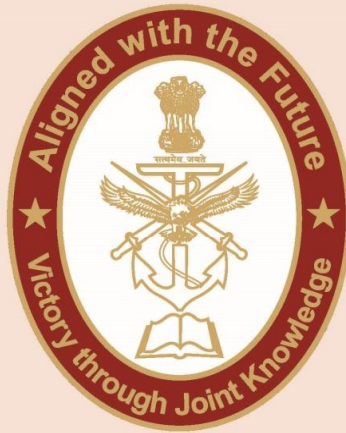


CENTRE FOR JOINT WARFARE STUDIES



CENJOWS

**DEVELOPMENT OF
INDIAN DEFENCE
INDUSTRY – A
MACRO LEVEL
PERSPECTIVE**



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India's lack of a well developed, strong and a robust defence industry is a matter of grave concern as it makes India dependent on imports for about 70% of her defence equipment. The SIPRI Year Book 2020 lists India as the world's second largest arms importer accounting for 9.2% of the import share during the period 2015-19 and in value terms it is \$16.75 bn. Even prior to this period India had been listed as one of the world's top three arms importers. In the case of China, which is our adversary and with whom we have an unresolved border of 3488 km and poses a grave threat to our territorial integrity, it is worth noting that China which till 2010 was the world's largest arms importer has now become the 5th largest arms exporter in the world accounting for 6% of the export share. The fact that India is a long way off in achieving her goal of being self reliant in defence equipment, does have a direct bearing on the operational preparedness, as also, on the operational efficacy of the Indian Armed Forces. The aspect of import dependency for defence equipment in the case of India becomes all the more disturbing and a matter of very serious concern because of the full time operational commitment of the Indian Armed Forces of manning the

disputed borders with two of her adversaries, as also, employment in counter insurgency operations in the Union Territory of Jammu & Kashmir and the North East. Furthermore, it needs to be appreciated that having the third largest Armed Forces in the world with the Indian Army being the second largest, it is absolutely necessary in the national interest, as well, a strategic imperative to be self reliant in defence equipment and for that the Indian Defence Industry has to be developed at all costs.

The ramifications of such a high level of India's import dependence for defence equipment on the country's national security are very grave. This can be seen from the necessity of our operational commitment of manning the line of control and Siachen Glacier against Pakistan and guarding the unresolved border with China. Further, the adverse effects of high import dependency were there for all to see during the Kargil Conflict in 1999 when we had to rush to procure emergent requirements of arms and ammunition from abroad. Now after two decades we are once again faced with the similar situation of being forced to import equipment worth \$1.11 bn make up partially our voids in essential operational capabilities to counter the standoff with China in Eastern Ladakh which is going to be a long drawn out affair.

Current State of Indian Defence Industry

The Indian Defence Industry as late as 2000 basically consisted of the public sector entities of the Ministry of Defence, namely, 41 Ordnance Factories, nine Defence Public Sector Undertakings (DPSUs) which include four shipyards and the DRDO. The defence sector got opened to the private sector only in 2001 and presently the major private players are the TATA Group, Mahindra Defence, L&T, Bharat Forge, Kirloskars and Leyland. The performance of the Ordnance Factories and the DPSUs in spite of having a large manufacturing base and liberal Govt funding has been extremely poor because of Govt's protective policies, having a captive clientele in the Armed Forces, not keeping pace with modernisation and overall inefficiency which is inherent in public sector enterprises. The Ordnance Factories and the DPSUs have the monopoly on their product range and the orders have

to be placed on them only. The issue that merits attention is that of armaments and ammunition which is not open to private sector and here since the public sector does not have the required capacity the import route gets adopted. Thus of the 30% indigenously produced defence equipment the share of public sector is 21% and of the private sector 9%. DRDO having a huge establishment of 50 laboratories too has largely not been able to live up to the expectations in providing the required technology with many of its important projects having large time and cost over runs. A few illustrative examples in this regard are the projects for LCA (Tejas), MBT (Arjun), ATGM (Nag) and the Future Infantry Combat Vehicle (FICV) that have had or are seeing very large time over runs. Also, these indigenous development projects are having fairly large import content. However, at the same time we also need to be fair to the DRDO by giving it its rightful due in the successful development of strategic weapon systems (Prithvi/Agni SSMs), ATV Project (Nuclear Armed Submarine) and the Pinaka Multi Barrel Rocket System to name a few.

Macro Level Issues Concerning Development of Indian Defence Industry

The issues at the macro level that need consideration are discussed below:-

- **R & D** The R & D is the most essential and important pre requisite for the development of a nation's defence industry. The DRDO which has been entrusted with the responsibility of defence R & D needs to focus on the state of the art and cutting edge technology. The centres of excellence like IIS, ISRO, BARC, IITs and Universities need to be coopted. Furthermore, the private industry must be integrated and liberal Govt funding and incentives given. Presently the allocation to DRDO is just 6% of the Defence Budget which is too inadequate and needs to be substantially enhanced. As a comparison US has 12% and China 20% of their defence budgets (which are many times higher in comparison India) for R & D and Israel too has a very high allocation. We need to take note of Israel, a very small nation, which since its creation in 1948 has been confronted with multiple security challenges

and the country's leaders giving a lot of attention to R&D in defence and hi-tech sectors in which its prowess is known worldwide. Some of the Israeli companies are the best in the world in developing high-tech innovative products for the defence sector. The Govt needs to take a holistic view of the scientific and technology related research funding at the national level as the present research allocations are minuscule in comparison to other developed countries. The talent induction and retention in DRDO is another area of major concern as DRDO is neither able to attract the best talent in the country nor retain the trained and experienced manpower which eventually gets poached by the corporate world. The user interface of DRDO which is a very important requisite is far too inadequate and there is also far too less of secondment/deputation of Armed Forces Officers as a large number of even the sanctioned appointments are vacant.

- **Technology Access.** There are no two opinions on the issue that availability of latest technology is crucial and a must for developing a modern, strong and robust defence industry. Till now whatever type of technology is available is not of the desired standards and is generally dated. The technology access, besides that developed by DRDO, has been in the form of transfer of technology (ToT) by the foreign OEMs. The ToT for technology access is not the best option as it has its own inherent limitations like not being upgraded to the next generation and the hard reality being that no OEM come what may will ever part with the complete technology and will keep back the critical part so as to ensure future dependency. It has also been experienced that the Ordnance Factories and the DPSUs have in majority of the cases not been able to either absorb the ToT satisfactorily or draw the intended pay offs; in a few cases the ToT based manufacturing had to be stopped due to recurring defects and the product imported from the OEM and in another even the ToT not being used at all till its expiry. The preferred options should be the joint ventures, co production or co development and tie ups should be there between foreign OEMs, private sector and the public sector. India needs to aggressively make all out efforts in accessing technology like the way it has been done by

China. An example being of acquiring a decommissioned air craft carrier from Ukraine, refurbishing it in China by employing Ukrainian engineers and inducting it in PLA-Navy as Liaoning and embarking upon construction of five more air craft carriers.

- **Opening up of the Defence Sector.** There are three policy decisions that have recently been taken by the Govt with the aim of increasing FDI and ensuring self reliance in defence sector as part of Atmanirbhar Bharat which is to make India self reliant in all spheres. The first one is raising the existing cap of 49% on the FDI to 74% through the direct route and to 100% by Govt approval so as to attract large foreign investment which has not been encouraging at all with the existing limit. The second is bringing out the draft Defence Production and Export Promotion Policy 2020 (DPEPP) which envisages to provide focused, structured and significant thrust to developing defence production capabilities of the country for self reliance and export. The third is a negative list of 101 items having import ban so as to give an impetus to domestic manufacturing. The negative list contains weapon systems, platforms, ammunition, armaments, certain category of aircrafts/ships. As a strategic consideration, the Indian Explosives Act needs to be amended so as to permit the private sector in the areas of ammunition and armaments with a view to enhance the capacity, improve quality and expedite indigenous development in these areas which have serious criticality and have a direct bearing on the operational preparedness of the Armed Forces to take to war at short notice.
- **Leveraging the Dynamics of Defence Market.** Indian defence market is the largest in the world on account of having the world's third largest Armed Forces, operational commitments on its unresolved borders, being the world's second largest arms importer and having the purchasing power. Thus it is most sought after by the global arms companies and the biennial Indian Defence Expositions reflect the same with the participation of arms companies increasing substantially in every edition. The aspect that is worth noting is that most of the

global arms companies are major revenue earners for their national economies, have their respective states patronage and form part of a state umbrella organisation like Rosonboro Export (RBE) of Russia, STE of Ukraine, Beltech of Belarus, Boomar of Poland; Israel has abnormally a very large number of arms companies and which enjoy state patronage, have a very aggressive marketing strategy and are major revenue earners. The European and US companies again follow aggressive marketing strategies. The share of Russia of arms imports to India which was earlier 70-75% has now come down to about 60% but the aspect to note is that India ends up paying the design and development costs of certain new generation weapon systems since Russia's requirements post Cold War have reduced drastically and it is India which is a major buyer for most of such weapon systems. A few examples being Smerch Multi Barrel Rocket System, MBT T-90 and S 400 Air Defence System. Thus it can be seen that India should be easily able to leverage the dynamics of its defence market in accessing high end technology, insisting on co development, co production and joint ventures. India needs to learn from China the way it was able to effectively leverage accessing modern technology for its defence industry and has been able to transform from being the world's largest arms importer to becoming the world's 5th largest arms exporter. Further, India should leverage in establishing manufacturing hubs in India for reason that these would be more cost effective, besides achieving self reliance quickly.

- **Structural Reforms in Public Sector.** Since Ordnance Factories and DPSUs form the main defence industrial base it is but logical to consider them as assets and make optimum use of these entities so as to enable them to compete on a level playing field with the private sector. This requires structural reforms, modernisation, quality control and setting up their integral R&D Centres. The Govt has recently approved Corporatisation of Ordnance Factories which is one of the major structural reforms that was long overdue. The Ordnance Factories and DPSUs have the capability of developing equipment/weapon systems in case proper coordination is there with

the concerned agencies of the Armed Forces. A very recent case in point is the manufacture of an upgraded 155 mm/45 Calibre Dhanush Howitzer based on the Bofors 155 mm/39 Calibre FH77B ToT provided to Ordnance Factories Board in 1988 and which had never been utilised. A decision was taken in 2012 to go in for the development and manufacture of the upgraded version for which a gun development team of Artillery and EME personnel was located in Gun Carriage Factory (GCF) Jabalpur. The gun has been successfully trial evaluated and 114 pieces inducted in Artillery in April 2019. I must also mention here the invaluable contribution of Lt Gen A Mukherjee who steered this project as DG Artillery and thereafter in the capacity of Consultant/Advisor with Ordnance Factories Board (OFB). A similar practice was adopted in the past in 1960s for development of 75/24 Howitzer and in 1970s for development of 105 mm IFG by locating a gun development team in GCF Jabalpur under Brigadier Gurdial Singh. The same practice can be considered for AFVs by DG Mechanised Forces. Another important aspect that needs to be considered is putting the Directorate General of Quality Assurance (DGQA) under the CDS for better accountability and transparency. This is necessary as the DGQA is part of the same Department of Defence Production under which the Ordnance Factories and DPSUs also come and most of the times the DGQA is under pressure to compromise on the quality checks of products due to which the interest of the users ie the Armed Forces suffers resulting in poor quality of equipment and safety issues in ammunition and armaments.

- **Export of Defence Equipment and Products.** Export of defence equipment and products is an important area for the sustenance of any defence industry, keeping pace with future technological developments, revenue generation and increasing the nation's global influence. India since the last five years has made a significant growth in defence exports and in the SIPRI Year Book 2020 for the period 2015-19 it is ranked 23 in the global arms export list with 0.2% share. India's ranking for 2019 was 19 and it is going to further improve with

the Govt setting a target of \$5 bn during the next five years which in all likelihood will be surpassed. India is exporting to 42 countries and must further increase its market share by focusing on smaller and under developed nations as they are not in a position to have defence manufacturing. These regions are Africa, Middle East and Asia.

Conclusion

The Indian Defence Industry needs to be developed into a modern, strong and a robust industry with the aim of achieving self reliance. This must be taken as a national commitment and considered as a vital national interest as it would be in conformity with the regional power status of India and her aspirations for a global power status by 2020-25.

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