

## Overhauling Defence Research and Development Organisation (DRDO)

### Why in news?

It is necessary to focus the Defence Research and Development Organisation (DRDO) that performs research activity for the Armed Forces.

### What is DRDO?

- **Ministry** - Department of Defence Research and Development, Ministry of Defence
- **Role**- Military's research and development
- **Headquarters**- New Delhi, India
- **1958**- It was formed by the merger of the
  - Technical Development Establishment
  - Directorate of Technical Development and Production of the Indian Ordnance Factories
  - Defence Science Organisation
- **1979**- Defence Research & Development Service (DRDS) was constituted in 1979.
- **Motto**- "*Balasya Mulam Vigyanam*" - "The source of strength is science"

The [\*Integrated Guided Missile Development Programme \(IGMDP\)\*](#) under [\*A P J Abdul Kalam\*](#) is the most prominent success of DRDO.

### Why are the issues in DRDO?

- **Low performance**- Its performance has been low over the years causing much disappointment in the armed forces.
- **Organisational issues** - DRDO has done excellent work in flashes but this has been more due to *individual brilliance* and not because of organisational effectiveness.
- **Time constraints**- Electronic Warfare systems versions have also been successful, but the procedure to adopt have been slow.
- Product realisation timelines have been excessive and end products are often dated by the time they are fielded.
- **Long term trials**- The trials go on for years with little assurance that the desired end state will be reached. This situation needs correction.

### Why DRDO needs ISRO overhaul?

About	ISRO	DRDO
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<b>Limited focus</b>	Sharp Focus- Space applications technologies such as propulsion, material science, control, navigation, imaging and tracking.	Expanded scope- Underwater, surface and air, results in dilution of focus.
<b>Capability</b>	ISRO is being the developer, launcher and controller all in one, ready their product.	DRDO is only the developer thus causing a serious of cohesion and persistence from design to realisation

- **Conflict of interest-** Once a prototype is successfully developed, there are production agencies and users that have separate responsibilities for serial production, trials and acceptance.
- The user groups change frequently during the development of a product by the DRDO, leading to a slowdown of projects.

### What needs to be done?

- **Audit-** A thorough audit of all our DRDO laboratories, encompassing processes, organisation and workforce should be undertaken.
- **Review research-** The degree to which DRDO conducts fundamental research also needs review.
- **Proper examination-** Skewed teeth-to-tail ratios and the top-heavy nature of the organisation must be examined.
  - *The tooth-to-tail ratio refers to the amount of military personnel ("tail") it takes to supply and support each combat soldier ("tooth").*
- **Critical assessment-** DRDO laboratories' contribution towards enhancing the combat-readiness of our armed forces must be critically assessed.
- **Infrastructure regulation-** Laboratories which not serving their envisaged purpose should be wound up.
- **Productive agencies-** The performance of production agencies as also the involvement and value-addition by user groups must be evaluated and made more productive.
- **Widen the disciplines-** The armed forces must define *niche disciplines* in which DRDO should expend its efforts.
- **Technology share-** ISRO and DRDO must share technologies that overlap between space and defence domains.
  - Kalam's long association with ISRO and the continuity he provided to the IGMDP would have been two big reasons for the success of the programme.
- **Indigenization- [Self-reliance in the defence industry](#)** will enhance India's strategic independence and promote development in the country's domestic defence and aerospace industry.

### Quick Facts

## Indian Space Research Organisation (ISRO)

- It is the national space agency of India.
- **Headquarters**- Bangalore, Karnataka
- **1962**- It was previously known as the *Indian National Committee for Space Research (INCOSPAR)*
- **1969**- INCOSPAR grew and became ISRO in 1969, within the Department of Atomic Energy (DAE).
- **1972**- The Government of India set up a Space Commission and the Department of Space (DoS), bringing ISRO under it.
- **Control**- It operates as the primary research and development arm of the (DoS), which is *directly overseen by the Prime Minister*.
- **Executive**-The Chairman of ISRO acts as the executive of DoS.
- **Role**- Responsible for performing tasks related to space-based operations, space exploration, international space cooperation and the development of related technologies. To know more about ISRO, click [here](#)

## References

1. [Indian Express- India's defence ecosystem needs ISRO overhaul](#)
2. [ISRO- About ISRO](#)
3. [DRDO- About DRDO](#)

