Indigenisation of Defence

What is Indigenisation of Defence?

- Indigenisation is the capability of **developing** and **producing** any defence equipment within the country for the dual purpose of achieving **self reliance** and reducing the **burden of imports**.
- Self-reliance in defence manufacturing is one of the key objectives of **Department of Defence Production**.
- **Defence Research Development Organisation (DRDO), Defence Public Sector Undertakings (DPSUs), Ordnance Factory Board (OFB)** and private organisations are playing a critical role in indigenisation of defence industries.

Background

- Overdependence on the Soviet Union, brought about a change in India's approach to **defence industrialisation** from **licence based production** to production based on **indigenous design**.
- From the mid-1980s, the government pumped resources into **R&D** to enable the DRDO to undertake high profile projects.
- A significant beginning in defence indigenisation was made in 1983,when the government sanctioned the **Integrated Guided Missile Development Programme (IGMDP)** to develop five missile systems:
    - **Prithvi** (surface-to-surface)
    - **Akash** (surface-to-air)
    - **Trishul** (the naval version of Prithvi)
    - **Nag** (anti-tank)
    - **Agni** Ballistic missiles with different ranges, i.e. Agni (1,2,3,4,5)
- In 1990 **Self Reliance Review Committee** (SRRV) under A.P.J. Abdul Kalam, had formulated a **10-year self-reliance plan** under which, the **self-reliance index (SRI)**, (defined as the percentage share of indigenous content in total procurement expenditure), was to be increased from 30% in 1992-1993 to 70 % by 2005.
    - This target has not been achieved till today.
- The indigenous efforts were not adequate to meet the requirements of the armed forces, this resulted in the shift of focus towards **co-development** and **co-production** in partnership with foreign companies.
- A beginning was made in 1998, when India and Russia signed an **inter-governmental agreement** to jointly produce **Brahmos supersonic cruise missile**.
- Apart from Russia, India has also partnered with other countries such as **Israel and France** for a number of projects.

Why Indigenisation?

- **Reducing Fiscal Deficit:** India is the second **largest arms importer** in the world (after Saudi Arabia).
    - Higher import dependency leads to increase in the fiscal deficit.
    - Despite having the **fifth largest defence budget** in the world, India procures 60% of its

weapon systems from foreign markets.
    - India can export its indegeneous defence technology and equipment to the neighbouring nations.
- **Security Imperative:** Indigenisation in defence is critical to **national security** also. It keeps intact the technological expertise and encourages spin-off technologies and innovation that often stem from it.
    - Indigenisation is needed in order to avert the threats associated with the frequent **ceasefire violations** like that of the Uri, Pathankot and Pulwama attacks.
    - India being surrounded by **porous borders and hostile neighbours** needs to be self sufficient and self reliant in defence production.
- **Employment generation:** defence manufacturing will lead to the generation of satellites industries that in turn will pave the way for generation of employment opportunities.
    - As per government estimates, a reduction in **20-25%** in defence related imports could directly create an additional 100,000 to 120,000 **highly skilled jobs** in India.
- **Strategic Capability:** self sufficient and self reliant defence industry will place India among the **top global powers**.
- **Nationalism and Patriotism** can increase with indegenious production of defence equipment, that in turn will not only boost the **trust and confidence** of the Indian forces but will also strengthen a sense of **integrity and sovereignty** in them.

Government Initiatives

- **Defence Procurement Policy:** based on the recommendations of the **Dhirendra Singh committee,** Defence Procurement Procedure 2016 (replaced DPP 2013) added an additional category **“Buy (Indian-IDDM)”** i.e Indigenously Designed, Developed and Manufactured, as the most preferred way of defence goods acquisition.
    - DPP allowed the **Defence Acquisition Council** to take a **"fast-track"** route to acquire weapons, something which was limited to only the armed forces till now.
- **E-Biz Portal:** process of applying for Industrial License (IL) and Industrial Entrepreneur Memorandum (IEM) has been made completely online on ebiz portal.
- **Restriction of annual capacity** in the industrial license for defence sector has been removed.
- **Outsourcing and Vendor Development Guidelines:** for DPSUs (defence public sector undertaking) and OFB (ordnance factory board) to promote the participation of private sector, particularly SMEs (small manufacturing enterprises) for defence manufacturing.
    - The guidelines mandate that each DPSU and OFB to have a **short-term** and **long-term outsourcing** and **vendor development plan** to gradually increase the outsourcing from private sector including SMEs.
    - The guidelines also include vendor development for **import substitution**.
- **Uniform custom duty:** In order to establish a **level-playing field** between Indian **private sector and the public sector,** all Indian industries (public and private) are subjected to the same kind of **excise and custom duty levies**.
- **The FDI policy:** composite foreign investment upto **49%** is allowed through Government route (FIPB) and beyond 49% with the approval of the Cabinet Committee on Security (CCS) on case-to-case basis.
    - Restrictions such as **single largest Indian shareholder** to hold at least **51% equity** and complete restriction on **Foreign Institutional Investor (FII)** have been removed to facilitate investment in the sector.
- Preference to **'Buy (Indian)'**, **'Buy & Make (Indian)'** & **'Make'** categories of acquisition over **'Buy (Global)'** category, thereby giving preference to Indian industry in procurement.

Present Scenario

- **INS Vikrant,** also known as Indigenous Aircraft Carrier 1 (IAC-1), is the first aircraft carrier to be built in India for the Navy.

    - It is expected to commence **sea trials in 2020**.
- **Tejas aircraft:** DRDO is not able to develop its indigenous Kaveri engine due to restricted access to high-end defence technology by countries such as USA, JAPAN etc.
- **Project75:** Indian Navy in 2017, initiated submarine programme called Project-75 (India), the **"mother of all underwater defence deals"** with France, Germany, Russia, Sweden, Spain and Japan to build six advanced stealth submarines.
    - Project 75 Submarines **INS Kalvari, INS Khanderi, INS Vela, S53, S54 and S55** are constructed by Mazagon Dock Limited and designed by French company DCNS in Mumbai.
- **Long-range artillery gun "Dhanush":** first indigenous long-range artillery gun also called the **"desi Bofors"**.
    - It has a strike range of 38 kilometres and **81% of its components** are indigenously sourced.
- **Arihant: first indigenous nuclear submarine** was developed in association with BARC and DRDO.
    - But due to insufficient fuel inventor it cannot go for long deployment and is in a need for further improvement.
- **AGNI V** has given India the status of ICBM (Intercontinental ballistic missile) holder country in 2013, though the project on integrated guided missile development was started in 1983.
    - Apart from **AGNI V**, Dhanush, Nirbhaya, Prithvi, Akash missiles have also contributed to indigenisation of defence.
- **The Pinaka Multi Barrel Rocket Launcher:** was developed by armament Research Development Establishment (Pune).
    - Pinaka is a precision system with **near zero-error probability**.
- **Supersonic Cruise Missile BRAHMOS:** is a Joint Venture between India and the Russian federation.
    - The Indian contribution is 50.5% and the Russian contribution is 49.5%
- **Arjun Tank** is a third generation main battle tank developed by DRDO.
    - DRDO is working on using composites to reduce the weight.

Facts and Findings

- According to the Stockholm International Peace Research Institute (SIPRI), **India was the world's second largest importer** of major arms in 2014-18 and accounted for 9.5% of the global total.
- According to the Stockholm International Peace Research Institute (SIPRI), India's military expenditure rose by 3.1%.
- In a **2011 report** to the Parliament, the Comptroller and Auditor General of India (C&AG) highlighted the 90% import dependency of Hindustan Aeronautics Ltd (HAL) for 'raw materials and bought out items' for the production of indigenous .
- India has been spending around **2.4% of its GDP** on defence.
- The **Self-Reliance Index** (SRI) which may be defined as the ratio of indigenous content of defence procurements to the total expenditure on defence procurements in a financial year is at an abysmal 0.3.

Challenges

- **Lack of an institutional capacity and capability** to take different policies aimed at indigenisation of defence to its logical conclusion.
- **Dispute Settlement body:** There is an urgent need for a **permanent arbitration committee**

which can settle disputes expeditiously.

    - In the USA, the procurement agency DARPA has a permanent arbitration committee which resolves such issues amicably and their decision is final.
- **Infrastructural deficit** increases India's logistics costs thus reducing the country's cost competitiveness and efficiency.
- **Land acquisition issues** restrict entry of new players in the defence manufacturing and production.
- **Policy dilemma** offset requirements under the DPP are not helping it achieve its goal. (Offsets are a portion of a contracted price with a foreign supplier that must be re-invested in the Indian defence sector, or against which the government can purchase technology.

Way Forward

To ensure indigenisation of defence the government no doubt is heading in the right direction by laying emphasis on **"Make in India"**. It is the implementation that needs to be fine tuned. Some of the steps that can be taken in this direction are:

- **Permanent Arbitration Cell** can be set up to deal with all objections and disputes.
- **Private Sector boost** is necessary as it can infuse efficient and effective technology and human capital required for modernisation of indegenious defence industry.

    - The private sector must be allotted big ticket contracts in order to strengthen their confidence and reduce the **trust deficit between private and government sector**.
    - Ensure a **level playing field** for the private industry, DRDO, DPSUs and OFB.
- **Export capability:** If the aim is to achieve export capability, then the weapon system must first be in service with our armed forces.
- **Software Industry** and technologies like **Artificial intelligence and cyber security** should be used to develop and manufacture the “chip” indigenously.
- **Providing Financial and Administrative autonomy** to DRDO in order to enhance its confidence and authority.
- **Training and Tenure:** The staff at the **Department of Defence Production** need to be trained and given longer tenures to ensure continuity.
- **Investee Company** should be structured to be **self-sufficient in areas of product design and development**. The investee/joint venture company along with manufacturing facility should have maintenance and life cycle support facility of the product being manufactured.
- **In-house design capability should be improved** amongst the three services, the Navy has progressed well on the path of indigenisation primarily because of the in-house design capability, the Naval Design Bureau.

    - Hence, they do not have to depend on the DRDO for the design & development of the complete ship, but outsource the sub-systems for them to develop.
- **Robust supply chain** is critical for a defence manufacturer looking to optimize costs.

    - Indian SMEs are playing a key role in the global supply chain of OEMs (Original Equipment Manufacturer).