Best Command Hospital of the Armed Forces for the year 2018, was presented to Command Hospital Air Force Bangalore (CHAFB) by Hon'ble Raksha Mantri

Raksha Mantri Trophy for Best Command Hospitals

Research Activities

New AFMRC Projects: 129 new AFMRC projects were approved during 57th AFMRC meeting held at Pune in February 2019. Research funds were allotted to both the new and ongoing projects to the total of Rs. 8,35,00,000/-.

Completed AFMRC Projects: 76 AFMRC project were completed during the period from October 1, 2018 to September 30, 2019.

MOU: AFMS has entered into MoU on collaborative research & training with AIIMS, New Delhi, Post Graduate Institute of Medical Education and Research, Chandigarh and Sanjay Gandhi Post Graduate Institute of Medical Sciences, Lucknow.

Details of Research Activities

Initiatives

(a) Implementation of National Mental Health Programme Scheme 'B' at INHS Asvini: Grant-in-aid for augmentation of manpower of psychiatric facility at INHS Asvini has been sanctioned under Scheme 'B' (manpower development scheme) of National Mental Health Programme (NMHP). The academic course in M Phil psychiatric social work has been commenced in 2019 and other academic courses (M Phil Clinical Psychology, Diploma in Psychiatric nursing and two additional seats in MD Psychiatry) are under advanced stages of approval from respective institutions/ regulatory bodies for academic year 2020-21.

(b) Inauguration of the Pradhan Mantri Bhartiya Jan-Aushadhi Kendra (PMBJK) at Base Hospital Delhi Cantt for ECHS clientele: In alignment with PMBJP and PM's initiative "to make available quality medicines at affordable prices for all" an initiative was undertaken by the Directorate General of Medical Services (Army) to open a Jan-Aushadhi Kendra (JAK) at Base Hospital Delhi Cantt.

(c) Inauguration of AYUSH Clinic at Palliative Care Centre, Base Hospital Delhi Cantt: RRM inaugurated the AYUSH Clinic at the Palliative Care Centre, Base Hospital Delhi Cantt on October 21, 2019 in the presence of DGAFMS & DGsMS of the three services.

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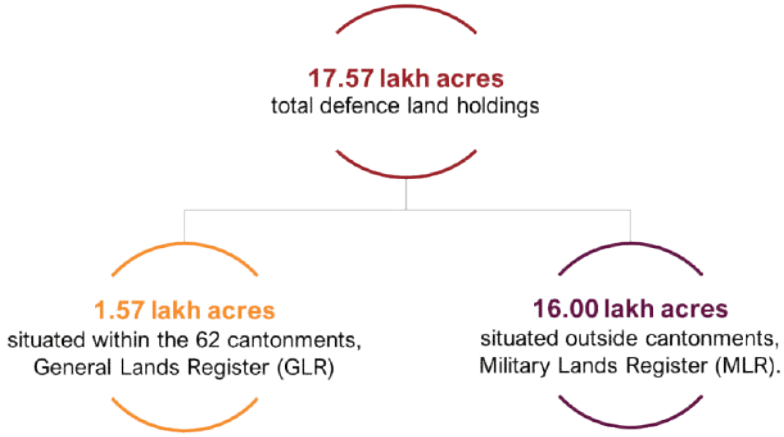
OTHER ORGANIZATIONS OF DEPARTMENT OF DEFENCE

Directorate General Defence Estates (DGDE)

DGDE, 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.



Total defence land holdings

The Directorate General has undertaken digitization of land records and survey and demarcation of all defence lands 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.

About 98.95% and 100% survey work has been completed in DEO's and Cantonment Boards respectively. The second phase of survey has been started.

DGDE has also been entrusted with the task of conducting land audit. Land Audit of all DEO circles have been completed and reports submitted with recommendations for efficient land management. The third cycle of land audit in respect of 14 DEO Circles for year 2019-20 is under process.

204	Schools and colleges maintained by Cantonment Boards
46	Skill Development Centres providing training in computer application, automobile repairing, electrical & electronics and IT applications etc.
36	Centers for Differently-abled Children for special needs like medical examination, counseling
88	Hospitals and dispensaries

Institutions, hospitals, and dispensaries in Cantonments

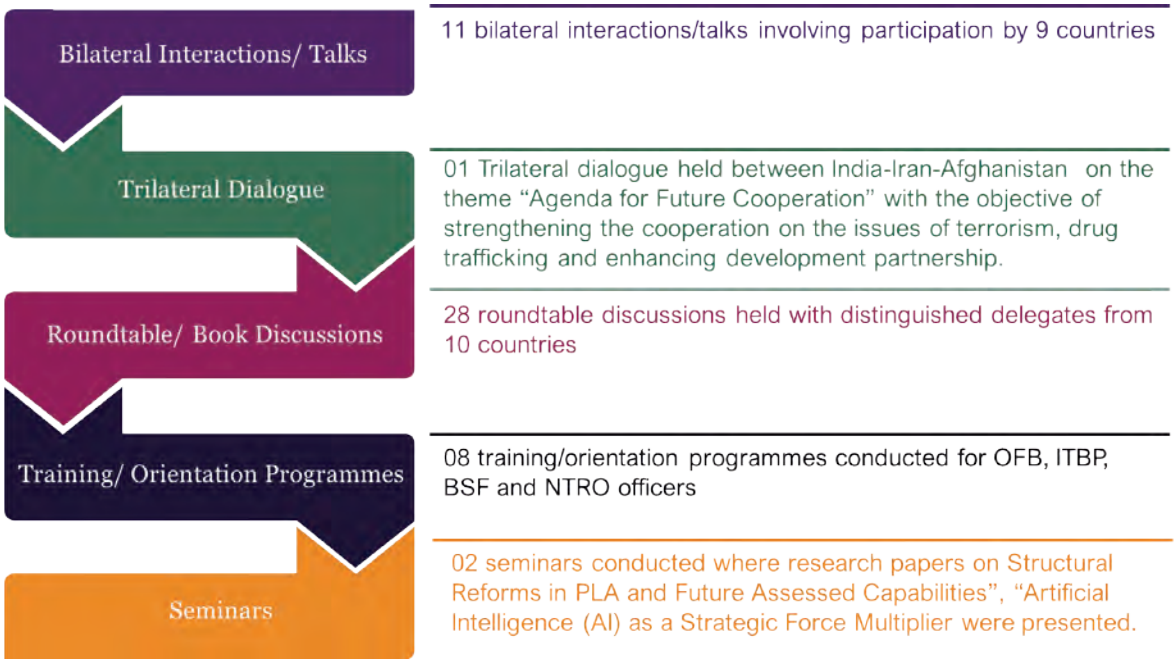
Keeping in tune with the Government's initiative to create 'Smart Cities', 7 (seven) Cantonments have been identified in the pilot phase to implement Smart Cantonment initiatives.

Ambala	Delhi	Deolali	Ferozepur
Meerut	Pune	Secunderabad	

Cantonments identified for Smart Cantonment initiatives

Institute For Defence Studies and Analyses (IDSA)

Various events like, bilateral interactions/ talks, trilateral dialogue, roundtable/ book discussions, training programmes etc., were organized by IDSA during the year.



Military Engineer Services (MES)

Military Engineer Services (MES) provides engineering support to the three services at Strategic and Operational level. MES functions under the overall control of the Engineer-in-Chief at the Army Headquarters, who is the adviser to the Ministry of Defence and the three Services Chiefs on all facets of works related issues. It provides rear line engineering support to the Armed Forces. It carries out multifarious construction activities such as residential and office buildings, hospitals, roads and runways, marine structures like docks and harbours and its associated service requirements such as air-conditioning, cold storage, electric and water supply, sewage treatment across the country including border areas.

Implementation of Green Building Norms with additional 10% plinth area rates and minimum three-star rating has been sanctioned. To reduce the national carbon footprint, 150 MW Solar Energy Power

projects are being undertaken. To augment the energy conservation efforts, measures such as LED lighting and GRIHA norms are being incorporated in all new projects. MES has also been supporting military diplomatic initiatives by creating infrastructure abroad for friendly foreign Governments/ countries.

Services Sports Control Board (SSCB)

SSCB conducts and co-ordinates various sports activities in the three Defence Services and Inter-Service championships comprising of four teams (Army Red, Army Green, India Navy and Air Force).

During the year 2019, SSCB fielded Senior Men's teams in the National Championships conducted by Sports federations/associations which are recognized by Ministry of Youth Affairs and Sports. Services team won the National Championship in many events.

The detail of Indian Armed Forces team and its performance in 7th CISM Military World Games held at Wuhan, China from October 18-27, 2019, is as below:

Performance of Indian Armed Forces team

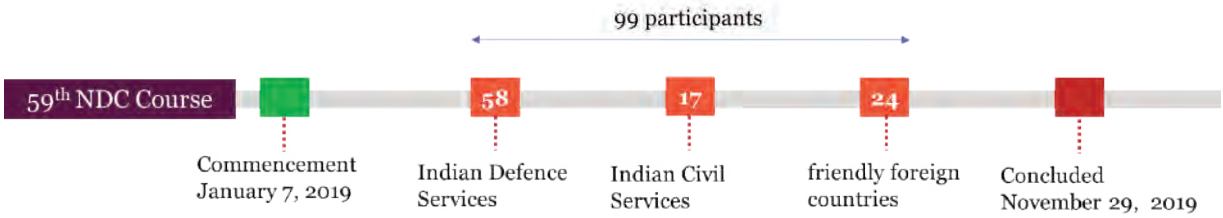
Medals won by Indian team

During the year more than 100 Services sportsmen represented India in various International Championships.

National Defence College (NDC)

NDC 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 Officers of

equivalent status from Civil services are nominated for training at the college. The details of 59th NDS course are captured in below.



59th NDC Course Highlight

February 2019

Headed a delegation to NDC Bangladesh for operationalization of the MoU between NDCs

September 2019

Delivered talk ad interacted with the students, staff and faculty at the General Staff Academy Russian Armed Forces at Moscow

November 2019

Represented Indian at the 23rd ARF HDUCIM (Asian Regional Forum, Heads of Defence Universities, Colleges Institutes Meeting) in Singapore

Convocation Ceremony to award MPhil Degree in Defence and Strategic Studies to the 58th NDC Course participants was held on March 2, 2019. The then MoS Foreign Affairs was the Chief Guest for the Ceremony.

The 59th NDC Course Participants graduated on November 29, 2019 and the next 60th NDC Course would commence on January 7, 2020.

School Of Foreign Languages (SFL)

Activities undertaken by The Commandant, NDC

SFL is an eminent foreign language institution under administrative and functional control of HQ IDS, Ministry of Defence. It has been the pioneer in foreign language teaching in India since 1948. The school imparts training in following foreign languages to personnel of the three Services of the Indian Armed Forces and CAPFs:

Foreign languages in which training is accorded

On specific request of Ministry of External Affairs, SFL conducted written and oral tests of foreign language candidates in all UN and Japanese Languages under Atal Bhasanter Yojana (ABY). These tests were carried out in December 2019 to assist MEA to select suitable candidates to be trained as Interpreters.

College Of Defence Management (CDM)

CDM is a tri-Service institution which imparts the skills of contemporary management to the senior leadership of the three Services, Para Military Forces, officers of the Ministry of Defence and International participants. The Higher Defence Management Course (HDMC) is the flagship course, which is conducted over a period of 44 weeks. The details of HDMC-15 are covered below:

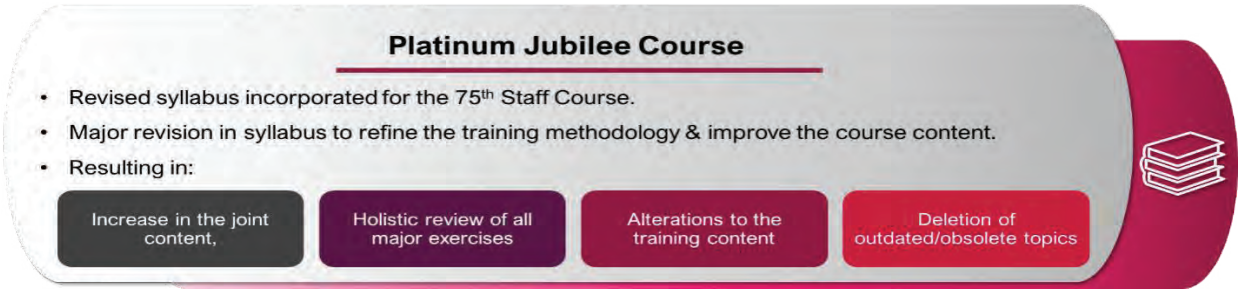
HDMC-15 course highlights

The education imparted at CDM in 2019-20 has a vast international footprint that includes Military Officers (Col & Equivalent) from Asia, Africa, South America and Pacific Islands.

Defence Services Staff College (DSSC)

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'.

The syllabus underwent a major revision and was incorporated for the 75th Staff Course (Platinum Jubilee Course). The resulting impact is highlighted below:



Revision and impact of course

Tri Service exercise is conducted for all Staff Courses. The aim is to exercise the student officers in joint planning and execution of war at operation and tactic levels with emphasis on land, naval and air operations to achieve overall national aim. Instead of a single exercise for complete course, from 73rd Staff Course the entire strength is divided into two groups and two Ex KURUKSHETRAs are conducted simultaneously to give more exposure to students.

Armed Forces Tribunal (AFT)

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 to provide speedy justice to the members of the Armed Forces.

At present Armed Forces Tribunals have been functioning at Delhi (Principal Bench) and at Regional Benches at Chennai, Jaipur, Lucknow, Chandigarh, Kolkata, Kochi, Guwahati, Mumbai, Jabalpur and Srinagar (functioning at Jammu).

Official Language Division

OFFICE OF THE CHIEF ADMINISTRATIVE OFFICER

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 Organizations (ISOs) under the Ministry of Defence. The Chief Administrative Officer (CAO) also discharges the functions of Director (Security) and Chief Information Security Officer (CISO).

DIRECTORATE OF PUBLIC RELATIONS (DPR)

The Directorate publishes a fortnightly journal 'Sainik Samachar' in 13 languages for the serving Armed Forces personnel, ex-servicemen and the general public. Broadcasting Section of the Directorate produces a 40-minute programme 'Sena Darshan' that is broadcast on All India Radio on a regular basis for the Armed Forces personnel. The Photo Division of the DPR provides photo coverage to all the events related to MoD and the Armed Forces. During the year, DPR provided media coverage on various events, including:

Appointment of General Bipin Rawat as the first Chief of Defence Staff
Strikes by Indian Air Force on training camps of Jaish-e-Mohammad terror group at Balakot in Pakistan
Raksha Mantri visit to France for the taking over of Rafale fighter aircraft
Raksha Mantri & External Affairs Minister taking part in the India-United States 2+2 Dialogue with their US counterparts in Washington

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DEFENCE COOPERATION WITH FOREIGN COUNTRIES

Defence Cooperation engagements with Friendly Foreign Countries (FFCs) received further impetus during the year with a number of activities at the Ministry level as well as with Service-to-Service interactions which included structured interactions as well as joint exercises. There were five Defence Ministerial level visits to India during the year while Raksha Mantri visited ten countries.

The following are major highlights of defence cooperation between India and other foreign countries during the period.

Argentina & Chile

An MoU on Defence Cooperation was signed with Argentina on February 18, 2019 in New Delhi to create a formal institutional arrangement between both the countries. To further defence cooperation with Latin American countries, a delegation led by Joint Secretary (Planning and International Cooperation) paid an official visit to Argentina from March 11-13, 2019 and Chile from March 13-15, 2019.

Australia

Defence and security relations with Australia is guided by the "Framework for Security Cooperation" released post visit of Prime Minister to Australia in November 2014. A delegation led by Chief of Royal Australian Air Force visited India from February 4-7, 2019. A delegation led by the then Additional Secretary visited Australia to attend the 6th meeting of India-Australia Defence Policy Talks (DPT) from March 13-15, 2019.

A bilateral Exercise namely AUSTRAHIND was conducted from September 9-20, 2019 in Australia. An Indian delegation led by Chief of Naval Staff visited Australia from September 2-3, 2019. 8th Air-to-Air Staff Talks between India and Australia were held from September 11-13, 2019 in Australia.

7th Army-to-Army Staff Talks between India and Australia were held from October 16-18, 2019 in Australia. 13th Navy-to-Navy Staff Talks between India and Australia were held from November 6-8, 2019.

December 9, 2019

- The 3rd India – Australia Foreign and Defence Secretaries 2+2 Dialogue was held in New Delhi.

Bangladesh

India and Bangladesh strengthened their bilateral defence cooperation by regular high-level visits, training exchanges and medical assistance to military personnel and their families. A delegation led by the Chief of

April 10-11, 2019

- Defence Secretary led delegation visited Bangladesh to attend the 2nd meeting of Annual Defence Dialogue (ADD)
- A Dollar Line of Credit for USD 500 million for procurement of defence equipment from India was signed during the visit.
- A Standard Operating Procedure on CORPAT was also signed between the two countries.

Air Staff, visited Bangladesh on a goodwill visit from February 11-14, 2019.

Annual Staff Talks between Navy and Air Force of both countries were held on August 12, 2019 and November 5-7, 2019 respectively. A delegation led by the Chief of Naval Staff visited Bangladesh from September 22-25, 2019.

October 5, 2019

- The Prime Minister and Defence Minister of Bangladesh visited India in the beginning of October 2019.
- An MoU was signed on between India and Bangladesh for supply of Coastal Surveillance System (CSS) to Bangladesh.

Indian Navy and Bangladesh Navy conducted Annual CORPAT Exercise from October 10-15, 2019 held off India-Bangladesh International Maritime Border line, Annual Bilateral Exercise from October 10-15, 2019 in India and Annual Special Force Exercise from October 10-19, 2019 in India. A delegation led by Chief of Naval Staff, Bangladesh Navy visited India from December 8-12, 2019.

Brazil

An Indian delegation led by Additional Secretary visited Brazil from February 11-15, 2019 to attend the 6th India-Brazil Joint Defence Committee (JDC) meeting and to further defence engagement between Defence industries, Training Centers and Military facilities of both countries. During the visit of the Brazilian President to India, a meeting between Defence Secretary and Secretary of Defence Products (SEPROD) of Brazil was held on January 24, 2020.

China

An Indian delegation visited Guilin, China to attend the Final Planning Conference (FPC) for Table Top Exercise (TTX) and Field Training Exercise (FTX) of the ASEAN Defence Ministers' Meeting-Plus Experts' Working Group on Counter Terrorism from 26-29 June 2020.

A delegation led by Joint Secretary (IC) visited China to attend the 5th meeting of India-China Joint Working Group (JWG) from August 13-14, 2019. The Joint Army Exercise "Hand-in-Hand" between Indian Army and PLA, China was conducted from December 7-20, 2019 in Umroi Cantt, Meghalaya, India. A delegation led by Northern Army Commander visited China from January 7-10, 2020 as part of the defence cooperation engagements with China.

Comoros

India and Comoros have come closer to commence bilateral defence cooperation. An MoU between the Government of India and Government of the Union of Comoros on cooperation in the field of Defence was signed on October 11, 2019.

Egypt

India maintains its friendly defence relationships with Egypt. A number of activities were conducted to share the best practices of both sides. An Indian delegation led by Additional Secretary visited Egypt from November 5-7, 2019 to attend 9th Joint Defence Committee (JDC) meeting. A delegation led by the Chief of the Air Staff visited Egypt on a goodwill visit from December 24-27, 2019.

France

India's defence cooperation with France enhanced significantly in the recent years. A delegation led by Chief of the Naval Staff; French Navy visited India from January 6-7, 2019.

To further deepen our defence cooperation, Annual Defence Dialogue has been established at Defence Minister level. Raksha Mantri and French Minister for the Armed Forces held a very constructive and fruitful Annual Defence Dialogue from October 8-9, 2019 in France.

During the visit of **Raksha Mantri** to France in October 2019 the Induction Ceremony of Rafale Fighter Aircraft was also held.

Germany

February 12-13, 2019

- Delegation led by **Raksha Mantri visited** Germany for bilateral meeting with his German counterpart. An arrangement on the Implementation of the Agreement of 2006 concerning Bilateral Defence Cooperation was signed.

February 28, 2019

- 9th meeting of India – Germany High Defence Committee (HDC)**, co-chaired by Defence Secretary**, held in New Delhi.

November 1, 2019

- Delegation led by Parliamentary State Secretary for Federal Ministry of Defence, Germany visited India and held a bilateral meeting with Defence Secretary.

Indonesia

India's defence relations with Indonesia have remained cordial. Exercise GARUDA SHAKTI was held from March 7-18, 2019 in India.

10th Navy- to- Navy Staff Talks between India and Indonesia held at Bali, Indonesia from August 6-8, 2019. 8th Army-to-Army Staff Talks between India and Indonesia were held from August 28-30, 2019 in India. 3rd Air-to-Air Staff Talks between India and Indonesia were held at New Delhi from October 22-24, 2019.

Israel

Defence relations with Israel have been friendly and based on mutual benefits. A delegation led by Commander Israel Air Force, visited India from August 16-19, 2019. 11th Army-to-Army Staff Talks between India and Israel were held in New Delhi from November 11-13, 2019.

Japan

Defence relations between India and Japan have been growing over the years. 3rd Air-to-Air Staff Talks between India and Japan were held from May 27-29, 2019 in New Delhi. 8th Navy-to-Navy Staff Talks between India and Japan were held from July 9-11, 2019 in Tokyo.

September 2-3, 2019

- A delegation led by Raksha Mantri visited Japan for attending the 5th Annual Defence Dialogue with Japan from

A bilateral Joint Exercise namely Ex-Dharma Guardian was held during October 19 - November 1, 2019 in India.

November 30, 2019

A delegation led by Minister of Defence of Japan and Foreign Affairs Minister of Japan visited India for attending the 1st India-Japan 2+2 Foreign and Defence Ministerial Dialogue

Prior to 2+2 Foreign and Defence Ministerial Dialogue, a bilateral meeting between visiting Defence Minister of Japan and Raksha Mantri was also held on the same day.

Chief of Army Staff visited Japan from December 3-6, 2019.

Jordan

The defence cooperation between the two countries has been opened up by the visit of an Indian delegation led by Joint Secretary (Planning and International Cooperation) to Jordan to attend the 1st Bilateral Consultative meeting on Defence Cooperation from January 5-6, 2019.

Kazakhstan

Defence relation with Kazakhstan has been growing well over the years. The third rotation of co-deployment of Kazakh troops with our peacekeeping mission in UNIFIL began in November, 2019.

Kenya

India and Kenya have steadily enhanced their Defence relations. A delegation led by Assistant Chief of Defence Forces, Kenya Defence Forces visited India on February 18, 2019 to attend the 1st meeting of Joint Defence Cooperation Committee (JDCC), co-chaired by Joint Secretary (Planning and International Cooperation). The Kenyan delegation also visited the Counter Insurgency and Jungle Warfare School at Vairengte. A delegation led by Commander of Kenya Army I visited India from November 19-22, 2019.

Kyrgyzstan

April 28-29, 2019

- A delegation led by Raksha Mantri visited Bishkek, Kyrgyz Republic to participate in the meeting of Defence Ministers of SCO Member States and meeting of Heads of International Cooperation Departments of SCO Member States.
- Raksha Mantri also held bilateral meetings on the margin with his Kyrgyz counterpart on April 29, 2019.

Malaysia

Defence Cooperation between the two countries is growing, especially after signing of the MoU on Defence cooperation. The 8th Army-to-Army Staff Talks between India and Malaysia were held from September 18-20, 2019 in Malaysia.

Maldives

India and Maldives share common maritime security concerns. Both sides share wide ranging defence cooperation. India has assisted Maldivian National Defence Forces in capacity building through military training, medical training and medical assistance to military personnel.

January 23-30, 2019

- Defence Minister of the Republic of Maldives visited India and met with Raksha Mantri and all the Service Chiefs.
- 2nd Defence Cooperation Dialogue (DCD) between India and Maldives was held on October 24, 2019 in New Delhi.

Annual bilateral Exercise 'Ekuverin' between Indian Army and Maldives National Defence Forces (MNDF) was held from April 24 - May 5, 2019 in India.

June 2019

- The Coastal Surveillance Radar System (CSRS) was jointly inaugurated by the Prime Minister of India and President of Maldives during the visit of our Prime Minister to Maldives.

A delegation led by Chief of Defence Force (CDF); Maldives National Defence Force visited India from July 3-8, 2019. The 4th Joint Staff Talks between India and Maldives were held from July 4-6, 2019 at New Delhi. The first meeting of the Joint Commission on Hydrography was held in Male, during the visit of the Chief Hydrographer, Indian Navy to Male from September 25-27, 2019.

A delegation led by the Chief of Army Staff visited Maldives from September 30 – October 3, 2019. A Fast Interceptor Boat (FIB) was handed over to Maldives on December 4, 2019. Joint Naval Exercise 'Ekatha' between Indian Navy and MNDF was held from October 7-20, 2019 in Maldives.

Mongolia

India has very cordial defence relationship with Mongolia. A delegation led by Joint Secretary (Planning) visited Mongolia to attend the 9th meeting of India-Mongolia Joint Working Group (JWG) from May 6 to 8, 2019. A bilateral Joint Exercise named Nomadic Elephant was held from October 5 -18, 2019 in India

Mozambique

July 29-30, 2019

The defence cooperation between India and Mozambique was rejuvenated by the visit of Raksha Mantri to Mozambique.

During the visit, two Fast Interceptor Boats were handed over to Mozambique and two Memorandum of Understandings/ Agreements viz on Hydrography and Sharing of white shipping information were signed with Mozambique.

Reciprocal visit of Minister of National Defence (MND), Mozambique to India was held from November 26-30, 2019. A Supplementary Agreement on Promoting Maritime Security in Mozambique Exclusive Economic Zone was signed on November 29, 2019.

Myanmar

India's defence cooperation with Myanmar enhanced significantly in 2019. 4th Army- to- Army Staff Talks between India and Myanmar were held in Myanmar from March 13-15, 2019.

May 16-17, 2019

- A delegation led by Defence Secretary visited Myanmar to participate in the bilateral Talks with his counterpart from

A delegation led by Commander-in-Chief (Air); Myanmar visited India from July 4, 2019. The Commander-in-Chief, Defence Forces of Myanmar visited India from July 25 - August 2, 2019. During this visit, a Memorandum of Understanding (MoU) on Defence Cooperation between India and Myanmar was signed on July 29, 2019 by the two sides. 4th Air-to-Air Staff Talks between India and Myanmar were held from September 18-20, 2019 in Myanmar. 8th Navy-to-Navy Staff Talks between India and Myanmar were held from November 28-30, 2019 in Myanmar.

The Netherlands

A Memorandum of Understanding (MoU) between the Ministry of Defence of the Republic of India and Minister of Defence of the Kingdom of the Netherland on Mutual Protection of Classified Information in the field of Defence was signed on October 16, 2019 in New Delhi.

Nigeria

January 17-18, 2019

- Nigerian Permanent Secretary, Ministry of Defence, Nigeria visited India to meet Defence Secretary and other senior officials of Services

5th meeting of India - Nigeria Joint Defence Cooperation Committee (JDCC), co-chaired by the then Addition Secretary was held in New Delhi on January 17-18, 2019. The 1st Navy Sub-Group meeting between Indian Navy and Nigerian Navy was held from November 25-26, 2019 at New Delhi.

Oman

Oman is the only country in the Gulf region with which India has bilateral exercises and staff talks at all the three Services level. The two countries have taken forward their defense ties. The 9th India-Oman Air Staff talks were held in Oman from April 14-16, 2019. The 3rd Navy to Navy Staff Talks were held from September 3-5, 2019 at Muscat. The inaugural India-Oman Army to Army Staff Talks were held at New Delhi from September 17-19, 2019. The 3rd Bilateral Army Exercise 'Al Najah' was held from March 12-26, 2019 in Oman and 5th edition of the Air Force Exercise 'Eastern Bridge' was held from October 20-24, 2019 in Oman.

Philippines

An Indian delegation led by Joint Secretary (Navy) visited Manila, Philippines to attend the Table Top Exercise (TTX) of the ADMM-Plus EWG on Cyber Security from August 1-2, 2019.

Portugal

India attaches great importance to its close and friendly relations with Portugal. On April 17, 2019 Portugese Minister of National Defence had a bilateral meeting with Raksha Mantri.

Qatar

A delegation led by Staff Major Gen (Sea), Commander Qatari Emiri Naval Forces (QENF) visited India from April 2-5, 2019. A Memorandum of Understanding (MoU) regarding Employment of ex-officers/ sailors of Indian Navy in QENF was signed between India and Qatar on April 5, 2019. The maiden bilateral Naval Exercise between Indian Navy and QENF was conducted from November 17-22, 2019 in Qatar. A delegation led by Joint Secretary (International Cooperation) visited Qatar for attending the 5th Joint Defence Cooperation Committee (JDCC) meeting from November 27-28, 2019.

Republic of Korea (RoK)

India-Republic of Korea (RoK) relations have made great strides in recent years and have become truly multi-dimensional, spurred by a significant convergence of interests, mutual goodwill and high level exchanges. 2nd India – RoK Army to Army Staff Talks were held in India from September 2-3, 2019.

September 5-6, 2019

Delegation led by Raksha Mantri visited Republic of Korea for attending the 8th Seoul Defence Dialogue with Republic of Korea

A delegation led by Chief of Naval Operations; Republic of Korea visited India from November 24-27, 2019.

Russia

A delegation led by Land Forces Commander, Russian Federation visited India on March 12-14, 2019 and met Defence Secretary in New Delhi.

April 23-26, 2019

A delegation led by Defence Secretary visited Russia to participate in the 8th Moscow Conference on International Security and held bilateral meetings with the Russian officials.

A delegation led by Additional Secretary visited Russia to finalize the Agreement on Reciprocal Logistics Support from June 10-14, 2019. A delegation led by the Chief of Air Staff visited Russia on a goodwill visit from July 9-12, 2019. Deputy Defence Minister of Russian Federation visited Jaisalmer (Rajasthan) for attending the Opening Ceremony of International Army Games - 2019 from August 4- 5, 2019. A delegation led by Raksha Rajya Mantri visited Russia for attending the Closing Ceremony of International Army Games – 2019 from August 16-18, 2019.

An Agreement on Mutual Cooperation in Joint Manufacturing of Spares, Components, Aggregates and other material related to Russian/ Soviet origin arms and defence equipment was signed on September 4,

2019. A delegation led by DG (Infantry); Army Hqrs visited Russia to attend the principal phase of Exercise "Centre-2019" from September 18-20, 2019.

An Agreement on Cooperation in the field of manufacturing of Kalashnikov small arms in India was signed on September 18, 2019. A delegation led by Secretary (DP) visited Russia from October 3-4, 2019 to attend the Working Group meeting on Military Technical Cooperation. The first meeting of Working Group on Military Cooperation, co-chaired by CISC, was held from October 24-25, 2019 in New Delhi.

A five-member delegation led by Officer on Special Duty (International Cooperation) – Joint Secretary Level visited Russia from October 29-30, 2019 for negotiation of the protocol of the ministerial India-Russia Intergovernmental Commission on Military and Military-Technical Cooperation (IRIGC M&MTC), to be signed by Defence Ministers of India and Russia during the meeting of IRIGC M&MTC.

The first Air Force Staff Talks were held in Russia from October 29-30, 2019. The 4th Navy-to-Navy Staff Talks were held in New Delhi from October 30 - November 1, 2019.

November 5-7, 2019

A delegation led by Raksha Mantri visited Russia for attending the India – Russia Inter-Governmental Commission on Military and Military-Technical Cooperation (IRIGC M&MTC) meeting.

India-Russia Tri Services Exercise INDRA-2019 was conducted in India from December 10-18, 2019.

Saudi Arabia

The bilateral defence cooperation with Saudi Arabia has been progressing steadily. A delegation led by Joint Secretary (Planning and International Cooperation) visited Saudi Arabia to attend the 4th meeting of Joint Committee on Defence Cooperation (JCDC) from January 2-3, 2019.

Serbia

An Agreement on defence cooperation between the Government of the Republic of India and the Government of the Republic of Serbia was signed on November 7, 2019.

Singapore

Defence cooperation with Singapore has seen a significant augmentation, especially at the politico-strategic level in 2019. A Joint Exercise named Ex BOLD KURUKSHETRA was held from March 27 – April 14, 2019 in India. 11th Air-to-Air Staff Talks between India and Singapore were held from April 17-19, 2019 in Singapore. 12th Army-to-Army Staff Talks between India and Singapore were held on April 18, 2019 in New Delhi. 12th India - Singapore Defence Working Group (DWG), co-chaired by Joint Secretary (Planning,) was held in New Delhi on July 2, 2019.

September 30 – October 1, 2019

A delegation led by Defence Secretary visited Singapore for attending the 13th India-Singapore Defence Policy Dialogue

November 19-20, 2019

A delegation led by Raksha Mantri visited Singapore for attending the 4th India Singapore Defence Ministers' Dialogue (DMD)

Sri Lanka

India and Sri Lanka have close defence ties. Training, cadet exchange, sports exchange, Instructor exchanges and Capacity building are the main aspects of Bilateral Defence Cooperation. A delegation led by Commander; Sri Lankan Navy visited India from March 30 to April 2, 2019.

Annual Staff Talks between Army and Air Force of both countries were held on June 11-12, 2019 and April 3-5, 2019 respectively. A familiarization visit to Bodh Gaya by 160 Armed Forces personnel of Sri Lanka including spouses in IAF aircraft was held in the month of June 2019. Bilateral Naval Exercise 'SLINEX' from September 7-12, 2019 and Special Force Exercise from September 7-19, 2019 between Indian Navy and Sri Lankan were held at Vishakhapatnam.

Indian Army and Sri Lankan Army conducted Exercises 'Cormorant Strike' in Sri Lanka from September 3-25, 2019 and Exercise 'Mitra Shakti' in India from December 1-14, 2019. A delegation led by the Chief of Naval Staff visited Sri Lanka from December 19-22, 2019.

Sweden

A delegation led by Raksha Mantri visited Sweden from February 13-14, 2019 and discussed issues related to bilateral defence cooperation. An Agreement on Exchange and Mutual Protection of Classified Information for Cooperation in the Defence Area was also singed on February 13, 2019.

A delegation led by Chief of Air Staff visited Sweden on a goodwill visit from June 3-6, 2019.

Thailand

The Defence Cooperation with Thailand has been progressing well. A Joint Exercise namely Ex COBRA GOLD was conducted during January 21 – February 21, 2019 in Thailand. A delegation led by Joint Secretary (PG/Coord) visited Phuket, Thailand to attend the ASEAN Defence Senior Officials' Meeting - Plus from February 28 to March 2, 2019. A delegation led by Deputy Permanent Secretary for Defence, Thailand visited India on March 7, 2019 to attend the 7th meeting of India-Thailand Defence Dialogue, co-chaired by Additional Secretary. 11th Navy-to-Navy Staff Talks between India and Thailand and 15th Joint Working Group EOS meeting held at Thailand from March 12-14, 2019

April 3-5, 2019

A delegation led by Additional Secretary visited Thailand attended the ADMM Plus Senior Officials' Meeting – Plus (ADSOM Plus).

A delegation led by the Chief of Naval Staff visited Thailand from April 17-19, 2019.

10th Air-to-Air Staff Talks between India and Thailand were held from July 23-25, 2019 in Thailand. 3rd Army-to-Army Staff Talks between India and Thailand were held from July 23-25, 2019 in New Delhi. 4th Indian Navy – Royal Thailand Navy Intelligence Conference held in India from September 3-7, 2019.

A Joint Exercise namely Ex MAITREE was held from September 16-29, 2019 in India. The inaugural India-Singapore-Thailand Naval Trilateral Exercise was also held from September 16-20, 2019 in Vizag, India.

November 17-18, 2019

A delegation led by Raksha Mantri visited Thailand for attending the6th ADMM - Plus Meeting.

A delegation of two officers from Indian Army attended meeting of 10th ADMM Plus Expert Working Group on Counter Terrorism and Handover Ceremony held in Thailand, on December 18-21, 2019.

United Arab Emirates

A delegation led by Joint Secretary (Navy) attended the 10th meeting of India-UAE Joint Defence Cooperation Committee (JDCC) in Abu Dhabi from December 16-17, 2019.

United Kingdom

The defence relations between India and United Kingdom have been excellent and defence cooperation is an important pillar of the bilateral strategic partnership.

March 7-9, 2019

A delegation led by Defence Secretary visited United Kingdom to attend the 20th India-UK Defence Consultative Group (DCG) meeting.

A delegation led by UK MoD Permanent Secretary visited India for attending the 21st Defence Consultative Group (DCG) meeting on November 29, 2019.

USA

India and United States of America are committed on strengthening their defence engagement. Establishment of Ministerial level 2+2 Dialogue between both the countries has added new chapter in the bilateral strategic partnership. A delegation led by Chief of Army Staff visited USA on a goodwill visit from April 2-5, 2019.

A delegation led by Chief of Naval Operations; US Navy (equivalent to CNS) visited India from May 12-14, 2019. Director General (Acquisition) also led a delegation to Washington DC for holding India-US Defence Procurement and Policy Group (DPPG) meeting from July 31 – August 1, 2019.

August 1-2, 2019
The meeting of Defence Policy Group between Defence Secretary and his US counterpart was held in Washington DC

India-US Maritime Security Dialogue was held at Monterey, California, USA on August 23, 2019.

December 16-18, 2019
Raksha Mantri led delegation visited Washington DC from for attending the 2nd India - US Ministerial 2+2 dialogue.

Uzbekistan

Defence relation with Uzbekistan has been progressing well. 1st India-Uzbekistan Joint Working Group (JWG) meeting on Defence Cooperation, co-chaired by Joint Secretary (Planning and International Cooperation), was held on February 27, 2019 in New Delhi.

March 25-29, 2019
A delegation led by Defence Secretary visited Uzbekistan and discussed issues related to bilateral defence cooperation.

November 1-2, 2019
A delegation led by Raksha Mantri visited Uzbekistan (Tashkent) for attending the Shanghai Cooperation Organisation (SCO) Council of Heads of Government Meeting.

Following MoUs were signed:

Vietnam

The Defence Cooperation with Vietnam has been progressing well. Second Air-to-Air Staff Talks between India and Vietnam were held from April 23-25, 2019 in Vietnam.

October 3-4, 2019

A delegation led by Defence Secretary visited Vietnam for attending the 12th Annual Security Dialogue with Vietnam

Chief of General Staff, Vietnam People's Army and Vice Minister of Defence visited India from November 24-27, 2019. A delegation led by Deputy Chief of the General Staff; Vietnam People's Army visited India from December 6-9, 2019. 4th Navy-to-Navy Staff Talks between India and Vietnam were held in New Delhi from December 16-18, 2019.

Zambia

A Memorandum of Understanding (MoU) on 'Cooperation in the Field of Defence' was signed between India and Zambia on August 21, 2019 during the visit of the President of Zambia to India.

ASEAN Defence Ministers Meeting (ADMM) - PLUS

An Indian delegation visited Guilin, China to participate in the Initial Planning Conference (IPC) for Table Top Exercise (TTX) and Field Training Exercise (FTX) of the ASEAN Defence Ministers' Meeting Plus (ADMM Plus) Experts' Working Group on Counter Terrorism from 22-24 Jan 2019.

A delegation led by Joint Secretary (Works) visited Busan, Republic of Korea to attend the meeting of the ASEAN Defence Ministers' Meeting-Plus Experts' Working Group (ADMM-Plus EWG) on Maritime Security Field Training Exercise and Final Planning Conference from February 21-22, 2019.

For the cycle 2017-2019, India and Myanmar were co-chairs for EWG on Military Medicine. During the 3rd Cycle of ADMM Plus Experts' Working Group on Military Medicine (2017-19), co-chaired by India and Myanmar, a Field Training Exercise on Military Medicine (MEDEX-2019), which is also the first ever standalone exercise on Military Medicine under the ADMM Plus umbrella, was conducted at Lucknow (India) from March 11-16, 2019 in which contingent from 17 nations (ASEAN and ASEAN Plus countries) participated. During the co-chairmanship of ADMM Plus EWG on Military Medicine, a handbook on Military Medicine for Paramedics was also written

A delegation led by Joint Secretary (Air) visited Hawaii, USA to attend the 14th ASEAN Defence Ministers Meeting-Plus Experts' Working Group on Humanitarian Assistance and Disaster Relief (14th ADMM-Plus EWG on HADR) and bilateral meeting with US-Indo PACOM from March 19-22, 2019.

An Indian delegation visited Kuala Lumpur from April 10-11, 2019 to attend the ASEAN Defence Ministers Meeting-Plus Experts' Working Group on Humanitarian Assistance and Disaster Relief (ADMM-Plus EWG on HADR) Final Planning Conference.

An Indian delegation visited Manila, Philippines to attend the Final Planning Conference (FPC) of the ASEAN Defence Ministers' Meeting-Plus Experts' Working Group (ADMM Plus EWG) on Cyber Security Table Top Exercise (TTX) from May 28-29, 2019.

An Indian delegation travelled from July 30 to August 1, 2019 to Kuala Lumpur to attend the ADMM-Plus EWG on HADR Exercise.

An Indian delegation led by Joint Secretary (Navy) visited Manila, Philippines to attend the Table Top Exercise (TTX) of the ADMM-Plus EWG on Cyber Security from August 1-2, 2019.

ADMM Plus meeting is held annually. The 6th meeting of ADMM-Plus held in Bangkok, Thailand from November 17-18, 2019 & was attended by a delegation led by Raksha Mantri. On the side-lines of ADMM-Plus meeting, Raksha Mantri held bilateral Talks with Defence Ministers of USA, Japan, New Zealand, Australia and Thailand. The Handbook on Military Medicine for Paramedics was also released during this meeting.

A delegation of two officers from Indian Army attended meeting of 10th ADMM Plus Expert Working Group on Counter Terrorism and Handover Ceremony held in Thailand, on December 18-21, 2019.

Indian delegation visited Indonesia from March 26-29, 2020 to attend the Initial Site Survey and Final Planning Conference of the ASEAN Defence Ministers' Meeting- Plus Experts' Working Group (ADMM Plus EWG) on Peacekeeping Operation and ADMM Plus EWG on Humanitarian Mine Action.

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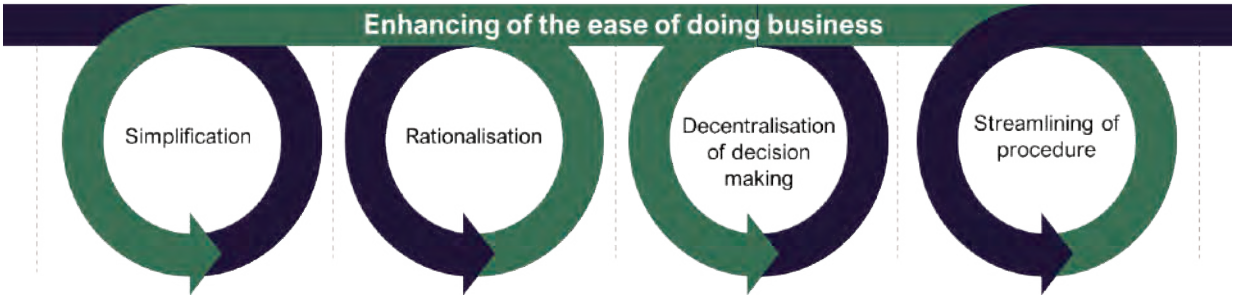
INITIATIVES TOWARDS SIMPLIFICATION, DECENTRALIZATION AND ENHANCING THE EASE OF DOING BUSINESS (EoDB)

Equipping the Armed Forces with state-of-the-art weapon systems and equipment and promoting self-reliance in defence sector by giving a boost to domestic manufacturing are two sides of the same coin. Several path-breaking initiatives were taken by the Ministry during the period towards simplification, rationalization and decentralization of decision making and streamlining of procedure, which resulted in enhancement of the ease of doing business and replacement of 'red tape' by the 'red carpet'. This Chapter provides an overview of such measures.



Initiatives for enhancing EoDB

Simplification, Streamlining and Rationalizing of Capital Acquisition

Streamlining of Defence Procurement Procedure: In June 2017, NITI Aayog had proposed 'Business Process Re-engineering (BPR) in Capital Acquisition', aimed at simplifying the procedure and reducing timelines for processing cases. Consequently, MoD implemented reforms in Defence Procurement Procedure (DPP) through 'Business Process Re-engineering'. While the Phase I to Phase IV amendments were included in the Annual Report 2018-19, Phase V and Phase VI amendments have been included in the current Annual Report.

Phase - V Amendments	• Inclusion of capacity assessment guidelines for Indian Shipbuilding Entities including technical capacity assessment parameters and financial assessment parameters.
Phase - VI Amendments	• Amendment to procedure for Quantity Vetting. • Amendment to Benchmarking by Costing Committee in Fast Track Procedure. • Amendment to incorporate safeguards/ protective clauses in Letter of Credit . • Inclusion of approval of General Staff (GS) Evaluation & retraction of RFP. • Amendments in the Make I & Make II procedure .

Phase-wise amendments

Doing Business in Defence Creating an Enabling Ecosystem: Senior Officials of the MoD interacted with a plethora of Industry representatives/associations to understand and examine recommendations

forwarded by them for creating an enabling ecosystem for doing business in defence. A number of these recommendations were incorporated in the refinement of procedures as also the ongoing review of the DPP and DPM.

Revision of Defence Procurement Procedure and Defence Procurement Manual: Based on the approval of Raksha Mantri, a Committee under Chairmanship of DG(Acquisition), has been set up to revise the provisions of DPP-2016 to ensure seamless flow from asset acquisition to Life Cycle Support. A total of 13 sub committees have been constituted involving all stakeholders, including industry representatives, for carrying out an in-depth analysis of all prevalent procedures and formulating better procedures to hasten up the procurement procedure.

Decentralization

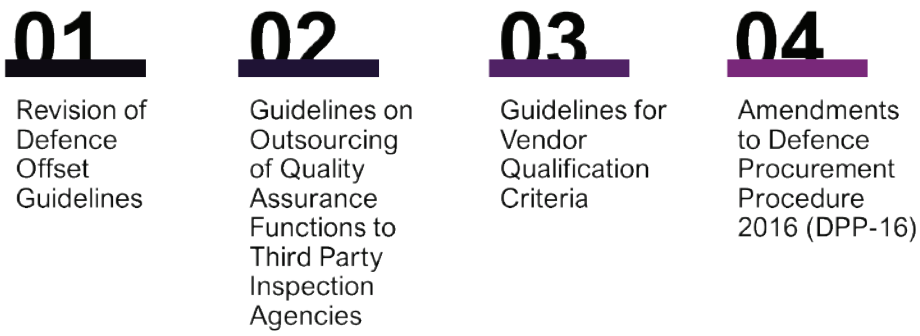
Enhancement of Existing Delegation of Financial Powers: The revised delegation of financial powers and enhancement of existing delegation of financial powers of Raksha Mantri and Finance Minister for sanction of capital acquisition proposals, approved by CCS, was promulgated by MoD (Fin) w.e.f February 19, 2019. The revised delegation is as follows:

S. No.	Financial Powers	CFA
(a)	Up to Rs 300 crore	Service Headquarters/ Vice Chiefs
(b)	Above Rs 300 crore and up to Rs 500 crore	Defence Secretary
(c)	Above Rs 500 crore and up to Rs 2000 crore	Raksha Mantri (RM)
(d)	Above Rs 2000 crore and up to Rs 3000 crore	Finance Minister (FM)
(e)	Beyond Rs 3000 crore	Cabinet Committee on Security (CCS)

Revised delegation of financial powers

Delegation of powers to export parts of firearms: MHA has delegated its powers and functions exercised by it under Section 10 of Arms Act, 1959 to DDP for export of following parts of firearms:

Simplification



Simplification measures undertaken

1. **Revision of Defence Offset Guidelines:** Re-phasing Clauses of Defence Offset guidelines have been revised and promulgated by MoD on August 8, 2019. Further, the Defence Offset Guidelines are under revision to ensure early fructification of objectives of the Offset policy.

2. **Guidelines on Outsourcing of Quality Assurance Functions to Third Party Inspection Agencies:** MoD, vide Order dated May 30, 2019, has approved Guidelines on Outsourcing of Quality Assurance Functions of Defence Stores Manufactured by Private Industry to Third Party Inspection Agencies.

3. **Guidelines for Vendor Qualification Criteria:** MoD, vide MoD ID dated September 18, 2019, has promulgated guidelines for framing criteria for vendor selection/ prequalification in Buy (Indian-IDDM), Buy (Indian) and Buy & Make (Indian) cases.

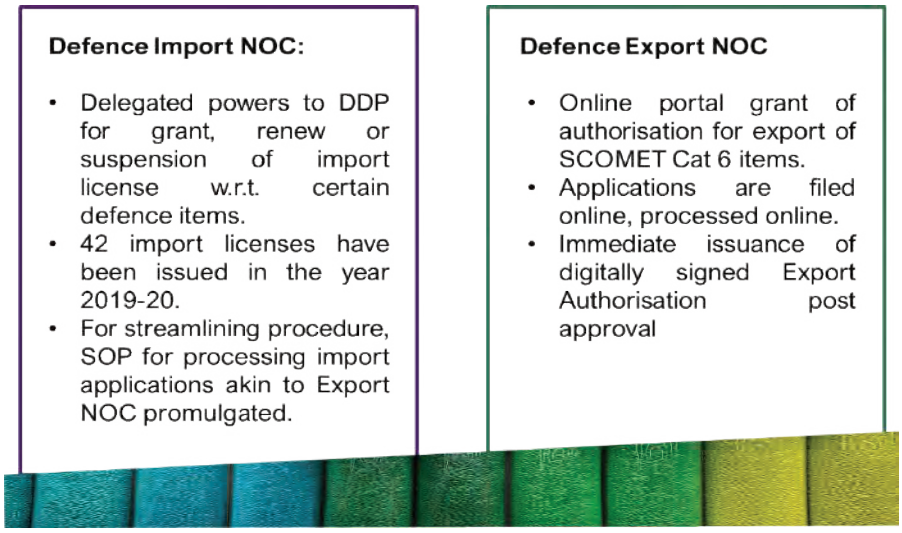
4. **Amendments to Defence Procurement Procedure 2016 (DPP-16):** Phase V and Phase VI amendments have been issued till November 1, 2019. Revised Capacity Assessment Guidelines for Indian Shipyards have been issued as part of Phase V amendments to DPP-16. Phase VI amendments are as follows:
   a) Quantity vetting to be conducted by concerned PIFA/IFA(Capital) in delegated power cases and MoD (Fin) for non-delegated cases on the basis of SoC.

   b) Approval of GS Evaluation and Retraction of RFP by CISC in HQ IDS steered cases.

   c) Amendments to incorporate safeguards/ protective clauses in LC Guidelines for protecting the interests of Indian Buyers.

   d) Removal of references to GS evaluation and FET in FTP cases from Benchmarking / costing committee para

Ease of Doing Business



The Standard Operating Procedure (SOP) for the export of munitions list items was amended in January 2020. The amended SOP is available on the website of the DDP. The modifications/amendments made are as below:

a. The requirement of Original EUC in hard copy prior to issue of Export Authorization for parts and components has been dispensed with.

b. The requirement of Government Signed EUC in cases of Engineering Exports (ToT related to Munitions list items) to WA Countries has been dispensed with.

c. Export of Appendix-II items for participation in Tender/Exhibition and for Testing and Evaluation is allowed without the requirement of submission of Government signed EUC, subject to submission of an undertaking committing return of the items and for non-disclosure of any information which could lead to transfer of technology.

The Department of Defence Production has brought in 2 OGEL (Open General Export License) one for the select parts and components and the other for intra-company transfer of technology.

OGEL is a one-time export license, which permits the industry to export specified items enumerated in the OGEL to specified destinations, without seeking export authorization during the validity of the OGEL. These notifications have been placed on https://www.defenceexim.gov.in.

Defence Exports

	2016-17	2017-18	2018-2019	2019-20
Total Export (in Rs. crore)	1521.91	4682.36	10745.77	9,115.55 crore*
No. of Authorizations issued	254	288	668	829

* The value mentioned includes actual export by DPSUs and value as per authorizations issued by DDP(EPC) to private firms and SCOMET (other than Cat.6).

Enhancing the Ease of Doing Business and Promoting 'Make in India'

As part of its effort to promote Make in India in defence and aerospace in the country, Department of Defence Production has taken several steps to promote greater ease in doing business with defence establishment. Some of them are as follows:

Defence Investor Cell:

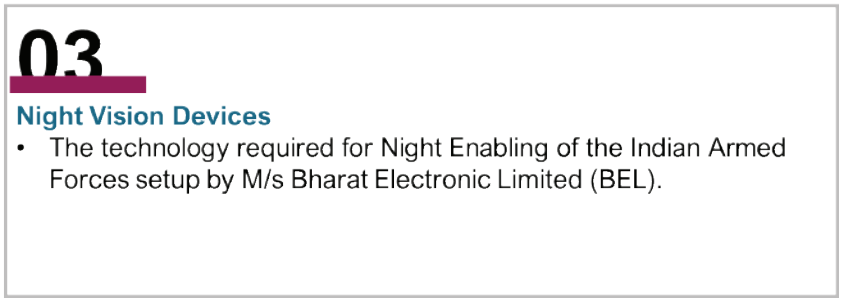
Defence Investor Cell (DIC) was launched by the Department of Defence Production (DDP) in January 2018 to provide help, support and guidance to defence industry, particularly MSMEs. Access to DIC is available without physical interface through online portal https://defenceinvestorcell.gov.in/.

The average time taken for response was less than 2 days while the average time for closure was less than 7 days

Open General Export License

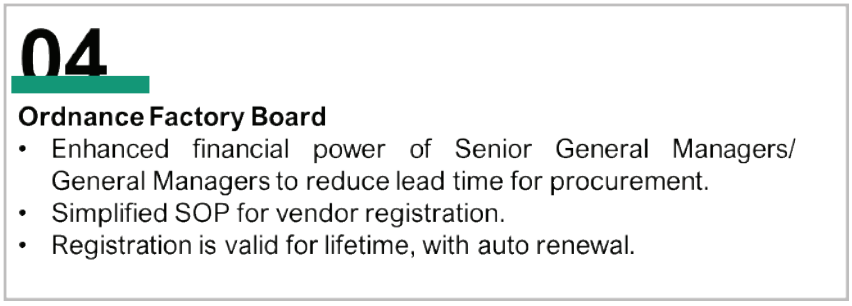
MoD, in October, 2019, has promulgated 2 Nos. OGELs for export of parts and components and for Intra Company ToT. The JV company will manufacture at least 7,50,000 Nos. of Assault Rifle @ 75,000 Nos. per annum to meet the requirement of the Service and MHA etc.

Night Vision Devices:



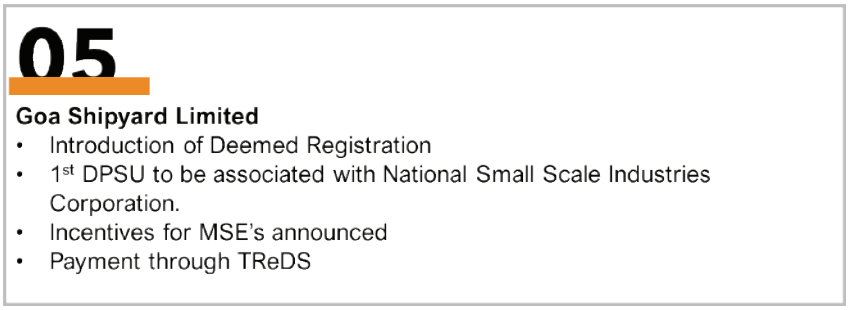
BEL had invested and procured Strategic Technology from France for indigenous manufacture of Image Intensifier Tubes. With this **India has become the 5th country in the World with such capability.** besides USA, France, Russia, and China. Image Intensifier Tube manufactured by BELOP, Pune is nominated as Buyer Nominated Equipment for use in All Image Intensifier Based Passive Night Vision Devices.

Ordnance Factory Board (OFB)



Ex-ante Capacity Verification (CV) of vendors is restricted to 84 items only, where critical technology is involved. Registration is done on the basis of self-declared documents of vendors. Registration is valid for lifetime with auto renewal procedure.

Goa Shipyard Limited (GSL)



i. **Introduction of Deemed Registration**: For broadening vendor base, GSL has introduced Deemed Registration viz. automatic participation of vendors registered with other DPSUs, IHQ, and CGHQ & DQN (A) in the tenders, which in turn has provided considerable price advantage.

ii. **Procurement from Micro & Small Entrepreneurs (MSEs):** GSL is the 1st DPSU to be associated with National Small Scale Industries Corporation (NSIC) under 'NSIC consortia-Tender Marketing Scheme' for enhancing procurement from MSEs.

a) GSL has unveiled following incentives for MSEs:

- Exemption of EMD
- Exemption of Tender fee
- Vendors registered with NSIC are exempted from Security Deposit.
- Purchase Preference of 15% up to the 20% order value.

b) Proactively identified 18 project specific items over and above 358 items reserved for MSME for mandatory procurement through MSE vendors.

c) 10% Rebate on Type Approval Fees: GSL is the first DPSU which has coordinated with Indian Register of Shipping (IRS) to offer 10% discount for "Type Approval" Certification for MSEs Owned by SC/ST entrepreneurs.

d) GSL has instituted liberalized payment terms to provide liquidity to MSEs and domestic vendors in turnkey projects. Further, it has made provision for advance payment to MSMEs up to 15%, against bank guarantee.

e) With a view to encourage startups, GSL has unveiled 'Start-up Policy' by relaxing norms with respect to prior experience and prior turnover.

f) **Payment through TReDS:** GSL has adopted TReDS payment system to ensure timely payment of MSEs in line with GoI digital platform Trade Receivable Electronic Discounting System (TReDs) which facilitates the MSE vendor to get the payment immediately after the acceptance of Bill on a discounting system. GSL has tied up with Receivables Exchange of India Limited (RXIL) entity approved by RBI.

Mishra Dhatu Nigam Limited (MIDHANI)

i. Reduction in requirement of offer validity for all Raw Materials from 90 Days to 30 Days to increase participation and for timely finalization of Orders.

ii. Implemented the concept of tender for Annual requirement (one time) and price discovery as and when required for Aluminium Pellets/Bars reducing the cycle time for procurement from 60 Days to 20 Days.

iii. Identification of high value Multiuser Items (Electrode/Ingot moulds, Band Saw blades, Graphite Electrodes, Grinding Wheels, Tundish Refractory, Ramming Mass) of approx. annual procurement value Rs. 36.68 crore has streamlined the procurement process.

iv. Online MPR/CPAR system has been implemented successfully as a step towards reduction in Procurement Lead Time.

v. Reverse Auction (RA) was implemented for all e-Procurement tenders above Rs. 10 Lakh thereby receiving a substantial benefit of approximately Rs. 6 crores.

vi. A new clause on “Penalty” has been incorporated in all civil work tenders, to handle the cases where the contractor performs the work in a manner contrary to the contract terms and conditions.

Bharat Electronics Limited (BEL)

07

BEL

- For MSME outreach, BEL is registered with Trade Receivables Electronic Discount System (TReDS) platform and MSME Sambandh, MSME Samadhaan & GeM.

i. BEL has successfully launched two modules viz., Customer Billing Management & Bill Tracking System and International Lead Management Modules. The SAP based online systems are aimed towards enhancing the effectiveness of customer service and export business lead management respectively.

ii. BEL is now 'CERT-IN' empanelled as Information Technology Security Auditing organization for providing the related Services. The empanelment enables BEL to offer the related Services including Vulnerability Assessment & Penetration Testing (VAPT) of IT infrastructure of various Government & Critical sector organizations of India.

Modernization and Capability Building

Make in India Initiative

Modernisation and Capability Building efforts

Acquisitions

Army Air Defence (AAD)

- A number of indigenous radars have been inducted

Infantry

- A special impetus has been given to operational capability of Infantry with the procurement of the various weapons/ equipment.

Artillery

- Induction of Ultra Light Howitzer (ULH), Dhanush, Upgunned Sharang and indigenous Weapon Locating Radar (WLR) into the arsenal of Indian Artillery

Mechanised Forces

- Night enablement of tanks and BMPs are aimed at enhancing night fighting capability and accuracy

Army Aviation

- AoN has also been granted for procurement of six Apache AH 64E
- 3 contracts viz. Advanced Light Helicopters (ALH) for Maintenance Reserve and Strike off wastages, 20 mm Turret Gun ammunition for ALH (WSI) and Aircraft Refueller 4 KL have been concluded in the current financial year.

Revamp of Protective Clothing/ Gear

Procurement of Bullet Proof Jackets (BPJs) and Ballistic Helmets	• 2,36,138 BPJs and 3,28,214 Ballistic Helmet are under procurement.
Indigenization of Special Mountain Clothing Equipment Items	• A number of items have been indigenized, thereby saving Rs. 30 crore per annum.
Infrastructure Development along Northern Borders	• Funds allocated to enhance the capability of Indian Army to conduct operations and to contribute to overall development of the region.

Other Measures

Capacity Assessment Guidelines

- Capacity assessment guidelines for various Indian entities promulgated, to enable progress of forthcoming shipbuilding projects.

Revised Chapter on 'Make' Procedure

- Contains 2 sub-categories, viz. Make I (with provision for Govt. funding upto 90% of prototype deployment cost) and Make II (no funding by Government for prototype pre-development).

NOC for WTGs

- 'GO' and 'No Go' areas demarcated on a map to ease process of obtaining NOC for installation of WTGs in Rajasthan and Gujarat sector
- Colour Coded Zoning Maps (CCZMs) for 53 IAF airfields formulated by IAF

SACFA

- IAF has launched a new SACFA Web portal to reduce clearance/ rejection time by ensuring digital transmission and online clearance between Air HQ and field units.

Online Transfer of Electronic Navigational Charts (ENC) and Updates

- Procedure for secure online transfer of ENCs within ICG has been evolved in coordination with NHO, Dehradun and validated through successful trials.

E-Return of Summary of Ops Activity Return

- Programme for online submission of Summary of Ops Activity Return developed by CGHQ.

Contact Analysis by ROC/ ROS

- Merchant Vessels/ Fishing Boats operating in Indian Ocean Region/ EEZ are being monitored online and analyzed. The record of observed/ analyzed data is maintained in data base of CSN.

Repair/Maintenance/Servicing Evolutions

a) To simplify repair/ servicing and supply procedures, Fixed Price Quote (FPQ) System of payment to M/s HAL Divisions in line with IAF, have been implemented for ICG.

b) M/s ECIL, Hyderabad is the OEM for CVR system installed on ICG Dornier fleet, therefore repair/ servicing and supply of spares of CVR system is being undertaken through M/s ECIL. To simplify the repair/ servicing procedures, Repair Rate Contracts (RRCs) have been concluded with M/s ECIL.

c) Indigenization of aircraft systems and spares are being facilitated through M/s HAL being the OEM of the ICG aviation fleet. However, to facilitate inspection/ clearance by aviation QA/certification agencies, ICG aircraft are being allotted to the respective M/s HAL divisions for undertaking the requisite trial integration, flight trials etc.

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Department of Defence Production

रक्षा मंत्रालय
MINISTRY OF
DEFENCE
सत्यमेव जयते

DEFENCE PRODUCTION

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, Defence Public Sector Undertakings (DPSUs) and also facilitated private defence industry.

Products manufactured by DPSU's

Department also recognizes that true self-reliance is only possible when the technology is also with the country. Therefore, the Department has been encouraging promotion of innovation and Intellectual Property creation in the defence industry ecosystem of the country.

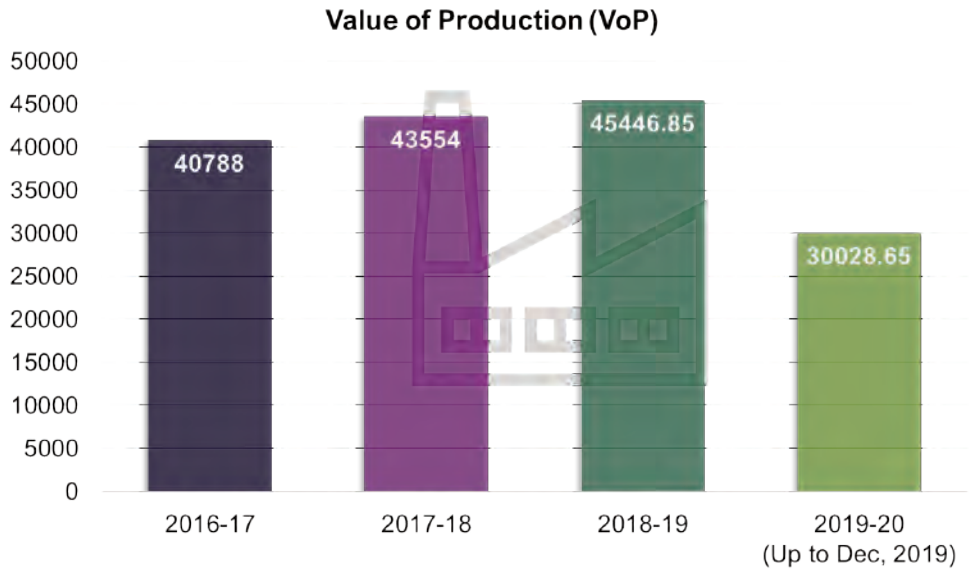
As a result of the efforts taken to develop defence production ecosystem, the country has achieved capability in wide range of defence and aerospace. As far as land systems are concerned, these include Artillery guns, tanks, various types of heavy vehicles, mine protected vehicles, various kinds of small arms,

armoured material including bullet proof jackets and helmets, wide range of ammunition, propellants and explosives, etc. As regards aero-systems, fourth generation fighter aircrafts, helicopters of 3-5.5 tonne class, trainer aircrafts, missiles of several types, and as regards naval systems, capability to manufacture practically all type of naval vessels including offshore patrol vessels, corvettes, frigates, destroyers, aircraft carriers, submarines etc. has been created in the country.

Growth in Value of Production by Defence PSUs

With the objective of achieving self-reliance in defence and making India a global hub in defence manufacturing, the defence industry ecosystem has enhanced its capabilities and widened the product range. A number of major products have been developed through research and development initiatives in addition to a number of products and equipment being produced through transfer of technology. As a result of these efforts, increase in Value of Production (VoP) of Defence PSUs is indicated in the following figure:

Rs. in crore



Export Import Profile of Indian Defence Industry

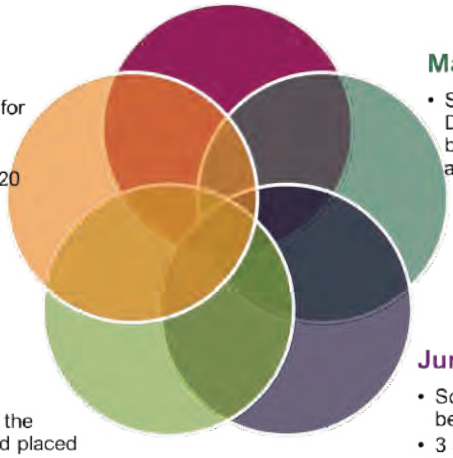
Export Promotion Cell was formed in July 2017 to co-ordinate and follow-up on export related action, including enquiries received from various countries, and facilitate both private and public sector companies for Defence export promotion.

February 2019

- Online portal launched via which export leads received from various stakeholders are being disseminated directly to the Indian Defence Exporters who are registered on the portal.

Defence imports

- Powers delegated to DDP for granting Licence to import restricted items meant for defence use only.
- 36 Import Licences have been issued to private defence industry during FY 2019-20



May 2019

- Scheme for export promotion of Indian Defence Equipment manufactured in India by Indian Defence Attache has been approved.

EoDB

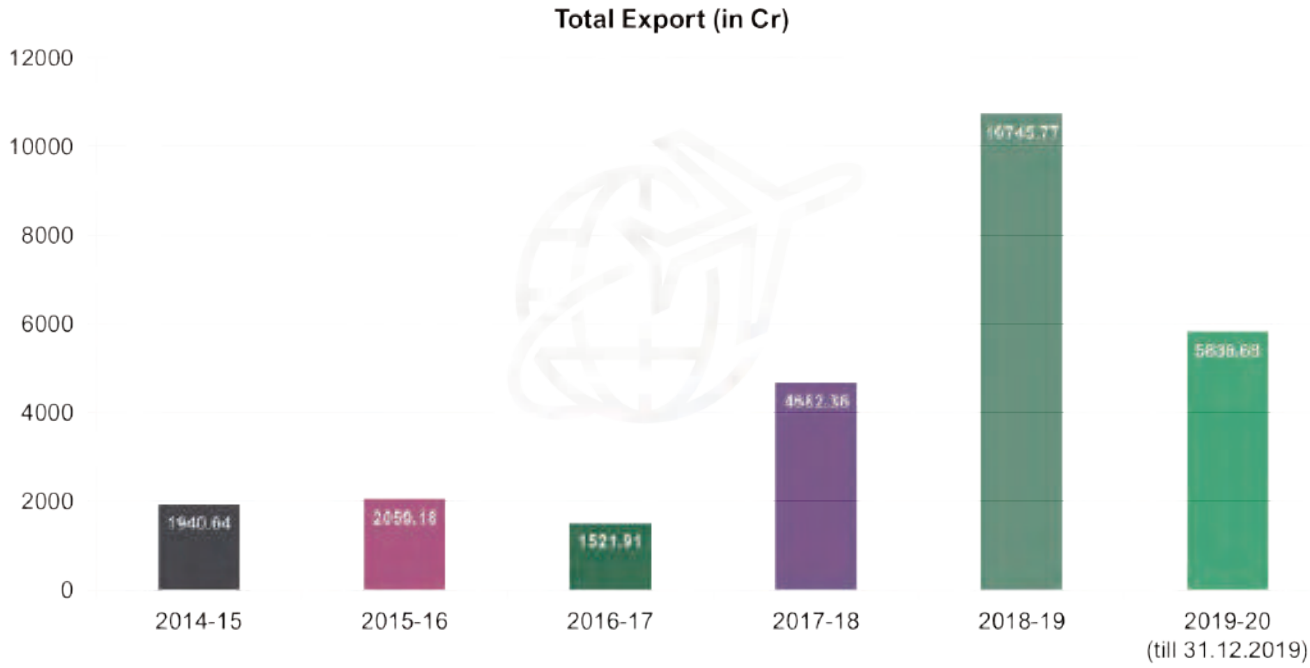
- Standard Operating Procedure (SOP) for the export of munitions list items modified and placed on the website of the DDP.

June 2019

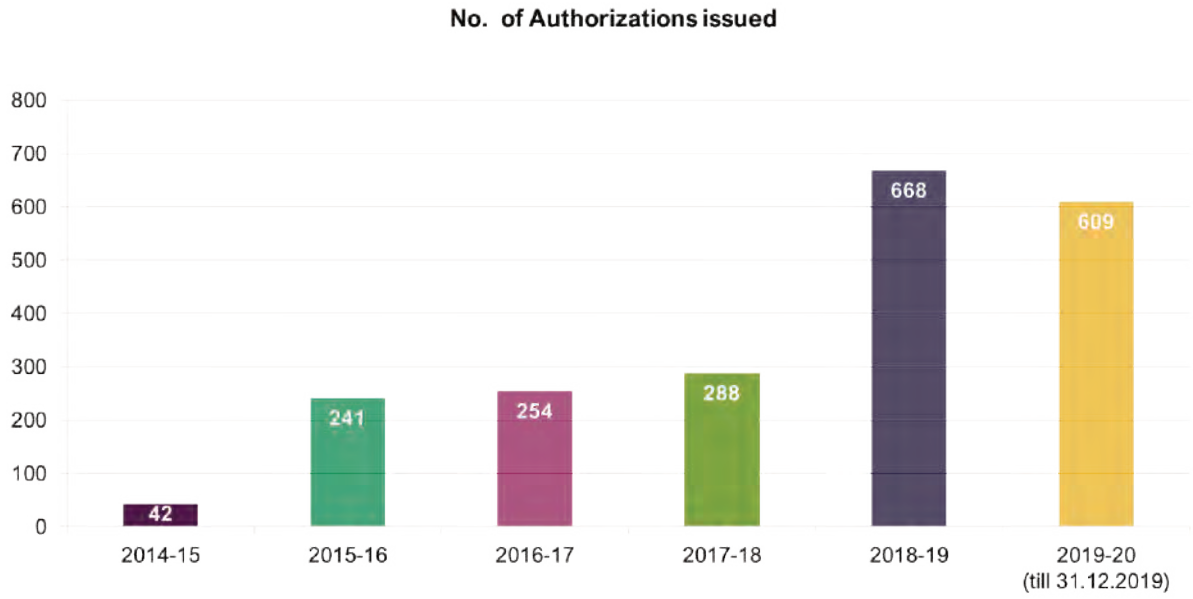
- Scheme to promote MSMEs in Defence has been accorded approval
- 3 state level and 1 national level conclaves/ seminars envisaged to be organized in Tier II and Tier III cities across the country.

Measures to improve export import profile of Indian defence industry

Rs. in crore



Rs. In crores



i. Defence Imports:

36 Import Licenses have been issued to private defence industry during FY 2019-20 (till December 31, 2019) by DDP.

Defence Industrial Corridors:

In pursuance to the budget announcement (2018-19), it has been decided to set up two Defence Industrial Corridors, one in Uttar Pradesh and another in Tamil Nadu. Subsequently, six nodes in Uttar Pradesh Defence Corridor viz. Agra, Aligarh, Chitrakoot, Jhansi, Kanpur and Lucknow have been identified. Similarly, for Tamil Nadu Defence Corridor, five nodes viz. Chennai, Coimbatore, Hosur, Salem and Tiruchirappalli have been identified.

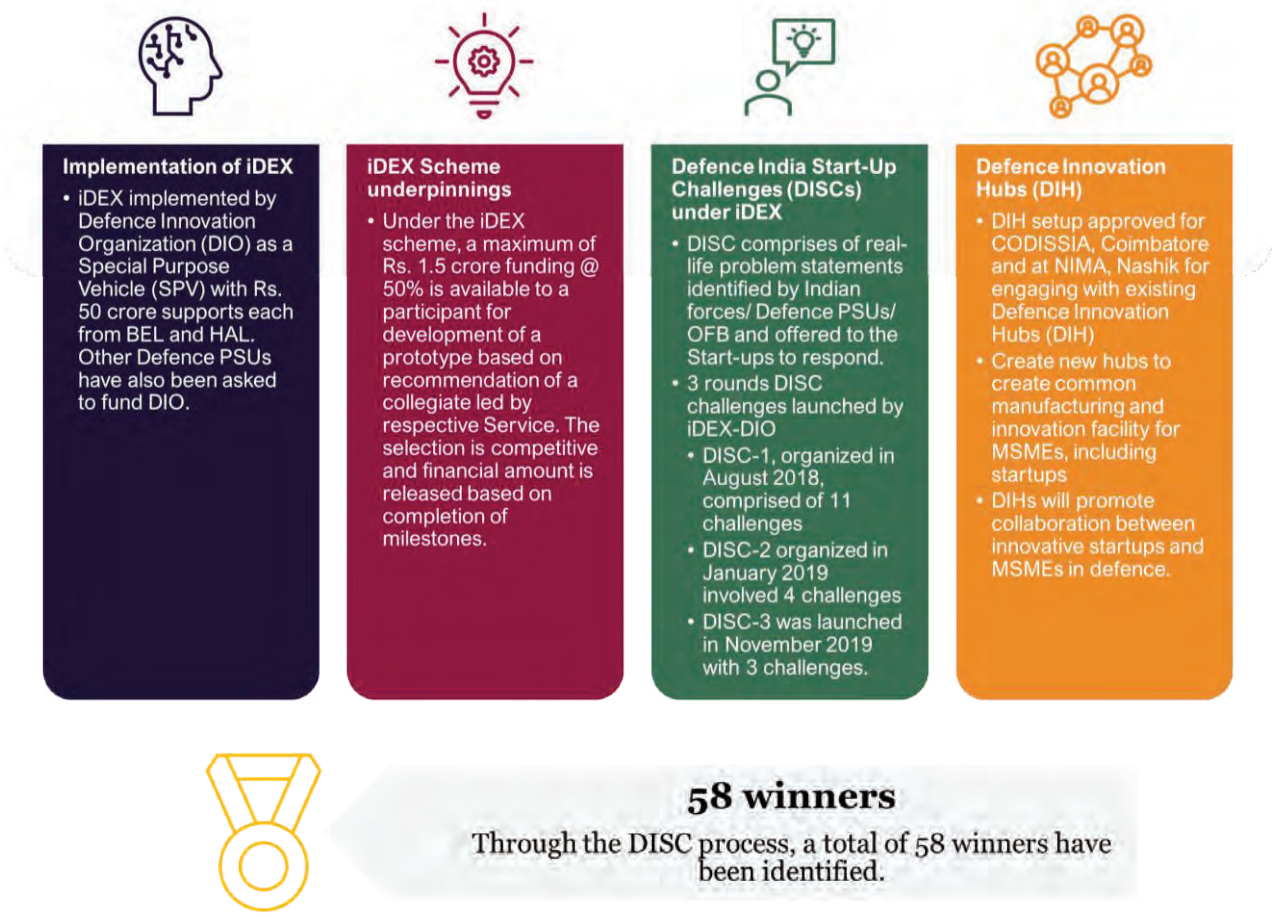
Investments of approximately Rs. 3700 crore& Rs. 3100 crores have been announced for Uttar Pradesh Defence Corridor and Tamil Nadu Defence Corridor respectively by Ordnance Factories Board (OFB)/ Defence Public Sector Undertakings (DPSUs) & Private Industries. As of December 2019, total investment of over Rs. 1000 crore has already been made by various organizations.

So far, six consultation meetings of stakeholders each in Uttar Pradesh and Tamil Nadu were organized across its various nodes. Further, a Policy Framework and Detailed Project Reports for these two Defence Corridors are under preparation.

Creating a Start-up Ecosystem for Defence and Aerospace:

Innovations for Defence Excellence (iDEX) is a scheme formulated in collaboration with Atal Innovation Mission (AIM) with the objective of bringing Startups to innovate, develop technology and solve problems related to Defence and Aerospace sector.

iDEX, the first initiative of its kind in the country, was launched by Prime Minister in April 2018. iDEX is aimed at creation of an ecosystem to foster innovation and technology development in Defence and Aerospace by engaging Industries including MSMEs, Start-ups, Individual Innovators, R&D institutes and Academia and provide them grants/funding and other support to carry out R&D. It is expected that India can take advantage of its vibrant Start-up ecosystem to develop technologies related to defence and aerospace.

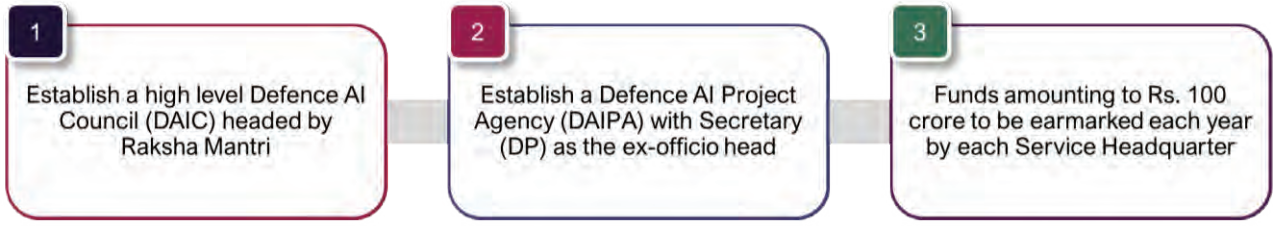


iDEX

Developing Artificial Intelligence based capabilities:

Department of Defence Production constituted a Task Force in February 2018 under the Chairmanship of Shri N. Chandrasekaran, Chairman Tata Sons to study the strategic implications of Artificial Intelligence in National Security and Defence needs and to make appropriate recommendations in this regard.

The Task Force submitted its recommendations to Ministry of Defence in June 2018. Based on the recommendations of the Task Force and comments/feedback received from various organizations, Ministry of Defence has issued the following directions in February 2019:



Directions issued by MoD in February 2019

i. Establish a high-level Defence AI Council (DAIC) headed by Raksha Mantri, with the three Service Chiefs, Defence Secretary, Secretary (DP), Secretary DRDO, FA(DS), National Cyber Security Coordinator, CISC, representatives from industry and academia as its members. DAIC is to provide necessary guidance to enable and effect development or tailoring of operating framework, policy level changes and structural support for AI implementation in Defence.

ii. Establish a Defence AI Project Agency (DAIPA) with Secretary (DP) as the ex-officio head of the agency and members drawn from three Defence Services, IDS, DRDO, DPSUs, academia and industry. DAIPA, besides acting as a secretariat for the Defence AI Council (DAIC), will have the prime responsibility of enabling the design, development and production of AI based systems and AI based processes across the services and other defence organizations. Accordingly, DAIPA was constituted in March 2019.

iii. Funds amounting to Rs. 100 crores to be earmarked each year by each Service Headquarter for AI specific application development for five (05) years from their annual budgetary allocations. Further, a budgetary allocation of Rs. 100 crores to be made by MoD each year for five (05) years to DAIPA for implementing recommendations made by the AI Task Force including setting up AI projects, AI infrastructure, clearing and preparing AI related data, Capacity Building etc. in MoD organizations.

Additionally, a three-year (2019-2022) AI roadmap for Defence PSUs and OFB has been finalized for creating AI based products/technologies relevant to their platforms and earmark appropriate funds for the same. Total 25 AI enabled projects to have been identified under AI road map. Prototypes for 6 Nos. products have been developed and are undergoing testing.

Some of the AI based products/technologies under development by Defence PSUs and OFB are as follows:

Defence PSU/ OFB	AI based product/ technologies
BEL	1. Terrorist activity analysis in terms of Terrorist Initiated Incidents (TII), Terrorist Committed Atrocities (TCA) and Crime analysis as part of Social Network Analysis. 2. Proof of Concept Human Face Recognition
HAL	1. Voice Activated Command System (VACS). 2. Automatic Target Recognition.
MDL	1. Robotic Weld Inspection Using Advanced Phased Array Technique to Replace Manual Radiography. 2. Design & Prototyping of Remotely Operated Vehicle (ROV).
GRSE	1. Unmanned Surface Vessel (USV).
BEML	1. Sleep/Fatigued operator alert system on Dump trucks. 2. Autonomous Dozer for snow clearing application.
GSL	1. Shipboard Equipment Condition Monitoring System.
HSL	1. Unmanned Underwater Vehicle.
BDL	1. Smart Counter Measures Dispensing System (CMDS). 2. Smart Assistant for Product Support (AI enabled 24X7 Chat Bot).
MIDHANI	1. Development of alloys with online process control and Decision Making through a sensor-based instrument system.
OFB	1. Drone Assisted Mine Protected Vehicle.

Other Major Initiatives:

Several Initiatives have been taken by Department of Defence Production to promote defence production in the country. Some of the salient initiatives are mentioned below:

a) Revised Make-II procedure

A Revised Make-II procedure was approved by Government in February 2018 to enable greater participation of industry in Defence supply of Capital items. The salient features of the new Make-II procedure include the following:

Salient features of the new Make-II procedure include the following	
	No limit on Industry There will be no limit to the number of industry who may respond to the EoI for development of the prototype subject to meeting the minimum qualification criteria.
	No retraction Once the RFP is issued, it shall not be retracted. The industry, who wins the bid, is assured of an order.
	Processing The case will be progressed even if there is a single entity offering an innovative solution.
	No negotiations There shall be no negotiations by Contract Negotiation Committee (CNC) in multi-vendor contracts.
	Time Reduction From in-principle approval to placing of order by 50%.

Salient features of the new Make-II procedure

Progress up to December 31, 2019

Suo-Moto proposals

Under the Revised Make-II, a new feature has been introduced which enables industry to make suo-moto proposals to the Services. A Standard Operating Procedure (SOP) for consideration of 'suo-moto'

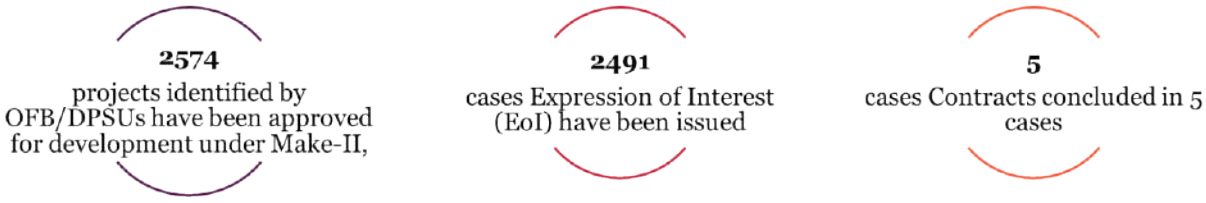
proposals under Capital Acquisition have been issued in June 2018. The Services examine the proposal and if they find it relevant to their needs, they can take its development under the Make-II procedure.

This suo-moto proposal is novel and for the first time enables industry to initiate proposals for use of the Services. The suo-moto has particular relevance for new technologies/new products including raw materials being developed by start-ups/industry.

The three Services have appointed a Nodal Officer for receiving suo-moto proposals. The suo-moto proposals can be submitted online through website makeinindiadefence.gov.in. Till December 31, 2019, 13 such proposals have been granted Approval-in-Principle out of the total 44 projects.

b) Make-II implementation at OFB/DPSU level

The Framework for Implementation of Make-II Procedure in OFB/DPSUs was issued by the Ministry of Defence in February 2019. The objective of the framework is to, inter alia, incorporate features of Make-II (Chapter-IIIA of DPP-2016), such as Relaxation of eligibility criteria, minimal documentation consideration for proposals suggested Suo-moto by industry, in the procurement manuals of OFB & DPSUs so as to empower them to take up projects for indigenization of items, particularly the ones being imported regularly.



Progress under Make-II

f. Streamlining Industrial Licensing: Based on the initiative taken by Department of Defence Production the licensing procedure has been liberalized under Arms Act:

i. MHA vide notification dated November 1, 2018, had notified Arms Rules 2016 (Third Amendment) wherein it has notified that Firearms (Small Arms and ammunitions and allied items of caliber upto 12.7 mm) and their following parts only are licensable under Arms Act, 1959/Arms Rules 2016.

a.	Barrel	b.	Cylinder
c.	Bolt	d.	Breach block
e.	Slide	f.	Firing Pin
g.	Frame or Receiver	h.	Extractor
i.	Hammer/ Striker		

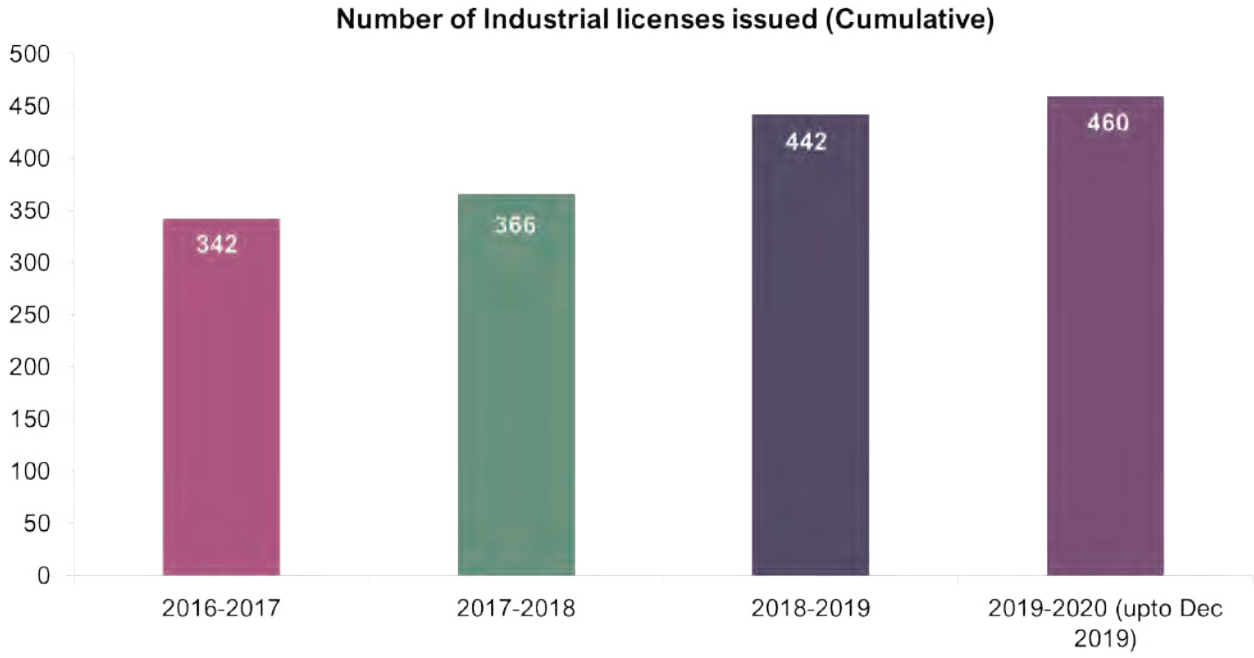
ii. Further, MHA vide notification dated December 14, 2018 in supersession of their earlier notification S.O. 1636(E) dated May 19, 2017 had revised the schedule of items requiring Industrial License under delegated powers to Secretary (DPIIT) under Arms Act/Arms Rule. As per the said notification, "Tanks and other armoured fighting vehicles" and "Arms and ammunitions and allied items of defence equipment; other than small arms of caliber 12.7 mm and above" are only licensable under Arms Act, 1959/Arms Rules 2016.

iii. DIPP vide Press note 1 (2019 Series) dated January 1, 2019 has de-notified the other defence items viz. "Defence Aircrafts" and "Warships of all kinds" from Arms Rules 2016 due to their non-coverage under the said rules along with other licensable defence items under I(D&R) Act, 1951.

iv. Further, vide Press note no. 2(2019 Series), DPIIT has notified that in reference to Press note 1(2019 Series) dated January 1, 2019, no Industrial license/Arms license is required for the manufacture of any parts or any accessories in Defence sector, unless they are specifically listed in any of the Annexure of the Press note 1(2019 Series) dated January 1, 2019.

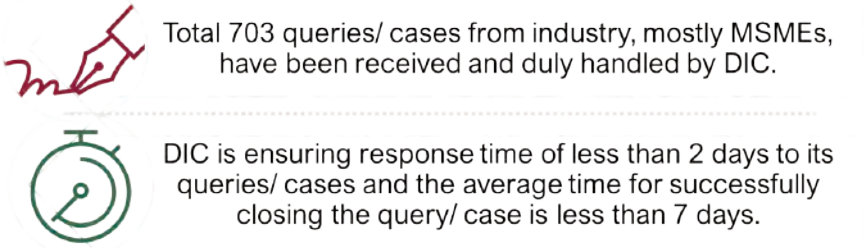
v. The Defence Product List has therefore got rationalized and trimmed because of this liberalization.

As a result of these measures, there has been steady increase in the number of Industrial Licenses (ILs) issued for defence manufacturing. Government has issued 460 ILs till December 2019 for manufacture of a wide range of defence items to private companies. This is more than double the number of licenses that existed in March 2014. The bar chart indicating Industrial Licenses issued during last three years is as shown below:



g. **Foreign Direct Investment:** As per data furnished by 79 companies in Defence and Aerospace sector, so far (i.e., till December 2019), FDI inflows of over Rs. 3155 crores have been reported. Further, FDI inflows of over Rs. 1834 crore have been reported in Defence and Aerospace sector after 2014.

h. **Defence Investor Cell (DIC):** DIC was launched in January 2018, to act as a friend to all Defence Entrepreneurs. DIC acts as a single point of contact for all queries related for investment opportunities in defence production sector. Defence Investor Cell directly interacts with the interested investors with regard to potential investment and the queries related to policy and projects handled by the MoD. DIC has made it easier for the industry to deal with defence requirements and their queries. DIC can be accessed online at https://defenceinvestorcell.gov.in.DIC has received a good response from the industry. MSMEs operating in defence sector have found it to be of special use since it also addresses their grievances related to DPSUs/OFB/SHQ.



i. **Defence Production Information Technology (DPIT) Division:** DPIT Division has been created to implement IT related initiatives in DDP including OFB and DPSUs. DPIT division, in addition to other ongoing IT projects, has been instrumental in development of Defence Offsets Management Wing (DOMW) Portal, DDP and DoD Dashboards.

   a. **DOMW Portal:** DOMW Portal for submission of offset claims by Foreign OEMs and corresponding processing/audit/verification by DOMW and CGDA has been operationalized with effect from May 1, 2019. 100% online submissions by OEMs and verification of offset claims have been achieved during the year.

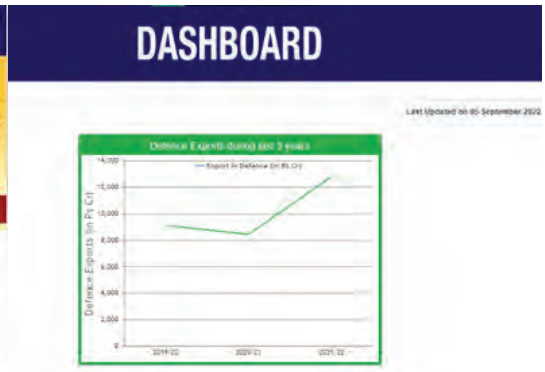
   Further, various MIS reports and a dashboard have also been developed for streamlining the process of submission by OEMs and acceptance by DOMW.

   Phase II of the project is currently underway with the objective to streamline the process of Indian Offset Partners (IOP) verification and offset banking proposals.

   b. **DDP Dashboard:**

DDP dashboard was launched by Raksha Mantri on July 26, 2019. The Dashboard has been designed to help in effective monitoring of various initiatives and schemes of the Department.

The Dashboard contains progress on key initiatives of the Department including Defence Exports, Defence Offsets, Defence Production, IPRs filed (Mission Raksha Gyan Shakti), Make in India in Defence Projects, Startups working in Defence, Investments in Defence Corridors and Artificial Intelligence Projects in Defence. The dashboard is available for public access at "ddpdashboard.gov.in".



c. **DefExpo 2020 Website:** DEFEXPO 2020 website was launched by Raksha Mantri on September 30, 2019. The website provided facility of online registration to exhibitors and to select and book exhibition space in a transparent manner on first-come first-serve basis.

The website also provided service to Embassy officials, service providers, media, delegates and business visitors. All transactions including exhibition space booking, payments, conference and B2B meeting, booking of seminar halls, business visitor tickets, data input for badges and printing were done online.

The website extended customer support facility through telephonic and email support. A Mobile App giving details of present schedule, details of exhibitors and products, venue maps, publications, tickets, weather and sponsors was also launched by Raksha Mantrion December 27, 2019. A comprehensive feedback module to include general feedback, feedback on cleanliness of venue as well as liaison officers was also incorporated.

j. Mission Raksha Gyan Shakti (MRGS):

a. Ministry of Defence, Department of Defence Production has initiated mission- 'Mission Raksha Gyan Shakti' in the month of April 2018, with the primary objective of "Boosting the IP culture" and to promote creation of Intellectual Property in the DPSUs and OFs in line with the national policy on IPR.

b. Ministry of Defence, Department of Defence Production has laid a robust foundation for this mission by creating a 'Supporting Ecosystem' in form of an Intellectual Property Rights Facilitation (IPF) Cell in April 2018.

c. In the first year itself, the progress as laid down in the road map is very significant and encouraging.

17,938 personnel trained	• Total 17,938 personnel from all DPSUs/OFB/DGQA have been trained by a team of selected 'Master Trainers' who were trained at Rajiv Gandhi National Institute of Intellectual Property Management (RGNIIPM) for this very purpose.
1,082 IPR applications	• Filed by DPSUs/OFB till date
Action Plan	• A comprehensive Action Plan 2019-20 has been formulated and promulgated to all Stakeholders including Army/ Navy/ Air Force.
Memorandum of Understanding	• MoU with National Research Development Corporation (NRDC) has been signed on July 9, 2019 for capacity building of IPF Cell as per the approved MRGS Action Plan 2019-20.
Policy on IPR	• Policy on 'Creation and Management of Intellectual Property (IP) by Defence Public Sector Units & Ordnance Factories' duly approved by competent authority has been prepared and promulgated on December 27, 2019 to all stakeholders.

The 'Mission Raksha Gyan Shakti achievement' (period from April 2018 to December 2019)

Ordnance Factories under the Ordnance Factory Board (OFB)

Indian Ordnance Factories, with 41 Production Units and several Training and Research Units are the oldest and largest industrial setup which functions under Ordnance Factory Board (OFB) with the primary objective of achieving self-reliance in equipping the armed forces with state-of-the-art battlefield equipment.

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, Bridge Laying Tank (BLT), 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, Clothing's, Personal equipment, Bridges, Boats, Cables etc.

Overall indigenous content: Ordnance Factories have achieved very high level of indigenization in its product range through continuous efforts in research & development and with active engagement of indigenous vendors and academic institutions. Presently, overall indigenous content is 91% and efforts are in hand to increase it further.

In-house R&D: Continued thrust on in-house R&D over last decade has yielded positive results and about 23% of OFB's total output is currently coming through R&D projects.

- A Memorandum of Understanding (MoU) has been signed between OFB and CSIR on August 16, 2019 which will facilitate OFB to take up new R&D projects.

- OFB's 155mm x 45 Cal Dhanush gun cleared prolonged firing trials conducted by Indian Army.
- 6 Guns handed over to the Army on April 8, 2019.

User Assisted technical trial of BMP-II upgrade has been successfully conducted. OFB's contribution in Mission 'Chandrayaan-2' was appreciated by Vikram Sarabhai Space Centre, Aerospace Ordnance Entity (ASOE).

Modernization & Capacity Augmentation: OFB has invested Rs. 588 crores in 2019-20 (upto November 15, 2019) for modernization of Plant and Machinery.

Export: In order to make its presence felt in the global market, various transformative ideas have been implemented in Ordnance Factories by manufacturing OFB's products in consonance with international MIL/NATO standards. OFB received single largest export order of 45.75 Million USD (Rs. 315 crores approximately) for supply of ammunition and allied items during the current financial year, and the first consignment has since been delivered.

Green Energy: OFB is significantly contributing to Green Energy and has installed 80.67 MW Solar Power Plants across various Ordnance Factories.

Major Achievements:

New generation Artillery Gun System, developed by OFB	The first lot of 6 nos of "Dhanush" Guns, a new generation Artillery Gun System, developed by OFB, was handed over to the Indian Army on April 8, 2019 at Gun Carriage Factory, Jabalpur.
India's Maiden Lunar Lander	'Chandrayaan-2' has been launched successfully aboard GSLV MKIII-M1 on July 22, 2019. OFB contributed to the mission through its products supplied from Ordnance Factory, Bhandara.
High Explosives Factory, Khadki	Declared as the winner of the Golden Peacock Health & Safety Award 2019.
The User assisted technical trial of BMP-II upgrade	Successfully done in June 2019. • Has capability to fire missile in night with automatic target tracking and a panoramic sight for the commander equipped with computerized Fire Control System.

155 X 45 Cal Gun Dhanush
OFB

Sarath APC BMP-2K
OFB

Indo-Russian Rifles Pvt. Ltd (IRRPL): In accordance with the Inter-Governmental Agreement (IGA) between the Republic of India and Russian Federation signed on February 18, 2019, a Joint Venture Company (Indo Russian Rifles Private Limited) under the Companies Act, 2013 has been incorporated with Ordnance Factory Board (OFB) & JSC Rosoboron export (ROE) and JSC Concern Kalashnikov (CK), for production of AK series Assault Rifles including AK-203 and other small arms in India.

The JV Company will manufacture at least 7,50,000 Nos. of assault Rifles @ 75,000 per annum to meet the requirement of the Indian Armed Forces and MHA. The production line will be 100% indigenized within a time frame of 32 months from the date of signing of the Agreement.

Value of Production

(Value in Rs. crore)

2016-17	**2017-18**	**2018-19**	**2019-20**(up to December 31, 2019)
14825	14127	12764	5437

Directorate General of Quality Assurance (DGQA

Directorate General of Quality Assurance (DGQA) is an Inter-Service Organization functioning under the Department 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 the Private Sector, Public Sector Undertakings and Ordnance Factories.

Achievements

- **Defence Export Promotion Scheme**
  a. Scheme for promotion of Defence Export was issued by Ministry of Defence. The scheme provides for two options to prospective Defence exporters to request for a certificate from DQA/DGAQA/DGNAI and other DDP notified agencies in respect of Defence equipments/systems indicating “Fit for Indian Military Use” or “Tested and Certified against the QR provided by the prospective Indian Defence Exporter/Manufacturer”, for improving the marketability of their products globally. An SOP for ‘Certification, Testing and Certification under Defence Exports Promotion Scheme’ has been promulgated on March 6, 2019.

  b. M/s Bharat Forge Ltd, New Delhi & M/s Larsen &Toubro Ltd, Mumbai have been awarded ‘Fit for Indian Military’ use certificate on October 18, 2019 under this scheme.

- **Defence Testing Infrastructure Scheme (DTIS)**

a. The GoI as part of the 'Make in India' initiative, has accorded high priority for development of manufacturing infrastructure in Aerospace and Defence sectors in the country to reduce dependence on imports. Lack of access to 'State of the Art' testing infrastructure for MSMEs, Start Ups and other industries is one of the main impediments for domestic defence production. The Defence Testing Infrastructure Scheme (DTIS) envisages setting up of 6-8 DTIs to meet the future requirement of testing of Defence equipment/systems and also augment the existing Defence Testing Infrastructure.
b. DGQA has been nominated as the coordinator for steering DTIS. To facilitate seamless implementation of DTIS a cell has been constituted under DGQA to coordinate the activities associated with setting up of augmentation of DTIs.
c. DTIS proposes setting up of 6 to 8 new green-field Defence Testing Infrastructure with a total Grant-in Aid of Rs. 400 crores during 2020-25.

Directorate General of Aeronautical Quality Assurance (DGAQA)

DGAQA is the Quality Assurance 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, defect investigation, up-gradation and modification at various Defence PSUs, 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.

DGAQA is a member of Court of Inquiry set up for Accident Investigation of Military Aircrafts. DGAQA is authorized by MoD for Capacity assessment and registration of Indian firms for manufacturing & supply of defence aviation stores to the services.

During the year, DGAQA has registered 14 firms under different categories. Quality assurance coverage to Military Aviation stores of the value of 14,364 crore up to December 31, 2019 have been provided in 2019-20.

Major Achievements/ Events

- A one-day seminar under "Make in India" programme to increase the awareness amongst private sector, MSME, R&D Institutes/Industries about quality assurance and certification aspects for Defence Aviation Stores was concluded with stake holders from Military Aviation sectors.
- Hindustan Petroleum Corporation Limited along with Indian Institute of Chemical Technology has developed Synthetic Aviation Lubricant (SAL) as substitute to OX- 48. All the trials are successful and Provisional Clearance by CEMILAC has been issued. DGAQA has provided QA coverage in all phases of development along with all stake holders.
- Under Third Party Inspection Concept, Six vendors have been registered to carry out inspection by Production Divisions and R & D centers, in respect of Ground Support & Ground Handling Equipment,

Tools Testers & Ground Equipment (TTGE) and Non-Critical Stores at the premises of the Sub-contractors.

- DGAQA has registered 14 firms for supply of Defence aviation stores and Certified 2 Firm's capacity Verification against Tender Enquiry during FY 2019-20 (by December 31, 2019). Total number of firms registered with DGAQA as on date are 59.
- Standard Operating Procedure for Approval/Renewal of Test Laboratory is released to support Indian Defence Industries and to utilize test facility in India.

Financial data/ parameters: Value of stores provided with QA coverage by DGAQA during the current year & previous three years is given below:

Financial Year	2016-17	2017-18	2018-19	2019-20 (upto31-12-19)
Value in Rs (crore)	21335	21671	22877	14364 crores (tentative)

Defence Exhibition Organization (DEO)

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.

The exhibitions conducted offer an excellent opportunity to show case the capabilities of the Indian Defence Industry. The shows are conducted on an international level. The forum also facilitates interaction with senior foreign delegations. The primary objective is to promote defence export from both the DPSUs and the Indian industry.

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 the aerospace and aviation industry, the focus of Defexpo India is on land and naval systems.

a. AERO INDIA-2019:

The 12th edition of Aero India-2019 with the theme - 'Runway to a billion opportunities', was organized from February 20-24, 2019 at Air Force Station Yelahanka, Bengaluru.

The Business Seminars were conducted by CII/ SIDM, FICCI, ASSOCHAM, PHD, USIBC, USISPF, Bharat Shakti, Synergia Foundation, Aerospace & Aviation Sector Skill Council. In addition, Ministry of Civil Aviation, Ministry of Commerce & Industry/ DGFT, Kerala Government/ KINFRA, MoD/ DDP also conducted the Seminars.

Air Force pavilion on Aero India 2019

For the first time ever following were conducted during the Aero India 2019:

Global CEO Conference in which 22 CEOs (11 Global CEOs and 11 Indian CEOs) participated.
Drone Olympics - 121 applications were received and thereafter 58 were shortlisted to participate.
Academic seminars on Regional Air Connectivity by Ministry of Civil Aviation
Digital interface was undertaken for space booking and registration.
Pacific area coding and codification seminar.
Knowledge seminars by DRDO.
Photography and Instagram competition
Skill Pavilion under the aegis of Ministry of Skill Development and Entrepreneurship (MSDE) and NSDC set up an Aero Skill Pavilion. Aero Skill Pavilion housed twenty booths, which had participation from Companies in Aerospace and Aviation domain including related skill training entities.

b. DEFEXPO INDIA-2020

The 11th edition of DEFEXPO 2020 was organized by the Department of Defence Production, Ministry of Defence, from February 5-9, 2020 at Lucknow, Uttar Pradesh. The theme of Defexpo 2020 was "Digital Transformation of Defence" and tagline was "India: The Emerging Defence Manufacturing Hub". This was the biggest exposition on Defence ever. The exhibition 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.

Several interactive seminars on the defence industry related issues along with B2B meetings, Exhibitors' press conferences and product launches had been organized, to bring the participants abreast with the latest developments. This show also attracted an unprecedented network of international government and military agencies.

The highlights of the event include:

- Defexpo 2020 was inaugurated by Prime Minister on February 5, 2020 at Lucknow.
- It also featured a combined live demonstration of indigenously manufactured aero, naval and land systems.

- The exhibition had the largest ever exhibitors participation wherein more than 1000 exhibitors participated and a footfall of over 11 Lakh visitors, which was four time over the previous edition of Defexpo at Chennai.
- Raksha Mantri had hosted a Round Table Ambassador's Conference on 04 November 2019 which received an overwhelming response with over 100 foreign dignitaries.
- The Department of Defence production, Ministry of Defence conducted the roadshows in Portugal, Korea, Russia, France, Thailand, Indonesia, Kyrgyzstan and Uzbekistan.
- The various Defence Public Sector Undertakings under the Ministry of Defence also undertook roadshows for Defexpo-2020 at Hyderabad, Bengaluru, Kolkata, Jamshedpur, Goa and Ghaziabad and Mumbai.
- Defexpo-2020 saw participation from over 70 countries. 47 Ministers from foreign countries attended the exhibition including 12 African countries Defence Ministers. India-Africa Conclave was also conducted at Lucknow at the sidelines of Defexpo 2020.
- The bookings of space, chalets, conference halls, visitor passes including payments etc. were all online.
- A mobile app with remarkable features to "inform, engage and feedback" for Defexpo 2020 was launched by Raksha Mantri on December 27, 2019.
- 291 MSMEs participated, which was double from the previous edition. In order to encourage MSMEs they were given 50% discount in space booking.
- 1028 Exhibitors participated in Defexpo 2020, out of which 856 were Indian Exhibitors and 172 were Foreign Exhibitors.
- The 'India Pavilion' echoed the Theme of the exposition i.e., 'Digital Transformation of Defence' and brought to fore the capabilities of Indian Start-ups.
- For the first time a dedicated MoU signing Event 'Bandhan' was organized wherein 68 MoUs were signed, 18 Licensing Agreement for ToT were handed over by DRDO to industries apart from exchange of MoU between UPEIDA and DRDO to provide technology support to UP Defence Industrial Corridor.
- During 'Bandhan' event, there was also some product launches by OFB, BDL, BEL, MDL and private sector industries under the 'Make in India' vision. OFB launched 'Sharang' the 155mm artillery gun, 'New Alpha Gun' with 100m range and a LMG of 800m range. The BDL launched a man-portable anti-tank guided missile and 'Varunastra' – the anti-submarine torpedo.
- 14 MoUs were signed under a framework of an IGA between Russian defence majors and Indian military firms for joint production of spare parts of a number of military platforms and weapon systems.

International Exhibitions Abroad

During the Financial Year 2019-2020, the following international exhibitions were facilitated by DEO and it had participation from DPSUs, OFB and Private Industries:

Event name	Dates	Place	Participants
ISDEF-2019	June 4-6, 2019	Tel Aviv, Israel	BEML, GRSE, GSL, BEL, MDL
Paris Air Show-2019	June 17-23, 2019	France	HAL
Army -2019	June 25-30, 2019	Moscow, Russia	OFB, BDL, BEML, GSL, DRDO
DSEI-2019	September 10-13, 2019	London, UK	GRSE, OFB, DRDO, BEL, MDL, GSL
BIDEC-2019	October 28-30, 2019	Bahrain	MIDHANI, OFB, DRDO
Dubai Air Show-2019	November 17-21, 2019	Dubai	BDL and DRDO
DSEI Japan-2019	November 18-20, 2019	Makuhari Messe, Japan	MDL, GRSE, BEL, BEML

Autonomous Institute under the Department of Defence Production

National Institute for Research and Development in Defence Shipbuilding (NIRDESH): NIRDESH, the National Institute for R&D in Defence Shipbuilding was setup as a Society of the Ministry of Defence, Department of Defence Production, with a vision of achieving self-reliance in warship and submarine building. An interim head office was setup at Calicut, and the Institute commenced training and R&D activities. Research projects along with the academic institutes have been completed, and five IPRs are now being processed, which would be further taken up for TOT and technology development in maritime application. NIRDESH is now in the process of restructuring for a more progressive output for its member organization.

Working Results of DPSUs: The Value of Production and Profit after Tax of Defence PSUs are indicated in the following tables respectively.

Table No. 11.1
Value of Production of Defence PSUs

(Rs. in crore)

Name of DPSU	2016-17	2017-18	2018-19	2019-20 (Up to December, 2019)
HAL	17103	17553	18538	11916
BEL	9244	9706	11921	7924
BEML	2624	3227	3467	2110
BDL	5011	4641	3235	1657
GRSE	928	1342	1379	971
GSL	1030	1343	848	589

HSL	629	645	595	259
MDL	3523	4399	4649	3870
MIDHANI	696	698	815	732
Total	**40788**	**43554**	**45447**	**30028**

Table No. 11.2
Profit after Tax of Defence PSUs

(Rs. in crore)

Name of DPSU	2016-17	2017-18	2018-19	2019-20 (Up to December, 2019)
HAL	2616	2070	2282	1616
BEL	1548	1399	1927	759
BEML	84	129	63	(-)118
BDL	524	528	423	225
GRSE	11	87	110	114
GSL	117	217	132	108
HSL	54	21	36	01
MDL	549	440	519	337
MIDHANI	126	131	131	119
Total	**5629**	**5022**	**5623**	**3161**

Department of Military Affairs

रक्षा मंत्रालय
MINISTRY OF
DEFENCE
सत्यमेव जयते

DEPARTMENT OF MILITARY AFFAIRS & ITS ORGANIZATION

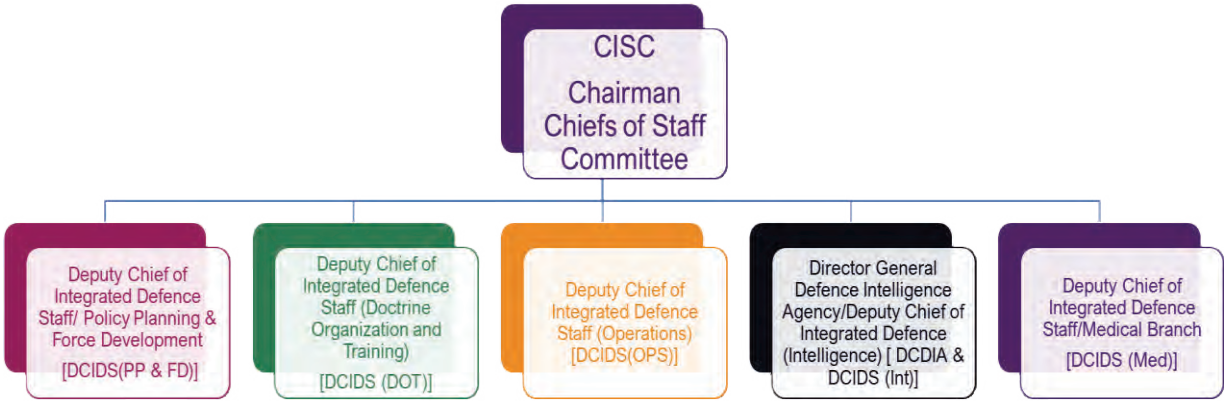
CREATION OF DMA AND APPOINTMENT OF CDS

Gen Bipin Rawat, UYSM, AVSM, YSM, SM, VSM, ADC has been appointed as the first Chief of Defence Staff (CDS) and Permanent Chairman COSC w.e.f. December 31, 2019 by the Government of India. With the institution of CDS, the Department of Military Affairs (DMA) has been created under MoD wherein the

CDS also functions as Secretary of DMA. This development is aimed to provide impetus to the ongoing process of synergy and jointness among the Services with enhanced coordination in functioning and decision making.

HEADQUARTERS INTEGRATED DEFENCE STAFF (HQ IDS)

HQ IDS was raised on 01 October 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, conduct of Joint Humanitarian Assistance and Disaster Relief (HADR) operations and prioritizing /streamlining procurements.



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INDIAN ARMY

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 succor to the affected people.

JAMMU AND KASHMIR

The year 2019 was a landmark year in the history of Jammu and Kashmir. Frustrated by the setbacks suffered in 2018, terrorists carried out a suicide attack on CRPF convoy on February 14, 2019 leading to 40 fatalities. The attack was claimed by Jaish-e-Mohammad (JeM). The air strike at the JeM terrorist Camp at Balakot in Khyber Pakhtunkhwa demonstrated our firm resolve to counter terrorists and the state sponsored terrorism. JeM was targeted throughout the year and the leadership of group was decimated.

The abrogation of Article 370 and bifurcation of the state into UTs of Jammu and Kashmir and Ladakh on August 5, 2019, brought in paradigm shift in the Jammu and Kashmir imbroglio

Additional deployment of Security Forces, detention of separatists, arrest of OGWs and restrictions on communication ensured maintenance of peace. Pressure was maintained on the terror groups by dominating the operating space. Our domination led to overall reduction in Terrorist Initiated Incidents (TIIs) and local recruitment.

Situation in Hinterland

Security forces have achieved remarkable success in elimination of large number of terrorist leadership. Elimination of prominent terrorists has significantly dented the terror groups. Sustained pressure on terror groups was maintained by relentless kinetic operations. The synergized Counter Terrorist Operations ensured that terrorists were not able to launch any major terror attack after Pulwama incident in February 2019.

The security forces were successful in incident free conduct of Amarnath Yatra 2019, Panchayat, BDC, Parliamentary elections and enactment of state re-organisation and abrogation of Article 370.

The synergized and proactive actions by the Security Forces led to reduction in recruitment in the year 2019 to almost 50% as compared to previous year. South Kashmir accounted for maximum recruitment with Pulwama District being highest with 36 recruitment cases. Recruitment was minimal in North Kashmir, whereas Baramulla was the main area of recruitment in North Kashmir.

In the first half of the year, the terrorists-separatists nexus continued to foment violence and unrest in the valley by exploiting emotive issues.

> Banning of Jel, curb on terror funding by creation of Terror Monitoring Group (TMG) and arrest of Separatists and Over Ground Workers severely dented the terror eco-system.

Post abrogation of Article 370, number of Terrorist initiated incidents (TIIs) decreased significantly owing to robust security grid in place. Most of the TIIs happened in south Kashmir, primarily in the areas of Pulwama, Shupiyan, Srinagar, Anantnag and Baramulla. Out of total 172 TIIs, these districts account for almost 86% of the incidents.

Situations along the Line of Control (LC)

Cease Fire Violations (CFVs):

In 2019, LC continued to remain on the simmer. There was a spurt in instances of ceasefire violations post Pulwama attack.

Pakistan proposed de-escalation of situation in the DGMO level talks. Pakistan was conveyed that peace along the LC is contingent on credible, verifiable and irreversible steps by Pakistan to curb terror.

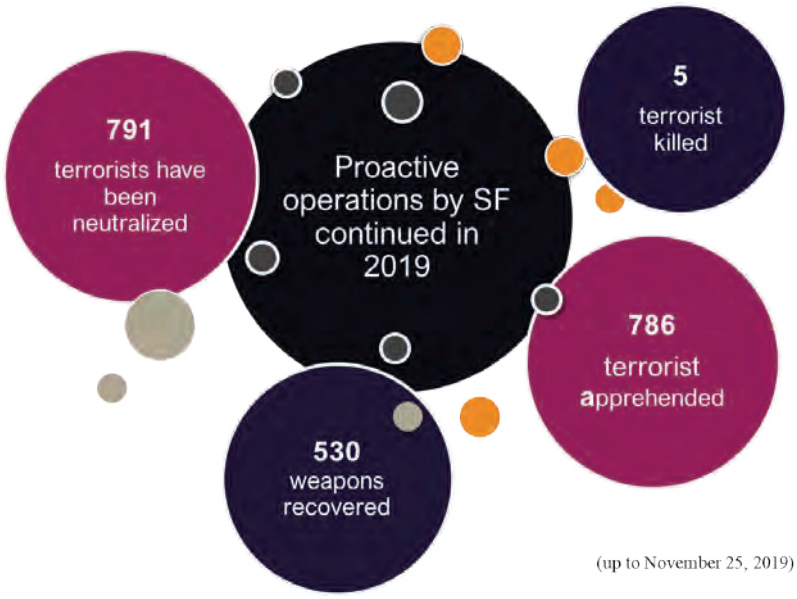
> 3017 ceasefire violations were reported during the year with 494 caliber escalations

Probing/Trans LC operation attempts by the inimical elements from across the LC continued unabated. In 2019, nine sniping incidents were reported in which our troops suffered three non-fatal casualties. Pakistan Army was given a befitting reply to all misadventures along the LC.

NORTHEAST

The security situation in the North Eastern states witnessed a marked improvement during the year. In this regard, Army and Assam Rifles (AR) have continued to play an important role to usher in an environment of peace that is congenial to socio-economic development of the region.

Inputs reveal that insurgent groups are facing acute administrative and financial crunch due to relentless operations by Security Forces (SF) and have been forced to form umbrella organizations to maintain their capability for orchestrating violent activities. Concurrently, the tribal and ethnic divide, fueled by the issue of illegal immigrants, has gained momentum and is likely to have a pan Northeast impact.



Proactive operations by SF

Carrying forward the positive bilateral defence cooperation with Myanmar Army, coordinated operations along Indo Myanmar Border (IMB) against Indian Insurgent Groups (IIGs) and Ethnic Armed Groups (EAGs) of Myanmar were conducted by the Indian and Myanmar Armies since January 2019. The operations were conducted against EAG camps and against IIGs.

A total of 140 terrorists have either been apprehended or have surrendered and 37 weapons have been recovered by SF along the IMB

These operations have dislocated the insurgent groups seeking shelter in Myanmar and have adversely impacted their kinetic potential.

Assam: The security situation in the state remained largely peaceful and under control. Operations by the Security Forces have significantly reduced the operational space of insurgent groups.

NDFB(S) and ULFA(I) have been marginalised leading to demoralisation and disenchantment amongst its cadres.

Nagaland: The state remained largely peaceful barring a few inter-factional clashes and one instance of ambush against the Assam Rifles (AR). Various NSCN groups, however, continued their extortion rackets and other illegal activities. The Khango faction of NSCN (K) formally signed the ceasefire agreement on April 15, 2019 and joined the Naga peace talks as part of the Naga National Political Groups (NNPGs). The developments have ensured that the Naga Peace Talks have become inclusive and are progressing towards the solution for achieving lasting peace in the state. Talks between the Government and the Naga groups are underway for early finalization of the peace process.

The Khango faction of NSCN (K) formally signed the ceasefire agreement on April 15, 2019 and joined the Naga peace talks as part of the Naga National Political Groups (NNPGs).

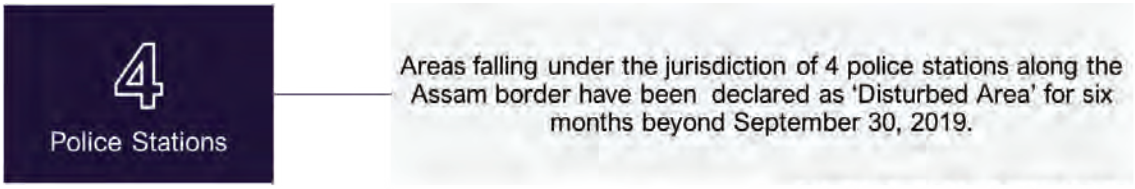
The demand for enforcing Inner Line Permit (ILP) system in Dimapur triggered the initiative for preparing a Register of Indigenous Inhabitants of Nagaland (RIIN)

Manipur: Intelligence based proactive operations ensured that the security situation in the state showed improvement during the year. Instances of blockades and bandhs, however, continued to prevail disrupting day to day life in the state. IED and grenade blast incidents frequently occurred in the de-notified area of Imphal. Majority of the violence was perpetrated by valley-based groups.

There was also increased activity of Civil Society Organizations seeking clarification on the contents of the Naga frame-work Agreement and voicing concerns over maintaining territorial integrity of Manipur in light of the likely finalization of the Naga peace talks.

Arunachal Pradesh: Security situation in the state has been gradually improving in terms of reduction in violent incidents, lower civilian casualties and increasing number of apprehension of terrorists. Longding, Tirap and Changlang districts remained affected by the presence of various Naga insurgent groups which continue with their attempts to establish their writ in the region.

The area was utilized as a conduit by the cadres of NDFB(S) and ULFA(I) to access Upper Assam from their bases in Myanmar. Synergized operations and enhanced deployment along IMB by the Security Forces reduced the operational space of these insurgents.



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.

Mizoram: The state is peaceful, with reports of increase in attempts by groups to smuggle arms and narcotics. In view of the ongoing clashes between Myanmar Army and EAG of Myanmar along the tri-junction of India, Myanmar and Bangladesh.

Proactive measures were taken to preclude deterioration of situation on our side of the India Myanmar Border.

Tripura: The state has remained peaceful and violence in the state of Tripura was within the threshold of law-and-order domain. The state figures prominently in connectivity projects linking the Northeast region with Bangladesh.

The under-deliberation Naga Peace Accord is likely to have a pan regional impact and lead to overall improvement in the situation in the region.

Efforts are underway to bring all groups over ground by eschewing their violent path leading to sustained peace and development in the region. The Northeast Region is shedding its tag of insurgency infested region to one with a promising future.

The region is at the cusp of major changes and large infrastructure and communication projects are in the anvil as part of **'Act East Policy'**.

Situation along the India-China Border

The situation along LAC in 2019 has been largely peaceful, albeit with isolated instances of aggressive behaviour and unilateral activities by the Chinese side in disputed / sensitive areas. The Western Sector (Eastern Ladakh) has been comparatively more active due to differing perception of the LAC.

The Middle Sector (Himachal Pradesh and Uttarakhand) has been comparatively peaceful with limited PLA actions. Similarly, in the Eastern Sector, Sikkim has been largely peaceful while Chinese insistence to patrol up to their perception of LAC in Kameng and Dibang Valley (Arunachal Pradesh) are aspects that have the potential to develop into flashpoints in times to come.

As regards Doklam, the PLA has entrenched itself North of the Torsa Nala by improving the road and habitat for troops.

The Indian side has consolidated its presence in the area and is adequately prepared to meet any challenge/ contingency.

DEFENCE COOPERATION WITH FRIENDLY FOREIGN COUNTRIES

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 (IA).

IA is engaged with 99 countries through Defence Cooperation Activities by the end of 2019.

Structured Engagements:

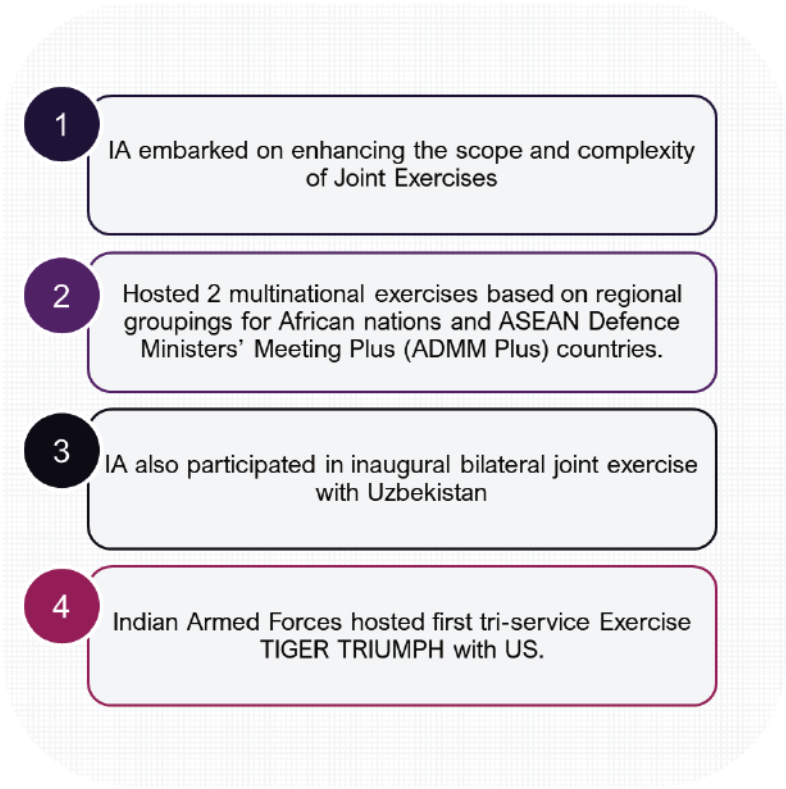
Structured Engagements by IA

In addition to above. the Foreign Service Attaches in Delhi were actively engaged in year 2019 through conduct of Foreign Service Attaches Briefing conducted on November 20, 2019 and tri-services Foreign Service Attaches tour to Vishakhapatnam, Tezpur, Dinjan and Atong conducted from November 24-29, 2019.

Visits: The year 2019 was witness to the conduct of numerous high level and functional level visits.

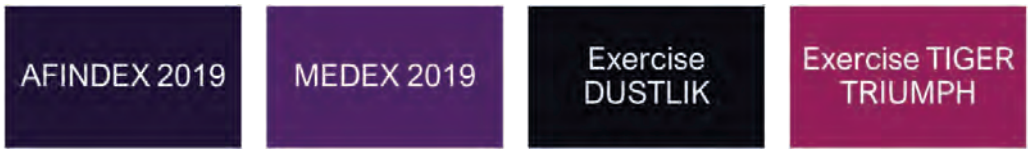
Visits in 2019

Joint Exercises: Joint Exercises with FFCs constitute the most visible component of our Defence Cooperation engagements**.** These events showcase our professionalism globally and provide valuable exposure to our troops.



Joint exercises by IA in 2019

Important aspects of Joint Exercises are as under:



a. **AFINDEX 2019:** AFINDEX 2019, a joint multination exercise for African nations on themes Humanitarian Mine Action and UN Peacekeeping Operations was hosted in Pune in March 2019. 17 African nations participated in the exercise and three African countries witnessed the exercise as observers.

b. **MEDEX 2019:** Indian Army (IA) hosted the MEDEX 2019, a multination exercise on Military Medicine under the framework of ADMM Plus as co-chair of the 3rd Cycle of ADMM Plus Experts Working Group on Military Medicine with Myanmar. 20 ADMM Plus Countries including India participated in the exercise under the framework.

   It is pertinent to mention that the MEDEX 2019 was the first standalone Military Medicine Exercise under ADMM Plus umbrella.

c. **Exercise DUSTLIK:** The inaugural edition of India- Uzbekistan joint Exercise DUSTLIK was hosted by Uzbekistan at Chirchik Training Area, Uzbekistan.
   The exercise assumes importance since it aims to share IA's expertise in Counter Terrorism with Uzbekistan Army. The second edition will be hosted in India in year 2020.

d. **Exercise TIGER TRIUMPH:** The inaugural edition of India-US joint Exercise TIGER TRIUMPH was hosted by India at Visakhapatnam. It is the first exercise with USA, where all three services jointly participated with US forces and exchanged expertise on Humanitarian Assistance and Disaster Relief.

Tactical Action: Joint Exercise

Training Teams: Training Teams are deployed on the request from the host nation on a specific mandate for each country. Broadly, the mandate includes imparting training in English

language, military tactics, logistics, IT, technical assistance in field of engineering and communication etc. In addition, the team leaders in some countries have also been bestowed with the responsibility of Military and Security Advisors to the host countries.

10

IA Training Teams are deployed in friendly foreign countries

- Bhutan
- Bangladesh
- Myanmar
- Lao PDR
- Vietnam
- Namibia
- Seychelles
- Uganda
- Tanzania
- Tajikistan.

9

Proposals to establish new training teams have been received

- Kyrgyzstan
- Oman
- Liberia
- Madagascar
- Uzbekistan
- Cambodia
- Botswana
- Mozambique
- Comoros.

Details of IA training teams

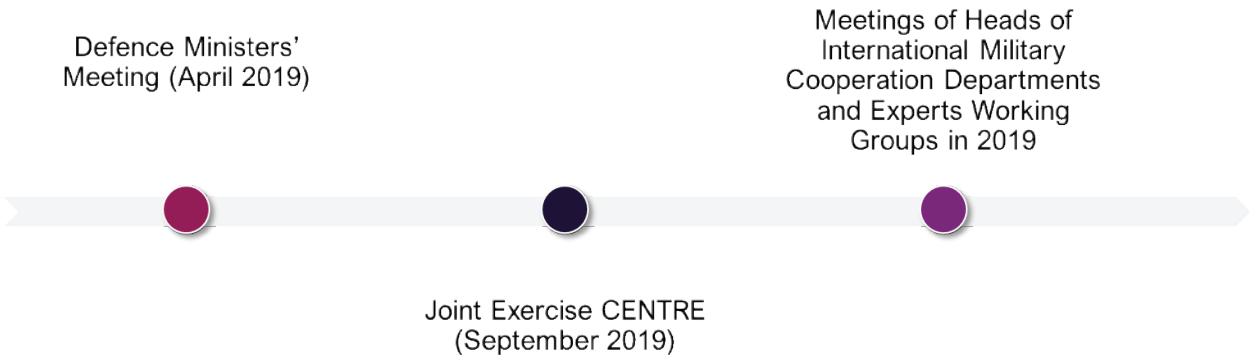
Training with FFCs: Military training is a dynamic and effective tool for Defence Cooperation. Apart from the comprehensive military training infrastructure, our Armed Forces may be the only one which are endowed with almost all types of terrains viz planes, jungles, deserts, riverine, mountains and glaciated terrains. Thus, favorable response from the FFCs has been received for regular and customized tailormade training.

IA offers vacancies for training in the fields of Counter Terrorism, Counter Improvised Explosive Device, Special Forces, Intelligence, United Nations Peacekeeping operations, Information Technology and language courses. The state of engagements in military courses and training of FFCs in IA Training Institutions has grown exponentially over the years.

Activities in 2019-20

Exchanges under SCO Framework

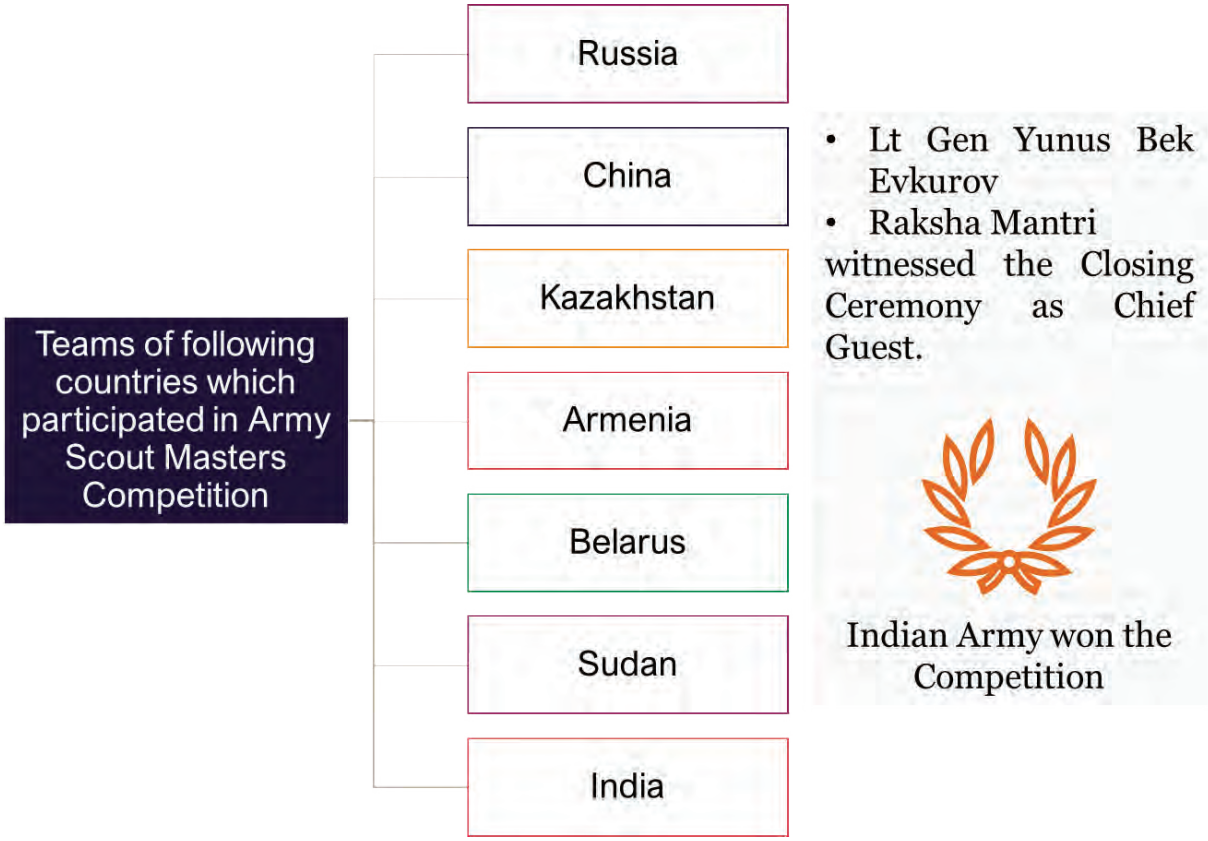
Indian Army participated in all practical actions under the SCO framework including:



Exchanges under SCO Framework

International Army Games

The International Army Games are held annually under the aegis of Russian Federation. Indian Army has been participating in various events in previous editions. Army Scout Masters Competition was hosted in India for the first time in August 2019.



Army Scout Masters Competition

Co-deployment of Kazakh Contingent in UN Mission under Indian Battalion: Kazakhstan had requested India's assistance towards training and deployment of Kazakh Contingent in UN Missions.

1 company of Kazakh Armed Forces has been deployed as part of the Indian Contingent Indian Battalion (INDBATT) under UN Interim Force in Lebanon (UNIFIL) after an extensive training and preparatory schedule organised by IA

IA & Kazakhstan Army troops patrolling in UNIFIL

India was co-chair with Myanmar for Experts Working Group on Military Medicine for 2017-19 under the ADMM Plus construct.

India hosted the 10th Expert Working Group Meeting and Table Top Exercise (TTX) in December 2018.

Field Training Exercise (FTX) MEDEX 2019 was hosted in March 2019 in India.

This deployment will continue for four rotations of six months each until November 2020. The co-deployment of a friendly Army showcased our commitment to UN Peacekeeping endeavours in training and capacity building of Central Asian Republics. Additionally, the IA experts also engaged in training activities for UN Peacekeeping with other FFCs in India and abroad.

ADMM PLUS Exchanges:

Medical Assistance: Medical assistance provided to FFCs has emerged as an important cornerstone of our Defence Cooperation initiatives. Our medical missions, training of foreign medical personnel in our medical schools and establishment of hospitals/gifting of medicines have earned us tremendous goodwill.

Medical Assistance by IA

Cultural Exchanges with Immediate Neighbourhood Nations: With an aim to leverage the socio-cultural and religious connect, IA has been facilitating exchange visits by 60-80 couples from the defence forces of neighboring Armies.

Cultural exchanges

Cultural visits by delegations, which include all ranks and from all the three services has been successful in establishing better understanding and fostering bonhomie. It establishes the prominence of the Indian Armed Forces and connects through a very delicate emotional cord of the population.

MODERNISATION AND CAPABILITY BUILDING

Make in India Initiative

In order to give an impetus to Make in India policy, GoI approved the setting up of Army Design Bureau (ADB) on August 30, 2019.

Raising of ADB is an endeavour to reach out directly to the industry and academia to tap the indigenous/home grown pool of talent and entrepreneurship capital to address the needs for technology and equipment in defence manufacturing.

Infrastructure Development Along Northern Borders

IA has been conscious of the lack of modern infrastructure in the mountainous terrain along Northern Borders and has been providing impetus towards holistic development of infrastructure and operational logistics assets.

Required funds have been allocated which will not only enhance the capability of IA to conduct operations but also contribute to the overall development of the region.

Improved Habitat for Troops

Construction of Bailey Suspension Bridge: 400 feet Bailey Suspension Bridge was constructed at Siachen Base Camp. The earlier bridge over Nubra River was of 2002 vintage and was in a dilapidated condition. De-launching and re-launching of the bridge with new cables and major assemblies was undertaken by the local Engineer Regiment.

Ammunition

a. **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.

b. **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. The third Roll on Indent has been placed in 2019 for year 2019 to 2024. Production reports of OFB are being monitored monthly and shortfalls are being highlighted.

c. **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.

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

e. **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 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.

f. **Manufacture of Ammunition for Indian Army by Indian Industry:** To facilitate development of indigenous capacity and reduce import dependence.

The Government has approved manufacturing of selected ammunition for Indian Army by Indian Industry with a Long-term objective of building capacity within the industry as a robust alternative source of ammunition

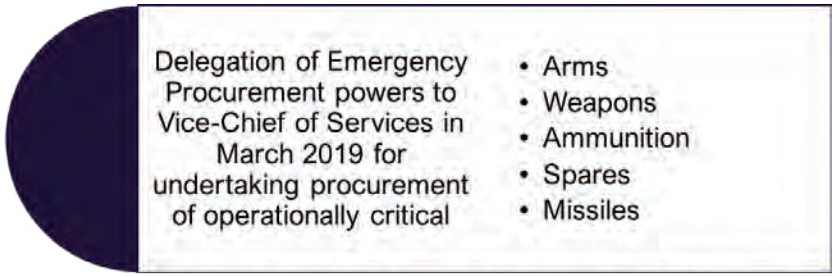
Armament

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

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 being met. Present procurement cases include Passive Night Vision Goggles (PNVG), Passive Night Vision Binoculars (PNVB) and from OLF include Image Intensifier & Thermal Imagery Sights for AFV platforms.

With a view to maintaining the operational preparedness of Armed Forces, the scope of delegated financial powers to Service HQ has further been widened through:



to be exercised under the authorisation of respective Service Chiefs.

RASHTRIYA RIFLES (RR)

RR, since it's raising has rendered invaluable assistance towards the security as well as socio-economic development of the region of Jammu and Kashmir. RR has relentlessly pressed on with its operational

tasks. The Force as a whole provided pivotal support for maintaining peace and tranquility in the region which otherwise continues to be in a state of flux.

Operational Achievements of RR

The RR has neutralised 165 terrorists

- 128 killed
- 37 apprehended
- recovered significant cache of warlike stores.

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

People Friendly Operations

A large number of people friendly activities were undertaken to shape the people's perception about the Army and government. This has made a visible change in the way people perceive the Army, besides increasing the comfort levels between 'Awaam' and 'Jawan'.

Youth Employment and Guidance Nodes (YEGN), set up by RR, targeted the youth of the state effectively

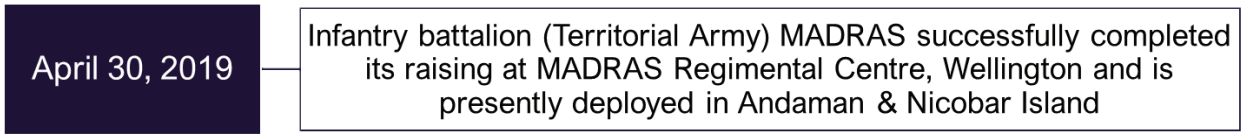
This has helped them explore avenues of higher education and employment, thus guiding them away from the lure of easy money and a misplaced sense of power through terrorism. Over the years, RR has given a great strategic advantage to the Nation in controlling terror related activities.

Creation of RR, the only specially structured CI/CT 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.

TERRITORIAL ARMY

The Territorial Army Act was enacted in 1948. The concept of the Territorial Army 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.

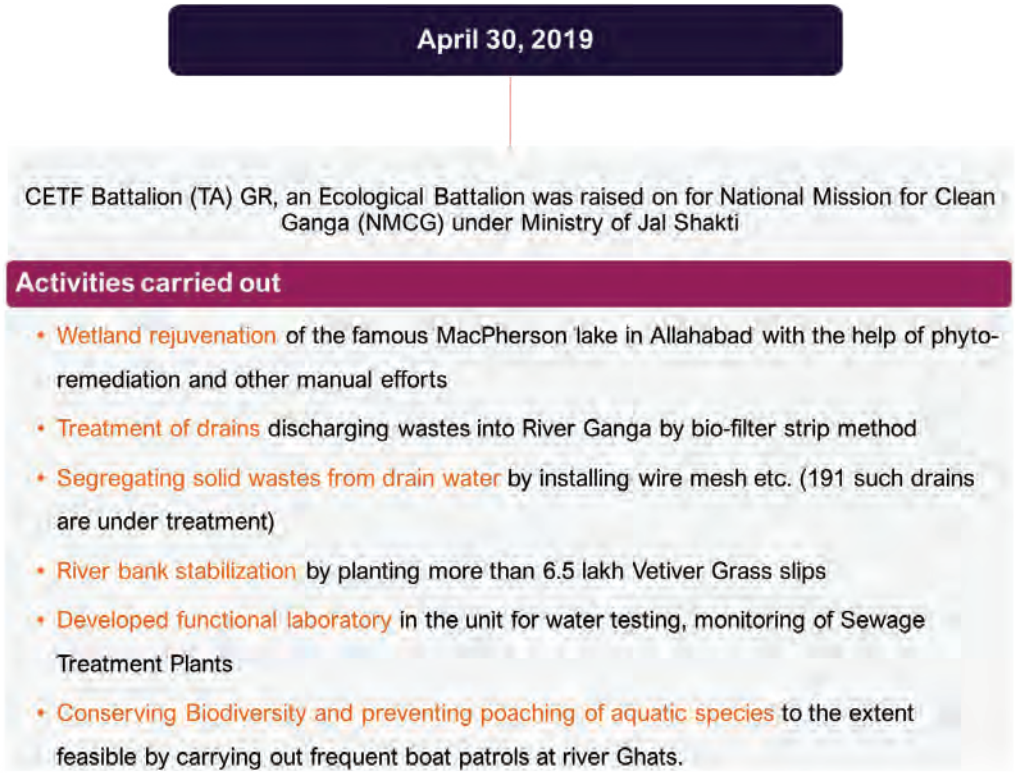
Raising of Infantry Battalion (Territorial Army) MADRAS:



Raising of Infantry Battalion

Raising of CETF Battalion (TA) GR

CETF Battalion (TA) GR, an Ecological Battalion was raised on April 30, 2019 for National Mission for Clean Ganga (NMCG) under Ministry of Jal Shakti. The Battalion is located in Allahabad with its companies deployed at Allahabad, Kanpur and Varanasi. It has, in a short span of six months, been able to carry out the following:



The units have also been organizing regular mass awareness programmes and educational seminars in all three cities to involve masses in Clean Ganga Mission.

Plantation for Livelihood 'A Vision of Indian Army

As conceptualized by the Chief of Army Staff (COAS) and planned by Additional Directorate General Territorial Army (ADG TA), two Uttarakhand based Ecological Battalions TA namely 127 ETF and 130 ETF

planted ‘One Lakh Walnut Saplings’ in two border area villages namely Malari and Dharchula of Garhwal and Kumaon regions respectively for the locals.
The idea behind was to provide sustainable means of livelihood to prevent migration from such areas due to lack of employment avenues.

October 24, 2019

The Chief of Army Staff (COAS) inaugurated the plantation drive at Malari in Chamoli Garhwal wherein 50,000 Walnut saplings were planted.

November 15, 2019

The balance 50,000 Walnut saplings were planted in Dharchula region of Kumaon.

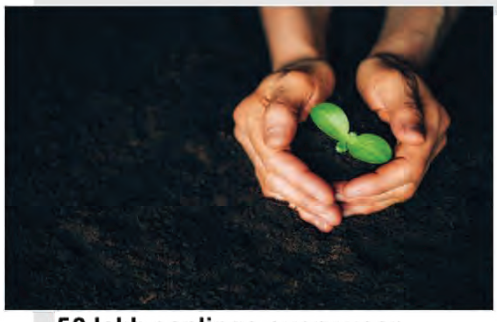
All these saplings have been handed over to the locals free of cost and suitable guidance will continue to be provided to them by the Units.

Raising of 201 Mahila Provost Unit (Territorial Army): A proposal for raising of first Mahila Provost Unit (Territorial Army) affiliated to Corps of military Police to assist Regular Army/Territorial Army has been approved ‘in-principal’ by Raksha Mantri and the same is being processed in consultation with Ministry of Finance.

Revised Plantation Target for Ecological Battalions (TA): There are a total of 25 Ecological Task Force (ETF) Companies for 10 Ecological Battalions (TA) spread and deployed almost all across the country.

As an initiative by the ADG TA, each ETF company from the current year onwards shall plant Five Lakh Saplings (Two Lakh Plant Saplings + Two Lakh Seed Balls + One Lakh Vetiver Grass Slips) every plantation year making it to 50 lakh saplings planted every year.

The same has been implemented on ground for this plantation year.

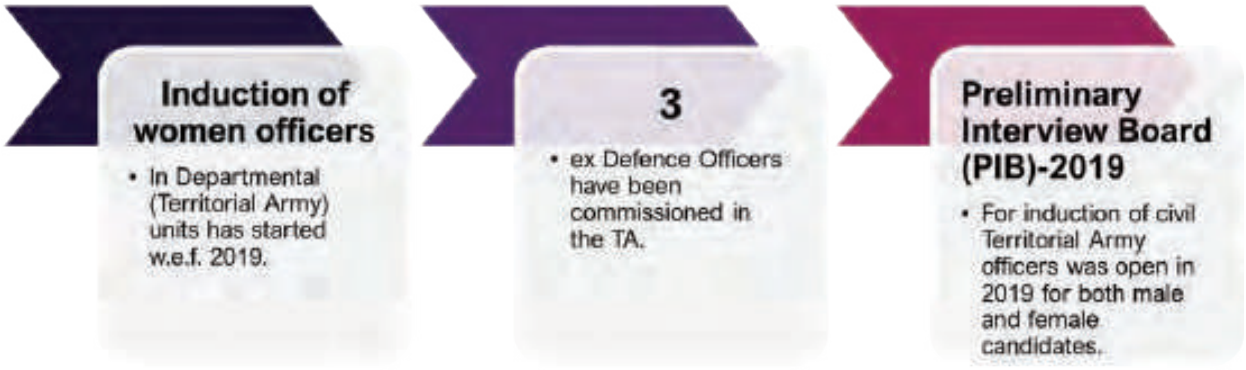


50 lakh saplings every year

Each ETF company from the current year onwards shall plant Five Lakh Saplings (Two Lakh Plant Saplings + Two Lakh Seed Balls + One Lakh Vetiver Grass Slips) every plantation year making it to 50 lakh saplings planted every year.

An initiative by the ADG TA

Induction of Women Officers:



Selection process is still in progress and exact number of female candidates getting selected will be known only after completion of the process.

UN MISSIONS

Indian Army continues to play a lead role in UN peacekeeping with presence in eight out of 14 UN missions worldwide. The Indian Army's contribution of over six thousand personnel deployed either as part of contingents or as Staff Officers and Military Observers places India amongst the top five troop contributors to UN missions. The contingents of Indian Army are deployed in some of the most violent and volatile UN missions.

IA Missions

2,46,000 personnel	6000 military personnel deployed	Currently deployed in	Indian Military Observers and Staff Officers deployed
• India is one of the largest contributors of troops for peacekeeping in the last seven decades with over 2,46,000 personnel having participated till date.	• Currently India has over 6000 military personnel deployed in eight peacekeeping missions and Department of Peace Operations in New York.	• MONUSCO (DR Congo) • UNIFIL (Lebanon), UNMISS (South Sudan) and UNDOF (Golan Heights).	• In four other missions to include UNTSO (Lebanon and Israel), MINURSO (Western Sahara), UNISFA (Abyei) and UNFICYP (Cyprus).

India's peace keeping interventions

As part of our contributions to enablers, India has deployed four hospitals, varying from level I to level III, one Engineering Company, one Petroleum Platoon and one Force Signal Unit (FSU). In addition, India has pledged one Rapidly Deployable Infantry Battalion, one Engineering Company and one Signal Company, besides ten Staff Officers and Military Observers in United Nations Peacekeeping Capability Readiness System (PCRS) Website.

India is committed towards participation of women in UN peacekeeping missions and has deployed the requisite women officers in 2018.

Female Engagement Team

•To further improve women participation in UN Peacekeeping mission, India deployed a Female Engagement Team along with Indian Rapidly Deployable Battalion in DR Congo in June 2019.

India is also contributing comprehensively towards the capability building of UN by training peacekeepers of Member States. India has a well-established training institute in 'Center for United Nations Peacekeeping' at Delhi, which was established in year 2000, training both personnel from India and abroad on UN peacekeeping. India has trained over 1500 foreign officers from 96 countries and more than 7500 Indian officers in UN peacekeeping. Seven international courses are conducted for international participants to include, UN Military Observers Course, UN Female Military Officers Course, UN Staff Logistics Officers Course and UN Peacekeeping Course for African Partners.

In March 2019, India conducted a multi-national Joint Field Training Exercise on UN Peacekeeping AFINDEX 2019, with 17 African nations in Pune.

Miscellaneous

Swachh Bharat Abhiyaan

Following initiatives have been taken in this regard.

(a) **'Swachhta Hi Sewa' Abhiyaan: Citizens Involvement:** 'Swachhta Hi Seva' Campaign was organised by the Units and Institutions of IHQ of MoD (Army).).

(b) **Swachhata Pakhwada:**December 1-15, 2019 was declared as Swachhata Pakhwada by the Government of India.

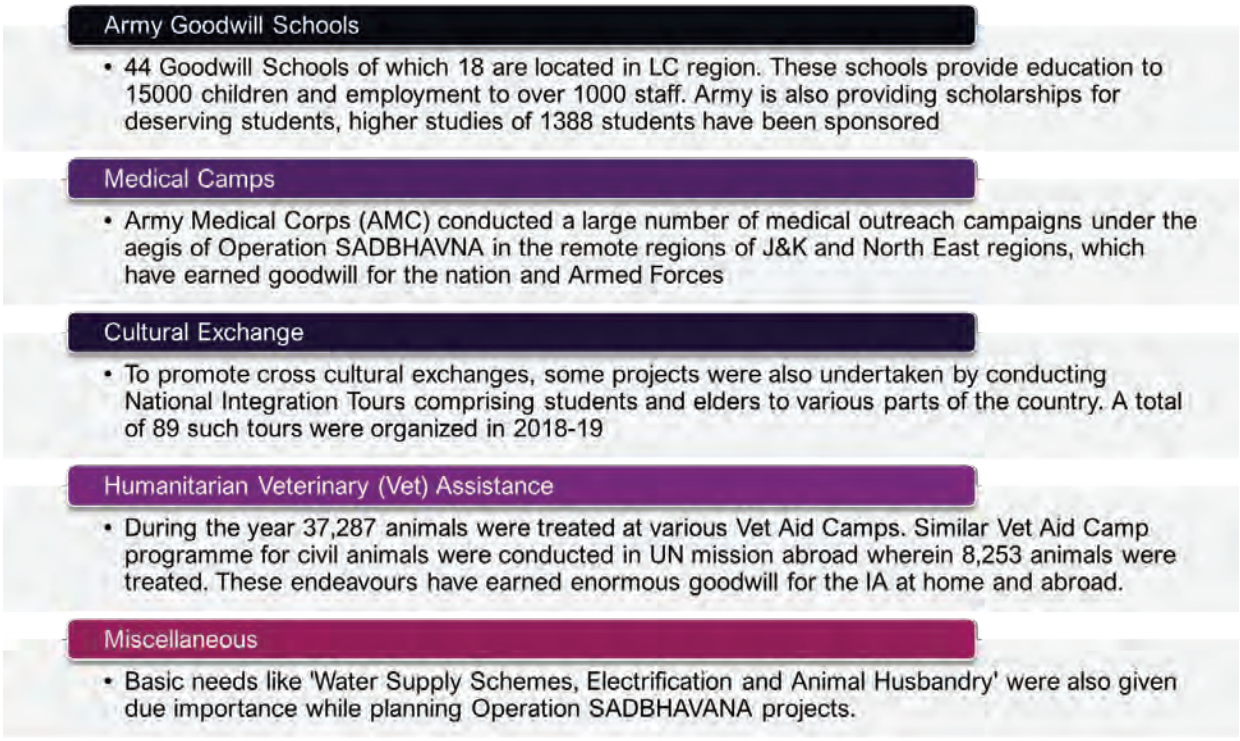
(c) **Sewage Treatment Plant Projects:** To ensure cleaner environment as part of Swachh Bharat Abhiyan, endeavour is being made to provide Sewage Treatment Plants in all stations.

'Swachhta Hi Sewa' Abhiyaan : Citizens Involvement	• On October 2, 2019, a central Shramdaan was held at IHQ of MoD (Army) Camp locations, wherein, senior Officers, ladies, troops and children participated in cleanliness drive and tree plantation. Prizes were also distributed to children for Debate and Painting competitions.
Swachhata Pakhwada	• A number of events including Pledge for Swachhata, Painting Competition and Cleanliness, No Plastic and Plantation drive were organised at IHQ of MoD (Army), Transport Unit to celebrate the same.
Sewage Treatment Plant Projects	• 80 Sewage Treatment Plant projects have been approved and are at various stages of implementation, since 2015-16.

Cooperation between India Army and civil authorities

Military Civic Action Programme: Operation SADBHAVANA and Operation SAMARITAN: Army has undertaken a large number of Military Civic Action Programmes sponsored and funded by the Government of India aimed at "Winning Hearts and Minds" of the people in the areas affected by terrorism and insurgency in Jammu and Kashmir and North-Eastern States under Operation SADBHAVANA and Operation SAMARITAN.

A brief of the initiatives undertaken by Army are:



Flood Relief Operations

a. **Assam:** 16 Relief Teams and 4 Engineer Teams were deployed in six districts of Assam to undertake rescue operations, construction of bridges, restoration of connectivity and provision of medical aid to people in the flood affected areas.

b. **Tripura (West Tripura):** One Army Column was deployed forrelief and rescue operations from July 14 to 17 2019 in the areas of Khayerpur (Old Agartala).

c. **Punjab (Sangrur District):** Three Army Columns were deployed for relief and rescue ops on July 18, 2019 to 24, 2019 for rescue and evacuation of people affected due to heavy rains and high water levels of river Ghaghar near villages Phulad, Moonak in Sangrur district.

d. **August 2019 (Kerala, Tamil Nadu, Maharashtra, Gujarat & Punjab):** The Relief teams alongwith equipments were deployed extensively across the states of Karnataka, Maharashtra, Kerala, Tamil Nadu, Punjab, Gujarat and Rajasthan for rescue and relief operations. Approximately 40,000 people were rescued/ evacuated, medical aid was given to approx 5000 persons, and 24 Tons of relief material distributed across the states in the month of August 2019 by these relief teams. The details of major rescue and relief operations are as under:

State	Period		No. of			Remarks
	From	To	Relief Team	Engineer Team	Medical Team	
Gujarat	August 2, 2019	August 3, 2019	2	4	-	Rescue -1463 Food Pkt - 825
Karnataka	August 4, 2019	August 16, 2019	26	18	4	Rescue -19104 Med Aid -1652
Maharashtra	August 4, 2019	August 13, 2019	12	14	6	Rescue -18133 Med Aid -1900
Kerala	August 8, 2019	August 17, 2019	28	26	3	Rescue - 1990 Med Aid - 1002
Tamil Nadu	August 9, 2019	August 12, 2019	6	-	-	Rescue-9
Punjab	August 18, 2019	September 2, 2019	18	-	-	Rescue – 1309 Relief Material - 24 Ton

e. **September 2019 (Rajasthan & Madhya Pradesh):** During the month, State of Rajasthan and Madhya Pradesh were effected by floods/ inundation caused by overflowing rivers due to incessant rains and opening of flood gates of Kota Barrage. The teams along with equipments were deployed for rescue and relief operations. Approximately 2642 people were rescued/ evacuated and medical aid given to approx 666 persons across the states in the month of September 2019 by these relief teams.

Rescue and Relief Operations

a. **Sikkim:** Approximate 400 tourist vehicles and total 2946 civilians were stranded at various locations i.e. Mile 17, Mile 13 due to heavy snowfall and closure of road on January 9, 2019. 2656 civilians stranded between Changgu Lake and 17 Mile were rescued. Medical relief was provided to 490 civilians. Rest 290 civilians who were stranded between 17 Mile and 13 Mile were also rescued.

b. **Meghalaya:** Assistance was provided to construct two platforms for installation of pumps to remove water from mines and rescue the trapped miners. An Engineer Team consisting of 3 Officers and 45 Other Ranks (ORs) were deployed for the aid from March 25, 2019 to April 2, 2019.

c. **Cyclone Vaayu (Gujarat):** Assistance to Cyclone Vaayu affected districts in Gujarat was provided from June 11 to 14, 2019. 10 Army Columns and 6 Engineer Teams were deployed in the districts of Jamnagar, Dwarka, Rajkot, Porbandar, Gir Somnath, Junagadh, Amreli, Bhavnagar, Morbi, Veraval & Kutch (Bhuj). Approximately 2200 civilians were evacuated from coastal/ low lying areas. Assistance was also provided in organizing medical camps/ relief camps.

d. **Rescue from Borewell:** There have been a number of cases of Aid being rendered to Civil Authorities for rescue of children from bore wells in Dewas (Madhya Pradesh), Hissar (Haryana), Farrukhabad and Mathura (Uttar Pradesh) and Jodhpur (Rajashthan).

Assistance during Festivals

a. **Karnataka:** A bridge of approximately 780 feet was constructed on February 7, 2019 at Thrivenisangam in Mysore district to facilitate movement of devotees (approximate 10 Lakh) on the occasion of 11th Mysore Kumbh Mahotsav (February 17 to 19, 2019).

b. Uttar Pradesh: 2 TA companies, Diving detachment and Special Forces Team, 1 Bomb Disposal team, Engineer resources (For establishment of Baut Assault Universal Type (BAUT) Camp, construction of two helipads, maintenance of Pontoon Bridge Sets) and medical cover (Four Advance Dressing Stations in addition to two Quick Reaction Medical Teams with Ambulances) were provided for Kumbh Mela 2019.

c. Uttarakhand: Assistance was provided by deploying a safety team for rescuing people from drowning during Kawad Mela at Roorkee and Haridwar w.e.f. July 17 to 30, 2019.

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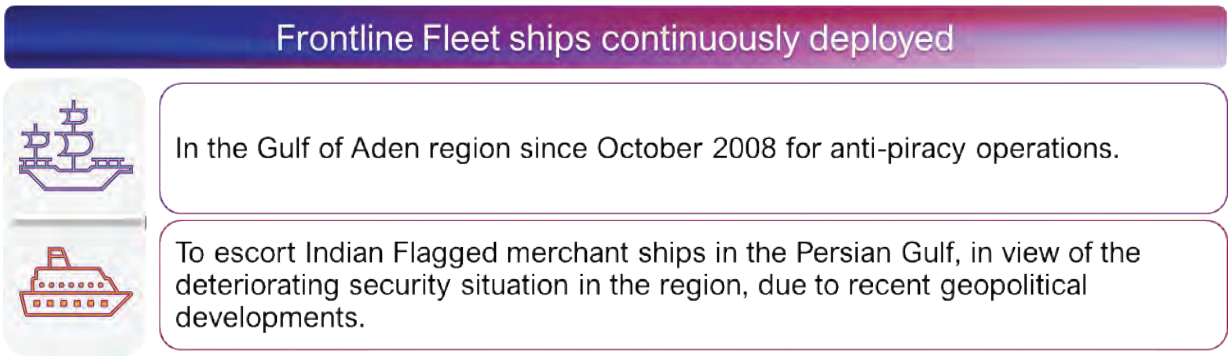
INDIAN NAVY

India is a maritime nation, and the country sits astride a large number of busy International Shipping Lanes that crisscross 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. The Indian Navy is the key enablerand guarantor of the country's maritime sovereignty and myriad use-of-the-sea activities.

A high degree of Maritime Domain Awareness (MDA) is being maintained by utilizing IN assets and resources. A new Mission-based deployment concept has been implemented.



Frontline ship deployment by IN

Overseas Deployments

Eastern Fleet (EF) Overseas Deployment

a) IN ships Kolkata and Shakti participated in the Eastern Fleet OSD 01/19 from April 3 – May 31, 2019. During the Overseas Deployment (OSD) the ships visited Cam Rahn Bay (Vietnam), Qingdao (China), Busan (South Korea) and Singapore.

   The ships participated in IN-VPN Bilateral Exercise at Cam Rahn Bay (Vietnam), PLA (N) IFR at Qingdao (China), ADMM Plus Exercise off Busan (South Korea) and Singapore, International Maritime Defence Exhibition (IMDEX), Maritime Information Sharing Exercise (MARISX) and SIMBEX-19 at Singapore.

   The ships also participated in passage exercise with Vietnam Naval Force ships, transit through Taiwan straits and multi-ship transit in South China Sea (along with ships of USA, Japan and Philippines).

b) IN ships Sahyadriand Kiltan participated in the Eastern Fleet OSD 02/19 from August 24 - November 21, 2019 to Bangkok (Thailand), Sihanoukville (Cambodia), Kota Kinabalu (Malaysia), Sasebo and Yokosuka (Japan), Manila (Philippines) and Jakarta (Indonesia). During the OSD, the ships participated in Ex Samudra Lakshamana with Malaysia and MALABAR-19 with USN and JMSDF.

Western Fleet (WF) Overseas Deployment (OSD)

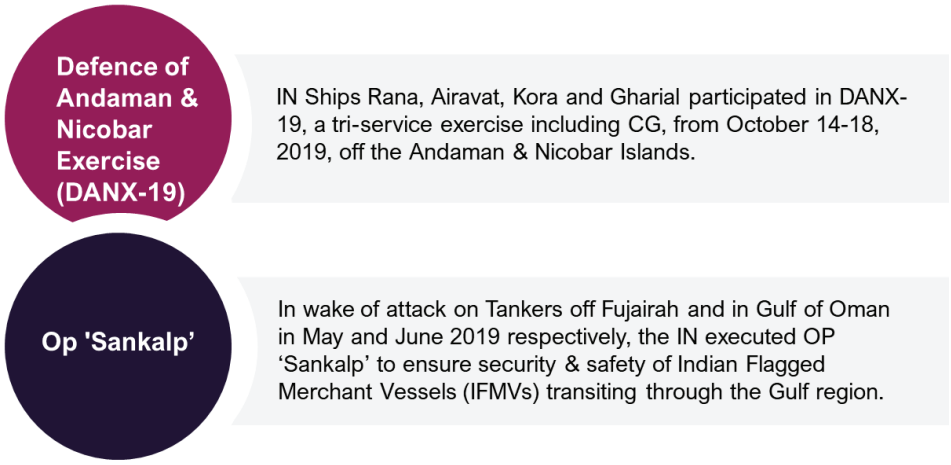
IN ship Tarkash participated in the Western Fleet OSD 01/19 from June 15 - October 15, 2019. During the OSD, the ship undertook port calls at 13 countries viz Djibouti, Alexandria (Egypt), Tangiers (Morocco),

Karlskrona (Sweden), St Petersburg (Russia), Helsinki (Finland), Bergen (Norway), Cadiz (Spain), Dakar (Senegal), Lagos (Nigeria), Walvis Bay (Namibia), Maputo (Mozambique) and Reunion Islands (France).

The ship participated in Russian Navy Day celebrations, KONKAN-19 with UK and participated in the 60th anniversary of diplomatic relations between India and Nigeria.

SagarMaitri 2:
IN ship Sagardhwani undertook an OSD to Port Klang (Malaysia) and Singapore from July 31 - August 27, 2019 as part of NPOL Scientific and Technological Collaboration mission SagarMaitri 2.

Major Exercises



Exercises with Foreign Navies

AUSINDEX-19:
The IN and Royal Australian Navy (RAN) Bilateral exercise AUSINDEX-19 was conducted at/ off Visakhapatnam from April 2-13, 2019.

IN-VPN BILAT:
The second edition of IN and Vietnam People's Navy (VPN) Bilateral exercise was conducted at/off Cam Rahn Bay, Vietnam from April14-18, 2019.

IFR (International Fleet Review), Qingdao (China):
Indian Naval Ships Kolkata and Shakti represented the Indian Navy at the International Fleet Review (IFR) held at Qingdao, China on April 23, 2019 as part of the 70th anniversary celebrations of Peoples' Liberation Army (Navy).

ADMM Plus Exercise:
IN ships Kolkata and Shakti participated in the ADMM Plus Exercise with ADMM Plus countries off Busan, South Korea and Singapore from April 29 -May 2, 2019.

ADMM Plus Exercise

VARUNA-19: The IN and French Navy Bilateral exercise VARUNA-19 was conducted in two phases from May 1-10, 2019 off Goa and May 20-25, 2019 off Djibouti.IN ships Vikramaditya, Chennai, Tarkash, Deepak, Mumbai, submarines Shankul and Kalvari along with P8I Maritime Patrol aircraft participated in the exercise, while the French side was represented by Charles De Gaulle, Forbin, Provence, Latouche Treville, Marne along with nuclear submarine Amethyste.

VARUNA-19

SIMBEX-19: The IN and Republic of Singapore Navy (RSN) Bilateral exercise SIMBEX-19 was conducted at/ off Singapore from May 18-24, 2019.

SIMBEX-19

KONKAN-19:
The IN and Royal Navy Bilateral Maritime exercise was conducted off UK from August14-15, 2019.

SLINEX-19:
The IN and Sri Lanka Navy (SLN) Bilateral Maritime Exercise (SLINEX-19) was conducted from September 7-12, 2019.

IN-RMN BILAT:
The second edition of IN and Royal Malaysian Navy (RMN) Bilateral Maritime Exercise Ex-Samudra Lakshamana was conducted at/ off Kota Kinabalu, Malaysia from September 12-16, 2019.

SITMEX-19:
The maiden Trilateral Maritime Exercise between the IN, Republic of Singapore Navy (RSN) and Royal Thailand Navy (RTN), SITMEX-19 was conducted at/ off Port Blair from September16-20, 2019.

SITMEX-19

MALABAR-19: The IN, Japanese Maritime Self Defence Force (JMSDF) and US Navy (USN) Trilateral exercise MALABAR-19 was conducted at/off Yokosuka, Japan from September 26 -October 4, 2019.

MALABAR-19

IN-BN BILAT: The maiden edition of Indian Navy - Bangladesh Navy Bilateral Maritime Exercise (IN-BN BILAT) was conducted at/ off Visakhapatnam from October12-15, 2019.

IMNEX-19: The second edition of India-Myanmar Naval Exercise (IMNEX-19) was conducted from October18-22, 2019 at/ off Visakhapatnam.

Ex Samudra Shakti: IN Ship Kamorta participated in Ex Samudra Shakti (IN-INDO Bilat) at/ off Vishakhapatnam from November4-7, 2019.

Exercise Tiger Triumph: The maiden India-US Joint Tri services HADR Exercise was conducted at Visakhapatnam and Kakinada from November13-21, 2019.

Za'ir-Al-Bahr (Roar of the Sea): IN ship Trikand and Maritime Reconniasance Aircraft P8-I participated in the inaugural edition of the bilateral maritime exercise, Za'ir-Al-Bahr (Roar of the Sea) at Doha, conducted from November, 17-21, 2019.

INDRA-19: The Naval component of Exercise INDRA-19 with Russian Navy was conducted off Goa from December10-19, 2019.

INDRA-19

Figure 1 Exercise Tiger Triumph

Coordinated Patrol (CORPAT) with Indian Ocean Region Littoral Navies

Coordinated Patrols along the IMBL are being conducted with littoral Navies of the Indian Ocean Region

(IOR) as
per established MoUs and Standard Operating Procedures (SOPs).

Coastal Security

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. The IN continues to proactively engage with the fishermen and coastal communities through community interaction programmes towards integrating them into the maritime security matrix.

GSAT 6 Tracking Transponders: Towards strengthening maritime and coastal security, the Indian Navy and ISRO have jointly completed pilot implementation of GSAT 6 satellite-based tracking transponders for 500 sub-20m fishing boats each (total 1000 transponders), of Gujarat and Tamil Nadu, in conjunction with MHA and DADF/ State Fisheries Departments.

Foreign Cooperation

Cyclone 'Idai'-Mozambique: The ships of the First Training Squadron (1TS) namely IN Ships Sujata and Shardul and ICGS Sarathi operating in the Southern Indian Ocean were diverted to Port Beira, Mozambique, based on a request received from the Government of Mozambique to provide HADR to local population post devastation caused by Cyclone 'Idai', on March 15, 2019with relief/ medical items from IN units and allied agencies of GoI like National Agricultural Cooperative Marketing Federation of India

(NAFED) and civil agencies like Apollo hospitals at Mumbai.

Relief operations by IN post Cyclone 'Idai''-Mozambique

38th Indian Scientific Expedition to Antarctica: Hydrographic survey team consisting of one Long Hydrography course qualified officer and one Hydro sailor participated in the 38th Indian Scientific Expedition to Antarctica from January-May 2019 for surveying India Bay area.

38th Indian Scientific Expedition - Antarctica

White Shipping Information Exchange (WSIE) Agreements: IN has progressed WSIE agreements with 36 countries and three multi-national groups. In the past year, WSIE agreements have been signed with:

WSIE agreements have been signed with

- Maldives
- Mozambique
- Philippines

Navy to Navy Interaction

IWG Meeting on HADR: The fourth meeting of the IONS working group on HADR was held at Western Naval Command from December 17-18, 2019. The event saw participation by IONS Working Group (IWG) member nations including Australia, Bangladesh, France, India, Indonesia, Iran, Kenya, Maldives, Oman and Thailand.

IWG Meeting on HADR

Commissioning and Decommissioning

INS Khanderi: The second submarine of Project 75, INS Khanderi was commissioned on September 28, 2019 at Mumbai by Raksha Mantri.

Commissioning of INS Khanderi

Landing Craft Utility (Mk IV): IN LCU L56 was commissioned at Vishakhapatnam on July 29, 2019.
Aircraft Carrier Dry Dock: The Aircraft Carrier Dock was commissioned by the Raksha Mantri at Naval Dockyard, Mumbai on September 28, 2019.
INAS 313: Indian Naval Air Squadron 313 was commissioned on July 22, 2019, at Meenambakkam in Chennai, Tamil Nadu.
INAS 314: Indian Naval Air Squadron 314 was commissioned on November 29, 2019 at Naval Air Enclave, Porbandar.
Naval Aviation: Naval Aviation is poised at a crucial juncture on its path towards modernization. Towards this, various efforts have been made which are shown below:

State-of-the-art aircraft inducted
- P8I
- Hawk AJTs
- MiG-29K fighters

Contracts concluded for procurement of
- 16 ALH MK III
- 12 Dorniers
- 4 P8I
- 8 Chetak Helicopters

AoNs have been accorded for
- 24 Multi Role Helicopters
- Naval Utility
- Kamov 31 Helicopters.

IN is also progressing for:
- Light Combat Aircraft (N) programme jointly developed by Aeronautical Development Agency & IN.

Important Events of Interest

Raksha Mantri's Day at Sea: Raksha Mantri witnessed Naval operations at Sea onboard IN ship Vikramaditya on September 27 – 28, 2019 off Karwar.

Raksha Mantri's Day at Sea

MoD Officials Day at Sea: A familiarization sea sortie for Ministry of Defence Officials was conducted at Visakhapatnam on May 28, 2019.

Cooperation Between Indian Navy and Civil Authorities

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. The details of assistance provided by Indian Navy during the year are enumerated in the succeeding paragraphs.

Navy Civic Action Programme

Training of Coastal Police Personnel: Comprehensive training of Coastal Police personnel including familiarization sea sorties, is being conducted. Comprehensive training programme has been formulated and IN has trained both Coastal Police personnel and newly recruited Coastal wardens.

The police personnel are being trained on various aspects of Coastal Security including handling of boats, VBSS, firing sea survival as well and tackling Coastal Security situations at sea.

Annual Joint HADR Exercise*.* The Annual Joint HADR Exercise-19 was conducted at Chennai by the Indian Navy from August 2-4, 2019 under aegis of Headquarters, Eastern Naval Command with participation of IA, IAF, ICG, Government of Tamil Nadu, NDMA and NDRF. The exercise was based on 'Urban Flooding' scenario caused due to severe cyclone.

The exercise included Seminar, Tabletop Exercise, Exhibition and Skill Demonstration. Fourteen foreign observers from eight countries namely Australia, Bangladesh, Kenya, Nepal, Seychelles, Singapore, Sri Lanka and Somalia as well as from ASEAN Secretariat, participated in the HADR exercise.

Coastal Security Awareness Campaigns (CSAC): The aim of the campaign is to create awareness amongst the fishing and coastal community on their key role in the coastal security mechanism of the nation and the importance of role played by them in augmenting coastal security and the need for prompt reporting of any incident or relevant information to ships on patrol.

(a) Campaigns are conducted on a monthly basis at various districts of Kerala.

(b) Community Interaction Programme: Indian Navy periodically conducted Community Interaction Programmes (CIPs) along with ICG and Fisheries in all coastal districts on the East Coast.

(c) Campaign was organized in several coastal districts (Sindhudurg, Ratnagiri, Raigad, Palghar, Thane and Mumbai) of Maharashtra from July 8 to 20, 2019.

Search and Rescue Operations

Puri Rath Yatra: A team comprising of five divers and four medical assistants were positioned at Puri for setting up of life guard and first aid posts from July 4-12, 2019.

Diving Operations/ Assistance: Terrain of J&K comprises of several small/ large rivers as well as lakes. Incidences of drowning or accidents involving civil/ military vehicles, equipment, weapons, stores etc falling into rivers/ nallas are common.

Marine Commandoes (MARCOS) are called for diving assistance almost on weekly basis especially during summer season. These operations have served the cause of strengthening Armed Forces image in the valley. This has also resulted in developing a special recognition for MARCOS in the hearts and minds of local populace.

Diving Operations/ Assistance

Cyclone 'Fani': The Extremely Severe Cyclonic Storm 'Fani' made landfall on the South Odisha Coast on May 3, 2019. Extensive preparations were undertaken by Indian Navy in coordination with civil administration of Tamil Nadu, Andhra Pradesh, Odisha and West Bengal to effectively deal with aftereffects of Cyclone 'Fani' and undertake precautionary measures to minimize the damages.

Three IN ships were deployed off the coast of Odisha with integral helicopters. IN Diving/ Relief Teams were employed to augment SAR/ HADR efforts in consultation with civil administration.

Medical and Relief teams were deployed from INS Chilka at various locations and Community kitchens were established at Puri and Chilka to provide assistance to the local population.

A total of 7850 personnel were served food in the Community kitchens and approximately 13 tonnes of Relief Material was provided to affected populace in Odisha.

Rescue Efforts

Incessant Rains at Mumbai: The Headquarters, Western Naval Command (HQWNC) at Mumbai was standby since early July 2019, to provide necessary assistance to the Civil Administration in view of heavy rains in Mumbai, as forecast by IMD. A Command Crisis Management Group (CCMG) was set up to coordinate with the City Administration.

The details of assistance provided by IN teams are as follows: -

a. Rescue at Kurla: On July 2, 2019, Two IN Rescue Teams were mobilized from Naval Stations at Mankhurd and Ghatkopar, which safely shifted the affected families of Kranti Nagar, Kurla, stranded due to sudden rise in water level of Mithi River, to rescue centre.

b. Rescue from Mahalaxmi Express: On July 27, 2019 Indian Navy Rescue Teams were mobilized from Colaba, Malad, Ghatkopar, Mankhurd and Karanja for evacuation of passengers from Mahalaxmi Express train that got stranded 72 Kms short of Mumbai due to heavy rainfall and flooding. All 700 passengers were safely evacuated.

Rescue from Mahalaxmi Express

c. Rescue at Kalyan: On July 27, 2019, 5 Indian Navy Rescue Teams, in coordination with Indian Army and IAF teams rescued 300 stranded personnel from the Riverwinds Resort and a Petrol Pump in Kamba Village, Kalyan.

Operation 'VARSHA RAHAT': Forty-four Indian Navy Rescue teams and two Indian Navy ALH helicopters were deployed to the flood affected areas in Karnataka, Maharashtra and Goa from August 6 to 14, 2019 to undertake Relief Operations as part of Op 'VARSHA RAHAT'. 14,239 personnel were rescued, and 4,290 Kgs of food/ relief material was distributed in the flood affected areas.

Operation 'Varsha Rahat'

Capsized Tourist Boat - Devipattnam, Andhra Pradesh: Two IN Helicopters (UH3H and CH) with diving team from Visakhapatnam were deployed on September 16-17, 2019 on request of Andhra Pradesh Government to provide SAR operation in Godavari river. Out of 72 tourists, 26 survivors and 25 dead bodies were recovered.

SAR Operation in Godavari River

Flood Relief Operations - Sangli, Maharashtra: On August 6, 2019 a team of naval divers was deployed to assist in a rescue operation at Sangli, Kolhapur and nearby districts. More than 1000 persons were evacuated in the weeklong rescue operation.

Flood Relief Operations - Sangli, Maharashtra

Naval Health Camps

As a part of outreach social service by Indian Navy, medical camps, blood donation camps, general health check-up and dental camps were organised on a number of occasions throughout the year. Such camps go a long way in promoting goodwill with local population and good coordination with civil administration.

Medical Camps and Blood Donation – A&N Islands: The Andaman & Nicobar Command has been regularly conducting multi-specialty medical camps at various locations including Kamorta, Campbell Bay, Diglipur, Carnicobar over the last one year wherein Eye, ENT, Psychiatrist, Dermatologist and Dental Officer have been deputed. Blood donation camps were also organized at INHS Dhanvantari and various units regularly and over 500 units of blood have been donated to GB Pant Hospital blood bank annually.

Medical Camps and Blood Donation

Blood Donation Camps: Voluntary blood donation camps were organized by various units towards run up to Navy Week Celebrations 2019 and during anniversary of few units. The collected blood is deposited to civil blood banks of each station. Overwhelming response has been observed at each of the blood donation camps.

Blood Donation Camps

Medical Camp-Old Age Home: Arogya wing of NWWA, Goa in association with IN Hospital Ship Jeevanti organised a medical camp for the inmates of "Our Home" Old Age home at Bogmalo on November 14, 2019. The camp had a team of doctors including Medical specialist, Eye specialist, ENT specialist and Dental surgeon from INHS Jeevanti and a Geriatric Physician from Directorate of Health Services, Goa to provide expert care at the camp. Blood reports of all 60 residents of the Old Age home were carried out by INHS Jeevanti prior to the camp.

Medical Camp - Old Age Home

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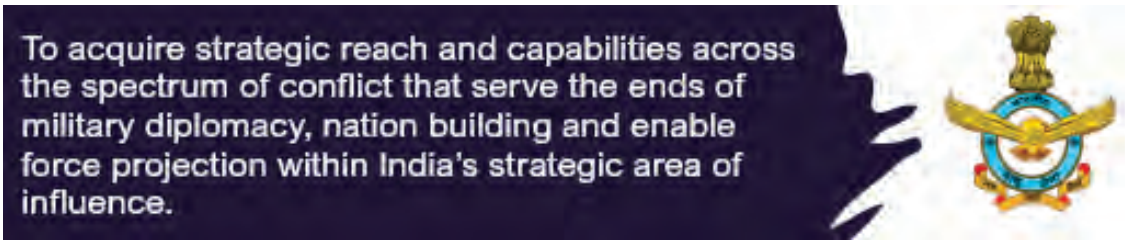
INDIAN AIR FORCE

Air power has the ability to create strategic outcomes without transiting territories on ground. This makes it a primary instrument of choice. The full-scale utilization of IAF during conventional wars like the 1965 and 1971 Indo-Pak wars, and restricted use during the 1999 Kargil conflict serve to illustrate the point.

With the present security environment, the challenges being faced by India are varied, complex and dynamic. To face these challenges, the IAF is well on its way to becoming a truly transformed and lethal force. The weapon systems being inducted will permit enhancement of exploitation of air power with efficiency and precision.

Vision



Vision of Indian Air Force

Towards the vision, the IAF is pursuing a focused modernization plan to transform into a strategic aerospace power with full spectrum capability.

Induction of Rafale aircraft, Attack helicopters, Heavy Lift Helicopters, Combat Support Elements, Surface-to-Air Guided Weapons (SAGW) and Air Defence Radars will bolster operational capabilities and capacity.

The IAF is striving towards self-sufficiency by promoting 'Make in India' through focused, sustained and evolved Indigenous Programmes. IAF is committed to progressively reduce India's reliance on foreign manufactured defence equipment.

Acquisitions and Upgrades

LCA: Light Combat Aircraft (LCA) developed by Aeronautical Development Agency (ADA) and produced by Hindustan Aeronautics Ltd (HAL). The first LCA squadron was formed on July 1, 2016.The FOC for LCA was granted on February 21, 2019. HAL has commenced production of FOC aircraft and has planned delivery of four FOC fighter aircraft by 2019-20 and twelve FOC fighter aircraft by 2020-21. Additionally, IAF plans to acquire 83 LCA Mk 1A aircraft for which negotiations are in progress.

Rafale Aircraft: Rafale will provide long range capability to engage targets in depth and will provide a strong weapons and systems capability edge over our adversaries. The weapons package of Rafale includes Air-to-Air BVR METEOR missile which will provide a distinct edge to IAF over the capability possessed by our adversaries. For ground targets, Rafale is equipped with long range SCALP precision guided Air-to-Ground missile. In addition, the IAF Rafale has certain India specific enhancements which provides the aircraft with better capabilities including capability for higher altitude engine start whichwill enable operations from Himalayan region.

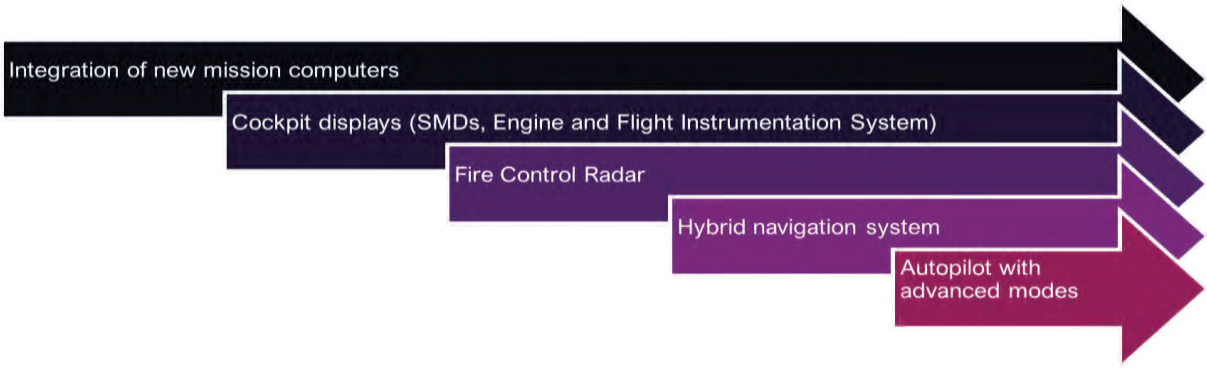
Su-30 MKI Aircraft: IAF had contracted for 272 Su-30 MKI. Presently, deliveries are continuing under Block IV contract and are likely to conclude by March 2020. It is integrated with air-to-air Astra missile and a very long-range air-to-surface BrahMos weapon.

From Left to right: LCA, Rafale Aircraft, Su-30 MKI Aircraft

Mirage-2000 Upgrade: To retain the combat effectiveness of the Mirage-2000 aircraft, the aircraft has been upgraded through Thales and Dassault Aviation [Original Equipment Manufacturers (OEMs)] and Hindustan Aeronautics Limited (HAL). The upgrade provides a new more powerful radar, complete state of art avionics suite and smart weapons, all of which would keep the aircraft operationally relevant in future combat operations.

MiG-29 Upgrade: The MiG-29 has been upgraded by Russian Aircraft Corporation 'MiG', (RAC 'MiG'), Russia for upgrade and life extension of 63 MiG-29 aircraft. The upgraded aircraft have been allotted to frontline Squadrons and are now being used for normal operations.

Jaguar DARIN-III Upgrade: The upgrade of DARIN-I Jaguar aircraft to DARIN-III standard by HAL included:



Upgrades in DARIN-I

With the integration of these systems through new mission software, the cockpit has been transformed into a fully functional glass cockpit.

Transport Fleet

Hercules C-130J-30: The C-130J is a medium size, all weather transport aircraft capable of inter theatre and intra theatre airlift operations. It can deliver combat troops/personnel or cargo by airdrop or air-landed operations. IAF has enhanced operational capability of the aircraft by procuring NVG for the aircraft and now this aircraft can operate in dark night.

C-17 Globemaster Airborne for a Long-Haul Mission

Hercules C-130J Aircraft in IAF Colours

Helicopter Fleet

Light Combat Helicopter (LCH): IAF is procuring10 x LCH Limited Series Production (LSP) for IAF from HAL. Presently, the case is at an advanced stage of contracting.

Apache Helicopter: The helicopter is a Tandem Seating, day/night, all weather capable platform. It is highly agile, survivable against battle damage and is easily maintainable even in field conditions. The helicopter is capable of prolonged operations in tropical and desert regions.

Being a Multi-role network centric platform capable for deployment in Air Combat, AD, CI Ops, UAV

Light Combat Helicopter

neutralization, CSAR, Urban Warfare, the aircraft meets all requirements of the IAF as well as the Strike Corps requirements of the Army. Fitted with a state-of-the-art Fire Control Radar (FCR), the AH-64 has the capability to detect, locate, designate, track and engage targets in daylight, night, and in reduced visibility conditions.

Heavy Lift Helicopter (HLH): Delivery of 15 x Chinook helicopters had commenced from March 2019 and has been completed in March 2020.

Heavy Lift Helicopter

Combat Enablers

Second Airborne Early Warning and Control System (AEW&C): Two AEW&C aircraft have been inducted into IAF.

Second Airborne Early Warning and Control System

Upgrade of UAV: The upgrade will provide capability of Satellite Communication, Identification of Friend or Foe, Traffic Collision Avoidance System, Communication/ Radio Relay, Wide Eye mosaic capability and Remote Video Terminal.

UAV

Weapons and Associated Avionics

Long Range Surface to Air Missile (LRSAM): IAF has contracted for supply of S-400 Long Range Surface to Air Missile (LRSAM) system. Contract has been signed with M/s Rosoboronexport, Russia on October, 5, 2018. The procurement of this system and its induction in 2020 onwards will significantly bolster the air defence capability of the nation.

Long Range Surface to Air Missile

Procurement of Additional Akash Missile Systems: Contract for procurement of Akash Missile Systems from BEL has been signed on September 13, 2019and deliveries will commence as per contract.

Akash Missile System

MRSAM: The MRSAM programme for IAF involves joint development and delivery of Firing Units (FUs) with missiles by DRDO and delivery of first FU is likely to commence by second quarter of June 2020 as per the timelines projected by DRDO.

ASTRA: ASTRA BVR missile being designed and developed by DRDO has been evaluated for its performance and missile firing was successful. IAF plans to procure these missiles for fighter aircraft.

Smart Anti Airfield Weapon (SAAW): SAAW has been developed by DRDO for integration on fighter fleet of IAF. Flight Trials to evaluate the performance of the weapon have been completed. Annually, IAF plans to procure such weapons.

Integration of BrahMos Air to Surface Missile on Su-30MKI Aircraft: Contract has been signed with BAPL to integrate BrahMos missile on Su-30 MKI aircraft along with procurement of missiles. Given the size and weight of the missile, integrating it on the Su-30 MKI posed a huge challenge for the IAF and associated stakeholders. After a series of successful weapon integration and launch, the system is fully operational. This significantly, enhances the combat potential of the aircraft.

NGCCM for Jaguar Aircraft: Contract was signed for integration and supply of New Generation Close Combat Missiles (NGCCM), Jaguar Over Wing Launcher (JOWL) along with Helmet Mounted Display System (HMDS) and associated equipment for Jaguar. The integration trials are in progress. On successful integration, the capability of the IAF in Aerial Combat will be enhanced.

Trainer Aircraft

Advanced Jet Trainer (Hawk Mk-132): Currently IAF operates Hawk aircraft to meet the training requirements for future generations of Fighter Pilots of the IAF.

HAWK 132 in SKAT Colours

The Hawk aircraft is a transonic tandem seat ground attack and flying/weapon training aircraft. When utilized for flying training role, it provides basic and advanced fighter and weapon training. In its operational role it can be utilized as a potent ground attack aircraft capable of carrying and delivering a large selection of modern weapon.

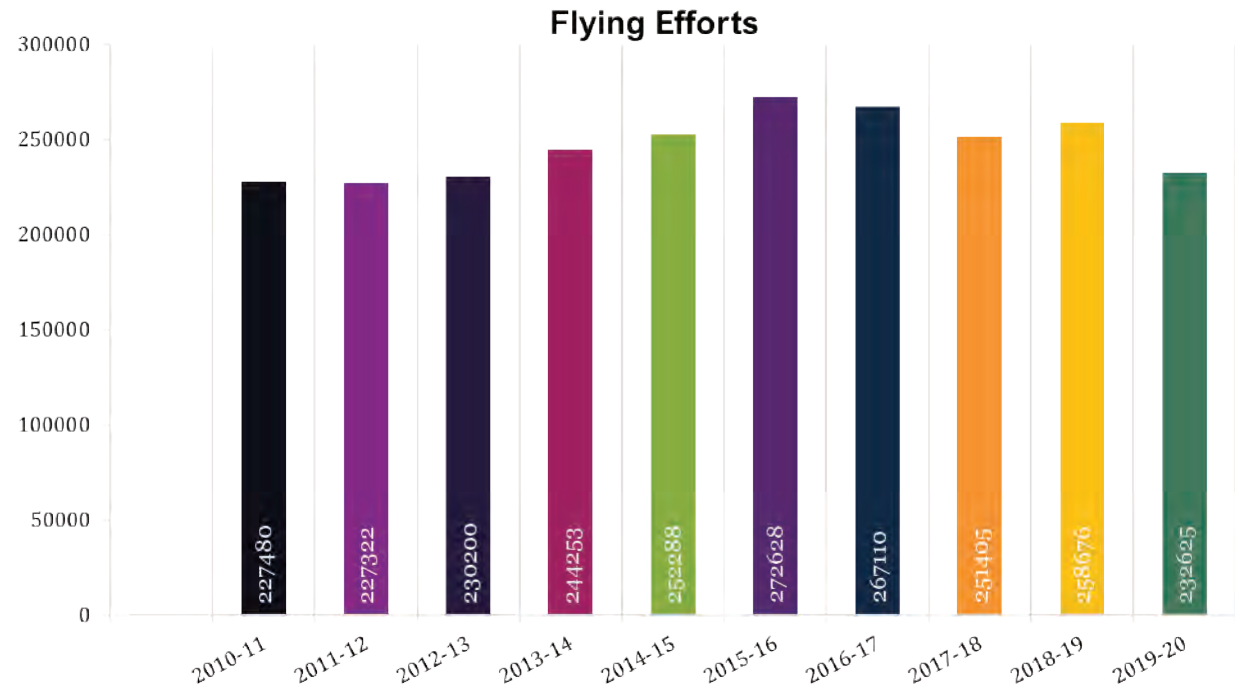
HTT-40: HTT-40 is being Designed and Developed by HAL and currently, test flights are being undertaken on two prototype aircraft. IAF will procure 70 HTT-40 and associated equipment.

Aerospace Safety

The 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.

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.

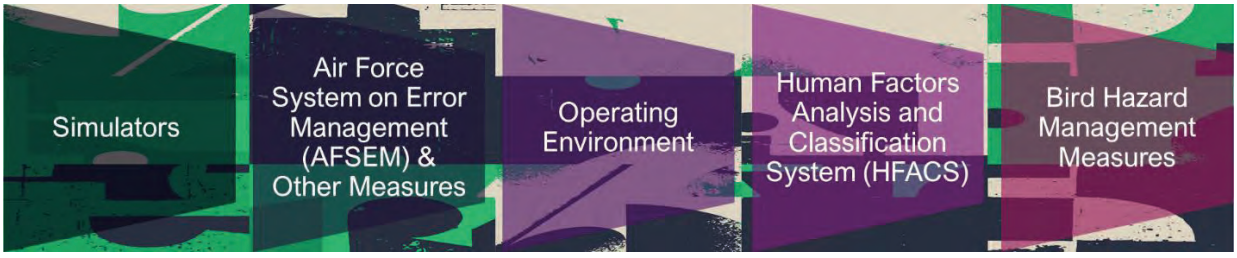
Flying Efforts: There has been a constant increase in the flying effort on one hand and reduced accident rate on the other. The assets preserved with increase in flying, directly contribute to enhanced operational capability. Financial year wise flying efforts by IAF for the past ten financial years is depicted below: -



Flight Safety Measures to Reduce Accidents

An expert committee was constituted by MoD in December 2004 to identify the root cause of aircraft accidents and to prepare a comprehensive action plan to reduce the losses to a minimum. The committee finalized its report in May 2005 and the recommendations of EXCOM have been implemented by IAF.

The area where significant improvements have been made are described below:



Areas of significant improvement

a) **Simulators:** Simulators have been inducted to impart training to aircrew in realistic environment without increasing the risk involved in actual flying. Simulators are mandatorily procured for all new aircraft inductions. HPHC (High Performance Human Centrifuge) and DISO (Disorientation) Simulators have been procured for the conduct of OPTRAM (Operational Training in Aerospace Medicine) courses for all aircrew.

b) **Air Force System on Error Management (AFSEM) & Other Measures:** AFSEM is an online tool which helps IAF in recognising errors with potential to cause accidents and institute timely remedial

measures. Concepts like Operational Risk Management (ORM) and Crew Resource Management (CRM) are being followed to integrate safety aspects into operations. Accident Probability Factor (APF) calculator, a software-based tool, is utilized to identify risks and hazards specific to the aircraft fleet and operational environment at IAF bases with a view to formulate effective accident prevention programme.

Operating Environment: Improvements in operating infrastructure have been catered for in new inductions as well as upgradation of facilities of existing fleet.

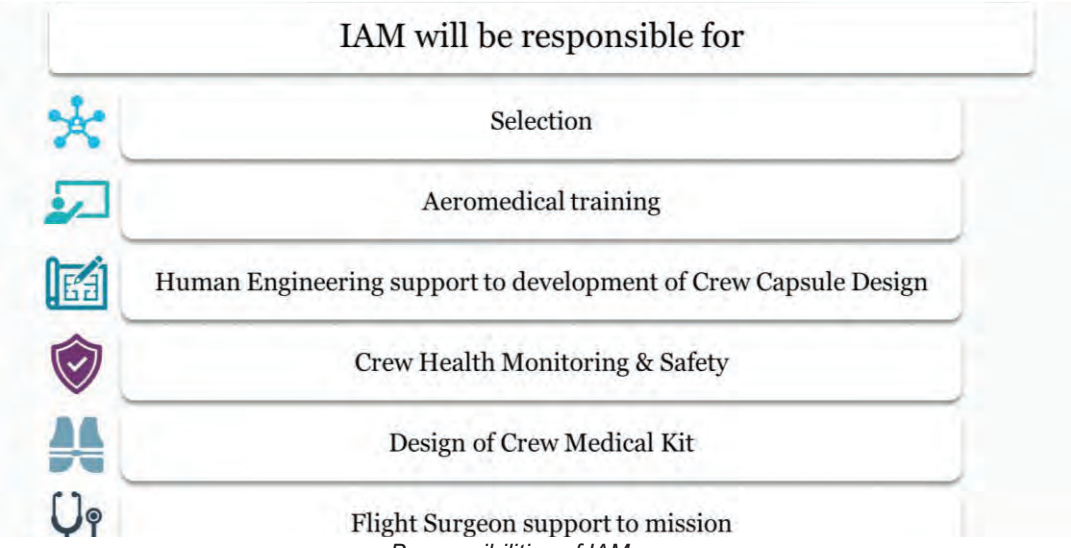
Human Factors Analysis and Classification System (HFACS): HFACS has been introduced during accident investigation to identify root cause of human error and use it in prevention of similar accidents.

Bird Hazard Management Measures: Bird Hazard Management Measures have been revamped to suit the local conditions. In all incidents of bird strikes, the bird remnants are sent to Defence Institute of Physiology and Allied Sciences (DIPAS) for identifying the species and thus helping in taking species specific preventive measures to avoid further incidents. The other measures instituted are studies undertaken by the Ornithology cell and close monitoring of bird activities. A case for procurement of Avian Radars (Bird Detection and Monitoring radars) has been taken up to strengthen bird hazard control measures. IAF has inducted 72 new Microlite aircraft for survey of birds and to enhance bird hazard management measures.

Space Programme

Human Space Programme:

'IAF & ISRO have signed an MoU in May 2019 for cooperation towards a successful HSP for a period of five years. Selection of Space crew for HSP mission is from amongst existing IAF test pilots. The Institute of Aerospace Medicine (IAM), IAF Bangalore had been designated as the lead agency supporting the ISRO HSP using their domain knowledge and expertise in Aerospace Medicine.



Responsibilities of IAM

The HSP Programme provides an opportunity to IAF and Armed Forces Medical Services to showcase the potential, capabilities and expertise in the field of aerospace medicine. This maiden indigenous mission will also enable India and ISRO to establish their capabilities and strength in the field of Space.

Cooperation between India Air Force and Civil Authorities

Aid of Civil Authorities: IAF is invariably the first responder in case of any crisis in the country requiring quick response. Numerous missions have been flown by various transport assets of the IAF towards Humanitarian Assistance and Disaster Relief operations within as well as outside the country the Transport fleet carried out 406 sorties logging 980 hrs, carrying 4251 passengers and 1630 T load. Some specific ops are mentioned below:

(a) **Airlift to J&K Civilians:** During early February 19, the roads were closed in J&K due heavy snow. More than 500 students were stuck in the valley as they had to take GATE exam at Jammu. Two C-17 aircraft were tasked to airlift 1263 J&K civilians including 546 students from February 8-13, 2019.

(b) **Airlift of Mortal remains of CRPF:** One C-17 ac was tasked on February 15, 2019 to airlift 40 mortal remains of CRPF Personnel martyred in the Pulwama attack from Srinagar to Delhi. These were further airlifted to their destination using C-17, C-130J, An-32 and DO-228 aircraft.

(c) **Cyclone Relief (Odisha and Gujarat):** On May 4-5, 2019, one C-17 and three C-130J airlifted 75 T of medicines from Delhi to Bhubaneswar by IAF aircraft towards Cyclone Fani relief. On June 11-12, 2019, 03 x C-17 aircraft were tasked for airlift of NDRF teams from Vijaywada, Arakonam and Patna to Jamnagar and Ahmadabad in wake of Cyclone Vayu.

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Defence Research and Development

रक्षा मंत्रालय
MINISTRY OF
DEFENCE

सत्यमेव जयते

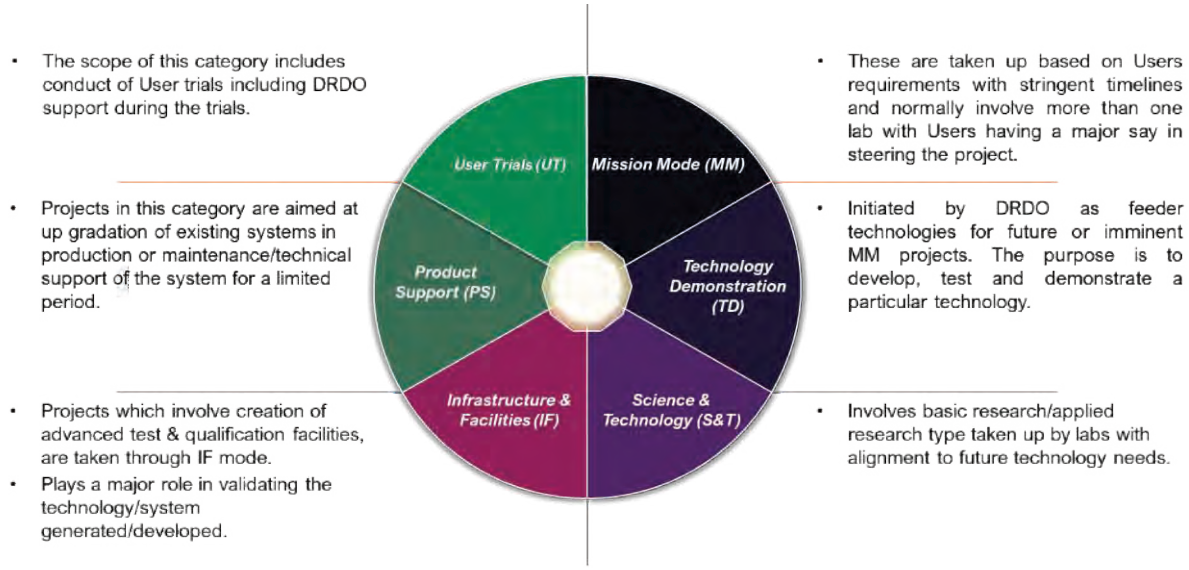
DEFENCE RESEARCH AND DEVELOPMENT

Background

Defence Research & Development Organisation (DRDO) with its wide spectrum of technologies, processes and systems encompassing the entire range of Defence requirements is a force behind self-reliance for critical defence equipments. DRDO has identified nine thrust areas for its research. These are (i) platforms (ii) weapon systems (iii) strategic systems (iv) sensors & communication systems (v) space (vi) cyber security (vii) artificial intelligence & robotics (viii) materials & devices and (ix) soldier support.

Programmes and Projects

DRDO projects are categorized as follows:



Categorization of DRDO projects

During the year 2019, 84 new projects were sanctioned at a total cost of Rs. 4,672 crore and 34 projects have been completed at a total cost of Rs. 8,781 crores.

DRDO has 399 ongoing projects (excluding strategic projects) amounting to approximately Rs. 68,820 crores (DRDO share: Rs. 37419 crore, ~54%). Out of 399 ongoing projects, 38 large projects (cost ≥ Rs. 300 crore) have a cost of Rs. 55,856 crores.

There are 8 major programmes approved by Cabinet Committee on Security (CCS) amounting to Rs. 41,677 crores (DRDO share: Rs. 12,010 crore).

Projects related to design and development of missiles

- Long Range Surface-to-Air Missiles (LRSAM) for Indian Navy
- LRSAM missile system for Indian Aircraft Carrier (IAC) of the Indian Navy
- Medium Range Surface-to-Air Missiles (MRSAM) for Indian Army & Indian Air Force (1 each)

Projects in the field of Aeronautics

- LCA Air Force Mk-II, LCA Navy Mk-I
- LCA Navy Mk-II and Medium Altitude Long Endurance (MALE)
- Unmanned Aerial Vehicle 'TAPAS-BH'

Various projects of CCS

Significant milestones/ achievements in DRDO projects

64 Significant milestones by DRDO

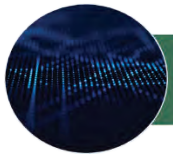
14 - Missiles and missile systems

6 - Weapons and Bombs

5 - Aircraft and aircraft systems

2 - Tanks

36 - Ohers (Radars, ammunition etc.)



1 - War Game

i. **Anti-Satellite Missile (Mission Shakti):** DRDO successfully conducted an Anti-Satellite (A-SAT) missile test 'Mission Shakti' from Dr APJ Abdul Kalam Island in Odisha in March 2019. The test has demonstrated India's capability to defend its assets in outer space. With this India jointed a select group of nations with such a capability.

ii. **Beyond Visual Range Air-to-Air Missile 'Astra':** Development of beyond visual range air-to-air missile (BVRAAM) 'Astra' with modern guidance and navigation techniques is complete. Astra was successfully flight tested from Su-30MKI platform off the coast of Chandipur, Odisha during September 2019. The development trials of this missile have been completed.

iii. **Medium Range Surface-to-Air Missile (MRSAM) for Navy:** MRSAM is a joint development programme of DRDO and Israel Aerospace Industries (IAI), Israel for Indian Navy. During the year, the Indian Navy achieved a significant milestone in enhancing its anti-air warfare capability with the maiden cooperative engagement firing of the MRSAM. With the successful proving of this cooperative mode of engagement, the Indian Navy has become a part of a select group to have this niche capability.

iv. **Supersonic Cruise Missile 'BrahMos': '**Developed by India and Russia, the versatile BrahMos has been operationalized in the Indian Armed Forces with all the three Services. On May 22, 2019, IAF successfully fired the BrahMos air version missile from its frontline Su-30 MKI fighter aircraft against land target. On May 24, 2019, BrahMos was successfully test fired by IA as part of joint training by IA, IN & IAF. The missile featuring indigenized booster propulsion system, airframe, power supply and other major indigenous components was also successfully test fired on September 30, 2019 from ITR, Chandipur. On December 17, 2019, DRDO successfully fired BrahMos with indigenously developed seeker. Further, on the same day, Air version BrahMos was successfully test fired from Su-30 MKI aircraft against sea target as per IAF requirements.

v. **Anti-Tank Missile (PROSPINA):** 'Nag', with day and night capabilities can engage highly fortified enemy tanks.Nag-NAMICA system is found GSQR compliant thereby paving the way for induction into the Indian Army. Indian Army has been granted of LSP order (AoN) from DAC for production of 'Nag' missiles and NAMICAs.

vi. **Third Generation Helicopter Launch Anti-Tank Guided Missile ('HeliNa'/Dhruvastra):** HeliNa is a 3rd generation helicopter launch anti-tank guided missile (ATGM) with LOBL capability for integration on Advance Light Helicopter (ALH). During the year, 13 flight trials from ALH were conducted and demonstrated safe separation in hover conditions. Target hit with seeker were demonstrated from ALH of IAF during August 2019.

vii. **Akash Mk-1S Surface-to-Air Missile:** Akash Mk-1S is a surface-to-air missile, which can neutralize advanced aerial targets. The missile is the upgradation of Akash missile with indigenous seeker. Akash Mk-1S missile became first indigenous surface to air missile system with indigenous seeker which will be inducted in next two regiment of Indian Army.

viii. **Smart Anti-Airfield Weapon (SAAW):** SAAW is long-range, stand-off, precision air-to-surface weapon capable of engaging ground targets. During the year, eight flight trials were completed in single configuration on Jaguar DARIN II, meeting all the mission objectives.

ix. **Long Range Glide Bomb (LRGB):** DRDO is involved in the design, development and validation of conventional warheads viz. blast pre fragmentation (PF) & penetration cum blast (PCB). During May 2019, non winged glide bomb demonstration trials were carried out from Su-30 MKI aircraft.

x. **Light Combat Aircraft (LCA) 'Tejas':** In a landmark occasion, February 20, 2019 is a significant day in the journey of LCA 'Tejas' Mk-I for IAF, when the formal declaration of Final Operational Clearance (FOC) of the aircraft was made.

Shri Rajnath Singh became the first Raksha Mantri (RM) to fly the indigenous Light Combat Aircraft (LCA) 'Tejas' on September 19, 2019. He undertook a 30-minute sortie in the multi-role fighter aircraft in Bengaluru.

- LCA Tejas is India's first indigenous aircraft designed and developed using advanced technology to meet the requirements of the IAF.
- It is supersonic, light weight, all-weather, multi-role fighter aircraft designed for multiple combat roles.

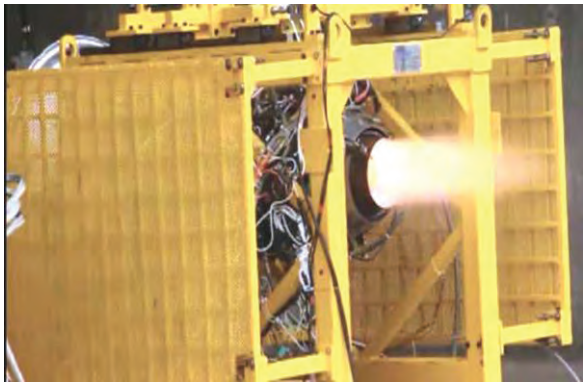
xi. **Naval Light Combat Aircraft:** The first ever arrested landing of Light Combat Aircraft (Navy) at the Shore Based Test Facility (SBTF) INS Hansa, Goa, took place successfully in 2019. The successful testing has put India on the world map as a nation with the capability to design a deck landing aircraft.

xii. **Airborne Early Warning and Control (AEW&C) System:** AEW&C is capable of delivering a 'recognizable air

surveillance picture' of aerial threats via search, track-while-scan and priority-track modes to provide airborne and ground-based assets and their exact location.

During the year, DRDO handed over the second of three indigenously designed Airborne Early Warning and Control (AEW&C) systems to the Indian Air Force (IAF) on September 11, 2019 to augment the service's network centric capabilities.

xiii. **Small Turbo Fan Engine (STFE):** DRDO is developing a Small Turbofan Engine (STFE) for propulsion needs of unmanned air vehicles (UAVs) targeted for subsonic applications. An integration trial of STFE with 'Nirbhay' sub-sonic cruise missile has been carried out and 3 nos. of STFE engine has been made ready as deliverables to the User.



Guided Pinaka Rocket System: Guided Pinaka with guided, canard controlled, precision strike guided artillery rocket system, has been designed and developed by DRDO. The rocket system has a capability of engaging targets in 20 km to 80 km range. The technical trials of the system were conducted in March 2019. Thermo-structural testing of Guided Pinaka warhead was successfully done during August 2019.

xiv. **Main Battle Tank (MBT) 'Arjun' Mk-1A:** MBT 'Arjun' is a multi-disciplinary high technology intensive combat vehicle system comparable with contemporary tanks in the world in many aspects. MBT Arjun has excellent mobility, superior fire power and high degree of

protection. Indian Army is processing for placement of Indent for two regiments of MBT Arjun Mk-1A.

xv. **Advanced Light Weight Torpedo (ALWT):** A total of 10 dynamic trials were conducted wherein stability & controllability, speed & depth changes and full endurance of the vehicle were achieved. Ground drop trials of ALWT from SK 42-B were also completed.

xvi. **Supersonic Missile Assisted Release of Torpedo (SMART):** During the year, assembly, integration and functional testing of instrumented TAL D&P torpedo with all its sub-systems was completed and integration of the same with SMART missile commenced. All the critical sub-systems designed have been proved in various ground trials. Sixth Rail Track Rocket Sled (RTRS) trials were also completed successfully during February 2020.

xvii. **Sahayak Air Droppable Containers:** Sahayak is a lightweight air droppable container fitted with a parachute system designed to carry critical engineering stores for distressed Indian Naval ships at mid sea. The Sahayak containers would enhance Navy's operational logistics capability. During the year, 6 Sahayak systems were made ready for delivery to IN. IN successfully carried out testing of Sahayak Air Droppable Containers in January & March 2019. The system has been handed over to Indian Navy during August 2109 at Visakhapatnam for induction into Services.

xviii. **Internal EW System for MiG-29 Upgrade Aircraft (D-29 System):** D-29 is an integrated EW system for warning and jamming that encompasses Radar Warning Receiver (RWR), Electronic Communication Measures (ECM) and Electronic Support Measures (ESM) functions and utilizes state-of-the-art active phased arrays for selectively jamming the multiple threat radars. Flight evaluation of the system in a multi

A major milestone in the indigenous series production of SDRs was achieved with signing of contract by MoD for manufacturing SDR-NC worth Rs. 488 crore for the Indian Navy.

emitter scenario has been carried out to the satisfaction of the IAF. The system has been cleared for production.

xix. **Software Defined Radio (SDR):** DRDO, in a consortium approach with Centre for Development of Advanced Computing (C-DAC) and Weapon and Electronics System Engineering Establishment (WESEE) as development partners and BEL as the production partner has developed Software Defined Radios in 5 form-factors (detailed in figure below):

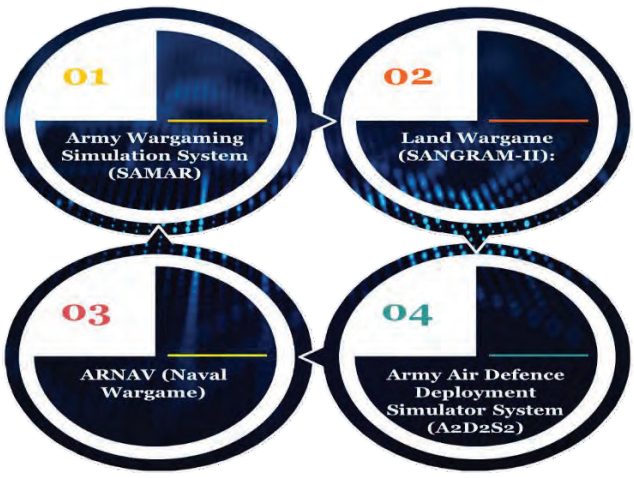
DAC has also approved procurement of SDR-TAC for IN at an estimated cost of Rs. 1100 crore Installation of one unit of SDR-AR on Naval Dornier aircraft was completed in February 2020 and testing of installed unit is in progress.

xx. **Active Electronically Scanned Array Radar (AESAR) 'Uttam':** AESAR 'Uttam' is an airborne fire control radar for our indigenous fighter aircraft LCA 'Tejas'. About 100 sorties of flight testing was carried out for radar evaluation. Indigenous Active Electronically Scanned Array (AESA) radar integration and EMI/EMC tests on LCA 'Tejas' LSP-2 aircraft was completed and about 10 sorties of flight evaluation was completed.

xxi. **New Operating System (AnuOS):** The scope of the project includes hardening of existing commercial and open-source operating systems and design & prototyping of indigenous trusted Operating System (OS) kernel. ANURAG Hardened Linux (AHL) and ANURAG Hardened Windows (AHW) were developed and deployed in security sensitive applications.

xxii. **MMICs & GaN HEMT Technology:** During August 2019, Monolithic Microwave Integrated Circuits (MMICs) for NISAR satellite were developed and delivered to ISRO. S-band 130 W Gallium Nitride High Electron Mobility Transistor (GaN HEMT) devices were also developed and delivered to Users.

xxiii. **Wargaming Softwares**



War gaming softwares by DRDO

Corporate Initiatives

Creation of Young Scientist Laboratories

Prime Minister dedicated to the nation five DRDO Young Scientist Laboratories (DYSLs) on January 2, 2020.

These DYSLs are:

1. Artificial Intelligence at Bengaluru
2. Asymmetric Warfare Technology at Kolkata
3. Cognitive Sensor Technology at Chennai
4. Smart Materials at Hyderabad
5. Quantum Technology at Mumbai

Services Interaction

The production value of DRDO developed systems, both inducted and approved for induction stands at over Rs. 2.8 Lakh crore. Eight types of DRDO developed systems/ equipments worth about Rs. 8700 crore have been approved for induction.

Major systems designed & developed by DRDO, where Acceptance of Necessity (AoN) has been accorded for induction during 2019 includes:

Major systems designed & developed by DRDO

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 Dtes 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. A new initiative has been taken and three batches of DRDO scientists (>200 scientists) underwent internships with IA units/formations.

Industry Interface

DRDO Policy for Transfer of Technology (ToT) has been approved by Raksha Mantri. The policy covers all aspects of ToT fees, royalty, handholding support etc. to facilitate Indian industries and DRDO labs for ToT. During the year, 114 nos. of LAToTs were signed. 71 industries took ToT for different products and processes.

Technology Development Fund (TDF) has been implemented by DRDO to promote public and private sector industries especially Micro, Small, Medium Enterprises (MSMEs) that may work in collaboration with the academia or research institutions to carry out innovation, R&D for realization of products as per Services requirements.

74 projects are being pursued presently under the scheme, of which 65 have been added in 2019. Scheme to promote individuals and start-ups for innovations in Defence & Aerospace sector under Kalam's vision 'Dare to Dream' scheme has been operationalized.

A pan India 'DRDO Innovation Contest' has been launched and first set of awards to Indian innovators was conferred by the Raksha Mantri.

MoU signed with UP Defence Industrial corridor in February 2020 to impart skill, training, hand holding and providing guidance in all aspects related to technology.

Participation in National & International Exhibitions:

DRDO participated in 11 national and 7 international exhibitions. Some of them are as follows:

Export has started with few key countries and MoU signed with 2-3 friendly countries.

Academia Interaction

DRDO provides support to academia to carry out directed research in the identified research thrust areas related to defence applications through advanced technology centers created across India. As on date, 8 centers are operational viz. Advance Centre for Research in High Energy Materials (ACRHEM), Research and Innovation Centre (RIC) at IIT Madras, JC Bose Centre for Advance Technology (JCBCAT) at Jadavpur University, Bi-nodal Centre of Propulsion Technology (CoPT) at IIT-Bombay & IIT Madras, DRDO-IIT Delhi, Joint Advanced Technology Centre (JATC) at IIT Delhi and DRDO-BU Centre for Life Sciences at Bharathiar University.

Efforts in the year

Currently, 157 projects at a total cost of Rs. 570.01 crore are being executed through these centers of excellence. Apart from this, 19 projects costing Rs 18.75 crore were sanctioned to various academic institutes through the extra mural (ER) initiative of DRDO and 99 projects were sanctioned at a total cost of Rs. 49.34

crore to around 81 academic institutes through the four Research Boards (Aeronautics, Naval, Armaments & Life Sciences) functioning under DRDO.

Intellectual Property Rights (IPR)

In an effort to promote IPR awareness among DRDO scientists, an advanced workshop and six IPR awareness programmes were held during the period in different DRDO laboratories. DRDO Policy for free access of DRDO patents by Indian industries was approved by Secretary Defence R&D. Under the new policy, free access to 460 Indian patents held by DRDO will be provided which is likely to increase the technological capabilities of industries and enhance their competitiveness in global supply chain.

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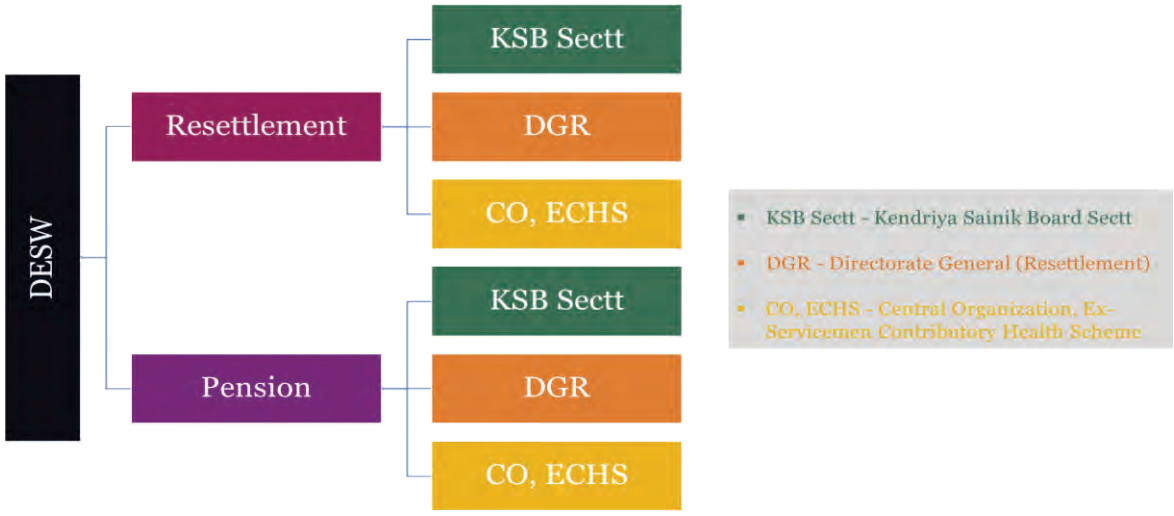
Department of Ex-Servicemen Welfare

रक्षा मंत्रालय
MINISTRY OF
DEFENCE
सत्यमेव जयते

RESETTLEMENT AND WELFARE OF EX-SERVICEMEN

The Department of Ex-Servicemen Welfare (DESW) formulates various policies and programmes for the welfare and resettlement of Ex-Servicemen (ESM) in the country.



Welfare

1. 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.

2. **Financial Assistance to States:** Financial assistance to States as Central share is given by the Department towards the establishment expenses of Rajya Sainik Boards/Zila Sainik Boards (RSBs/ZSBs). Funding pattern is 75:25 in respect of special category States/UTs, namely, Arunachal Pradesh, Assam, Jammu and Kashmir, Ladakh, Meghalaya, Mizoram, Manipur, Nagaland, Sikkim, Tripura, Himachal Pradesh and Uttarakhand, and 60:40 in the case of other States/UTs. KSB Secretariat shares 50% cost of construction of Sainik Rest Houses (SRHs) out of the Defence Services Estimates (DSE) Budget. The SRHs are required to be maintained by State Governments/UT Administrations from their own resources/funds. A sum of Rs. 22.25 crore has been disbursed to the States as Central share up to December 12, 2019.

3. **Armed Force Flag Day Fund** (AFFDF) is meant for running schemes for ex-servicemen and their dependents for their rehabilitation and welfare. The fund is administered by KSB and donations to the fund are eligible for exemptions under section 80G of the Income Tax Act, 1961. The fund receives contributions from the tri-services, corporate, PSUs and individual donors. The fund has a corpus of INR 305 crore and a portion of the usable income accruing on the Corpus of the AFFDF is earmarked under the scheme titled Raksha Mantri Ex-Servicemen Welfare Fund (RMEWF).
   Armed Forces Flag Day is celebrated on 7th December every year across the country to commemorate the sacrifices made by the armed forces. During the weeklong campaign from December 2 to 8, 2019 various activities were undertaken 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.

Official of RSB Maharashtra pinning AFFD flag to PM on Dec 7,2019

4. A CSR conclave on December 2, 2019 was organized in association with Confederation of Indian Industries (CII) and Federation of Indian Chambers of Commerce and Industries (FICCI). A sum of Rs. 10.66 crore has been collected upto December 17, 2019.

Raksha Mantri presiding over Armed Forces Flag Day – CSR conclave at Manekshaw Centre, Delhi Cantt on December 2, 2019

Raksha Mantri facilitating the major donors at Armed Forces Flag Day – CSR conclave at Manekshaw Centre, Delhi Cantt on December 2, 2019

5. **Raksha Mantri Ex-Servicemen Welfare Fund (RMEWF) Schemes:** Financial assistance under RMEWF which is a part of the AFFDF 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 2019-20 (till November 30, 2019) financial assistance of INR. 65.78 crore to 19118 beneficiaries have been disbursed in favour of the ex-servicemen / their dependents under RMEWF. Besides these, an amount of INR 1.81 crore as financial assistance for serious diseases, purchase of modified scooter for disabled and grants to War Memorial Hostels and Paraplegic Rehabilitation Centre at Kirkee and Mohali have also been given under the AFFDF.

6. **Prime Minister's Scholarship Scheme (PMSS):** A total of 5500 scholarships are awarded annually under this scheme to the wards and widows of ex-servicemen out of National Defence Fund which is administered by the Prime Minister's Office. The number of scholarships w.e.f. academic year 2019-20 has been increased from Rs. 2,000/- per month to Rs 2,500 per month for boys and Rs. 2,250 per month to Rs 3,000 per month for girls and paid annually. An amount of Rs. 25.13 crore has been disbursed to 9606 beneficiaries during the FY 2019-20 (till 12.12.2019).

7. **Reservation of Seats in Medical/Dental Colleges:** Ministry of Health and Family welfare increased the quota of Government of India Nominee (MBBS and BDS) seats for the wards of Armed Forces Personnel (Serving/ESM). A total of 35 MBBS and 3 BDS seats were allotted and distributed by KSB for the academic year 2019-20 to the eligible students.

8. **Participation of ESMs in Government Flagship Programmes**

Swachhata Hi Sewa Campaign (SHS)-2019 focused this year on the theme of plastic waste management and towards the effective ban of single use plastic SUP. DESW on September 6, 2019 organized a one-day workshop at the Central Rest House, Naraina on the above theme. At the field level, all the state RSBs and ZSBs organized awareness and community education programmes involving plastic waste collection shramdaan and plastic waste recycling and disposal. A total of 403 villages participated in the campaign. 7th December, Armed Forces Flag Daywas celebrated as a special day for Plogging (picking of litter while jogging), nationwide.

ii) Jal Shakti Abhiyan: Action Plan to undertake the activities of Jal Shakti Abhiyan was prepared in respect of the Department and its attached offices. Each Zila Sainik Board (ZSB) adopted a village to propagate the concept of water conservation. Posters and other informational material on the theme were prepared which have been shared widely.

Jal Shakti Abhiyan; Restoration of Ponds by ESMs at ZSBO in August 2019

iii) Accessible India Campaign: An Action Plan toensure that all the buildings of the attached offices, ECHS polyclinics, sainik rest houses are designed to be fully accessible for Persons with Disabilities (PwD) or Divyangjan has been prepared by the Department under the Accessible India Campaign. Regular monitoring of the retrofitting along with post retrofitting verification audit of existing buildings is being carried out to make them fully accessible.

iv) International Yoga Day: The 5th International Yoga Day was observed on June 21, 2019 at Sainik Rest House, Naraina, Delhi. On this occasion, a large number of officers and ex-servicemen and their families participated in the yoga session.

v) Ex-servicemen participation in "Run for Unity": A large number of ex-servicemen participated in the 'Run for Unity' event at Major Dhyan Chand National Stadium, New Delhi organized to observe the birth anniversary of Sardar Vallabhbhai Patel as (Rashtriya Ekta Diwas) on October 31, 2019.

vi) Interactive Voice Response System (IVRS): IVRS for the KSB Helpline [01126717987] was launched on September 6, 2019 to enable ESM with technical queries, easier access to the operator as the majority of queries on helpline are regarding the status of the applications. The IVRS can simultaneously attend 20 calls in Hindi and English and will reduce the waiting time for the grievance redressal of the ESM.

Resettlement

The main thrust of the Directorate General Resettlement (DGR) is on resettlement, rehabilitation and welfare of Ex-servicemen (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.

Training Programmes

Since August, 2016, DGR has been conducting resettlement courses at institutes of central Government/ state Government, institutes run by Regulatory Bodies/ institutes aligned with Regulatory Bodies. All courses conducted are of National Skill Qualification Framework (NSQF) Level-5 or above (except when a change of field is involved for the individual, where it would be Level-4).

Officers' Training: Training Courses for Officers are being conducted at Government institutes/ autonomous institutes. The duration of the courses vary from 2 weeks to a maximum of 24 weeks. The fee for officers' course is shared by Government and the individual officers in the ratio of 60:40.

JCOs/OR & Equivalent Training: DGR conducts skill development courses for JCOs/ OR and their equivalent for a maximum duration of one year. These courses are conducted at accredited institutes and 100% of the course fee is paid by the Government.

The details of training imparted during the financial year 2019-20 are as under:

Courses	Total No. of courses	No. of personnel detailed (as on December 15, 2019)
Courses for Officers	12	387
Course for JCOs/ OR	114	4385
Total	**126**	**4772**

Employment Opportunities

Employment Opportunities in Central Government for ESM: Central Government has provided reservations in Government jobs for ESM towards their resettlement is as follows:

10% of the vacancies in the posts up to the level of the Assistant Commandant in all Para-Military Forces

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

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

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

100% in Defence Security Corps

Registration for Employment: A total 8793 (January - November 2019) and 16688 (January - June 2019) personnel were sponsored for permanent/contractual jobs (except self-employment schemes) through DGR and RSB/ZSBs during the period.

Security Agency Scheme: The aim of the scheme is to facilitate some kind of earning by the ESM till he gets a job. A total of 870 Security Agencies have been empanelled during the year by which 38398 ESMs were provided employment under the scheme.

Raksha Mantri visiting resettlement/placement stall at Lucknow on November 21, 2019

Schemes For Self-Employment

Employment opportunities through DGR: DGR runs schemes for officers and JCOs/ORs and equivalent and widows for their employment and welfare. The major schemes and the number of beneficiaries (officers/JCO/ORs/ widows/disabled ESM/dependents) through them are given below:

Scheme	No of Beneficiaries (From 1.1. 2019 to 30.11.2019)
Coal transportation scheme and tipper attachment	166
Mother Dairy milk booth and fruit & vegetable (Safal) shop	354
Management of CNG station by ESM(Officer) in NCR	57
Issue of DGR eligibility certificate for allotment of LPG/retail outlet (petrol/diesel) against 8% reservation quota	143
Management of company owned company operated retail outlets	14

DGR Ex-Servicemen Job Fairs: Based on the Memorandum of Understanding (MOU) signed between DGR and the Confederation of Indian Industry (CII) in August 2014, DGR ex-servicemen job fairs are being organized Pan India with the support of all the three Service headquarters. A total of 7DGR ex-servicemen Job Fairs have been organised during the period from January 1, 2019 to November 30, 2019 as per details given below :

Location	Date	Participation		Job vacancies (approx)
		Corporate Employers	ESM	
Kolkata	February 27, 2019	17	1924	3180
Goa	March 15, 2019	23	402	368
Ahmadabad	August 23, 2019	31	1526	559
Chandigarh	October 11, 2019	31	1090	2570
Pune	October 16, 2019	29	856	2779
Chennai	November 22, 2019	42	1438	2430
Kolkata	November 29, 2019	41	1815	1192
	Total	**214**	**9051**	**13078**

Raksha Rajya Mantri & Secretary, DESW at the inauguration ceremony of Job Fair at Ahmedabad on August 23, 2019

Major Achievements During the Year

Employment as Marshals in DTC: A total of 998 ESM have been provided to Delhi Government for employment as Marshals in buses of Delhi Transport Corporation.

MoU with CII and FICCI: DGR has signed an MoU with Confederation of Indian Industries (CII) in 2014 and has obtained approval in October, 2019 to sign an MoU with Federation of Indian Chambers of Commerce and Industry (FICCI) with the aim to generate employment opportunity for Ex-servicemen (ESM) in the corporate sector.

Health Care

Ex-Servicemen Contributory Health Scheme (ECHS): ECHS aims to provide quality healthcare to ESM and their dependents through a network of ECHS polyclinics, Service medical facilities and civil empanelled/ Government hospitals spread across the country. Endeavour is to ensure cashless treatment as far as possible by utilizing the empanelled hospitals for the veterans and their dependents. The total beneficiaries of the Scheme are approximately 55 lakh.

ECHS Network : At the apex level is the Central Organisation, ECHS located in Delhi. It is an attached office under the DESW and is headed by a serving Major General. There are a total of 30 Regional Centres spread across the country. A total of 433 ECHS Polyclinics including six Polyclinics in Nepal have been sanctioned by the Government. Besides this, there are 1964 civil hospitals empanelled with ECHS providing cashless treatment to ECHS beneficiaries. The reach extends to Kashmir Valley as well. In case of emergency, members are permitted to avail medical treatment at non-empanelled hospitals on payment. Their medical treatment bills are reimbursed at approved (CGHS) rates.

Achievements during the last one year

ECHS Toll- Free Helpline: ECHS Helpline has been made operational 24x7 w.e.f. September 23, 2019. This will help the veterans to resolve their problems round the clock and seek guidance on a various issue of ECHS and help them to get quality healthcare. The two helpline Numbers are 1800114115 and 011-25682870. All information regarding ECHS, including list of empanelled facilities, forms for membership and latest policies etc. are available on website www.echs.gov.in.

Pledge taking by CO ECHS – minimizing single use plastic

Sanction for Acquisition/ Purchase of land: Sanction for purchase of land for ECHS Polyclinics have been issued for Chittor, Eluru, (AP), Eluru, Virarajendrapet, (Karnataka), and Geeta Colony, Shahdara (East Delhi) during the year . Besides these, sanction for acquisition of land for construction of ECHS polyclinic at Giddalur village, Andhra Pradesh was also issued during the year.

Delegation of powers to ECHS functionaries at Regional Centre and Central Organisation: A separate Schedule (Schedule-26) in Army Schedule of Powers (ASP)-2016 of DFPDS-2016 for delegation of powers to ECHS functionaries at regional centre and central organization has been issued on July 25, 2019. Orders have been issued on July 9, 2019, for enhanced delegation of powers to ECHS functionaries for minimizing delays, smoother functioning of ECHS and greater patient satisfaction

Authorisation of Modern Dental Equipments: On August 8, 2019, additional modern dental equipments have been authorized by DESW for ECHS Polyclinics.

Priority to Senior Citizens above 75 years of Age: Instructions for according to priority to ECHS members and dependents above 75 years age in ECHS OPD of Military Hospitals has been issued to all Command Headquarters and Regional Central Organization on September 12, 2019.

Domiciliary medical equipments: On September 18, 2019 ECHS beneficiaries have been allowed to obtain domiciliary medical equipments for which ECHS ceiling rates are available on the recommendations of Government hospital specialists also in addition to the specialist of the military hospital. Earlier it was provided only on the advice of the military hospital specialist.

Empanelment of Hospital Procedure: A comprehensive and objective procedure has been laid down on October 10, 2019 for more effective management of empanelled hospitals for ensuring greater transparency and accountability, paving the way for improved patient care.

AYUSH facilities in ECHS: Introduction of Ayush OPDs in 5 polyclinics of Delhi & NCR is a pilot project to provide treatment under Ayush to ECHS beneficiaries in ECHS Polyclinics – 1st Ayush OPD operationalised in Lodhi Colony ECHS Polyclinic on November 6, 2019.

Fixed Medical Allowance: On November 19, 2019, Fixed Medical Allowance has been granted by DESW to Nepal domiciled ECHS members residing in districts not covered by ECHS polyclinic/ Armed Forces hospital/ upgraded MI Rooms.

Pension Reforms

Special Family Pension (SFP)/Liberalized Family Pension (LFP): OnJuly 8, 2019, it has been decided that Special Family Pension (SFP)/Liberalized Family Pension (LFP), if any, would be admissible in terms of MoD letter dated January 31, 2001 on death of a pensioner who was re-employed in military service and if his death is attributable to military service, in addition to ordinary family pension in respect of previous military/civil service subject to other conditions.

Grievance Redressal System: The Department has a dedicated pension grievance cell to look after the grievances of the ESMs/ pensioners, which has resulted in better grievance redressal system. Overall percentage of disposal of grievances is 97% and the data are available in the pgportal.gov.in. This has been achieved due to intense follow up, regular interaction with the concerned offices as well as weekly review. The impact of the above indicated initiatives, together with strict compliance with shorter timeline of 30 days for resolution of grievances and use of technology has resulted in reduction of average disposal time from 87 days in 2014 to 25 days in 2018 and further reduced to 21 days in 2019.The efforts made above underscore our concerted efforts to reduce grievances, bring down the disposal time,

promote dialogue and interaction with our ex-servicemen as also to sensitize the RSBs/ZSBs for resolving the grievances of ESM.

100 Days Agenda and Annual Action Plan of the Department: A Vision, Mission, 100 days Agenda and Action Plan document for the next five years pertaining to the department was approved by Raksha Mantri on July 19, 2019. The document underlines the Department's commitment to develop a more effective policy, services and institutional framework for attaining the objectives of resettlement, health care and welfare of the men and women, who served in the Indian Armed Forces.

A Dashboard to monitor and review the progress of 100 days agenda and the yearly action plan has been designed in consultation with the National Informatics Centre. All the items of the 100 days' agenda, as agreed vide Cabinet Secretary D.O. dated July 10, 2019, were successfully completed within the given time frame.

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Empowerment & welfare of women

रक्षा मंत्रालय
MINISTRY OF
DEFENCE
सत्यमेव जयते

EMPOWERMENT AND WELFARE OF WOMEN

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

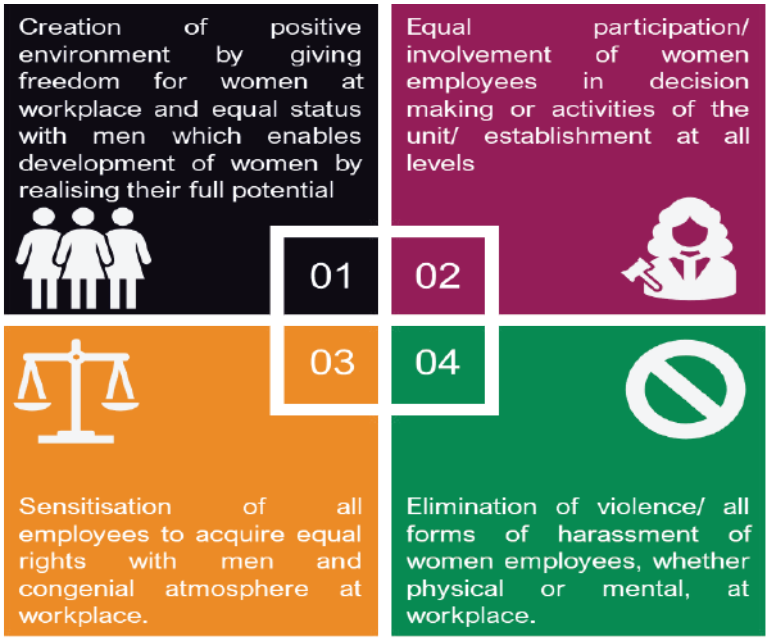
The policy on induction and employment of women in Army has been enunciated in February, 2019 which envisages following: -

(a) Permanent Commission of Women Officers: Judgement of Hon'ble Supreme Court on grant of Permanent Commission (PC) to women officers in eight Arms and Services namely – Signals, Engineers, Army Aviation, AAD, EME, ASC, AOC and Int Corps in addition to two streams of JAG and AEC is in the process of being implemented (Case – Civil Appeal Nos 9367 – 9369 to 2011 Titled Secretary, Ministry of Defence Vs Babita Punia & Ors).

(b) Women as Sepoy in Corps of Military Police: Raksha Mantri approved enrolment of women as Sepoy in Military Police on January 22, 2019. It is envisaged that women military police in Military Police personnel will have role in counter insurgency environment, ceremonial duties & policing duties like crowd control & investigation of offences involving women and children. All terms and conditions of service like promotions, pay & allowances will be same as that of male military police personnel. Total of 1700 women military police personnel would be enrolled in a phased manner over 17 years i.e., 100 per year. At the end of 17 years, women in Military Police will comprise 20% of the cadre. Recruitment for the year 2019-20 has been completed and the first batch of 101 women are undergoing training w.e.f. January 6, 2020. The batch is likely to pass out in March 2021, after successful completion of 62 weeks of training.

Indian Navy

The Indian Navy 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 ensure empowerment of women employees and 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:



Measures to ensure women empowerment & safe working environment for women employees

(a) Permanent Commission to SSC Officers: Introduction of grant of Permanent Commission prospectively to the Short Service Commission officers (men and women) of the Executive Branch (Law Cadre), Education Branch and Engineering Branch (Naval Architecture) w.e.f. 2008.

(b) Woman Pilot: First woman pilot of Indian Navy was awarded with the coveted aviator wings during the passing out of 7th Dornier Conversion Course December 2, 2019.

Award of 'Wings' to First Woman Pilot of Indian Navy

i) Vishaka and Nirbhaya Acts: "Visakha Guidelines" and "The Sexual Harassment of Women at Workplace (Preventive, Prohibition and Redressal) Act, 2013" have been implemented at 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.

ii) Naval Wives Welfare Association (NWWA): A large number of activities and innumerable welfare programmes are organized on a voluntary basis to develop the self-confidence of the Naval ladies and to boost their morale.

iii) Naval Regimental System (NRS): NRS was established in January 2011 to institutionalize the support system and provide proactive and extended support to Widows/ NoK of deceased sailors.

iv) Reaching out to Widows and Retired Community: To facilitate early resolution of issues impinging on their wellbeing, the following have been instituted:

'Directorate of Ex-Serviceman Affairs Toll Free Help Line', which provides round the clock coverage through its Integrated Voice Recording (IVR) Facility.

'Commodore Bureau of Sailors (CABS) Toll Free Help Line' to resolve pension related issues.

Dissemination of important issues through IRFC website.

Publication of quarterly e-newsletter covering latest policies/ developmental issue related to welfare of veterans

Interaction with Directorate of Ex-Serviceman Affairs through e-mails.

v) Widow's Hostel at Delhi: Sahara Hostel is unique and first of its kind initiative by the Indian Navy for the welfare of Naval Widows/ Veernaris and is aimed towards providing support to ladies and their

families in the period following the unfortunate demise of their husbands. It consists of 34 furnished dwelling units. The facility was inaugurated by Lt. Governor of Delhi on May 24, 2019.

Inauguration of Sahara Hostel, New Delhi

vi) **Expedition to Mt Satopanth:** Mountaineering expedition to Mt Satopanth, a 7075 metres peak in Uttarakhand was organized from September 22 - October 16, 2019. The expedition team comprised of 13 naval personnel, including eight officers (seven women officers and one male officer) and five sailors. This was the second major expedition undertaken by the Indian Navy where majority of the climbers were women officers. The team could not summit due to adverse weather but gained a height of 6500 metres during this expedition.

vii) **Health Clinic-Ladies:** Various health clinics were conducted under the aegis of Arogya Wing of NWWA across various IN units throughout the year. The events were aimed to sensitize wives of naval personnel on the merits of positive women's health and to promote optimal health and well-being.

Cervical and Breast Cancer Screening Camp

Well Woman Screening Health Camp

Indian Air Force

i) **Induction of Women Pilots in the Fighter Stream:** Women pilots have been performing admirably well in the transport and helicopter streams of IAF. As a natural progression, IAF decided to induct women pilots in the demanding fighter stream as well. Accordingly, the first batch of women trainees was inducted for fighter stream. Six are posted to fighter squadrons, two are undergoing post commissioning training on Hawk-132 aircraft and one more woman trainee has been allotted fighter stream and would be commissioned in December 2019.

ii) **Short Service Commission to Permanent Commission:** After announcement by Prime Minister on August 15, 2018 and Government sanction vide GoI MoD Dy No. 1796/D (Air-III) / 2018 dated August 25, 2018, the IAF has moved rapidly to formulate the requisite Air HQ Human Resource Policies (HRPs) enabling consideration of Short Service Commission Officers (SSCOs) for Permanent Commission (PC). These HRPs which are gender neutral, were formally promulgated on December 7, 2018 for Flying Branch and January 16, 2019 for Ground Duty Branches. Thereafter, all serving SSC officers (irrespective of gender) are being considered for grant of Permanent Commission. A total of 26 women SSC officers of flying and ground duty branches have been granted Permanent Commission from June 2018 to June 2019.

iii) **Nomination of Woman Officer for Diplomatic Assignment**: Diplomatic posts on Indian mission abroad are traditionally manned by male officers. Wg Cdr Anjali Singh is the first woman officer who has been nominated by IAF as Dy Air Attaché in Embassy of Russia.

iv) **Appointment of Women Officer as Flight Commander:** Wg Cdr Shaliza Dhami was commissioned into the helicopter stream of the IAF in December 2003. She was granted PC in December 2018. She became the first woman helicopter QFI in the IAF in November 2013. She has over 2000 hours of flying to her credit. She has been recently posted as the first woman Flight Commander of a Combat unit of the IAF (131 FAC Flt, Hindon w.e.f. August 26, 2019).

IAF Women Pilot in cockpit

Indian Coast Guard

The women officers are being provided with ample opportunity to hone their professional skills by allocating duties related to domain expertise. The officers who have specialization in Logistics Management are also appointed as Officer-in-Charge of Coast Guard Store Depots which primarily deal with inventory management and logistics support to all frontline units and bases of Coast Guard. Women officers have also been employed in operational roles specific to ICG which includes Pilots, Observers, Aviation Support Services and ACV operators in addition to specialized logistics duties.

Department of Defence

NCC Special Entry for Women: NCC special entry has been extended for the first time to women Air Wing Cadets with 'C' Certificate. This would enable them to directly go for SSB, without any screening test to become a Short Service Commissioned Officer in the flying branch of IAF.

Defence Research Development Organisation (DRDO)

DRDO as an employer is committed to create a healthy and safe-work environment for women employees. As per Act 2013, DRDO ensures 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 reaching the top positions in DRDO and achieving organisational objectives. As per Ministry of Women & Child Welfare instructions, an online complaint management system (SHE Box) was implemented during the year and all lab/estts have created their user-id for its operationalization.

Every year DRDO commemorates "International Women's Day" at national level. In March 2019, a one-day national level workshop titled **"Steer as Manager, Innovator, Leader, Entrepreneur and Scientist (SMILES)" was hosted at ARDE Pune**, where more than 170 women scientists, technologists, officers and staff from different laboratories/ establishments of DRDO participated.

Department Of Defence Production

i) **Ordnance Factory Board (OFB):** Ordnance Factories have 6123 women employees. All necessary facilities are provided in the workplace for conducive atmosphere for women employees. Mechanism exists as per Government guidelines for looking into complaints of sexual harassment from any female employee.

ii) **Hindustan Aeronautics Ltd. (HAL):** HAL is a Corporate Life Member of the Women in Public Sector (WIPS) Forum and opportunities to participate in the programmes/ activities of the WIPS Forum are extended to women employees. All statutory welfare amenities have been extended to women employees. HAL has 2301 women employees. Internal Complaints Committees have been constituted in Divisions/ Offices as per the Sexual Harassment of Women at Workplace (Prevention, Prohibition & Redressal) Act, 2013.

iii) **Bharat Electronics Ltd. (BEL):** BEL believes in gender diversity and women empowerment. Fair opportunities are provided in recruitment, career progression, learning & development, welfare measures etc. Women have assumed significant leadership positions (1 Functional Director, 1 Executive Director and 5 General Managers).

iv) **BEML Ltd:** BEML is an equal opportunity employer, thereby creating a conducive environment of work for female employees/ executives across the organization. The total strength of women employees/ officers is 255.

v) **Bharat Dynamics Ltd. (BDL):** There are 311 women employees working in BDL as on December 1, 2019 which constitutes 10.57 % of the total workforce. The Company amended its Standing Orders, CDA rules and incorporated a chapter on “Prohibition of Sexual Harassment of Women Employees at Workplace”.

vi) **Garden Reach Shipbuilders & Engineers Ltd (GRSE):** In GRSE, the strength of women employee is 101 which is around 5% of the total strength in the Company.

vii) **Goa Shipyard Ltd. (GSL):** GSL has strict compliances towards various guidelines promulgated for Women workforce for achieving safer working environment. A women cell is also created which acts as a responsive platform for women employees of GSL to nurture growth and development. Regular awareness and training programs are also organized for women employees across all cadres for their holistic development.GSL has 153 women employees.

viii) **Hindustan Shipyard Ltd (HSL):** A “Gender Budgeting & Women in Public Sector Cell” has been constituted with five women officers for effective implementation of general development program for women employees such as training, advancement of skills and provision of welfare amenities at workplace etc. and also to enhance the effectiveness of women employees in their career management and overall personality development. HSL is giving in-service training to women employees and equal opportunities are given to women employees to enhance their decision-making skills and confidence levels.HSL presently has 36 women employees.

ix) **Mazagon Dock Shipbuilders Ltd. (MDL):** There are 182 women employees in MDL. Women employees were imparted 416 man-days of training on various topics viz. Leadership, Soft Skills and Technical training both outbound and in-house. Women employees are members in the Forum of Women in Public Sector (WIPS). MDL also provided Apprenticeship for skill enhancement in various trades to 65 girl Apprentices during 2019-20.

x) **Mishra Dhatu Nigam Limited (MIDHANI):** 15 programs for women development were conducted covering around 80 women employees. The topics were Financial Planning, Executive Development, Women Empowerment, Attitude Management, Work Life & Normal Life balance, Leadership skills, Transformation of Work Culture, Stress Management & Emotional Control, Communication Skills, Change Management, Yoga Therapy & Meditation Techniques, Managerial Effectiveness, Women Health & Hygiene, Financial Goals, Leadership Development.

xi) **Directorate General of Quality Assurance (DGQA):** All opportunities and benefits with regard to women empowerment and welfare are being implemented as per the guidelines and policies issued by the Govt. of India and other statutory authorities from time to time.

Department of Ex-servicemen welfare (DESW)

DESW deals with the rehabilitation and welfare of about 32 lakh ex-servicemen including widows of 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, marriage of daughters of ESM and re-marriage of widows.

Widows of ESM are eligible for Resettlement Training under the Directorate General of Resettlement (DGR). A number of DGR Employment Schemes like Coal Tipper Scheme, Oil Product Agencies, Safal Booths etc. are given priority to certain categories of widows of ESM.

War widows are exempted from payment of contribution under the Ex-servicemen Contributory Health Scheme.

Consequent upon entry of women in armed forces, the large number of ex-servicewomen in coming years will add a new dimension to the scope and functioning of the Department of Ex-Servicemen Welfare. Keeping in view the profile and special requirements, women-oriented resettlement/ welfare schemes are being explored for retiring women or women who are being boarded out on medical grounds from active service.

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INDOMITABLES

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