Atmanirbharta
Speedy Modernisaton of India's Defence Weaponry

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'Atmanirbharta' or self-reliance in the field of defence is extremely important for a nation, especially during conflicts when one has to bank on the country's resources to continue operations seamlessly. In the ongoing Russia–Ukraine War, it can be seen that Russia has been able to sustain the war effort by increasing its defence production and is also getting a steady supply from North Korea and Iran.

In order to boost indigenisation, the current government in India has taken a few significant steps under the 'Make in India' programme, one of them being the Defence Acquisition Procedure-2020 (DAP-2020), which was released by the Raksha Mantri on 28 September 2020. The DAP-2020 lays down the process for encouraging domestic procurement, which will help the domestic industries.[1] The launch of the scheme called Innovations for Defence Excellence (iDEX), SRIJAN, a new portal created for indigenisation, and establishment of two defence corridors are some other initiatives taken towards enhancing self-reliance. At the same time, emphasis is also being given on exporting products pertaining to defence.[2]

These are a few steps in the right direction, however, it is also important to note that the armed forces have to face ground realities based on the

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current threat perspective. In this regard, the commentary aims to examine a pragmatic approach to procurement under current conditions. To begin with, the threat from the northern adversary, China, needs to be discussed.

Visualised Security Concerns

Whether it is about the border in Ladakh or the Arunachal sector, China has been assertive and causing border incursions. The 21st round of border talks held on 19 February 2024 at the Chushul–Moldo border in Eastern Ladakh, did not see any progress as China did not agree to disengagement. The Chinese continue to remain at Depsang and Chardingla,[3] and are leaving no stone unturned to modernise at top gear.[4] China is also equipping Pakistan to modernise thereby preparing a two-front scenario for India. In these circumstances, the Indian armed forces have to be prepared for any misadventure from China.

Speeding Up the Process

Modernisation is the need of the hour for the Indian Army, Navy and Air Force, with the focus on becoming 'atmanirbhar' or self-reliant. Despite best efforts, the operational situation has compelled India to import arms heavily. While the process started about 25 years ago, it had to undergo various iterations of defence procurement. India is currently the largest importer of arms though the percentage is dropping incrementally every year. In terms of arms supplies, the top importer was Russia followed by France, during the period 2018–2022.[5]

As regard the DAP-2020 released by the current government, it is pertinent to note that the Long-Term Integrated Perspective Planning has been modified to Integrated Capability Defence Plan (ICDP), which would cover ten years unlike the previous procedure. The Offset policy has been modified as also the trials. These would now restrict itself to just core operational parameters.

Reality Check

While modernisation is undoubtedly taking place, there is a need to accelerate the process. A few issues meriting importance are listed below:

- The real-time inputs from satellites are extremely important for Intelligence, Surveillance and Reconnaissance (ISR) operations. At

present, India has a satellite for the Navy and another one for the Air Force. The Army is yet to get a satellite. It is worth noting that China has numerous satellites for providing real-time ISR.

- As of the date of writing this commentary, India has two aircraft carriers—INS Vikrant and INS Vikramaditya. INS Vikramaditya is an old aircraft carrier and an additional aircraft carrier would be required for undertaking operations in the Arabian Sea and the Bay of Bengal.
- As on date, Indian Navy has two nuclear powered ballistic missile submarines (SSBNs). The SSBN forms an important part of the Triad, for which a minimum of three SSBNs are required. India is planning to have six SSBNs.
- Indian Navy is focusing heavily on indigenisation. Currently 68 ships are on order which would take the total to 165 ships. The Chinese Navy on the other hand has 556 ships and therefore it is crucial to augment our capability to counter this force effectively.
- India has 31 squadrons of fighter jet aircraft[6] in service at present and this number is expected to rise to 35–36 squadrons by 2030. An order for 83 Light Combat Aircraft, Tejas Mk 1A is already in place. The long-term plans are for Tejas MK2 and six squadrons of the Advanced Medium Combat Aircraft (AMCA). It is pertinent to note that Tejas Mk 2 and the 5th generation AMCA are still in design phase. India in an agreement with the US will manufacture GE F 404 engine at HAL Bangalore for the Tejas aircraft.
- There are quite a few items on the modernisation list from the Indian Army. Practically all major platforms from tanks to rifles and artillery guns are being modernised.
- The erstwhile Ordnance Factory Board (OFB) has been reorganised into seven Defence Public Sector Undertakings (DPSUs). To optimise their production capability, their products need to be promoted abroad for exports.
- India's exports in the field of defence have skyrocketed to an all-time high, touching Rs 16,000 crores in the Financial Year 2022–23.[7] These include Akash missile, BrahMos, Pinaka, Dornier-228, thermal imagers, 155 mm Advanced Towed Artillery Guns (ATAGs), Radars, simulators, body armours, and mine protected vehicles. It may be noted that the share of private players has increased but the share of DPSUs has reduced.

- China is currently the lead player in cyber warfare and artificial intelligence (AI). Indian Armed Forces are gradually making inroads in this field. There is a lot of effort needed as these constitute the basic elements of 'No Contact Warfare'.

The Australian Strategic Policy Institute (ASPI) published its findings in a report in March 2023, as per which China leads in 37 of 44 key categories including some that are to play a major role in China's push for military prominence in the Indo-Pacific and beyond.[8] It is rather amazing that China has a commanding lead over the US in hypersonics, electronic warfare and key undersea capabilities. The leads are so emphatic that they create a significant risk that China might dominate future technological breakthroughs in these areas. In the field of hypersonics, China produces more than 73 per cent of all high impact research on hypersonics. There are areas where US has an edge, for example, Autonomous Systems, Quantum Computing in some areas of AI and protective cyber security. However, there are conflicting reports that put China ahead of the US in many areas.[9]

Way Ahead

It is logical to ask how India can move ahead from where it stands today. China is modernising at a very fast pace and India must catch up quickly. While China is at the Innovative Stage, India can be said to be at the Catch-up Stage. However, if appropriate steps are taken, it would not be difficult for India to further accelerate development in the field of defence technology, thereby improving deterrence and thus, preventing a Chinese misadventure, if it happens. Rationalised Capability Development would enable India to deter by denial and possibly by punishment.

This would be possible by an all-of-government approach where modernisation of the Army, Navy and Air Force is given the highest priority. The Department of Military Affairs will need to take the lead and come up with a priority list, which would be a must for the three services. These would include fourth/fifth generation fighters, helicopters, drones, aircraft carriers, hypersonic missiles, submarines, tanks, guns, rockets and Direct Energy Weapons. Two examples which need to be mentioned here are the Atomic Energy Commission and the Indian Space Research Organisation (ISRO). It is also important that the private industry is provided a level-playing field and most of the projects follow the Public–Private Partnership (PPP) model.

There are three success stories worth mentioning here. The first is the Supersonic Cruise Missile BrahMos. This is a private sector company, a joint venture between DRDO and NPOM of Russia, which has been supplying state-of-the-art equipment to the Indian armed forces. It has 260 private firms working with it and is currently exporting missiles to Philippines. The second product is the Pinaka Multi Barrel Rocket Launcher. Currently planned to range 60 km, the rocket is a joint collaboration between the DRDO, TATAs and L&T. The ammunition is manufactured by a DPSU. The Indian Army has operationalised the equipment and it is being exported to Armenia. The Advanced Towed Artillery Gun System (ATAGS) is again a joint collaboration between DRDO and TATA Power as well as Bharat Forge. This is an excellent weapon system and is being inducted. It should be noted that the TATAs are collaborating to make a transport aircraft and L&T has been a reliable builder of warships and self-propelled guns.

We are in the era of multi-domain operations. Cyber and AI would play a critical role in these areas. There are numerous private players which are specialists in this field. It would be wise for the DRDO to get the correct collaborations in this field.

Two other aspects of extreme importance are Cyber and Artificial Intelligence. At present, the focus is on Cyber Defence and to attain deterrence needed for employing people in the private sector.

Group of Specialists

While the Ministry of Defence, the Chief of Defence Staff and the three Service Chiefs are making efforts to accelerate modernisation, there needs to be a group of specialists headed by a three- or two-star General with representatives comprising one each from the Army, Navy, and Air Force and one from DRDO who understand the process and ensure the process is streamlined and driven to attain targets set for a given period. A monthly update would be definitely pragmatic. They should act as catalysts for the entire process being updated, which would include the ten years Integrated Capability Defence Plan (ICDP), the five years Defence Capability Acquisition Plan (DCAP) and Annual Acquisition Plan (AAP). They should be able to chase the entire system and have direct access to the Raksha Mantri, the Defence Secretary, the Secretary Defence Production and the three Service Chiefs. They should make optimum use of the five DRDO Young Scientist Laboratories (DYSLs) to provide technological solutions in the field of AI, Quantum, cognitive, asymmetric and smart materials related to future military warfare. They would

be able to provide impetus to the modernisation process. Another area where they could be useful is to understand in some cases the need to have a mix of technologies from abroad in conjunction with indigenous development. This would be particularly applicable to fields pertaining to new and future generation of weapons. 'Atmanirbharta' would be pragmatic only if there is a right mix of *desi* (local) and *videsi* (foreign). The group would be a Force Multiplier.

Conclusion

The Chinese are modernising the Armed Forces at breakneck speed. They are also modernising the Pakistan Armed Forces thus increasing the likelihood of a two-front war. Keeping this into consideration, India needs to modernise its armed forces with speed and military precision. While the measures adopted are able to step up the production, there is need for greater coordination and acceleration, which the Group of Specialists will be able to undertake. Overall, this is extremely important and must be accorded the highest priority.

Notes

1. Amit Cowshish, 'Decoding Defence Acquistion Procedure 2020', Issue Brief, Manohar Parrikar Institute for Defence Studies and Analyses (MP-IDSA), 20 November 2020, available at https://idsa.in/issuebrief/decoding-dap-2020-acowshish-201120.
2. 'Atmanirbhar Bharat Initiative in Defence Production', Press Information Bureau, Ministry of Defence, Government of India, 1 April 2022, available at https://pib.gov.in/PressReleasePage.aspx?PRID=1812297.
3. 'India, China Hold Fresh Round of Military Talks', *The Hindu*, 21 February 2024, available at https://www.thehindu.com/news/national/india-china-hold-fresh-round-of-military-talks/article67870105.ece.
4. Kartik Bommakanti and Harris Amjad, 'China's Military Modernisation: Recent Trends', Occasional Paper No. 398, Observer Research Foundation, April 2023, available at https://www.orfonline.org/research/chinas-military-modernisation-recent-trends-3.
5. Pieter D. Wezeman, Justine Gadon and Siemon T. Wezeman, 'Trends in International Transfers, 2022', SIPRI Factsheet, March 2023, available at https://www.sipri.org/publications/2023/sipri-fact-sheets/trends-international-arms-transfers-2022.
6. Suman Sharma, 'The Indian Air Force's Falling Squadron Strength', *European Security & Defence*, 10 March 2023, available at https://euro-sd.com/2023/03/articles/29983/the-indian-air-forces-falling-squadron-strength/.

7. 'India Witnesses Record Defence Exports and Defence Production in 2023', *CNBC TV18*, 22 December 2023, available at https://www.cnbctv18.com/india/india-witnesses-record-defence-exports-and-defence-production-in-2023-18631161.htm.
8. Jaime Gaida, Jennifer Wong Leung, Stephen Robin and Danielle Cave, 'ASPI's Critical Technology Tracker: Sensors & Biotech Updates', Australian Strategic Policy Institute, 1 March 2023, available at https://www.aspi.org.au/report/critical-technology-tracker.
9. P.K. Chakravorty, 'Pragmatic Approach to Procurement', Vivekananda International Foundation, 6 October 2023, available at https://www.vifindia.org/article/2023/october/06/Pragmatic-Approach-to-Procurement-for-the-Indian-Armed-orces.