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## MODERNISATION OF THE INDIAN ARMED FORCES

India is an aspiring super power. To achieve its destined place among the elite armies of the world it requires to modernise its armed forces. The desire to modernise is also propelled by the continuous threat from its immediate neighbourhood.

The continuing clashes over unresolved boundary disputes with China and Pakistan, terrorism in Jammu and Kashmir, insurgency in the North Eastern states, the uncontrolled menace of left wing extremism, and the rising challenges from urban terrorism has further complicated India's security environment. To fight a modern day war it must have modern day weapons.



### Objectives

After studying this lesson you will be able to:

- explain the necessity for modernisation of the armed forces i.e. Army, Navy and Air Force and
- assess the challenges that are facing India in rapid modernisation.

### 11.1 Modernisation of the Armed Forces

Ideally any country should have 1/3rd of its military hardware of vintage origin, 1/3rd should be state of the art and the balance should be futuristic. With an intention to speed up the pace of modernisation of the existing military equipment many policy decisions and actions have been taken to overhaul the entire war machinery of our country. The focus is both on acquiring the latest military hardware from the international market as also to manufacture them indigenously. We shall discuss each of the Arms i.e Army, Navy and Air Force separately.

#### 11.1.1 Army

The present security threat at our borders with China and Pakistan as also the pressing

## Module - IV

### Indian Armed Forces : Weapons and War Equip- ment and Modernisation



Note

### Modernisation of The Indian Armed Forces

requirement for upgrading our ageing weapons and ammunition has propelled the government into fast tracking the procurement process. The modernisation plan have been prioritised to give the Army the cutting edge over its contemporary rivals. Some of the planned acquisitions are highlighted as under :

- Process to acquire 7 lakh Assault Rifles, 44,000 Light Machine Guns and 44,600 Carbines has been initiated in Sep 2017. These are the basic personal weapons for a soldier and his smallest fighting unit, the section.
- The effort is also on to make the weight of the battle load lighter by procuring lighter personal kit, ballistic helmets with communication facilities as also lighter weapons and body armour (bullet proof jackets).
- Battlefield Management Systems (BMS)- The BMS is aimed to integrate combat units- armoured, artillery and infantry regiments, infantry battalions, helicopter flights, etc. - into a digital network that will link together all components of the future battlefield. It will enable the senior commanders to know the precise location of every soldier and weapon with whom commanders can exchange reports, photos, data and verbal and written communications.
- The mechanised forces are being modernised with Tanks and Infantry carrying vehicles to make them more versatile in terms of operability, mobility and lethality. India proposes to progressively induct as many as 248 Arjun Main Battle Tanks, 1,657 Russian-origin T-90 Main Battle Tanks, apart from the on-going upgrade of its T-72 Tank fleet.
- The improved features are night vision capabilities with a thermal imaging system for detecting all kinds of missiles, mine ploughs to dig out mines, the ability to fire anti-tank missiles, Advanced Air Defence gun capable of shooting down helicopters with a 360 degree coverage, Automatic Target Tracking (ATT) providing a greater accuracy when it comes to moving targets and superior Laser Warning and Control systems. There are also six additional regiments being raised for High Altitude conditions.
- The Indian Army will also upgrade its entire (BMP-2). Infantry Combat Vehicle (ICV) fleet to enhance their ability to address operational requirements. Upgrades include integration of the futuristic fire control system, twin missile launchers and commander's thermal imaging panoramic sights, anti-tank guided missiles as well as automatic grenade launchers.
- Under the Field Artillery Rationalisation Plan, the army plans to procure 3000 to 4000 artillery guns at a cost of US\$3 billion. This includes purchasing 1580 towed, 814 mounted, 180 self-propelled wheeled, 100 self-propelled tracked and 145 ultra-light 155 mm/52 calibre artillery guns. After three years of searching and negotiations, India ordered 145 ultra-light 155 mm/52 howitzers from USA in September 2013.

- The Army Air Defence is an extremely important arm as it provides Low Level Air Defence. Two Regiments of indigenous Akash Missiles have been ordered from DRDO. Further trials are on for Very Short Range and also Short Range missiles.
- High Technology aspects concern Artificial Intelligence, Robotics, Nano Technology, Non- Lethal Weapons, Directed Energy Weapons and NBC warfare. Research in all these fields is progressing at a steady pace. Artificial Intelligence and Robotics are in a nascent stage of development. Rapid strides are needed to be taken in the field of Nano technology and it would lead to reduction of size and weight which would be suitable for our High Altitude and Glaciated regions.

### **11.1.2 Navy**

The Indian Navy has been focusing on developing indigenous capabilities, systems, sensors and weapons as part of the nation's modernisation and expansion of its maritime forces. To secure our maritime Exclusive Economic Zones as also to maintain credible deterrence in the Indian Ocean our naval ships and aircrafts are deployed from the Gulf of Aden to the Western Pacific on an almost 24x7 basis.

The emerging threat from China in the Indo Pacific arena as also the Chinese muscle flexing by deploying more naval assets is posing security challenges which need to be addressed at the earliest. To mitigate such threats many actions have been taken for the modernisation of the Navy. The main highlights are as under:

- India has kick-started an ambitious project to build six nuclear-powered attack submarines that is expected to boost the Navy's overall strike capabilities in the face of naval build-up by other countries and increasing military manoeuvring in the Indo-Pacific region.
- There are 34 ships under construction and projects worth Rs 40,000 crores have been identified for participation of the private shipyards.
- In near future Indian Navy surface combatant fleet is likely to be
  - 03 Carriers
  - 10 Destroyers
  - 24 Frigates
  - 20 Corvettes
  - 20 Submarines
- Indian warships' primary air-defence cover is provided by the Barak-1 Surface to Air Missile. An advanced version of Barak-8, developed in collaboration with Israel has also entered service. India's next-generation Scorpene class

## **Module -IV**

### **Indian Armed Forces : Weapons and War Equip- ment and Modernisation**



**Note**



Note

submarines will be armed with the Exocet anti-ship missile system. Among indigenous missiles, a ship-launched version of Prithvi-II, called the Dhanush, which has a range of 350 kilometres (220 mi), can carry a nuclear warhead.

- The Indian Navy is inducting the indigenous HAL Dhruv as a multi-role utility platform. In the long-range maritime reconnaissance (LRMR) role, the navy uses Boeing P-8I Neptune and has issued a global tender for nine medium-range maritime reconnaissance (MRMR) aircraft for coastal defence.
- Attack submarine INS Chakra and the development of INS Arihant make the Indian Navy one of six navies worldwide, capable of building and operating nuclear-powered submarines.

### 11.1.3 Air Force

The IAF is authorised 42 squadrons of Aircrafts. Each Squadron is authorised 18 aircrafts. Today it has a strength of 32 squadrons only. It also had to phase out its vintage MiG 21 and MiG 27 fleet that together form 11 squadrons. With threats looming large on two fronts i.e China and Pakistan, the IAF is in dire need of upgradation and modernisation. To augment the fighting potential of the IAF, the steps being taken are highlighted as under:

- 36 Rafale Fighter aircrafts, the state-of-the-art fighter aircrafts, are being purchased from France. The delivery is to begin soon.
- The other deal that has started rolling are the 83 Tejas 1A aircraft. Tejas is a single engine, multi-role fighter aircraft designed and built by India.
- A deal for 22 Apache AH 64 attack helicopters and 15 Chinook heavy-lift helicopters was signed in September 2015 when Prime Minister visited US. Both the helicopters are manufactured by Boeing. The Apaches will replace the aging MI 35E attack helicopters while the Chinooks will serve as a replacement for the MI 8 Russian helicopters.
- IAFs acquisition of the C-130J Super Hercules and C-17 Globe master III has increases the needs of special missions also of the strategic military lift capability.
- IAF has started upgrading its combat aircraft fleet since the last few years in order to enhance its operational capability and maintain its aircraft as modern weapon platforms, capable of meeting the present challenges posed by the security scenario in our region. It is also considering to upgrade its medium lift helicopters comprising MI-8, MI-17 and MI-17-IVs, as also the AN - 32 transport aircraft, with the aim of improving their overall capability.
- There are also plans to induct very many advanced aircrafts in the field of Mid Air Refuelling, Trainer jets, Airborne Warning systems, Unmanned Combat Aerial Vehicle, Cruise and Surface to Air Missile Systems.



**Intext Questions**

**11.1**

1. Ship-launched version of Prithvi-II is called the \_\_\_\_\_.
2. IAF is planning to phase out MIGs \_\_\_ and \_\_\_ from service.
3. The Apaches will replace the aging \_\_\_\_\_ attack helicopters.

**11.2 Challenges in implementation of Modernisation of Armed Forces**

You have seen how advances in science has improved the weapon system and fighting capabilities of the armies the world over. Economy plays a major role in modernisation of the armed forces. We have to balance our requirements to maintain and modernise the armed forces with other development efforts. The major aspects that need to be understood on modernising the armed forces are given below:

- **A Military Strategy to address National Security-** National security is determined by the threats that a nation faces. Military strategy is the ability to identify and respond to a threat. In olden times armies fought in battlefield. Today there are terrorist, insurgency and cyber threats. The armed forces have to modernise to face such threats.
- **Economy -** The country's economy is determined by the Gross Domestic Product (GDP). The bigger the GDP the faster is the economic growth. Faster the economic growth, quicker will be the modernisation of the armed forces.
- **Adequate Budget Allocation -** Defence is allotted budget every year as part of the country's yearly budget. Modernisation requires a huge allocation since modern arms and ammunition are purchased from other countries. This allocation of budget depends upon the economic growth. India is now under 'Make in India' project and is hoping to reduce dependence on other countries and also save money.
- **Research in Military Technology, Artificial Intelligence and Cyber Warfare -** A portion of the defence budget is given to research and development. A good research and development will make the country self sufficient in critical technology. For this we must modernise Defence Research and Development Organisation (DRDO), and Defence Public Sector units such as, Ordnance Factory Board (OFB), Bharat Electronics Limited, Bharat HeavyElectrical etc.



**Intext Questions**

**11.2**

1. India is largest importer of arms in the world. True or False
2. What is the full form of DRDO?

**Module -IV**

**Indian Armed Forces :  
Weapons and War Equip-  
ment and Modernisation**



**Note**

## Module - IV

### Indian Armed Forces : Weapons and War Equip- ment and Modernisation



Note

## Modernisation of The Indian Armed Forces

3. Name any one DPSU.
4. Mention any three challenges being faced by the Armed Forces in the way of modernisation.



### ACTIVITY 11.1

Do you know how many Defence Public Sector undertakings are there in India? Find out their numbers, names and the items being manufactured by each enterprise.



### What You Have Learnt

In this lesson you have learnt about threat perceptions in our neighbourhood and thereafter the various modernisation proposals which are in the planning stages or in the delivery stage. The reasons for the slow pace of modernisations have been enumerated.



### Terminal Exercises

1. What are the major weapons that are being planned to be procured for the Army?
2. Explain the challenges facing the Army's modernisation programme.
3. Why does Indian Armed Forces need urgent modernisation?



### Answers to Intext Questions

#### 11.1

1. Dhanush
2. MIG 21 and MIG 27
3. MI 35 Helicopters

#### 11.2

1. True
2. Defence Research Development Organisation
3. Hindustan Aeronautics Limited
4. Challenges
  - (i) A military strategy to address national security.
  - (ii) Economy
  - (iii) Adequate budget allocation

