Public-Private Partnerships (PPPs) and the Road to Self-Reliance in Defence: A Perspective

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Introduction

The Industrial Policy Resolution of 1956, under Schedule A, reserved 17 industries including arms and ammunition for the public sector.[1] Accordingly, the defence sector remained solely the domain of defence Public Sector Undertakings (PSUs), Ordnance Factory Board (OFB) and Defence Research and Development Organisation (DRDO) till 2001. However, the country had to resort to the import of ammunition for the Bofors artillery guns during the Kargil War from South Africa, amongst others, even though the country already had a large industrial base consisting of nine defence PSUs, 39 Ordnance Factories (OFs) and 52 laboratories of DRDO. The armed forces stared at the perils of dependence on imports during the war. On a positive note, post the Kargil War, the government decided to open the doors to the defence sector to the private industry. Thus, in May 2001, the government permitted 100 per cent participation by the Indian private sector, subject to licensing, with the aim to galvanise the country's defence industrial base for achieving self-reliance and indigenisation.[2]

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A strong defence industrial base assures enhanced security due to various valid reasons. Reduced dependence on foreign imports, the opportunity to create Intellectual Property (IP) and development of domestic technological capabilities which may have significant civil applications, are some of the obvious advantages of a strong defence industrial base. Besides, it encourages fair competition, promotes quality and provides a platform to tap export markets.

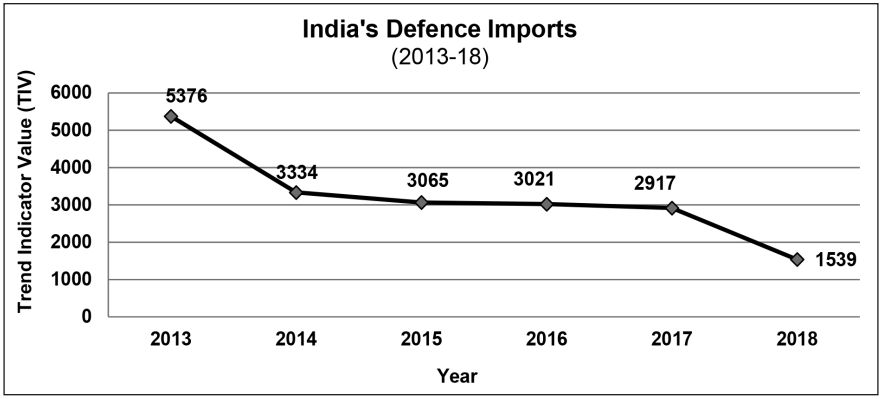
In view of this, the paper will discuss the following: the need to encourage Public Private Partnerships (PPPs); their advantages and disadvantages; the issues that remain to be tackled; the steps already taken by the government; and, finally, it will recommend measures to encourage the domestic private industry's participation in the defence sector in general and PPPs in particular.

How is India Meeting its Current Defence Arms/ Equipment Requirements?

Largest Arms Importer: India wore the unenvious crown of being the largest importer of weapons and equipment and accounted for 12 per cent (by value) of all global arms imports for the five-year period from 2013 to 2017.[3] The quantum of defence imports, however, has come down significantly, for the years 2017 and 2018. The latest report on "Arms Trade" by the Stockholm International Peace Research Institute (SIPRI), places India at 4th rank for the year 2018, behind Saudi Arabia, Australia and China, among the highest importers of arms. India's share in the overall global defence imports for the period 2014-18 is pegged at 9.5 per cent,[4] which is still not a desirable state. As per defence manufacturing statistics maintained by the Indian government, approximately 60 per cent of all capital procurements are ex-import.[5]

A chart depicting India's defence imports, based on Trend Indicator Values (TIVs) accorded by SIPRI, for the period from 2013-18, is as under:

Fig 1: India's Defence Imports (2013-18)



Source: SIPRI, 2018.[6]

Note: *The TIVs, used by SIPRI, are based on the known unit production costs of weapons and represent the transfer of military resources rather than the financial value of the arms transfers.

The industry is dominated by defence PSUs and OFs. These two together contribute about 90 per cent of the total domestic manufacturing output.[7] However, the production capacity of these public sector enterprises is not sufficient to meet the requirements of the armed forces in the contracted delivery timelines. Of the overall indigenous defence production, the private sector currently contributes a minor share, especially in the capital procurement. There is, thus, a strong case to further encourage Indian private industry to participate in the defence sector and enhance India's defence industrial base. PPPs in defence comprise one of the viable and credible options to provide a helping hand to the domestic private industry and enable it to contribute effectively in pursuit of India's stated goal to achieve self-reliance in defence.

What is a PPP?

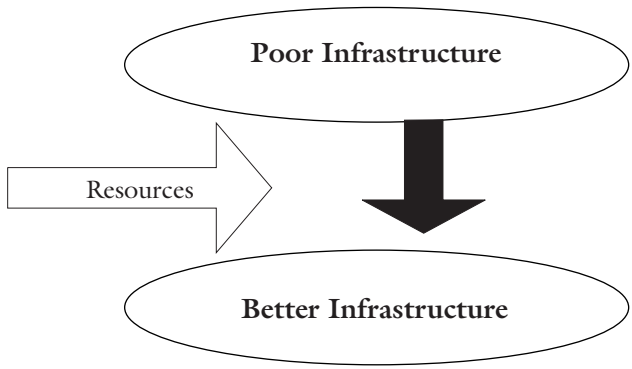
A PPP is a contract—often a long-term contract—between a government entity and a private entity(ies), most often a corporation(s). The goal of

the partnership is to provide public benefit, either an asset or a service. A key element of these contracts is that the private entity must make a certain amount of investment and take on a significant portion of the risk. The remuneration that the private entity receives for participation, as specified in the contract, would primarily depend on its overall performance.

Why are PPPs Required in the Defence Sector?

- **Requirement of Resources:** The defence sector needs an immense amount of resources. Herein lies the significance of the economics of PPPs in the defence sector. It is widely acknowledged that inadequate infrastructure reduces production capacity which, in turn, causes delays in meeting the required delivery timelines, raises per unit cost and makes product(s) less competitive. The resources that are required need substantial investments from private industry to build better infrastructure than what is feasible under an initiative that is wholly public or wholly private and improve upon existing capacities/ capabilities and sustain them.

Fig 2: Mapping the Relations



Source: Prepared by the author.

Positives of PPP: Some of the positives, in addition to the ones discussed above are as under:

- The PPP is a time-tested concept. It is widely acknowledged that the private industry brings with it investment, experience and dynamism. Besides, the inputs of the private entity during the consultation phase, may assist to keep the expectations from the proposed project, realistic.
- In the partnership, each participant is assigned the task that it does best. Hence, innovation and desired quality standards are likely to be achieved during the life-cycle of the project when the public and private entities work together. Speedy project completion is assured, as 'time-to-complete' the project would most likely be incorporated as a parameter for performance measurement.
- The project feasibility studies ensure that all related risks are analysed and deliberated upon in adequate detail. The operational and project execution risks may be shared between the entities, as agreeable to both parties.

Negatives of PPP: Some of the negatives are discussed as under:

- Every PPP involves a certain level of risk for the private entity and it logically expects to be compensated for accepting those risks. This may have an adverse impact, leading to cost escalation of the project, if the expected compensation is on the higher side.
- Reasonably accurate assessment of the proposed costs of the project may become a matter of debate, if the expertise for execution/ fructification lies with the private entity. Besides, in cases wherein, there are very few private entities that can perform the specified tasks, the lack of competition for cost-effective partnering is likely to hinder a better price discovery.
- The assessed benefits from the projects are likely to vary, depending on the risk, complexity, technology sought, competitive level and the size/volume of the project.

Major Projects Undertaken with Private Sector Participation

Indian industry, both public and private, has collaborated successfully and proved its ability to deliver the desired results, in spite of global sanctions imposed in the aftermath of the Pokhran nuclear tests conducted in May 1998, in the fields of missile technology, space explorations and some defence projects. Some of the notable projects undertaken for defence are briefly discussed as under:

- **Pinaka Multi-Barrel Rocket Launch (MBRL) System:** Development of the Pinaka MBRL commenced in 1986 at a DRDO facility known as the Armament Research and Development Establishment (ARDE) based in Pune. DRDO was responsible for the overall design and development. The sub-systems and components were developed by Tata Power Strategic Engineering Division (SED), Larsen & Toubro (L&T) and OFB.[8] The weapon system is already in service with the Indian Army and is a fine example of partnership between the public and private enterprises.
- **Advanced Towed Artillery Gun System (ATAGS):** The ATAGS (155 mm x 52 calibres) was started in 2013 by DRDO to replace the older guns in service in the Indian Army with a modern 155 mm artillery gun. The Armament Research and Development Establishment (ARDE) partnered with the Kalyani Group, Tata Power SED and OFB for this purpose.[9] It proved that India has the indigenous design and development capability for artillery guns. The OFB won the tender to manufacture the gun barrels, along with the forgings experts, the Kalyani Group. Mahindra Defence Systems will make the recoil system along with Tata Power SED, while Punj Lloyd will make the muzzle brake. During full-scale manufacture, an entire ecosystem of smaller Tier-2 and Tier-3 suppliers is expected to come up.[10] During the trial stage, the prototype fired 48 km in the Pokhran ranges, creating a record.[11] The Defence Acquisition Council has

approved procurement of the gun for the Indian Army and it has since been introduced into the Army.

- **Akash (Air Defence System):** The Akash Surface-to-Air Missile (SAM) system, a part of the Integrated Guided Missile Development Programme (IGMDP) was produced by Bharat Electronics (BEL). Bharat Dynamics (BDL) serves as the nodal agency for the Akash SAMs' production for the Army. A number of DRDO labs are involved in the development of the Akash. Launcher systems were provided by Tata Power and Larsen & Toubro.[12] The equipment has been successfully inducted in the Indian Air Force (IAF) and Indian Army (IA). Akash is the outcome of a successful partnership between the Defence Research and Development Laboratory (DRDL), the nodal lab in DRDO, along with 13 other DRDO labs, 19 Public Sector Units (PSUs), 5 OFs, 3 national laboratories, 6 academic institutions and more than 265 private industries across the country.[13]
- **Missile Development Programme:** India's missile development programme is completely indigenous. Under the leadership of Dr APJ Abdul Kalam, then Director, DRDL, the indigenous development of a series of missiles was progressed by the DRDO. The Integrated Missile Development Programme (IGMDP) included five missiles viz. the Agni, Prithvi, Akash, Trishul and Nag. The project was accorded approval by the Government of India on July 26, 1983, and was completed in March 2012.[14] The ambitious time-bound project brought together the scientific community, academic institutions, Research and Development (R&D) laboratories, industries and the armed forces in giving shape to the strategic missile development programme.[15]
- **Light Combat Aircraft (LCA) Tejas:** The LCA was designed and developed by the Aeronautical Development Agency (ADA) with Hindustan Aeronautics Limited (HAL) as the principal partner, along with DRDO, Council for Scientific and Industrial Research

(CSIR), BEL, Directorate General of Aeronautical Quality Assurance (DG AQA), Indian Air Force (IAF) and Indian Navy (IN).[16] Thirty-three R&D establishments, 60 major industries and 11 academic institutions participated in the project.[17] On January 17, 2015, the IAF got its first indigenously built LCA Tejas, Series Production-1 (SP1), which was handed over by the then Defence Minister, the late Mr Manohar Parrikar, to the Indian Air Force in Bengaluru. Raksha Rajya Mantri Dr. Subhash Bhamre, in a written reply, stated in the Rajya Sabha on December 31, 2018, that out of 16 Initial Operational Clearance (IOC) fighter aircraft, 10 fighters have been delivered by HAL and are operational with the IAF's 45 Squadron.[18] The remaining 6 IOC fighter aircraft were to be delivered in 2019.

- **Samyukta (Early Warning System):** The Samyukta, a mobile integrated electronic warfare system, was jointly developed by the DRDO, DRDL, Instrument Research & Development Establishment (IRDE), Electronics & Radar Development Establishment (LRDE),[19] Bharat Electronics Limited (BEL), Electronics Corporation of India Limited (ECIL),[20] Tata Power SED and the Corps of Signals of the Indian Army. Nearly 40 small companies developed components indigenously for the system.[21] It was delivered to the Indian Army in 2004.
- **INS Arihant [Ship Submersible Ballistic, Nuclear (SSBN) Submarine]:** The INS *Arihant* is the lead ship of India's Arihant class of nuclear-powered ballistic missile submarines. The 6,000-ton vessel was built under the Advanced Technology Vessel (ATV) project at the Ship Building Centre in the port city of Visakhapatnam. The project was launched in 1997 and was jointly developed by the Indian Navy, Bhabha Atomic Research Centre (BARC) and DRDO at the naval dockyard in Visakhapatnam. Russian designers assisted in building the vessel. Domestic private companies involved in the development of the submarine were Tata Power, a division of Tata

Group; L&T, and Walchandnagar Industries.[22] The submarine was successfully delivered under the PPP model and commissioned in the Indian Navy in August 2016.

- **Launch Vehicle for Nirbhay Missile System:** Nirbhay, a sub-sonic cruise missile which is under trial, is launched from the LPTA 5252-12 x 12, an all-terrain and all-wheel drive mobile launch vehicle. The launcher was developed jointly by Tatas in close coordination with the Vehicles Research and Development Establishment (VRDE) at Vahannagar.[23]

Issues

Despite the successful partnerships between public and private entities, as discussed above, the general impression in the environment is that the government/Ministry of Defence (MoD), instead of encouraging PPP, has avoided it because of perceived "security" related issues. It is also perceived that Bharat Electronics Limited (BEL) was nominated for all Integrated Early Warning (EW) projects, primarily for "security" reasons.

Approximately 30-35 per cent of the Buy (Indian) capital acquisitions of Rs 52,700 crore in the last three years has been based on the nomination of government enterprises. Nomination may be considered akin to rewarding inefficiency against merit based competition.

Today, many Indian companies viz Tata Group, Reliance Group, Mahindra, L&T, Ashok Leyland amongst others, can be categorised as truly global companies. In defence also, these companies are capable of collaborating with futuristic technology players abroad, to meet the requirements of the Indian armed forces and be a part of the global supply chain, if 'fair competition' and a 'level playing field' are ensured. Considering the same, the following issues gain significance:

- **Competence Mapping:** With that grant of 353 industrial licences[24] to the private industry for defence manufacturing between 2001 to 2018, competence mapping, in terms of both capability and capacity

of the domestic defence companies, becomes essential. Further, due to the rapid scientific and technological developments worldwide, there is a growing volume of defence weapons and equipment technology that can potentially impact and be incorporated in design, development and manufacturing capability of the domestic defence industry. Competence mapping of the Indian private industry engaged in the defence sector has not yet been carried out.

- **Lack of Effective Implementation of Public Procurement Policy for Medium, Small and Micro Enterprises (MSMEs):** The Public Procurement Policy Order, 2012 has been notified under Section 11 of the MSME Act, 2006. The policy become effective from April 1, 2012 (Gazette notification on March 26, 2012). For the ministry/department/central PSUs, the overall procurement goal of minimum 20 per cent has become mandatory from April 1, 2015.[25] The procurement of defence products from MSEs needs to be encouraged to facilitate the MSMEs participation in defence manufacturing.
- **Participation in 'Buy and Make' Category Procurement:** The 'Buy & Make' category refers to an initial procurement of equipment in Fully Formed (FF) state or otherwise, in a specified quantity from a foreign vendor.[26] This would be followed by indigenous production by an Indian Production Agency (PA) selected by the foreign vendor and would involve Transfer of Technology (ToT) in accordance with the contract. An Indian company cannot field a system, jointly developed abroad with a foreign partner, under this category. It is, however, noted that the Defence Procurement Procedure (DPP-2016) allows an Indian company to participate in the Buy (Global) category. Similarly, the Indian company should, logically, be permitted to participate in the acquisition proposals categorised as 'Buy and Make'.
- **Applicability of Simulation Trials:** In the 'Buy (Global)'/'Buy and Make' category procurements, there may be cases where trials need

to be conducted abroad in the vendors' premises. If field evaluation is not feasible, the goverment/MoD may explore the possibility of conducting evaluation through computer simulation, and suitable options are recommended for approval by the Services Capital Acquisition Plan Categorisation Higher Committee (SCAPCHC)/ Defence Procurement Board (DPB)/Defence Acquisition Council (DAC).[27] In such cases, the government accepts the simulation trials. For example, the land based Medium Range Surface-to-Air Missile (MRSAM), a Government-to-Government (G-to-G) development project, for joint development and production by the DRDO, India and IAI (Israel Aerospace Industries), Israel, was contracted, based on the simulation trial, while the missile was still being developed. The scenarios were simulated utilising the Meggitt BTT-3 "Banshee" Unmanned Aerial Vehicle (UAV).[28] The contract for the land-based MR-SAM worth Rs 10,075.68 crore was inked on February 27, 2009.[29] However, the facility of simulation trials is not available to the Indian vendors, which gives a negative signal to the environment.

- **Participation as Single Vendor:** If an Indian company buys the Intellectual Property Rights (IPRs) for critical technology abroad and wishes to field a product for procurement by the Indian armed forces; it is highly unlikely, under a "single vendor situation". The feasibility of an Indian company (other than a defence PSU) to become a single vendor supplier to the Indian armed forces is very low. Even if the Indian private company buys the technology and creates the infrastructure, there is extremely low feasibility to sell the systems to the Indian armed forces in a single vendor case. Such cases will be rare, yet the aspect of psychological impact cannot be ignored.
- **Unfavourable Tax Structure:** The structure in the case of taxes and duties is unfavourable for the domestic defence industry. The finished weapons and equipment, when imported, attract zero taxes and duties. On the contrary, if a semi-finished product is imported

and any value addition in India is effected, the value addition would attract the General Services Tax (GST). Therefore, with the reduction of the import content and corresponding increase in the indigenous content, the cost of the equipment is likely to be higher due to the levy of GST on the indigenous content.

- **Lack of Flexibility in Procedures:** The implementation of procedures is carried out very rigidly. One of the reasons for the same is attributed to following the rule book in both letter and spirit. While emphasis on transparency and probity is vital, lack of flexibility in the procedures and their implementation causes unforgivable delays, sometimes to the tune of years, in procurement of munitions, critical weapons and equipment that have a direct bearing on the preparedness of the defence forces. In place of the stipulated period of 76 weeks, a majority of the capital procurement cases drag on for four to five years, whereafter the contract may be signed. A case in point is the delay in the conclusion of the contract for the Medium Multi-Role Combat Aircraft (MMRCA) by India. This case was initiated in 2007 and the Rafale was chosen in 2012, over rival offers from the United States, Europe and Russia. India finally signed an inter-governmental agreement with France in September 2016.[30]
- **Idle Infrastructure:** Sustenance of the private defence industry needs consistent orders either from own defence forces or friendly foreign countries. In case, the orders are not received, the infrastructure created to manufacture the weapon system/equipment would lie idle and the entire effort would get wasted. For instance, the complete quantity of the Pinaka Multi-Barrel Rocket Launcher (MBRL) as contracted by the Indian Army has already been delivered by L&T, as stated by Mr. J D Patil, a whole-time Director, and Senior Executive Vice President for L&T's Defence Business, during a seminar on 'Defence Technology in India' organised by the Delhi Policy Group in March 2019. Unless the system is permitted to be exported to

friendly foreign countries or more fresh orders are placed by own defence forces, the infrastructure created would remain unutilised.

Issues already Resolved by the Government

Some of the issues that were identified in consultation with all the stakeholders and already stand resolved by the government are discussed as under:

- **Withdrawal of Excise Duty Exemption:** Exemption of excise duty to all defence PSUs and ordnance factories was withdrawn by the government with effect from June 1, 2015 to establish a level playing field between the Indian private and public sectors.[31] As per the revised policy, all Indian industries (public and private) are subjected to the same kind of excise duty levies.
- **Distribution Among More than One Vendor in Same Procurement:** The distribution of the order/quantity among more than one vendor in the same development project/procurement case, during acquisition of a weapon/equipment/product, is now being carried out, provided the parameters pertaining to cost and quality are fulfilled. Such a criterion is laid out in the Request for Proposal (RFP) itself.[32] For instance, the DRDO Advanced Towed Artillery Gun System (ATAGS), a towed 155 mm/52 calibre howitzer, has been developed for the Indian Army as a joint project of two private-sector corporations, Tata Power SED and Kalyani Group.[33]
- **Effort to Reduce Nomination:** Defence PSUs are now required to compete with other vendors for capital acquisition projects. Hence, the issue of nomination has been resolved to an extent. For instance, in all the projects related to modernisation of infrastructure (turnkey projects), initiated since 2014 for the Army Ordnance Corps echelons and certain Army Base Workshops of the Corps of Electronics and Mechanical Engineers, various private firms, including Xplorer Limited, Mahindra Defence Systems amongst others and MECON

(Metallurgical & Engineering Consultants) Limited, a Public Sector Undertaking (PSU) under the Ministry of Steel of the Government of India, participated under similar terms and conditions. While in the various previous turnkey projects, MECON Limited was selected as consultants on nomination basis, the current emphasis is on fair competition among all public and private sector enterprises. Thus, a deliberate effort has been made to reduce the nomination of public enterprises in certain areas of capital procurements.

- **Sharing of Technology Perspective and Capability Roadmap (TPCR)**: In line with the recommendations from the industry, the TPCR-2018 has been placed in the open domain to provide to the industry an overview of equipment that is envisaged to be inducted into the Indian armed forces up to the late 2020s.[34] The intention is to drive and guide the technology development process that the industry may like to pursue. This roadmap would assist the industry in planning or initiating technology development, partnerships and production arrangements in line with the 'Make in India' initiative of the government.
- **Sharing of List of Make Projects:** Lists of weapons/equipment, to meet current and futuristic requirements of the armed forces, proposed to be developed under Chapter III, 'Make-I' (government funded) procedure under the provisions of DPP-2016, are placed in the open domain for sharing with the industry by the Indian Army, Navy and Air Force. For instance, the list of products required by the Army, to include the Future Ready Combat Vehicle (FRCV), 3rd generation missiles for the 125 mm gun barrels of the T-72 and T-90 tanks and advanced/new generation 30 mm ammunition for the BMP-2/2K, is readily available on the Indian Army's website.[35] However, analysis reveals that details like the expected initial order quantity, annual/recurring requirement, period for which the product is likely to be in service, anticipated cost per item, etc., are not indicated against each product. Sharing of these details and any additional information, as

deemed appropriate, would be of much assistance to the industry to decide their strategy to participate in these projects. In February 2018, the government notified a separate, simplified procedure for sub-category 'Make-II' (industry funded) which has many industry friendly provisions. The projects under Make-II are divided into two categories, that is, projects that stand 'Approved-in-Principle (AIP)' as per the new 'Make-II' procedure and being progressed for accord of Acceptance of Necessity (AoN) by the defence forces Headquarters (HQ); and the projects which are at the exploratory stages for which the process of a preliminary feasibility study is in progress. The list of these projects has been placed by the government in the open domain.[36]

- **Identification of Imported Components for Indigenisation**
  - The identification of imported components of existing in-service weapons/equipment for indigenisation, to include assemblies, sub-assemblies and spares, is already being carried out by the defence forces and a significant range of items has been indigenised by the Directorate of Indigenisation (DoI) at the Integrated HQ of the MoD (Army) and the respective Directorates of the Navy and Air Force.
  - The DRDO has identified 100 components of the LCA to be indigenised by the domestic private industry. These components are currently being imported.[37]
  - More such items are required to be identified and comprehensive lists prepared. The lists of items and quantities so identified, less items classified as confidential, should be placed in the open domain/shared with the industry to enable them to avail the opportunity to indigenise them.

The Road Ahead

The government has taken some path-breaking policy decisions for ease of doing business and creating a suitable environment for the participation

of the private industry in the defence sector. Withdrawal of excise duty exemption to public enterprises, enhanced Foreign Direct Investment (FDI) in defence, promulgation of the strategy for defence exports, streamlining of procedures for the grant of industrial licences, guidelines for the formation of JVs (Joint Ventures), streamlining the procedure for the imposition of penalties on erring entities are some of the major decisions that have definitely played a pivotal role in encouraging the private sector's participation in the defence sector. However, much ground still needs to be covered to provide a 'truly level playing field' to the private industry in defence manufacturing. Certain measures recommended to be implemented to encourage PPP in the defence sector are discussed as under:

- **Aim at Long-Term Sustenance of Defence Industrial Base (DIB):** The government needs to aim at long-term sustenance of the DIB for achieving self-reliance in defence in the foreseeable future. Participation of the domestic private industry, in both partnership with public enterprises and individually or in joint ventures with foreign industry, is vital for a vibrant and robust DIB. The government also needs to acknowledge that there is a consistent requirement of supply orders for maintaining the capacity and sustenance of the defence industry.
- **Investment in R&D in Defence Technology Projects:** Investment in R&D in defence technology projects by the private industry needs to be encouraged. Since such investments may not yield immediate results and profits, hand-holding would be necessary. The development of strategic capabilities should be completely government funded. The government could also consider financing of R&D in defence technology projects by the private industry in the stand-alone or PPP mode. Wide publicity should be given for financing/subsidising of R&D projects for defence. The recipients could be research institutes, private enterprises, MSMEs and other

eligible organisations. All decisions regarding financing of research should be taken by a collegiate (headed by defence officers with all the stakeholders as members) rather than routing on files that are prone to the personal biases of individual appointments in the bureaucratic chain. A non-lapsable corpus of Rs 1,000 crore should be earmarked for the same.

- **Flexibility in Procedures:** While rigidity in procurement procedures provides a semblance of transparency and fairness in defence acquisitions, a certain degree of flexibility, while maintaining the desired levels of transparency and probity, would go a long way in curtailing procedural delays and expediting capital procurements. Amendments to the procedures to include the following may be considered:
  - Permit the Indian private company that buys critical IPR abroad to field a product under a "single vendor situation". If the Indian vendor gets the technology and creates the entire value chain and infrastructure, it should be allowed to become a single vendor supplier and offer/sell systems to the Indian defence forces.
  - Allow Indian private companies to field a system jointly developed abroad for NC NC (No Cost, No Commitment) trials under the 'Buy and Make' category. When the DPP permits an Indian company to participate in the 'Buy (Global)' category, it should also be allowed to participate in a 'Buy and Make' project.
  - Accept simulation trials for equipment under development by an Indian company, if NC NC trials are not feasible. It would be in line with the facility being provided to foreign companies.
  - The unfavourable structure, in the case of taxes and duties on domestic defence industry, needs to be corrected without delay. Suitable incentives should be provided for an enhanced percentage of indigenous content, to encourage indigenisation and value addition by the domestic defence industry.

- **Stop Nomination and Ensure Fair Internal Competition:** Nomination is akin to promoting and rewarding inefficiency in government owned enterprises. Nominations for all defence procurements and research projects should cease forthwith. Let there be fair competition among all the interested vendors, whether from public or private sector.
- **Appoint a Cost Regulator:** An independent cost regulator, as recommended by the Aatre Task Force, should be established for strategic partnership projects.[38] It would act as an immense confidence building measure and encourage the private industry to invest in the defence sector.
- **Implement Effectively Public Procurement Policy for MSMEs:** The Public Procurement Policy, mandating 20 percent procurement by ministries/departments, should be sincerely implemented for defence products (assemblies, sub-assemblies, spares, etc.). This is essential to encourage MSMEs' participation in defence manufacturing.
- **Reserve Government Line of Credit for Defence Products:** The government line of credit should be reserved for export of Indian made defence products. Further, the line of credit to friendly foreign countries should be enhanced to generate a demand for the weapons and equipment manufactured in India.
- **List Specified Projects for PPP:** The government, in consultation with the defence forces, should identify weapons and equipment that can be developed under PPP to include both Make-I and Make-II projects. A list of such projects should be shared with the industry and placed in the open domain. A positive beginning has already been made as the Army, Navy and Air Force have listed out 'Make' projects, with details, on the MoD website. The MoD has listed Make-II projects on its website and the defence forces have nominated nodal officers for these projects. There is also a requirement to get Make-I effectively functional by launching more

projects under this category. The project lists are recommended to be revised on a monthly basis to further add additional projects/ requirements that may crop up. The step would instill confidence in the domestic private industry and encourage it to invest in defence industry in a big way.

- **Carry out Competence Mapping:** There is a need to carry out competence mapping of domestic private vendors to assess their capability and capacity. A study group/committee to identify competencies, assess their impact in the next two decades and indicate the level of confidence in predicting the outcome may be considered. The committee could have representation from the industry. Competence mapping would be of immense value in short listing of domestic private companies for strategic long-term defence projects under PPP and would reflect the degree of clarity with which the outcomes can reliably be predicted.
- **Create Venture Fund to Finance Start-ups:** The government needs to take a lead and create a venture fund (investment banks and/or other financial institutions) to carry out institutional investment into early-stage/start-up companies (new ventures). Finance provided to start-up companies and small businesses in the defence sector that are expected to have long-term growth potential, is likely to enthuse young entrepreneurs to delve into defence design, development and manufacturing.
- **R&D Corpus Fund:** The R&D corpus fund should be fully utilised for indigenous development of complex systems and advanced technologies by the private industry. Targets need to be set and sincere efforts made to achieve them. Under-utilisation of the R&D corpus fund is a sore point that should be addressed on priority. The procedure to be followed for grant of funds from the government for R&D in the defence sector, should be available 'on-line' and given wide publicity.
- **Indicate Business Volume and Numbers:** The government, in consultation with the defence forces, should indicate the approximate

business volume and numbers for weapons and equipment that are planned to be procured in the future. It would be logical for the government to enter into long-term business agreements with the private industry for continued orders and thereby mitigate uncertainty that currently envelops the defence sector.

- **End User Accessibility:** The private industry has indicated in various forums the need for greater accessibility to the end users i.e. the defence forces. In the case of the Army, the issue has been addressed to a certain extent by the establishment of the Army Design Bureau (ADB). However, the access to individual user directorates is largely restricted. There is, thus, a need to evolve institutionalised mechanisms to facilitate more frequent interactions to enable the private industry to understand the future requirements of the defence forces and plan accordingly.
- **Department of Defence Production (DDP) to Facilitate PPPs:** The DDP should act as a facilitating agency and encourage the defence PSUs, OFB and DRDO to enter into JVs/PPPs for co-development and co-production of modern technology weapons, equipment and munitions.

Conclusion

Self-reliance in the defence sector can be achieved only when the domestic private industry makes substantial investments in the design, development and manufacturing of modern technology weapons and equipment. PPPs in the defence sector comprise an effective mechanism to progress rapidly on the road to achieve self-reliance and indigenisation. PPPs should essentially involve long-term strategic ventures and focus on modern technology. The relationship with the private industry should shift from the 'seller' to the 'partner' and the partnerships should make an endeavour to address both Indian and global requirements.

The government should state unambiguously its readiness to absorb/minimise risk(s) and act as a guide, facilitator, insurer and under-writer

of the last resort. India needs to unhesitatingly leverage the financial and techno acumen of the private industry, encourage PPPs and employ them as strategic tools for expanding indigenous design, development and manufacturing capability in the coveted defence sector.

Notes

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