Critical Assessment of Strategic Partnership Model for Self-Reliance in Defence Manufacturing and Procurement

A Dissertation submitted to the Punjab University, Chandigarh for the award of Master of Philosophy in Social Sciences, in Partial Fulfilment of the requirement for the Advanced Professional Programme in Public Administration (APPPA)

By

Commodore Vikram Bora

(Roll No.4605)

Under the guidance of

Dr Pawan Kumar Taneja

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CERTIFICATE

I have the pleasure to certify that Shri Vikram Bora has pursued his research work and prepared the dissertation titled "Critical Assessment of Strategic Partnership Model for Self-Reliance in Defence Manufacturing and Procurement" under my guidance and supervision. The dissertation is the result of his own research and to the best of my knowledge, no part of it has earlier comprised any other monograph, dissertation or book. This is being submitted to the Punjab University, Chandigarh for the purpose of award of Master of Philosophy in Social Sciences in partial fulfilment of the requirement for the Advanced Professional Programme in Public Administration of Indian Institute of Public Administration (IIPA), New Delhi.

I recommend that the dissertation of Shri Vikram Bora is worthy of consideration for the award of M.Phil degree of Punjab University, Chandigarh.

(Dr PK Taneja)
Supervisor
Indian Institute of Public Administration
IP Estate, Ring Road
New Delhi - 110 002

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(Vikram Bora)

List of Abbreviations

AAP	Annual Acquisition Plan
AFVs	Armoured Fighting Vehicles
AIP	Approval in Principle
AoN	Acceptance of Necessity
ATP	Acceptance Test Procedure
B&D	Base and Depot
BER	Beyond Economical Repairs
BFE	Buyer Furnished Equipment
BG	Bank Guarantee
BNE	Buyer Nominated Equipment
CFA	Competent Financial Authority
CCS	Cabinet Committee on Security
CNC	Contracts Negotiation Committee
CWP&A	Controller of Warship Production and Acquisition
COTS	Commercial Off The Shelf
DAC	Defence Acquisition Council
DAP	Defence Acquisition Procedure
DDP	Department of Defence Production
DDP&S	Department of Defence Production & Supplies

DGQA	Director General of Quality Assurance
DGS&D	Director General of Supply and Disposal
DIPP	Department of Industrial Policy and Promotion
DPB	Defence Procurement Board
DPR	Detailed Project Report
DoD	Department of Defence
DPP	Defence Procurement Procedure
DPSUs	Defence Public Sector Undertakings
DRDO	Defence Research and Development Organization
EFC	Expenditure Finance Committee
ESP	Engineering Support Package
EMI	Electro Magnetic Interference
EMC	Electro Magnetic Compatibility
EOI	Expression of Interest
FET	Field Evaluation Trials
FDI	Foreign Direct Investment
IDDM	Indigenously Designed, Developed and Manufactured
IGA	Inter Governmental Agreement
IPR	Intellectual Property Rights
JSQR	Joint Service Qualitative Requirement
JRI	Joint Receipt Inspection

JV	Joint Venture
LC	Letter of Credit
LoI	Letter of Intent
MBTs	Main Battle Tanks
MoD	Ministry of Defence
MoU	Memorandum of Understanding
MOQ	Minimum Order Quantity
MSMEs	Micro, Small and Medium Enterprises
MTBF	Mean Time Between Failure
MTBO	Minimum Time Before Overhaul
NCNC	No Cost No Commitment
OEMs	Original Equipment Manufacturers
OFB	Ordnance Factory Board
OFs	Ordnance Factories
P75(I)	Project 75 (India)
PBG	Performance Bank Guarantee
PCDA	Principal Controller of Defence Accounts
PMS	Project Management System
POL	Petroleum, Oil and Lubricant
POV	Professional Officers Valuation
PSR	Preliminary Staff Requirements

PWBG	Performance-cum-Warranty Bank Guarantee
QA	Quality Assurance
QRs	Qualitative Requirements
R&D	Research and Development
RFP	Request for Proposal
RFI	Request for Information
SCAP	Services Capital Acquisition Plan
SCAPCC	Services Capital Acquisition Categorisation Committee
SHQ	Service Headquarters
SOP	Standard Operating Procedure
SP	Strategic Partnership/Partner
SPV	Special Purpose Vehicle
SQRs	Service Qualitative Requirements
SR	Short Refit
STE	Special Test Equipment
TAC	Technology Acquisition Committee
TEC	Technical Evaluation Committee
TM	Technical Manager
TNC	Technical Negotiations Committee
TPCR	Technology Perspective and Capability Road Map
ToT	Transfer of Technology

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Abstract

1. Though defence manufacturing in the country has been open to private sector participation for some time now, the public sector entities continue to play a leading role. There is thus a need to bring in and institutionalise a rational, transparent and functional mechanism towards encouraging broader involvement of the private sector in process of manufacture of major defence platforms, whilst at the same time accessing the best and most contemporary technologies available globally.

2 Various Expert Committees (Dhirendra Singh Experts Committee & VK Aatre Task Force) set up by the MoD provided a detailed road map for development of a defence industrial base through the '*Strategic Partnership*' route. In line with these initiatives, the Strategic Partnership Model (SP Model) is a major policy reform which was introduced by the MoD in May 2017. The model, which forms part of Chapter VII of the DPP 2016, advocates identifying a select few Indian private sector companies as Strategic Partners (SPs) who would then initially partner with a few shortlisted foreign OEMs to manufacture high value military platforms. To start with, the selection of SPs would be confined to four main segments: Conventional Submarines, Naval Utility Helicopters, Fighter Aircraft and Armoured Fighting Vehicles (AFVs) / Main Battle Tanks (MBTs). *The overall aim of the SP Model will be to progressively build indigenous capabilities in the private sector to design, develop and manufacture complex military platforms for the future needs of the Armed Forces. This will be an important step towards meeting the larger national objectives, encouraging self-reliance and aligning the defence sector with the 'Make in India' initiative of the Government.*

3. **Problem Statement**. Whilst the SP model is likely to have a number of benefits, there are concerns associated with it which need to be addressed. This is being manifested in the inordinately long time being taken for progressing the Model and processing related contracts for the four identified segments.

4. **Purpose of Research,** As brought out above, there have been delays in implementation of the model across all four of the shortlisted segments. At the same time, there is an urgent need to award the Strategic Partnership programmes as soon as possible to put India firmly on the path of self-reliance in building major platforms. **The present study, therefore, is important as it constitutes an in-depth analysis of the SP Model, whilst also analysing the shortcomings in the model and identifying possible solutions**. Towards this, the following were identified as the **Objectives of the Research**:-

(a) To carry out an in-depth study of the SP Model.

(b) To document a select Case Study of Joint Venture with possible takeaways for SP Model in defence manufacturing.

(c) To document select International defence procurement model(s) with focus on possible takeaways for Indian context.

(d) To identify and analyse the present shortcomings and expected roadblocks in the SP model implementation.

(e) To identify solutions to improve the outcome of the SP Model.

5. **Research Methodology & Strategy.** The method of research was **Exploratory** and comprised **limited amount of Primary data and a critical review**

of available literature. The Research Strategy essentially adopted a **Quantitative Approach** involving the following :-

(a) The Research was undertaken through study of the DPP Manual and other relevant documents / earlier reports.

(b) Interactions and feedback from policy makers at the MoD and the officers involved in implementation of the policy at the Service headquarters.

(c) Interactions and feedback from Public sector shipyards and from key players in the Private segment.

(d) Progress of SP Model for the segment pertaining to Conventional Submarines for the Indian Navy.

(e) Study of select Case Study of Joint Venture with possible takeaways for SP Model in defence manufacturing.

(f) Study of select International defence procurement model(s) with focus on possible takeaways for Indian context.

(g) A survey with 124 personnel mainly comprising of individuals with relevant background was also undertaken.

6. **Conclusions**. Some of the important conclusions of the study are as below:-

(a) Several models of defence procurement exist throughout the world, with each country customizing its defence acquisition process as per its needs.

(b) Despite reforms, most countries, including India continue to face challenges in their respective defence procurement systems and processes

(c) In the Indian context, over the last few years a number of steps have been taken towards reforming the defence planning and acquisition process.

As a part of these initiatives, the DPP-2016 introduced a separate chapter on the Strategic Partnership model.

(d) JV's like LTMMSL are good examples where private sector is delivering on the objectives for which Strategic partnership is being proposed.

(e) However, even more than three years after it has come into effect, the SP Model has been largely ineffective and there are significant hurdles that need to be overcome to ensure its satisfactory implementation.

(f) Amongst these, some of the very pertinent ones include aspects related to lack of institutional capacity, absence of level playing field between PSU's and Private sector, FDI limits in the Strategic Partnership, issues surrounding ToT from foreign OEMs, long-term sustainability and viability of the Strategic Partners (SPs) and a complicated and time consuming process for selection of SPs and foreign OEM's. Further, a trust deficit does exist between the MoD and the Private sector and this is one of the factors which is impeding the implementation of the SP Model.

(g) The Project P-75(I) is likely to be the first major project to be processed under the Strategic Partnership Model. It will provide a number of learnings that would be useful whilst processing subsequent segments.

7. **Recommendations**. Key recommendations of the study are as below:-

(a) JVs with Foreign OEMs is one of the viable solutions to access and absorb the best and contemporary technologies. They need hand holding by the MoD and should be permitted to compete for future programs that are envisaged for indigenous development

(b) The provisions of the SP Policy need to be aligned with those of the FDI Policy in recognising the possibility and avenues of greater than 49 per cent FDI in the defence manufacturing sector.

(c) To ensure a meaningful and comprehensive ToT , the SP Policy should provide room for Government to Government negotiations. Further, the SP should form part of the negotiating team along with the MoD during negotiations with the foreign OEM.

(d) The government needs to commit on minimum order quantities, and repeat / future orders, to the extent feasible. Simultaneously, it is incumbent on private sector players to abide by strict project timelines, and also to keep the costs involved to reasonable levels.

(e) The government may also consider relaxing the extant export norms to permit an additional revenue opportunity for the SPs.

(f) Towards ensuring sustainability of the SP, the concept of an LTBA (Long Term Business Agreement) can be adopted making the SP responsible for the entire life cycle support, including refits and repairs.

(g) Building up of Institutional Capacity by infusing the acquisition wing with specialists with requisite qualifications and domain knowledge.

(h) During the course of the implementation of the SP model, there is a requirement for providing institutional guidance and 'Handholding' by the MoD and the concerned service headquarters.

(j) An attempt can be made to provide certain weightages to relevant factors in subsequent versions of the SP Model towards creating a more level playing field between the DPSUs and Private sector.

(k) An independent regulator may be set up to oversee implementation of SP Policy, in line with the charter envisaged by the VK Aatre Taskforce.

(m) The *Responsibility-Control Balance* with respect to the role of the foreign OEM in the existing SP Model may be reviewed.

(n) Splitting of order between the SPs to ensure effective utilization of capacities and infrastructure can be considered on a case to case basis.

On a positive note, despite the concerns associated with it, the Strategic Partnership model is a meaningful initiative and a step in the right direction. There is confidence that in the long run it will meet its stated objectives of encouraging self-reliance and aligning the defence sector with the 'Make in India' initiative of the Government.

Chapter 1

Introduction

1.1 **Background.** Major defence platforms and equipment in India are currently either procured directly through foreign sources or manufactured (often with major involvement of foreign stakeholders) by Defence Public Sector Undertakings (DPSUs) and the Ordnance Factory Board (OFB). Though defence manufacturing has been open to private sector participation for some time now, the private sector has repeatedly pointed to the lack of a level playing field compared to DPSUs and Ordnance Factories (OFs). These public sector entities continue to play a leading role in defence manufacturing, mainly on account of the various forms of governmental support that they receive, including long-term purchase arrangements. There is thus a need to bring in and institutionalise a rational, transparent and functional mechanism towards encouraging broader involvement of the private sector in process of manufacture of major defence platforms, whilst at the same time accessing the best and most contemporary technologies available globally[1].

1.2 Having seen the precedence of the liberalization of the Indian economy in the 1990s, active involvement of the private sector in defence manufacturing will have a transformational impact. It will increase competition and efficiencies, lead to better absorption of new and contemporary technologies, develop a tiered and vibrant indigenous industrial ecosystem, ensure development of home grown skill sets, encourage innovation and promote participation in global value chains and defence exports. Most importantly, from a strategic perspective such an approach will help

[1] MoD 2017

reduce the existing dependence on foreign imports and will also gradually ensure greater self-reliance and dependability in the context of national security.

1.3 Further, Defence procurement is entirely a government led function and operates in a *Monopsony*, wherein there is only one Buyer. The current defence procurement procedures focus mainly on short and medium-term contracts. However, the emphasis on purchase of equipment alone does not promote the creation of a defence industrial eco system[2]. Achieving self-reliance and self-sufficiency requires assimilation and integration of new technologies, extensive indigenisation, developing a multi layered ecosystem of reliable partners and upgrading existing platforms through dedicated Research and Development. Achieving such an objective will require the private sector partner (Strategic Partner) selected through a laid down procedure who would then make the necessary long term investments towards creating the required manufacturing infrastructure, creating an eco-system of home grown suppliers, pool of skilled human resources, focussing on R&D for modernization, in addition to producing the equipment / platform.

1.4 It is with this background that various Expert Committees (Dhirendra Singh Experts Committee & VK Aatre Task Force) set up by the Ministry of Defence (MOD) provided a detailed road map for development of a defence industrial base through the 'Strategic Partnership' route. The ***Strategic Partnership Model*** (SP Model) is a major policy reform which was introduced by the Ministry of Defence in May 2017. **The model forms part of Chapter VII of the Defence Procurement Procedure 2016 (DPP 2016)**. The model aims to promote *Make in India* in defence

[2] MoD 2017

manufacturing through a suitable combination of Indian private sector and established foreign companies. The model advocates identifying a select few Indian private sector companies as ***Strategic Partners*** (SPs) who would then initially partner with a few shortlisted ***foreign Original Equipment Manufacturers (OEMs)*** to manufacture high value military platforms. To start with, it is envisaged that the selection of SPs would be confined to four main segments: Conventional Submarines, Naval Utility Helicopters, Fighter Aircraft and Armoured Fighting Vehicles (AFVs) / Main Battle Tanks (MBTs).

1.5 The model envisages that the Strategic Partners would not only assume the role of *System Integrators* but also lay the foundation for a strong defence industrial complex by making long-term investment in manufacturing / production and the supporting R&D infrastructure, creating a wide and multi-tiered vendor base, creating a pool of skilled and qualified workforce, and making a lasting commitment for indigenisation and technology absorption in defence manufacturing. ***The overall aim of the SP Model will be to progressively build indigenous capabilities in the private sector to design, develop and manufacture complex military platforms for the future needs of the Armed Forces. This will be an important step towards meeting the larger national objectives, encouraging self-reliance and aligning the defence sector with the 'Make in India' initiative of the Government***.[3]

1.6 **Potential Benefits of the SP Model**. The SP model, if implemented well, is likely to have several benefits, not only for the Private sector but also from the larger perspective of the Indian defence industry.

[3] DPP 2016 Chapter 7, para 3

(a) From the private sector's point of view, the biggest benefit of the SP Model would be the opportunity to participate in some high value contracts (to the tune of approximately rupees two lakh crore in the initial phase of execution) and which were hitherto reserved for the DPSUs / OFs. At the same time, the model would also contribute towards bridging the long-existing trust deficit between the Indian private sector and the Ministry of Defence, with the common perception that the latter is more inclined towards public sector entities.

(b) Further, since the SP Model does not envisage for future orders to be awarded automatically after the initial contract, it would be in the interest of the SPs to stay competitive and build their core expertise. The development of competitiveness and expertise to compete to win future contracts (which may have been lacking to a certain extent in the case of DPSUs/OFs because of assured orders), would positively contribute to laying a strong and credible foundation for the country's military industrial complex.

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1.7 **Concerns Associated with the SP Model.** Despite potential benefits, there are certain concerns which need to be addressed to make the SP Model effective and in tune with its stated objectives:-

(a) The first and foremost concern is the lack of institutional capacity and ability to guide the new process to its logical conclusion. In the past, several promising initiatives, especially those related with the 'Make' and 'Buy and Make (Indian)' models, have failed to yield the envisaged results because of these limitations. Even though the SP Model refers to "an appropriate

institutional and administrative mechanism" along with "adequate expertise in relevant fields like procurement, contract law and Transfer of Technology arrangements", a lot would depend on how these mechanisms unfold. It would not be incorrect to say that the lack of reforms in the structures and decision-making processes related to defence procurement and production have inhibited the development of a strong defence industry in our country.

(b) There is also a concern regarding the long-term viability of the SPs, largely due to the privileged position enjoyed by public sector entities. On a number of occasions in the past, the MoD has deviated from its own commitment of fair play in award of contracts, having handed over large orders to DPSUs and OFs on a 'Nomination basis'. It would be unrealistic and unfair to expect the SPs to make major investments if a level-playing field is not provided to the private sector.

Problem Statement

1.8 **Whilst the SP model, if implemented well, is likely to have a number of benefits for both the private sector and the larger Indian defence industry, there are concerns which need to be addressed to make SPs contribute in a meaningful and time-bound manner.** As brought out at para 1.7 above, the first and foremost concern is the lack of institutional capacity and ability to guide the new process to its logical conclusion**. This is being manifested in the inordinately long time being taken for progressing the Model and processing related contracts for the four identified segments**. There are also concerns regarding the long-term sustainability and viability of the SPs largely due to the privileged position enjoyed by public sector entities.

1.9 As a case in point, as brought out above, it is envisaged that in the initial phase, the selection of SPs would be confined to four segments: Conventional Submarines, Naval Utility Helicopters, Fighter Aircraft and Armoured Fighting Vehicles (AFVs) / Main Battle Tanks (MBTs). However, despite the SP Model being introduced in mid-2017, progress with respect to its implementation has been slow. For Naval Utility Helicopters, the shortlisting of strategic partners and foreign OEMs is still pending. Similarly, for the P75(I) conventional submarines, whilst the Expression of Interest (EoIs) to Indian Companies and foreign OEM's were issued in mid 2019, the RFP is still to be issued. Issuance of EoIs for the AFVs / MBTs and Fighter Aircraft programme is also still awaited.

1.10 The SP programmes have the potential to boost the entire defence manufacturing ecosystem in the country provided a level playing field between private and public players is ensured. Therefore, earlier the procurement of platforms is initiated through this policy, the sooner will be the accruing positive spin-offs in the development of system platform capabilities and in eventually building up exports. **The falling shares and volume of orders to Indian private sector companies and the preference for acquisition from foreign sources in recent years[4] have highlighted the urgency to award the Strategic Partnership programmes as soon as possible and provide an 'actual and realistic' level playing field to the private sector towards putting India firmly on the path of indigenisation and self-reliance in building major defence platforms.**

[4] [MoD 2017]

Purpose / Objectives of the Research

1.11 The objectives of the Research are as follows:-

(a) To carry out an in-depth study of the SP Model.

(b) To document a select Case Study of Joint Venture with possible takeaways for SP Model in defence manufacturing.

(c) To document select International defence procurement model(s) with focus on possible takeaways for Indian context.

(d) To identify and analyse the present shortcomings and expected roadblocks, if any, in the SP model implementation.

(e) To identify possible solutions / mitigating measures to improve the outcome of the SP Model.

Research Design / Research Strategy

1.12 The Research Design was **Descriptive and Exploratory**. Further, in order to understand and ascertain the various processes involved in the evolution and implementation of the SP Model viz, Policy aspects, role of Strategic Partner and the foreign OEMs, Contractual issues and feedback from the private industry and public sector players on the model, a *Descriptive Design Model* were used.

1.13 The Research Strategy essentially adopted a **Quantitative Approach** involving the following :-

(a) The Research was undertaken through study of the DPP Manual and other relevant documents related to defence procurement / manufacturing procedures.

(b) Interactions and feedback from policy makers at the Ministry of Defence (MoD) and the officers involved in implementation of the SP Model at the Service headquarters.

(c) Interactions and feedback from Public sector shipyards and from key players in the Private segment were also sought and factored into the study.

(d) An analysis of available data and the progress of SP Model for the segment pertaining to Conventional Submarines for the Indian Navy.

(e) Study of select Case Study of Joint Venture with possible takeaways for SP Model in defence manufacturing.

(f) Study of select International defence procurement model(s) with focus on possible takeaways for Indian context.

(g) A survey with 124 personnel mainly comprising of officials / individuals with exposure to defence procurement / defence sector was also undertaken.

Rationale / Justification

1.14 As brought out above, despite the SP Model being introduced in mid 2017, there have been delays in implementation of the model across all four of the shortlisted segments. Further, there are concerns regarding the lack of institutional capacity / ability to guide the new process to its logical conclusion, and on the long-term viability of SPs. At the same time, there is an urgent need to award the Strategic Partnership programmes as soon as possible to put India firmly on the path of indigenisation and self-reliance in building major platforms. **The present study, therefore, assumes importance as it constitutes an in-depth analysis of the SP**

Model, whilst also analysing the shortcomings in the model and identifying possible solutions / mitigating measures.

Research Questions

1.15 The following constituted the Research Questions:-

(a) What are the relevant aspects of the Defence Procurement Procedure (DPP) with respect to the SP Model?

(b) What are the present shortcomings and expected roadblocks, if any, in the SP model implementation?

(d) What were the modalities of select Joint Venture with possible takeaways for SP Model in defence manufacturing?

(e) What are the International practices for defence procurement with possible takeaways for Indian scenario?

(f) What are the possible solutions / mitigating measures to improve the outcome of the SP Model?

Research Methodology / Methods to be Applied and Data Sources

1.16 The method of research was Exploratory and comprised limited amount of Primary data and a critical review of available literature on the subject. The Primary data was based on the inputs and present progress of implementation of the SP Model, with focus on the conventional submarines segment. Interactions and feedback from stakeholders (MoD policy makers, concerned officers in Service Headquarters, key players in Public and Private sectors) also formed a part of the Primary data. Further, the research was undertaken by analysis of the following Secondary data:-

(a) Data published by GoI (MoD, other ministries).

(b) Reports of GoI and other stake holder organisations.

(c) Opinions of industry leaders and GoI officials available through media and journals.

(d) Relevant reports and publications on the subject available in open literature.

1.17 As a part of the research, a survey was also conducted towards ascertaining the views of informed personnel on various aspects related to defence procurement and specifically with regard to the Strategic Partnership model. The survey was conducted in Online Mode using the Google Forms application. The survey with a target audience of about 150 comprising of individuals with exposure to defence procurement / defence sector included a brief background on the SP Model and was followed by 16 questions on various related aspects. A total of 124 responses were received and recorded. The details of the questionnaire, responses received and the inference / conclusions drawn have been elucidated in detail in Chapter 6.

Chapter 2

Literature Review

2.1 The Strategic Partnership Model forms part of Chapter VII of the Defence Procurement Procedure (DPP) and was introduced in mid 2017. There is a lack of published literature on the subject and very limited publications / papers / analyses on the SP Model have been conducted as yet, though certain articles in the print and online media exist. The same have been perused and relevant aspects have been brought out in the succeeding Literature Review.

2.2 Further, papers pertaining to similar Partnership Models / Joint Ventures that have been implemented in the past in other sectors have also been perused. In addition, existing literature pertaining to defence procurement / manufacturing models followed by other countries (including those with similar socio-economic and defence ecosystems like India) has also been studied as part of the present research.

2.3 An analysis of the list of literature reviewed is enumerated in the succeeding paragraphs:-

(a) **Ministry of Defence (2016)**. The *New Defence Procurement Procedure (DPP) document 2016* provides the Government Policy Framework for Defence Procurement. The DPP focuses on institutionalising, streamlining and simplifying defence procurement procedures to give a boost to 'Make in India' initiative of the Government of India, by promoting the indigenous design and development of defence equipment, platforms and systems. Enhancing the role of Micro, Small and Medium Enterprises (MSMEs) in the defence manufacturing sector is also highlighted as one of the defining

features of the DPP. '*Make*' procedure has also been suitably amended towards ensuring increased participation of the Indian industry. In order to promote indigenous design and development of defence equipment, DPP 2016 has introduced the "*Buy-IDDM*" category of acquisition (Indian Designed, Developed and Manufactured). Cutting down permissible timeframes for various procurement activities and institutionalising robust mechanisms to monitor for probity at various stages of the procurement process are the cornerstones of the DPP. There are also other provisions and procedural measures that have been introduced to make the procurement process more efficient and effective. However, whilst the document provides the Government Policy Framework for defence procurement, it does not specifically address the aspect of Strategic Partnership model in defence procurement / manufacturing.

(b) **Ministry of Defence (2017)**. Chapter VII of the DPP "*Revitalising Defence Industrial Ecosystem through Strategic Partnerships*", was introduced in May 2017 as an amendment / addition to DPP 2016. The chapter introduces and outlines the SP Model for defence procurement. It identifies the segments for Strategic Partnerships, the role of the SP and Foreign Original Equipment Manufacturer (OEM), the procedure for selection of Strategic Partners and contract details for the strategic partnership. However, the SP Model, as spelt out in Chapter VII of the DPP has certain gaps / limitations. These include limits on FDI (FDI is capped at 49 per cent), issues related to Transfer of Technology (ToT) from the foreign OEM to the SP, lack of guaranteed future orders to the SP, lack of framework on how the strategic partnership would be financed and no mention of how MSMEs can capitalize on the supposed

benefits of capacity building across the supply chain of the entire indigenous defence industry.

(c) **Auger Martin F (2014)**. The paper "*Defence Procurement Organizations: A Global Comparison*" discusses the defence procurement organizations in Canada, the United States, India, Mexico, New Zealand, Australia, France, Germany, UK, Pakistan, Singapore, South Korea, Turkey, South Africa, Sweden and Switzerland. Many of these countries are among the world's largest military spenders. The paper highlights three broad Models of defence procurement (Procurement by individual armed services, Procurement by centralized government organizations and Procurement by independent civilian corporations). The paper also describes recent defence procurement reforms in some countries and highlights some of the existing defence procurement challenges being faced. One of the conclusions of the paper is that irrespective of the model of defence procurement followed, different countries across the globe face similar problems and issues when it comes to acquiring / manufacturing major military platforms / equipment for their respective armed forces. However, the paper does not specifically indicate these problems and also does not talk about any mitigating measures.

(d) **Schmidt Flávia de Holanda & Soares Lucas Rocha de Assis (2014)**. The paper "*The Defence Industry in Brazil: Characteristics & Involvement of Supplier Firms*" brings out that over the last decade, the defence industry has obtained relevance in Brazilian public policies. The success of this process requires not only that the Armed Forces have modern equipment and related skill sets to operate them, but also that the country retains the technological

expertise and creates conditions for establishment of a suitable ecosystem for defence manufacturing. The paper provides information on defence procurements recently undertaken and analyses selected characteristics of suppliers. The results indicate that the value of contracts obtained by firms was positively associated with characteristics related to the establishment of a sustainable and competitive Defence Ecosystem. However, the results of the study are limited to broadly investigating characteristics of hired firms and do not address the issue that whether these firms are dedicated to the defence sector. Further, it is possible that there are firms with technological potential to become defence suppliers that have not been included under the scope of the study.

(e) **Lamachenka A (2014, updated Aug 2019)**. The paper *"5 types of Strategic Partnership Agreements to help grow Business"* explains the concept of a Strategic Partnership and its importance for the sustenance and growth of business. It also lists and analyses different types of Strategic Partnerships (Marketing, Supply Chain, Integration, Technology related and Financial). The paper also touches upon ***Strategic Alliances*** entered into through Legal agreements (**Joint Ventures, Equity Alliances and Non-Equity Alliances).** The paper also briefly touches upon the scope of a basic *Strategic Partnership Agreement*. The paper is mainly focussed in respect of the corporate world and cites examples of some important Strategic Partnerships therein such as Abbott India's agreement to market Zydus Cadila drugs across India in the Pharmaceutical sector, Toyota IQ being marketed as the Aston Martin Cygnet in the Automobile industry, and the Strategic Integration partnerships between Uber & Spotify and that between

Nike & Apple. However, whilst the paper highlights the different types of Strategic Partnerships and Legal Strategic Alliances, it does specify their respective advantages and disadvantages.

(f) **Behera LK (2017)**. The paper *"An Assessment of the Strategic Partnership Model in Defence Industry"* was published immediately after the SP Model was announced by the MoD on 31 May 17. The paper provides a brief overview of the SP model and also lists its Potential benefits (as envisaged at the time of its announcement) which include opportunity for the private sector to participate in prospective high value contracts, enhancement of infrastructure, manufacturing and R&D facilities of the private sector and instilling a sense of competitiveness amongst the public sector entities. The paper also highlights certain concerns related to the model and its envisaged implementation which include the lack of institutional capacity to guide the new process to its logical conclusion and the long-term viability of SPs due to the privileged position enjoyed by public sector entities.

(g) **Patil J (2020)**. The article, *"Strategic Partnership Model can Boost Defence Manufacturing "*written by a Board Member and Whole Time Director of M/s Larsen & Toubro (a leading private player in Defence manufacturing and one of the key prospective Strategic Partners) provides a Private sector perspective on the SP Model. The article highlights the need for increasing the allocation for defence capital acquisition, providing a level playing field for the private sector by stopping nomination of orders to DPSUs/OFB and boosting of R&D in defence manufacturing by private industry through governmental incentives and funding. However, whilst the article does raise a number of pertinent issues, it is largely from the

perspective of the private sector. The narrative is therefore more inclined towards the concerns and interests of the private sector.

(h) **Singh Anil J (2020)**. The article *"Defence Procurement Procedure: Know more about the draft DPP 2020",* comments on the draft version of the Defence Procurement Procedure (DPP) 2020 which was released by the MoD on 20 March 2020. It is critical of the length and complexity of the DPP documentation and advocates its simplification. The article also highlights the envisioned challenges in achieving the 50% indigenous content specified under the new category, *'Buy (Global -Manufacture in India)'*. The author is also critical of the section of the draft DPP that states that contracts signed through Inter-Governmental Agreements (IGAs)/Foreign Military Sales (FMS) route would be exempt from the Offsets Clause. The author is of the view that such a clause would have a negative impact on our stated goals of self-reliance and indigenisation in defence manufacturing. However, such a view may not be entirely correct as there are several instances wherein the country has had to resort to IGAs (and may also require to in the future) for specific select high-end / strategic technologies which may not be accessible to the private sector through the SP Model.

(j) **Kanishk (2018)**. The paper *"India: Strategic Partnership - The Many Flaws and Way Ahead*" is a critical review of the defence procurement procedures of the country, in particular the SP Model under Chapter VII of the DPP. One of the major drawbacks of the SP Model highlighted by the author is the reversion to the L1 concept as against the 'Cost Plus' concept advocated by earlier committees. Another shortfall in the SP Model indicated by the

author is the lack of commitment from the MoD for providing assured long term or repeat orders to the Strategic Partner, which would serve as a deterrent for the SP to invest in infrastructure and R&D.

(k) **Soundararajan N & Palkar D (2017).** The paper *"Strategic Partnership"*, traces the origins of the SP Model and of the various committees and policy guidelines leading up to it. The paper also carries out a critical review of the issues being encountered in the implementation of the SP Model, namely FDI limits, Transfer of Technology, Long term viability of the Strategic Partners, Criterion for selection of Strategic Partners and Foreign OEMs, Financing of the model and the role of MSMEs. The paper also goes on to provide recommendations towards addressing each of the above issues. One important aspect that this paper talks about is the need for setting up an independent regulator to oversee implementation of the SP Policy. However, the consequences of having such a regulator, who functions independently of the MoD and the Armed forces, particularly in an sensitive area like defence procurement may need to be reviewed holistically.

Chapter 3

Concept of a Strategic Partnership

3.1 A **Strategic Partnership** is a relationship between two enterprises, which is usually formalized by means of one or more business contracts. Broadly speaking, a strategic partnership usually falls short of a legal partnership entity, agency, or corporate affiliate relationship. Strategic partnerships can be in a number of forms - hand shake agreements, contractual cooperation's, equity alliances, through the formation of Joint Venture's and cross-holdings.

3.2 Typically, two companies form a Strategic Partnership when each of them possesses business assets or expertise that will help the other to expand their respective businesses. This essentially means that one firm helps the other to expand their market by helping with some expertise. According to Cohen and Levinthal, significant in-house expertise which complements the technology activities of the partner firm is a prerequisite for the successful exploitation of knowledge and technological capabilities in areas presently not within their boundaries of competence. Strategic partnerships can thrive in outsourcing relationships where the parties involved aim to achieve long-term benefits and innovation based on mutually desired outcomes. The bottom line is that irrespective of whether or not a business contract was signed between the two parties, a trust-based relationship between the partners is indispensable.[5]

[5] Lamachenka A (2014)

3.3 **Types of Strategic Partnerships**. Strategic partnership agreements can be broadly classified into five main categories:-

3.4 **Strategic Marketing Partnerships**

Strategic Marketing Partnerships are most beneficial to small businesses with a limited selection of products and services. For example, a company that provides one service, say logo design would partner with a web developer that will always refer it when graphics are necessary, and vice versa. Such an agreement allows each company to focus on its respective strength areas.

Whilst *Referral Agreements* are probably the most basic and informal type of strategic alliance, but strategic marketing partnerships can be considerably more complex. The following examples illustrate this fact:-[6]

(a) Pharmaceutical giant, **Abbott India's** agreement to market **Zydus Cadila** drugs across India. In this case, both companies focus on their respective areas of core expertise - Zydus Cadila on manufacturing medications while Abbott India focusses on marketing the drugs.

(b) Marketing partnerships are extremely common in the automotive industry, such as the **Toyota IQ** also being marketed as the **Aston Martin Cygnet**. Once again, the idea is that one company manufactures a product, whilst the provides the necessary marketing spin to it in order to tap new markets. The same logic can be applied to a variety of different products, scenarios and situations.

[6] Lamachenka A (2014)

3.5 **Strategic Supply Chain Partnerships**

Another extremely important and popular type of alliance is the *Strategic Supply Chain Partnership*. One of the most common example of strategic supply chain partnerships being implemented is the film industry. If one notices the opening credits of movies, one observes that most movies list various oddly named companies before the film starts. This is because movies are typically made in a supply chain method, wherein a relatively small production house handles the filming and post-production activities, whilst a larger studio handles the financing, marketing, and distribution of the film. An example of such a partnership is the one between J.J. Abrams' Bad Robot and Paramount Pictures.[7]

Other examples of supply chain partnerships exist in the technology sector. Intel makes processors for many computer manufacturers. Toyota makes engines for Lotus sports cars. Texas Instruments makes chips for a wide variety of applications. In all these cases, the companies involved are having strategic supply chain partnerships with other companies.

Companies usually enter into supply chain partnerships to cut costs, streamline processes and improve quality The final decision as to whether or not to enter into an alliance, normally comes down to cost. If you can manufacture a product at a lesser cost by yourself, then you do not need a partner. But if you can hand off manufacturing to a dedicated factory and maintain profitability without sacrificing quality, then, entering into such a strategic partnership is a good option.

[7] Lamachenka A (2014)

For all their tangible benefits, supply chain partnerships can also be among the hardest types of alliances to maintain and often run into problems. For a supply chain partnership to be successful, each of the parties involved should be able to meet the end customers' expectations with respect to quality and cost, whilst at the same time also remaining individually profitable.

3.6 Strategic Integration Partnerships

Strategic Integration Partnerships are extremely common in today's digital age since it is always good to have different applications working together or at least communicating with each another. And, both sides get to offer a more streamlined service to customers. Such a partnership can be between hardware and software manufacturers or between two software developers who partner to have their respective technologies work together in an integral (and not always exclusive) way.

For example, **Uber and Spotify** partnered together to create their "Soundtrack for Your Ride" campaign. While waiting for their Uber ride to arrive, passengers access their Spotify accounts and manage the playlist they would like to hear during their forthcoming trip. In this venture, both brands relied on each other's technologies to ultimately provide a good customer experience. Apart from providing a pleasurable ride experience for passengers and improved ratings for the Uber drivers, this partnership also positioned each brand in a positive light, with the likely benefit of gaining return customers in the process.

Another good example of a strategic integration partnership is the one between Nike and Apple. From the early 2000s, **Nike and Apple** began pairing their

respective products and technologies to create what would eventually emerge as *Nike+*. Upon buying shoes and sports apparel from Nike, customers can pair their products with their Apple iPhones / Watches and thereby track their fitness progress. This helped in creating a favourable brand image for both companies, apart from increasing their respective customer bases.

3.7 Strategic Technology Partnerships

Another type of alliance is a Strategic Technology Partnership. This type of strategic partnership involves working with technology and IT companies to keep your business afloat. A simple example of such a partnership can be the one between a web design firm and a particular computer repair service that can always be called in return for a discounted rate on services. Another example could be of a company partnering with a cloud-based storage platform to handle all of their file storage requirements.

In a nutshell, any kind of technological expertise that is necessary for a business and which cannot be provided in-house can be addressed through a strategic technology partnership. Choosing a technology partner has to be based on an assessment of your needs and the identification of a positive benefit from entering into the agreement.

3.8 Strategic Financial Partnerships

Most big and mid-sized companies fully outsource their accounting to strategic partners, in the form of dedicated accounting firms. Since finances are the most critical part of any business, strategic financial partnerships are amongst the

most important relationships. Dedicated finance professionals offer reliable and professional expertise in managing cash flow and provide an accurate status of the current revenue position of any firm.

3.9 **Legal Strategic Alliances**. As with Strategic Partnerships, *Legal Strategic Alliances* also provide businesses with a number of advantages. These include access to additional resources, qualified manpower, and projection of brand power - all through the mechanism of a legal agreement. There are 3 main types of strategic alliances:-

3.10 **Joint Venture**

A joint venture involves two or more bigger (*Parent*) companies forming a smaller (*Child)* company together. The parent companies can choose between a *50/50 Joint Venture*, in which both companies own an equal stake in the JV, or a *Majority-Owned Venture*, in which one company holds the larger stake.

3.11 **Equity Alliance**

Under such an arrangement, one company purchases a specific percentage of equity in another company.

3.12 **Non-Equity Alliance**

Under such an arrangement, two companies mutually and contractually agree on a relationship under which they allocate specific resources, assets, or other means to each another.

Structures of Strategic Partnerships [8]

3.13 Strategic Partnerships can have multiple structures. These can range from *Non-Equity Alliances* in the form of non-traditional contracts (such as joint R&D, long-term sourcing, shared distribution/services) to *Equity-Based Partnerships* in the form of minority equity investments and joint ventures. The chief reasons for choosing non-equity alliances are market volatility and uncertainty, the existence of more than one prospective partner, the risk of damaging existing partnerships, and high organizational fit.

3.14 A *Joint Venture* is usually preferred when there are considerable differences in the cultures and/or the size of the companies involved (to minimize the risk of under-commitment by the smaller partner). For a joint venture to succeed, it should recruit independent people to make a fresh start rather than engaging existing employees from both companies, who already have different cultures and conflicts of interest and who might prioritize the goals of their own companies over the interests of the JV.

3.15 However, it has been found that Joint Ventures are the least popular form of partnership. They are the most difficult to manage and have an average life span of around seven years. **According to McKinsey, many joint ventures fail because they spend more time on steps where less value is at risk** (50% of time spent on negotiating deal terms, which constitute only 10% of value at risk) and less time on steps that have more value at risk (only 20% of time spent on business model and structure, which represents around 40% of total value at risk).

[8] Henderson JE (2014)

Joint Ventures in Defence Sector in India

3.16 India ranks amongst the top 15 producers of defence hardware in the world. However, despite this, the country's defence industrial base has not been able to meet the requirements of modern technology and state of the art weapons and equipment for our Armed Forces. India currently exports defence equipment to about 40 countries. There is a huge market in India for forming JVs in the Defence Sector and collaborating on a wide range of technologies - from small arms, artillery guns, missiles to big ticket and complex platforms such as fighter aircrafts and warships / submarines.

3.17 Till Mar 2016, India had approved 36 JV proposals with Indian Public Sector / Private Companies for manufacture of defence equipment. An additional 14 JV proposals, for design, development and manufacturing of defence weapons & equipment, between foreign and Indian companies have been inked from Apr 2016 till Jul 2018 bringing the total number to 50 JV proposals. The JVs will enable leveraging the benefits of vast infrastructure and resources of the Defence PSUs in defence manufacturing, along with the marketing skills and inherent flexibility of the Private Industry.[9]

Joint Ventures in Defence Sector can help expand our defence industrial base and catapult India into the league of major defence manufacturers in the world. JVs with established global players can help India towards becoming a hub for defence manufacturing.

[9] ILO Consulting (2020)

FDI in Defence JVs

3.18 As part of the country's economic response to COVID 19 pandemic, in May 2020 the Government announced an economic package aimed at providing the necessary stimulus to the economy. As part of this package, one of the measures was to further liberalize the FDI framework for the defence sector. As per the new guidelines, foreign investors are now permitted to hold up to 74 percent of the companies in the defence sector under the *Automatic Route* (without Government approval). This effectively allows foreign companies to hold a majority and controlling stake in their JV's involving an Indian company.

3.19 The following conditions are required to be fulfilled by any investor to meet the new FDI Policy of the Defence Sector by the Government of India:-

(a) 74% FDI is permitted without the approval of the government, that is under the *Automatic Route*.

(b) Any FDI above 74% would require prior Government approval. In such cases, the reasons for approval (viz, access to modern technology or other valid reasons) would need to be recorded.

(c) One key condition for the FDI to go through is the infusion of fresh foreign investment upto 49% in a company not seeking an Industrial License or which already has governmental approval for FDI in defence. Such cases will require mandatory submission of a declaration to the MoD in the event of any change in equity/shareholding or transfer of stake by existing investor to new foreign investor for FDI up to 49%, within 30 days of such change. Proposals for raising FDI beyond 49% in such companies will require prior Government approval.

(d) Other basic conditions are that the foreign investment is subject to security clearance and guidelines of the Ministry of Defence.

(e) The company which is investing must be self-sufficient in areas of product design and development, along with maintenance and life cycle support facility for the products being manufactured in India.

(f) Foreign investment is subject to scrutiny on grounds of national security and the Government reserves the right to review any foreign investment in the defence sector that affects or may affect national security.

3.20 **Impact of FDI Changes in the Defence Sector**. Some of the key impacts of the FDI changes indicated above in the Defence Sector are highlighted below:-

(a) **Increased Governance and Control Rights for Foreign Companies:**

The increase in foreign ownership percentage to 74% of the share capital of the investee company in India will allow major foreign defence companies to exercise substantial ownership and control over the Indian companies that they have formed a JV with. This is a paradigm shift as previously due to the 49 % foreign shareholder automatic route limitation, the foreign companies were reluctant to transfer critical components of important technology to their Indian counterpart, primarily due to their inability to exercise control over the board and operations of the JV. This move to increase the FDI percentage upto 74 % will mean foreign companies will be open to transferring proprietary technology to the domestic company.

(b) **The change in rules will be prospective,** that is, any fresh increase of FDI or alteration in foreign shareholding in companies in defence sector

currently beyond 49 % and holding an Industrial License will still need prior Government approval. Same would not be however required for companies seeking a new Industrial License under Automatic Route (upto 74 % FDI).

(c) **National Security as a ground for approval and rejection of proposals**: Investments in the defence sector are subject to security clearance by the Ministry of Defence under the current FDI Guidelines. As has been the norm earlier too, the Government has reserved the right to review any foreign investment in the defence sector on grounds of national security. The fact that this is a rather 'Subjective' clause is something which potential investors will have to factor whilst forming the JV.

Joint Ventures in Defence Sector in India: Current Progress

3.21 It has to be borne in mind that globally, Governments control export of Defence technologies, being strategic by nature, and hold the Intellectual Property Rights (IPR) as well (through Govt. funding), and companies are not at liberty to part with them. Having invested over several decades, sovereign nations do not share critical technologies, without commensurate controls having geo-political implications leading to control / denial regimes.

3.22 The DPP 2016 brought in renewed emphasis and focus on the 'Make in India' initiative in the sector of defence manufacturing and procurement. The DPP 2016 included a new acquisition category known as IDDM (Indigenously Designed, Developed and Manufactured). The IDDM takes priority over the existing Buy

(Indian) category which, in turn takes precedence over the other categories, namely, in order, 'Buy and Make (Indian)', 'Buy and Make' and 'Buy (Global)'. As well as speeding up the procurement process, the government's intent is clear - to promote the in-house design capacity of Indian tech companies and to encourage higher localization. These two aspects are deemed fundamental in deepening the role of the domestic industry, especially the private sector, in defence production.

3.23 **In line with the 'Make in India' initiative which aims to make India a global manufacturing hub, many global companies have shown interest in forming JV's with Indian companies in the defence sector too. However, whilst there is interest from global companies, it still has some way to go before translating into actual on-ground manufacturing.** While some JV's have been formed, large scale manufacturing is yet to take off. Below are highlighted some of the major JV's in the defence sector [10]:

(a) **Tata Boeing Aerospace (TBAL)**. Tata Boeing Aerospace Limited (TBAL) is a JV between Boeing and Tata Advanced Systems. Its state-of-the-art facility in Hyderabad, which was inaugurated on 1st Mar 2018 is spread over 14,000-square meters and employs 350 people. The facility is being described as the sole global producer of fuselages for AH-64 Apache helicopter delivered by Boeing to its global customers including the U.S. Army. The facility also produces secondary structures and vertical spar boxes of this multi-role combat helicopter. TBAL is Boeing's first equity joint venture in India.

[10] Sharma EK (2018)

(b) **Kalyani Rafael Advanced Systems (KRAS)**. Kalyani Rafael Advanced Systems (KRAS) is a JV between Kalyani Strategic Systems Ltd. and Rafael Advanced Defence Systems Ltd, Israel. Its manufacturing facility in Hyderabad was inaugurated in Aug 2017 and produces anti-tank guided missiles. Rafael Advanced Defense Systems also has a joint venture with Astra Microwave Products Limited in Hyderabad to make software-defined radios.

(b) **Dassault Reliance Aerospace Limited (DRAL)**. In Oct 2017, Dassault Aviation and Reliance Group laid the foundation stone of the Dassault Reliance Aerospace Limited (DRAL) manufacturing facility in Mihan, Nagpur. Under this JV, in which Reliance group owns 51 percent stake with the balance 49 percent with Dassault Aviation, the facility will manufacture several components for the Rafale fighter aircraft under the Offset obligation of the IGA between the Indian and French governments for the purchase of 36 Rafale Fighters.

(c) **L&T MBDA Missile Systems**. Larsen & Toubro's joint venture with European missile maker MBDA, a global leader in missile systems, namely L&T MBDA Missile Systems has set up a missile integration facility in Tamil Nadu to deliver complete missile systems for export markets from 2020.

(e) **K9 VAJRA-T**. Larsen & Toubro and Hanwha Techwin (HTW) of South Korea signed a contract for execution of the 155mm/ 52 Cal Tracked Self Propelled (SP) Gun programme for the Indian Army under the Make in

India programme in Apr 2017. L&T has received the contract from MoD for delivery of 100 Guns along with associated Engineering Support Package (ESP) and Maintenance Transfer of Technology (MToT). K9 VAJRA-T Guns delivered under this contract have more than 50% indigenous content and roll out of L&T's state-of-the-art facility Armoured Systems Complex at Hazira.

3.24 One of the viable solutions to access the best and contemporary technology and develop indigenous skill set in an efficient manner is through technology absorption by Industry through Joint Ventures with Foreign OEMs. The key aspect here is the successful absorption of the Manufacturing and Production Transfer of Technology by the Industry through investments within the country.

Select Case Study of Joint Venture: L&T MBDA Missile Systems Ltd

3.25 The case in point is one such collaboration between two giants, Larsen & Toubro (L&T) and MBDA, who have enhanced their partnership on co-development and production of major subsystems like the electro-mechanical fin-actuation systems and critical umbilical systems for the MBDA's MICA missile and Missile airframes for MBDA's ASRAAM, both presently in-service with the Indian Air Force. The new DPP document was the catalyst for the ongoing discussions that had been taking place between L&T and MBDA and saw the final steps taken towards establishing the L&T MBDA Missile Systems Limited (LTMMSL) Joint Venture company.

3.26 Founded in 2017, with an eye on domestic and global markets, LTMMSL has set up the assembly, inert integration and testing facility for Missile Sub-systems and Missile Weapon Launch Systems spread across an area of 16,000 sq. meter in a

Special Economic Zone at Coimbatore.[11] It forms a part of the Tamil Nadu Defence Industrial Corridor. L&T is one of India's leading private sector companies in the defence sector, with the ability to produce the high technology guided weapons and guided weapons, whilst MBDA MBDA, a world leader in missile systems.

3.27 MBDA itself is a venture of five partner nations, bringing the best technologies together from the UK, France, Germany, Italy and Spain to develop and deliver world-beating missile systems such as Meteor, ASRAAM, Aster, next gen ATGM and CAMM, and their respective Weapon Control systems which provide critical interfaces with platform-based sensors and combat/mission management systems.

Make in India

3.28 To begin with, the JV would aim to develop and supply fifth-generation anti-tank guided missiles, missiles for coastal batteries and high-speed target drones. According to the two companies, the decision to formalise the partnership was after extensive evaluation and identifying of synergy. They have partnered on co-development and production of major sub-systems involving complex technologies and sophisticated weapon systems, such as MICA missile launchers and airframe segments. Around 500 people are likely to be employed by the new company.[12]

3.29 L&T MBDA Missile Systems Limited is optimally positioned to offer India the best technology through the IDDM, 'Buy (Indian)' or the 'Buy and Make

[11] Indian Defence News (2020)
[12] Mukul J (2017)

(Indian)' channels. This offers India the flexibility of choice regarding the capability required and the desired lead times for delivery. In all cases it provides India with the optimised means of acquiring and mastering the very latest and most advanced guided weapon systems technology currently available anywhere in the world. The JV is already actively responding to several requirements of the Indian Armed Forces.[13]

Principals

3.30 The creation of L&T MBDA Missile Systems Limited has brought together two global leaders in their respective fields of activity. Ranked by Forbes as one of the most innovative companies in the world, Larsen & Toubro, is a major industrial conglomerate with highly diverse activities ranging from engineering and construction to technology and financial services worldwide. The company also boasts an active defence business covering a wide range of solutions. MBDA is the recognised European leader in missiles and missile systems and is able to offer the very best technology available in every segment of the market - air, land and sea. Its proven skills have seen the company being selected to lead Europe's major collaborative programs such as Meteor, Storm Shadow / SCALP and Aster.

3.31 **Larsen & Toubro (L&T)[14]**

Larsen & Toubro is a technology, engineering, construction and manufacturing conglomerate with a global customer base. It is one of the largest and most respected companies in India's private sector. Nearly eight decades of a strong, customer-focused approach and the continuous quest for world-class quality have enabled it to attain and sustain leadership in all its major lines of business. A thrust on

[13] L&T-MBDA JV website: https://www.lntmbda.com
[14] L&T-MBDA JV website: https://www.lntmbda.com

international business has seen overseas earnings grow significantly. It continues to grow its global footprint, with offices and manufacturing facilities in multiple countries. The company's businesses are supported by a wide network, and have established a reputation for strong customer support. L&T believes that progress must be achieved in harmony with the environment. A commitment to community welfare and environmental protection are an integral part of the corporate vision.

In response to changing market dynamics, L&T has gone through a phased process of redefining its organisation model to facilitate growth through greater levels of empowerment. The new structure is built around multiple businesses that serve the needs of different industries such as:

- Defence
- Heavy Engineering
- Construction
- Smart Cities
- Hydrocarbon
- Power
- Electrical & Automation
- Machinery & Industrial Products
- Information Technology
- Financial Services

3.32 **MBDA**

MBDA is the only European group capable of designing and producing missiles and missile systems that correspond to the full range of current and future operational needs of the three armed forces (land, sea and air). The €2.9-billion multi-national

group, with over 10,500 employees working from facilities and offices across France, Germany, Italy, Spain, the United Kingdom as well as the USA, is jointly owned by three major shareholders: AIRBUS (37.5%), BAE Systems (37.5%) and Leonardo (25%) and is the world's biggest exporter of missile systems. MBDA has been present in India for about 60 years. It and L&T have been in a partnership for about six years, on the offset programme in the sector.

With extensive experience of working with leading platform suppliers around the world (fixed and rotary wing aircraft, above and below surface naval craft of all sizes as well as military armoured vehicles), the group offers a range of 45 missile systems and countermeasures products already in service and more than 15 others currently in development. MBDA's activities can be divided into four main domains:

- Air Dominance
- Battlefield Engagement
- Ground Based Air Defence
- Maritime Superiority

Products & Services[15]

3.33 Some of the important products and services envisaged as a result of the JV are highlighted below:-

(a) **ATGM5**. In land combat and urban warfare, one of the main weapons contributing to the success of both offensive and defensive operations is the ATGM (Anti-Tank Guided Missile) system. L&T MBDA has a clear vision regarding the development and manufacture of ATGM5 in India, as this fifth generation weapon or family of weapons matches the requirements and

[15] L&T-MBDA JV website: https://www.lntmbda.com

specifications of the Indian Armed Forces. All the skills and new generation technologies that MBDA has developed for the French Army's MMP are being made available to allow India to design, develop and manufacture ATGM5. ATGM5 owes its unmatched capabilities to a range of disruptive, fifth generation technologies such as new generation passive dual band seeker, multipurpose tandem warhead, smokeless propellant providing stealthy firing and maintenance free missile (for 10 years).

(b) **EXOCET MM40 BLOCK 3**. The EXOCET MM40 Block 3 weapon system is the latest generation ship-borne variant within the EXOCET family (recognised worldwide as the benchmark for anti-ship missile capability and effectiveness). It is in service with several navies around the world. EXOCET MM40 BLOCK 3 provides a very long range capability, even in adverse weather conditions. Further, the MM40 BLOCK 3 shipset is versatile enough for installation on a wide range of naval platforms.

(c) **VL MICA Naval Air Defence System**. The VL MICA naval air defence system provides a high degree of self and local-area defence capability. It is currently deployed by navies around the world as the sole or main air defence system on board a wide range of surface vessels. The VL MICA system deploys the unique MICA missile, which is the only missile in the world equipped with two, interoperable, state-of-the-art seekers (Imaging IR or active RF). The missile is stored and vertically launched from its individual storage container providing 360° engagement coverage. Several ship programmes have been carried out that have demonstrated how the

modularity and compact nature of VL MICA facilitate the system's installation on a wide range of warships, both new-build and retrofit.

(d) **Sea Ceptor**. The Sea Ceptor is the latest generation, ship-based, all-weather, air defence weapon system. Through the use of new advanced technologies, Sea Ceptor provides complete protection against all known and projected air targets. The weapon system is now in full-scale production for the UK MOD as the principal air defence capability for the Royal Navy's Type 23 and Type 26 frigates. Sea Ceptor will protect both the host ship and high value units in the local area. The weapon system has the capability to intercept and thereby neutralise the full range of current and future threats including combat aircraft and the new generation of supersonic anti-ship missiles. Capable of multiple channels of fire, the system will also counter saturation attacks. Sea Ceptor can be easily retrofitted into a wide range of platforms, ranging from 50 m OPVs to frigates and destroyers. Two main features provide this flexibility. Firstly, the use of 'soft-launch' weapon technology for a compact launch system that can easily be installed in a number of locations. Sea Ceptor can be targeted from the ship's existing surveillance radar and therefore does not require dedicated fire control radars.

Salient / Distinguishing Features of L&T MBDA Missile Systems Ltd

3.34 Graduating up the value chain, the Joint Venture company, L&T MBDA Missile Systems Limited (LTMMSL) is now integrating the air-to-air launcher of the MICA Missile and would also integrate the entire missile section of the MICA Missile from its green field facility spanning over 16,000 sq. meters in an SEZ near

Coimbatore. The Facility is dedicated for missile integration for inert assembly, integration and testing of Missile Launchers and Missile Sub-systems. The facility is equipped with state-of-the-art Security systems as well as with climate controlled dust free clean rooms. LTMMSL has been proactively gearing up by investing in capability and capacity development. This manufacturing facility is a result of a deliberate and well thought-out strategy which involves developing capabilities within the Joint Venture Company, enhancing the technology spectrum, and building capacities ahead of time so that when the opportunity arises, LTMMSL is firmly positioned to deliver missiles and missile systems.

3.35 The strong Government support from each of its partner nations to MBDA ensures sustainability for the future and aids in pooling resources to develop new technologies such as the Soft Vertical Launch (SVL) (CAMM family) missile system and drives performance requirements into MBDA's product lines so that they are truly world class.

3.36 A "*Commonality, Modularity and Re-Use*" (CMR) approach adopted by MBDA drives enormous benefits in terms of manufacturing volumes, reliability data, spiral development opportunities and logistics; and it provides an excellent framework for identifying technologies that are suitable for transfer and subsequent indigenization in India by LTMMSL. Examples of "*Know How*" which could be suitable for transfer in the short term include Command and Control (C2) functional architectures and interfaces to enable the development of indigenous vertical launcher systems for Surface-to-Air Missiles (SAM); and air Defence modules for Indian Naval Combat Management Systems.

3.37 The expertise being developed by L&T MBDA Missile Systems Limited in missile systems (as opposed to just missiles) will enable India to mature its capabilities in specifying procurement requirements for future missile systems, thereby ensure coherence at a platform level. A further benefit of partnership is to leverage the transformation of integrated logistic support which has been driven from MBDA's domestic customers need to drive down through-life costs. Expertise in Zero-Maintenance missiles; optimized maintenance philosophies to maximize Mean-Time-Between-Failure (MTBF) and minimize Mean-Time-To-Repair (MMTR); Ranging and Scaling of Line Replaceable Unit (LRU) spares and tailored training systems all contribute to reduction in cost of ownership - which ensures the most capability for the allocated Defence budget.

3.38 Beyond the basic Transfer of Technology for manufacturing missiles or systems, another benefit of this partnership could be to enlarge the capability to design and develop Indian upgrades, corresponding to specific and new requirements from the end users. As an example, in the case of the Long Range Surface-to-Surface Missiles (SSM), a subject of interest could be the design, development, production and integration of a Data Link between the launcher and the missile during its flight.

3.39 While LTMMSL pursues new business from Indian MoD, it has in the meantime started industrial activity by building a greenfield facility which is currently undertaking exports to Europe. Unlike many Joint ventures that even after many years of formation remain JVs on paper, this company is developing capabilities within the

JV in India and plans to build capacities ahead of time. It is also building its resume of financial credentials.

Take Aways of L&T-MDA JV wrt the SP Model

3.40 Missile systems and missiles are not an identified segment for Strategic Partnership. Notwithstanding this JVs like LTMMSL are good examples where private sector is showing promise to deliver on the objectives for which Strategic partnership is being proposed.

3.41 The objectives of the SP model[16], as indicated below are being largely met through this JV:-

- to encourage broader participation of the private sector in addition to the capacities of DPSUs/OFB in manufacturing of major Defence platforms.
- To encourage private sector to make necessary long term investments in manufacturing infrastructure, an ecosystem of suppliers, skilled human resources, R&D for modernization and upgrades besides production of equipment.
- Overall aim is to progressively build indigenous capabilities in the private sector to design, develop and manufacture complex weapon systems for future needs of the Indian Armed Forces.

3.42 JV companies like LTMMSL have already initiated industrial activity in India. They need hand holding by the Indian MoD to be permitted to participate in various procurement programs. These JV companies being Indian companies should be

[16] MoD 2017

permitted to compete with other companies for future programs that are envisaged for indigenous development. For e.g, the program for follow on systems of VL SRSAM for the Navy should also be considered to be opened up for participation of such JVs as these are Indigenous companies who would be willing to meet Indigenisation requirements. Another case in point is the requirement of anti-ship missile systems where such programs can be categorised under appropriate procurement categories like Buy Indian / Buy & Make (Indian)/ Buy (Global – manufacture in India) and allowing such JV Companies to participate.

3.43 The successful LTMMSL JV illustrates that the Indian Defence Industry has the necessary capabilities to fructify the vision of Indian Armed Forces to achieve enhanced indigenization. Make-in-India for defence through Joint Ventures must move beyond business agreements to commitments in enabling India's long-standing goals of achieving self-sufficiency and regional supremacy.

Chapter 4

Defence Procurement Models: A Global Comparison

Introduction[17]

4.1 The last couple of decades, especially since the 9/11 terror attacks have seen a surge in military spending given the unpredictable and volatile international security environment. Since those attacks, global military spending has grown significantly, rising from US$839 billion in 2001 to more than US$1.917 trillion in 2019[18]. A large proportion of this spending has been allocated to new weapon systems and military hardware, including major and technologically complex platforms like battle tanks, armoured vehicles, fighter aircraft, helicopters, warships and submarines. Global arms sales and trading have also increased. Total arms sales by the world's top 100 largest arms-producing companies increased by 47% between 2002 and 2018, and totalled US$420 billion by the beginning of 2019. Between 2015 and 2019, the volume of international arms transfers was 5.5% higher than it was between 2010 and 2014, and it was 20% higher than in the 2005-to-2009 period.[19]

4.2 It is but natural that this increased spending on defence has generated significant interest in defence procurement issues the world over - amongst governments, armed forces, domestic and global defence industries, the media and the general public. Further, growing concerns, and justifiably so, with respect to time delays, huge cost overruns, obsolescence of technologies, ensuring life time maintenance and support, and other challenges associated with major defence projects

[17] Auger Martin F (2014)
[18] SIPRI Factsheet (Apr 2020)
[19] SIPRI Fact Sheet (Mar 2020)

have only strengthened the case for reviewing existing defence procurement organizations and processes.

4.3 A number of models of defence procurement exist around the world and the same is shown in **Table 1** at the end of this chapter. Not only are the defence procurement and acquisition processes of each country specifically tailored to meet the requirements of their respective armed forces, but they also are a reflection of its economic stature and military industrial ecosystem. In this chapter it has been attempted to examine some of the existing defence procurement organizations in some of the countries of the developing and developed world. Apart from India, the defence procurement organizations of the USA, Australia, France, Germany, the UK, Pakistan, South Korea, Turkey and South Africa have been studied. Many of these countries, including India, are among the biggest military spenders in the world.[20]

4.4 Further, in recent years, a number of countries have instituted measures which have been aimed to reform and streamline their national defence procurement organizations and processes. Accordingly, this chapter highlights the existing challenges in defence procurement in some of these countries and also looks at some of the recent defence procurement reforms.

Global Defence Procurement Models

4.5 Globally, the defence procurement models of various countries can be divided into the following five broad categories:[21]

a) Procurement by individual armed services

[20] SIPRI Fact Sheet (Mar 2020)
[21] Auger Martin F (2014)

b) Procurement by defence departments

c) Procurement by centralized defence organizations

d) Procurement by separate government organizations

e) Procurement by independent civilian corporations

4.6 **Model 1: Individual Armed Services**

In several countries, the individual services, that is, the Army, the Navy and the Air Force – are primarily responsible for acquiring their respective defence equipment. Quite naturally, the procurement processes of the armed forces are supervised by that country's defence department, which also lays down the defence procurement policies and regulations. The main advantage of this model is that it allows the individual armed services to have almost complete control over their procurement systems and actions as per their respective needs and requirements. The USA is amongst the countries that use such a model, apart from Ireland and some other countries.

4.6.1 **United States of America**

In the United States', defence procurement is overall managed by the Department of Defence (DoD). The Office of the Under Secretary of Defence for Acquisition and Sustainment is directly responsible to the U.S. Secretary of Defence for overseeing the procurement activities of the various segments within the DoD.[22] He is responsible for all matters pertaining to acquisition, contract administration, logistics and materiel readiness, installations and environment; operational energy, chemical, biological, and nuclear weapons; the acquisition

[22] Website of the Office of the Under Secretary of Defense for Acquisition & Sustainment [OUSD A&S]

workforce; and the defence industrial base. Each individual service is supported by a dedicated procurement office:

a) For the U.S. Army, the Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology.

b) For the U.S. Navy and the U.S. Marine Corps, the Office of the Assistant Secretary of the Navy for Research, Development and Acquisition.

c) For the U.S. Air Force, the Office of the Assistant Secretary of the Air Force for Acquisition, Technology and Logistics.

d) For the U.S. Coast Guard, the Coast Guard Acquisition Directorate.

Each of the above mentioned procurement offices is supported by a number of sub-organizations that specialize in specific aspects of procurement, such as research and development, the acquisition of weapon systems, military equipment and infrastructure, the purchase of commercial products and the provision of support services. Moreover, some of the DoD's combatant commands – for example, U.S. Special Operations Command and U.S. Cyber Command – have their own acquisition authorities and budgets for equipping their forces.

Just to provide an insight into the scale and extent of the defence procurement organisation in the United States, in 2019, approximately 175,000 military and civilian personnel worked in defence procurement within the various armed services, combatant commands and DOD agencies.[23]

[23] *United States, GAO,* Defense Workforce *(Sept 2019)*

4.7 **Model 2: Defence Departments**

In such a model, the defence department has the overall responsibility for defence related procurements. Its responsibilities include the following:

a) Procurement policies, processes, budgets and other resources

b) Management of defence procurement projects

c) Industry liaison and negotiating contracts with suppliers

d) Overseeing the entire process of purchase and delivery of defence equipment

The above mentioned functions are carried out through a dedicated procurement unit within the defence department. Such a dedicated unit has representation from both civilian and military establishments and works in close cooperation with the defence services. Countries where such a model is followed include India, Mexico, New Zealand, the Czech Republic and Finland..

4.7.1 **India**

In 2001, the Defence Acquisition Council (DAC), under the Defence Minister was constituted for overall guidance of the defence procurement planning process. Its decisions are implemented by the individual units of the defence ministry which are separately responsible for Defence Procurement, Defence Production, and Defence R&D.[24] After a recent change in Jan 2020, responsibility for defence procurement will now be shared between Defence Acquisition Council (DAC) and the newly established Department of Military Affairs (DMA) within the MoD. Whilst the DAC will continue to oversee major capital procurements such as fighter aircraft,

[24] DPP 16

tanks, surface warships and submarines, the DMA will be responsible for procurement issues pertaining to common user items such as weapons, ammunition, explosives, vehicles, stores, clothing and spares. The DMA will also be responsible for overseeing the maintenance and overhaul services for major defence equipment.[25]

4.8 **Model 3: Centralized Defence Organizations**

Under this model there is a centralized defence organization to manage the defence procurement process of the country and cater to the needs of its defence forces. Generally, these organizations operate under their respective defence departments, are independent of the military and have their own budgets. Such a model exists in a number of countries including Australia, France, Germany and the United Kingdom.

4.8.1 **Australia**

The Capability Acquisition and Sustainment Group (CASG), under the Department of Defence , is responsible for the procurement process, life support and disposal of all military equipment used by the Australian Defence Forces. Led by the Deputy Secretary CASG, the CASG was formed in 2015 to replace the Defence Materiel Organisation (DMO), which had been established in 2000. As of 2019, about 5,000 people were employed in the CASG.[26]

4.8.2 **France**

In France, a single government organization is responsible for defence procurement: the Direction Générale de L'armement (DGA). The DGA, which was formed

[25] Jane's Defence Weekly (Jan 2020)

[26] Website of Australia, Department of Defence, CASG

in 1961, is the central procurement agency of the French Ministry of Defence. It is responsible for the procurement / acquisition – from conception to delivery – of all defence equipment used by the country's armed forces, besides promoting export sales by the country's defence industry. As of 2019, the DGA employed about 9,700 people.[27]

4.8.3 **Germany**

The Federal Office of Bundeswehr Equipment, Information Technology and In-Service Support (Bundesamt für Ausrüstung, Informationstechnik und Nutzung der Bundeswehr, or BAAINBw) is responsible for all defence procurement. Established in 2012, it reports to the Federal Ministry of Defence. The BAAINBw essentially acts as a central purchasing agent and its main functions include the development, field testing, procurement and in-service support of defence products for Germany's armed force. Under its purview are a number of subordinate agencies, including technical centres, research institutes and a naval arsenal. As of 2019, the BAAINBw employed about 10,500 people.[28]

4.8.4 **United Kingdom**

A single agency, the Defence Equipment and Support (DE&S) is responsible for defence procurement in the UK. The DE&S is headed by a chief executive officer and is overseen by the Minister for Defence Procurement in the Ministry of Defence. DE&S was formed in Apr 2007 through the merger of two organizations: the Defence Procurement Agency and the Defence Logistics Organisation, with the aim to create a

[27] France Direction générale de l'armement (2020)
[28] Federal Office of Bundeswehr Equipment, IT and In-Service Support [BAAINBw] (2018)

new integrated procurement and support organization. As of 2019, DE&S employed approximately 12,000 people.[29]

Like Australia, France, Germany and the United Kingdom, a number of other countries as Brazil, China, Denmark, Estonia, Greece, Hungary, Italy, Japan, Norway, Spain and the Netherlands undertake defence procurement through a centralized defence organization. In the past, Russia too followed a similar model. However, in Sept 2014, the Government of Russia disbanded its two centralized defence procurement agencies (Rosoboronzakaz and Rosoboronpostavka) and concentrated the procurement process within the country's Ministry of Defence.[30]

4.9 **Model 4: Separate Government Organizations**

Under this model the entire defence procurement process is centralised under in a single government department or agency that is independent from the country's defence department. Generally, these agencies / departments are managed by civil authorities. Their mandate includes the following:

- defence procurement
- the country's defence industry and domestic production of defence products
- defence research and development and exports of defence products

This model is followed in Pakistan, Singapore, South Korea and Turkey among the countries.

[29] United Kingdom, Ministry of Defence, DE&S Organisation Chart 2020
[30] Jane's Defence Weekly (Sept 2014)

4.9.1 **Pakistan**

The entire defence procurement process is managed by the Ministry of Defence Production, a government ministry that functions independently from the Ministry of Defence. The ministry was formed in 2004 and is headed by a Cabinet level minister. The Ministry of Defence Production is responsible for[31]:

- procuring defence products for Pakistan's armed forces
- undertaking defence research and development
- producing weapon systems and defence equipment
- promoting and overseeing Pakistani defence exports

4.9.2 **South Korea**

The Defense Acquisition Program Administration (DAPA) is responsible for the overall defence procurement process in South Korea. Formed in 2006, the DAPA is led by the Minister of Defence Acquisition . Its responsibilities include:

- acquiring defence equipment for South Korea's armed forces
- fostering the country's domestic defence industry
- improving domestic defence production capabilities

Prior to the creation of DAPA in 2006, eight separate defence organizations, including each of the armed services, were responsible for defence procurement.[32]

4.9.3 **Turkey**

Presidency of Defence Industries (SSB) is responsible for the overall defence procurement process in Turkey. It is headed by the President of Defence Industries, who reports directly to the President of the country. Established in 1985, the main

[31] Ministry of Defence Production, Year Book 2017–2018
[32] DAPA South Korea Official Website http://www.dapa.go.kr

charter of SSB is to implement the decisions taken by the country's Defence Industry Executive Committee, which is the country's highest decision-making body related to defence procurement and production. Having initially operated under the Ministry of National Defence, the SSB was restructured a number of times before becoming affiliated with the Presidency of the Republic of Turkey in December 2017 and being renamed the SSB in July 2018.[33]

4.10 **Model 5: Independent Civilian Corporations**

Under this model the entire responsibility for defence procurement is contracted to civilian corporations that are either state-owned or part of the private sector. Such a model is followed in South Africa, Sweden and Switzerland, among other countries.

4.10.1 **South Africa**

The entire defence procurement is managed by the Armaments Corporation of South Africa Limited (ARMSCOR). Formed in 1948, ARMSCOR is a state-owned civilian company. It is controlled by a board of directors under the leadership of a chairperson. The Executive authority rests with the Minister of Defence and Military Veterans. ARMSCOR is mainly responsible for acquiring, maintaining and disposing of defence materiel for the South African National Defence Force, South Africa's Department of Defence, and any South African government departments and agencies requiring similar services, such as the South African Police Service. In 2019, ARMSCOR employed more than 1,460 people.[34]

[33] Turkish Defence Industry Product Catalogue (2019)

[34] Official Website of ARMSCOR, Vision & Mission https://www.armscor.co.za

Defence Procurement Model	Selected Countries Using the Model
Multiple government departments	▪ Canada
Individual armed services	▪ Ireland ▪ United States
Defence department	▪ Czechia ▪ Finland ▪ India ▪ Mexico ▪ New Zealand ▪ Russia
Centralized defence organization	▪ Australia ▪ Brazil ▪ China ▪ Denmark ▪ France ▪ Germany ▪ Greece ▪ Hungary ▪ Italy ▪ Japan ▪ Norway ▪ Spain ▪ The Netherlands ▪ United Kingdom
Separate government organization	▪ Pakistan ▪ Saudi Arabia ▪ Singapore ▪ South Korea ▪ Turkey
Independent civilian corporation	▪ South Africa ▪ Sweden ▪ Switzerland

Table 1: Different Models of Defence Procurement around the World

Source: Auger Martin F, "Defence Procurement Organizations: A Global Comparison" (2014)

4.11 **Defence Procurement: Reforms and Challenges**

The massive increase in global defence spending over the past few decades has contributed to the defence procurement processes of countries, especially those with high military budgets, being put under pressure and scrutiny. In a vast majority of the cases, the existing procurement organisations and processes have been unable to respond effectively to rising military demand or to avoid bureaucratic challenges, political influence, technological difficulties, cost overruns and delivery delays. At least in some countries which have faced these challenges, such public scrutiny and at times even criticism, have provided a reason to introduce much needed reforms and improvements in the defence procurement processes. Some of the leading countries where such reforms have been or are being undertaken include Canada, Australia, the United Kingdom and the United States.[35]

4.11.1 **United Kingdom**

In the United Kingdom, several defence procurement reforms have been implemented over the last two decades, resulting in the establishment of the DE&S in 2007, as well as numerous changes to processes and oversight mechanisms. Despite these reforms, however, challenges with the defence procurement process continue to exist. Reports by the House of Commons Defence Committee and the National Audit Office in 2009 and 2010 noted significant delays and cost overruns with existing defence procurement projects.[36] The reports also highlighted a major funding gap between defence procurement orders and the funds available to pay for the weapon systems and military equipment ordered.

[35] Ugurhan G. Berkok, (2006)
Behera LK (2013)

[36] House of Commons Defence Committee, *Defence Equipment 2010: Sixth Report of Session 2009–10*

In 2009, the Ministry of Defence ordered an independent study of the country's defence procurement process. The study made several recommendations designed to enhance the defence procurement process and improve skills, efficiency, project management and transparency. One of the recommendations was that DE&S should cease to be part of the Ministry of Defence and should be transformed into a Government-Owned and Contractor-Operated (GOCO) company. In 2010, the Ministry of Defence accepted most of the recommendations, but rejected the GOCO proposal.[37]

Additional reforms have since been implemented in an effort to improve and modernize the United Kingdom's defence procurement planning, process and budgeting. Since 2012, the Ministry of Defence has published an annual equipment plan that outlines expected expenditures for defence procurement projects over the next decade. Also, the Ministry has released several strategic documents pertaining to defence procurement, including a National Shipbuilding Strategy in Sept 2017, a Combat Air Strategy in Jul 2018 and a Defence Industrial Policy in Dec 2018.[38]

4.11.2 **United States**

Over the past decade, the Government of the United States has initiated a number of reforms aimed at improving its defence procurement process. These reforms include introducing legislative changes to reform the process, and redrafting defence procurement policies, rules and regulations to achieve greater accountability, efficiency, effectiveness and flexibility. It has also implemented new initiatives designed to improve the overall performance of the defence procurement process,

[37] UK MOD, The Defence Strategy for Acquisition Reform (2010)

[38] An independent report into the structure and management of the Ministry of Defence *(2011)* UK MOD: Better Defence Acquisition (2013)

including to streamline defence procurement, eliminate unproductive practices and bureaucratic processes, achieve greater efficiency and productivity, increase competition, strengthen oversight, improve the management and protection of intellectual property rights, reinforce cybersecurity standards for defence acquisition, control project costs, reduce delivery times, and enhance the quality and professionalism of the workforce.[39]

4.11.3 **Other Countries**

Like Canada, Australia, the United Kingdom and the United States, other countries including France, Germany, Hungary, India, Iraq, Japan, New Zealand, Spain, Saudi Arabia, the Philippines, South Korea and Vietnam have made reforms to their defence procurement processes in recent years. The reforms, which vary across countries, range from improving and streamlining procurement methods and processes to revising contracting and financing systems to establishing new defence procurement organizations. However, despite such reforms, delivery delays, cost overruns and other challenges continue to affect defence procurement worldwide.

[39] Schwart M (2014)

Conclusion

4.12 Several models of defence procurement exist throughout the world and these have been discussed earlier in this chapter. Each country chooses an approach and thereafter customizes its defence acquisition process to meet the specific requirements of its armed forces. Most countries, specially the big military spenders have tried to introduce reforms in their respective defence procurement systems and processes in recent years. However, despite these reforms, most processes, irrespective of the model – continue to face similar challenges and difficulties. Many processes are characterized by bureaucratic red tapism, political interference, huge cost overruns, and significant time delays in major defence projects. Almost all countries have encountered difficulties with their defence procurement processes. No existing defence procurement model seems to be able to address adequately all of the challenges associated with defence procurement in the 21st century.

Chapter 5

Study of Global Defence Procurement Systems in the Indian Context [40]

5.1 There is no doubt that India's needs a responsive, adaptable, fast and result oriented defence procurement system. The question is how can such a system be built. Towards this, it may be worthwhile to look at the defence procurement systems of some other countries around the globe and what could be the takeaways for India. **Table 2** below shows the defence spending of the top 15 countries in the world – both in absolute terms and also as a percentage of their GDP's. In this section we look at the following countries:

(a) **United States of America**: By far the biggest military spender

(b) **United Kingdom and France**: Defence spending is comparable to India. Further, these countries have a well-developed defence industrial complex and acquisition processes

(c) **Brazil**: Defence spending is appreciably less than India. Further, like India, Brazil still depends on defence imports.

Rank	Country	Spending (US$ bn)	% of GDP
	World total	**1,917**	**2.2**
1	United States	732.0	3.4
2	China[a]	261.0	1.9
3	India	71.1	2.4
4	Russian Federation	65.1	3.9

[40] Kumar Vandana (2013), "Reinventing Defence Procurement in India: Lessons from Other Countries and An Integrative Framework"

Rank	Country	Spending (US$ bn)	% of GDP
5	Saudi Arabia[a][b]	61.9	8.0
6	France	50.1	1.9
7	Germany	49.3	1.3
8	United Kingdom	48.7	1.7
9	Japan	47.6	0.9
10	South Korea	43.9	2.7
11	Australia	27.5	2.0
12	Brazil	26.9	1.5
13	Italy	26.8	1.4
14	Canada	22.2	1.3
15	Israel	20.5	5.3

Table 2 : Global Military Expenditure

Source: SIPRI (*Stockholm International Peace Research Institute) 2020 Fact Sheet*

5.2 **Table 3** below indicates the defence expenditure of the selected countries from 1988–2011. The United States, the world's largest defence spender accounting for over 40 per cent of world's defence spending, under its procurement head caters for US $124.7 billion in its budget for 2012 and makes separate provisions of $70.4 billion on research development, testing and evaluation (RDTE), and about $16 billion towards military construction and family accommodation.[41] Most other countries under discussion spend a fraction of the US's budget on their acquisitions.

[41] Office of Management and Budget , Washington D.C (2013)

For instance, in the case of the UK, the annual budget of its acquisition agency Defence Equipment, Support and Technology is £15 billion or a little over $23 billion.[42] France, out of its €32 billion budget for 2010, spent €14 Billion on procurement.[43] Australia allocated US$9.1 billion on acquisition and through life support in its 2012-13 budgets.[44] In its defence policy of 2008, Brazil committed to re-equipping its military and in 2012 it sought BRL 8 billion ($4.38 billion) for procurement.[45] In its Canada First Defence Strategy formulated in 2008, Canada catered for US$490 billion over 20 years. India's acquisition budget lies somewhere between the higher spending United States and the lower spending Australia, Brazil and Canada.[46]

Country	1988	1990	1995	2000	2005	2010	2011
USA	540.4	511.0	399.0	382.0	562.0	698.2	689.5
France	65.2	65.7	60.5	57.6	60.7	59.1	58.2
UK	53.7	54.3	44.6	44.3	53.6	58.1	57.8
India	16.7	17.5	18.3	25.8	33.6	46.0	44.2
Brazil	19.9	46.5	20.3	22.4	23.6	34.3	31.5
Canada	19.3	19.2	16.2	14.6	16.6	23.1	23.0
Australia	13.2	13.1	14.0	15.4	18.4	23.2	22.9

Table 3: Trends of Defence Expenditures of Select Countries

Source: SIPRI Yearbook 2012; all figures are in in US$ billion

[42] UK MoD, 'Significant Milestone for Defence Acquisition Reform' (2013)
[43] Foucault, M., Defence Budget in France: Between Denial and Decline, Paris: IFRI (2012)
[44] Thomson M., Cost of Defence: ASPI Defence Budget Brief (2013)
[45] Brazilian Military Outlines Budget Requirements', Janes Defence Security Report (2011)
[46] Canada First: Leveraging Defence Procurement through Key Industrial, Capabilities Report (2013)

5.3 Each country has tried to address the systemic challenges in their own way. While the UK, France, Australia and Brazil have tried to centralize defence procurement in a one-touch point defence procurement organization, the US has a decentralized and tightly meshed system of federal regulations and resources which deliver their indigenous acquisition programmes. On the process dimension, too, they have varying degree of regulation and procurement guidelines. The UK and France can be considered as having a liberal regulatory framework for procurement while the US has a very well-defined regulatory framework. All these countries have addressed the process and cultural challenges by employing professional procurement teams whose decisions are based on data and analysis within the regulatory framework.

5.4 The following elements emerge from a study of the defence procurement systems around the world:[47] We will examine each of these factors in the Indian context in the succeeding paragraphs-

(a) Aligning the acquisition systems to the overall national defence policy

(b) Result Orientation

(c) Analysis-driven decisions

(d) Creation of an Enabling Organization

Aligning Acquisition Systems with National Defence Policy

5.5 Here we will look at the example of the US and examine how it has attempted to align its acquisition process and organization with its overall national defence policy and strategy.

[47] Kumar Vandana (2013), "Reinventing Defence Procurement in India: Lessons from Other Countries and An Integrative Framework"

5.6 The process of defence reforms in the US began with the overhauling of the Department of Defence and the establishment of the Planning Programming Budgeting System (PPBS) in the 1960s. Under this system, the planning process determined military objectives, the programming phase translated these objectives into time-phased programmes, and the budgeting phase related to translating programme requirements into resource requirements of the spending departments. This approach required each service to document their multi-year programming of resources in a single document, known as the Five Year Defence Program (FYDP). **Figure 1** shows how the PPBS evolved to become more participatory in the 1970s to provide fiscal guidance and programme objectives to the Services. [48]

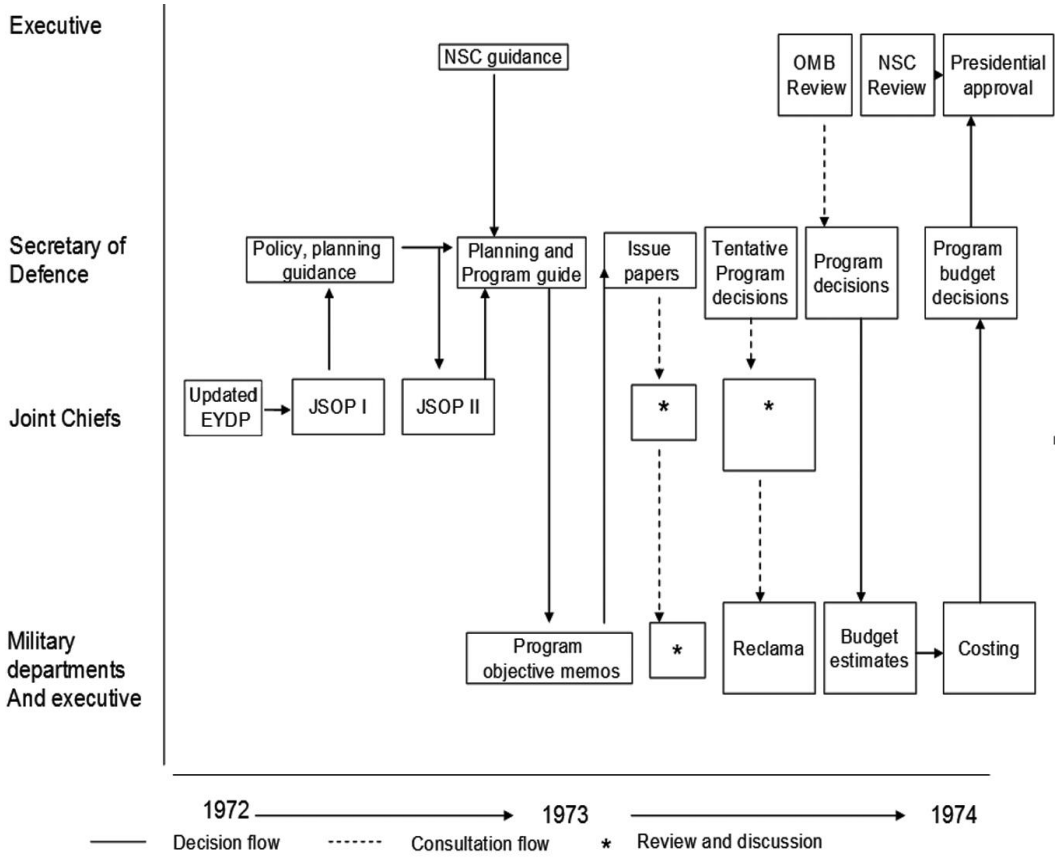


Figure 1 Evolution of PPBS in USA

Source: Ghosh A.K., *Defence Budgeting and Planning in India: The Way Forward* (2006)

[48] Kumar Vandana (2013)

5.7 The PPBS evolved into PPBE (Planning Programming, Budgeting and Executive System) by 2003, as to assess how the programmes and budgets play out in the real world. PPBE and the Defence Acquisition System are connected through the Department of Defence's (DoD) personnel and financial resources. At programme initiation, an acquisition programme must identify its needs for these resources over the life of the programme. These requirements have to be consistent with the resources that have been allocated to the programme in the latest PPBE cycle to ensure that the programme is affordable. The defence acquisition system, in turn, emphasizes the establishment of programme goals for the cost, schedule, and performance parameters that describe the programme over its life cycle. The programme goals, in turn, have to be linked to the DoD Strategic Plan and other subordinate plans, such as the Functional Strategic Plans and Strategic Information Resources Management Plan.[49]

5.8 **From an Indian perspective, the most useful elements of the American PPBE system are evolving a military strategy out of a national security strategy,** which translates into military programmes, provision of assured resources over medium term, and now a focus on execution. Another takeaway for India from this system is the active engagement of the top leadership like the Secretary of Defence and Joint Chiefs of Staff.

Result Orientation

5.9 To have a truly efficient and effective system of defence procurement, the key elements would have to be *focus on outcomes*, *flexibility* and *responsiveness*. These features are the hallmark of defence procurement systems around the world.

[49] DOD 5000.02'

Participants in the acquisition process should work together as a team and should be empowered to make decisions within their area of responsibility.

5.10 **The USA**. **Figure 2** shows the framework of the American acquisition system and the principles it follows in order to achieve procurement goals.

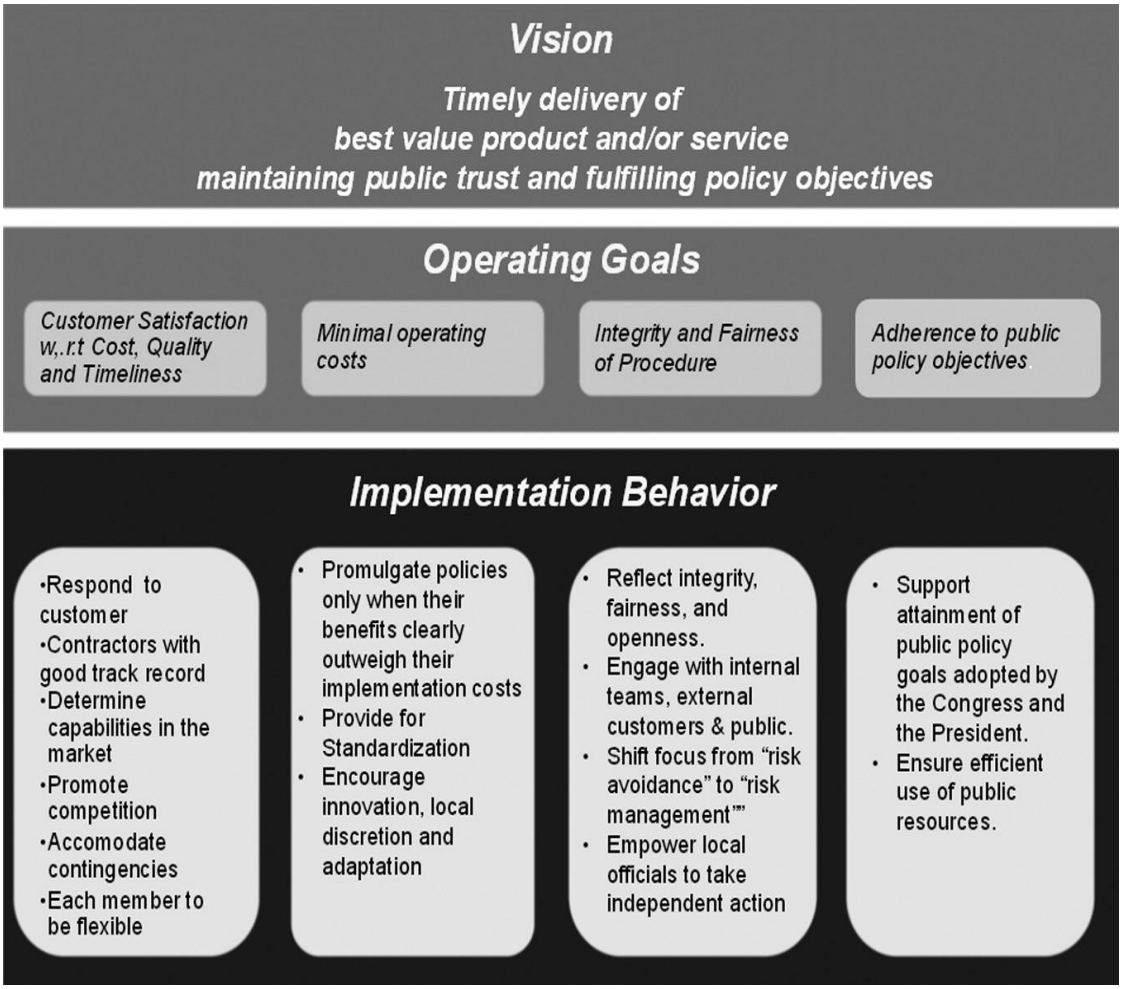


Figure 2: Framework of American Acquisition System to Deliver Best Value Product on a Timely Basis

Source: Kumar Vandana (2013), "Reinventing Defence Procurement in India: Lessons from Other Countries and An Integrative Framework"

5.11 **The UK**. The UK too has put in place a performance management framework to measure achievement of objectives outlined in its Defence Plan and using performance indicators, targets and progress measures. The Defence Plan for

the year 2010-14, for instance, clearly outlines broad strategic objectives and performance indicators against each. The same is indicated in **Figure 3** below:-

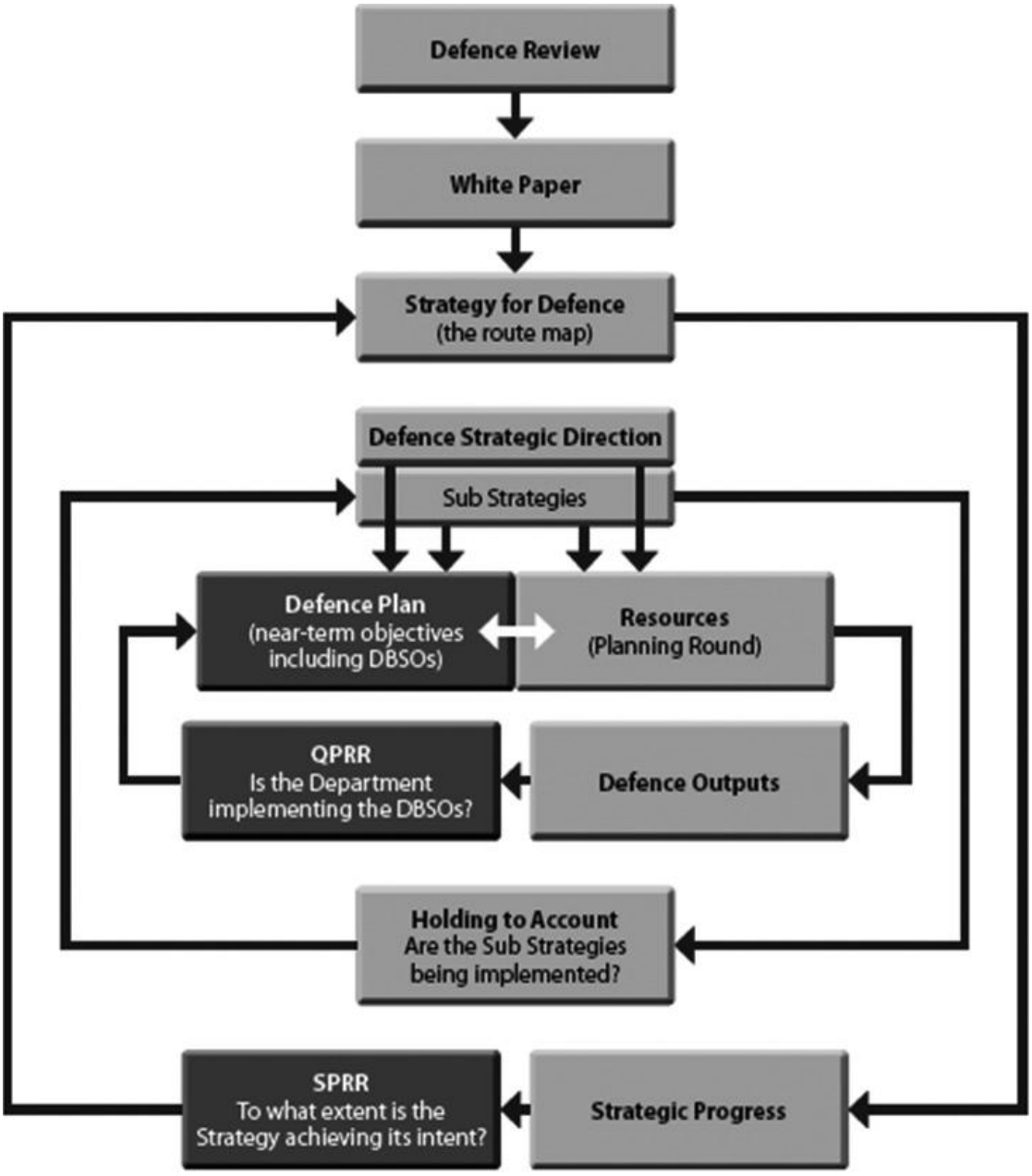


Figure 3: Performance Management Framework in UK

Source: UK Ministry of Defence, *Defence Plan 2010–14*

5.12 The Defence Plan (DP) outlines how the defence aim outlined through this vision will be delivered. The plan takes its origin in the National Security Strategy which was first published in 2008 and updated in 2009. The Defence Board Strategic

Objectives (DBSO), defined in the DP, are derived from the technical instructions and the sub-strategies, thus linking the DP, a document used internally for delivery, and the SD, which defines the requirements of the national security and the priorities of the department. Top level budget (TLB) holders are responsible for managing resources to achieve targets as effectively, efficiently and economically as possible. The performance management framework includes the Quarterly Performance and Risk Report (QPRR). Annually, sub-strategy owners and TLB holders are held accountable for delivery of sub-strategies. A Strategic Performance and Risk Report (SPRR) is also prepared to evaluate and recaliberate strategy through adjustment of strategic direction.[50]

5.13 **In the context of the Indian defence system, a Performance Measurement System to measure outputs, outcomes and quality is largely missing**. The budgeting system followed in India is an input-based system, and as such does not give an idea of outputs or outcomes expected from the budgets. The accounting system does not highlight the cost of programmes as the expenditure is compiled to detailed heads which, whilst providing information on how much expenditure is compiled to inputs such as pay and allowances, or stores of a kind. cannot provide information on how much does it cost to maintain a Jaguar squadron or an artillery unit. The annual reports of the Ministry are available on the Internet as are the reports of the C&AG, and as such form a valuable part of the performance information system. Other performance-related tools, such as performance budgeting, performance wage as also performance agreements and techniques like risk management are yet to be exploited in Indian defence.

[50] Ministry of Defence, UK, *Defence Plan 2010-14*

Analysis-Driven Decisions

5.14 Acquisition systems the world over recognize that cost of risk avoidance is prohibitive and, hence, the focus must shift from *Risk Avoidance* to *Risk Management*. The UK, a pioneer of reforms in defence management, has continuously evolved its procurement system with strong focus on cost-effectiveness. Its procurement system went on from becoming a sequential process consisting of specification and justification of the operational requirement by the defence staff to the selection of the most economical equipment by the Procurement Executive, and to an integrated cross functional analytical process using the concept of Combined Operational Effectiveness and Investment Appraisal (COEIA).[51] It includes comparison of the cost-effectiveness of a range of options to satisfy a military requirement and takes into account whole life costs and operational effectiveness.. **Figure 4** shows how the UK has migrated from a sequential procurement system to a more integrated analysis driven procurement system.

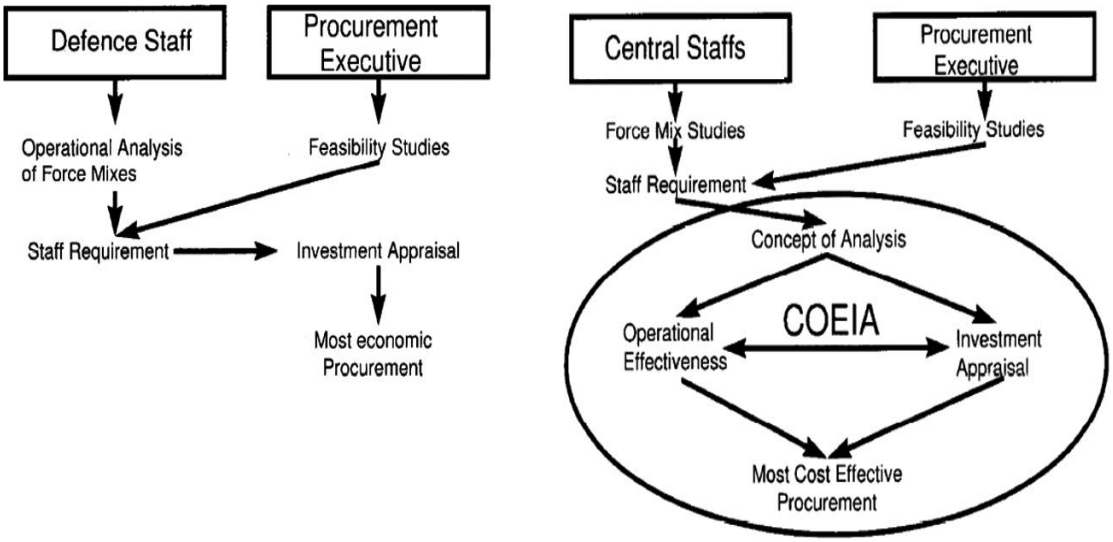


Figure 4 : Evolution of UK's Analysis Driven Procurement System

Source: Lindop, *Cost Effectiveness in UK Defence Procurement*.

[51] Lindop A.J., *Cost Effectiveness in UK Defence Procurement*

Enabling Organization

5.15. The defence procurement system is inherently multidisciplinary and requires collaboration among people from different specializations to bring about the required outcome: that of timely procurement of equipment of required performance parameters with the best value for money. This would mean that the performance evaluation, reward system, and decision rights have to be aligned such that they enable a multidisciplinary team to work towards common policy objectives and facilitate outcome oriented decision-making. **In essence, an enabling organization is a sum total of its structure, processes and work ethic aligned in such a manner that they achieve desired objectives**.

5.16 The French established a single executive agency within the Ministry of Defense—the Délégation Générale pour l'Armement (DGA)—which was made responsible for the contracting and management of all weapons programmes from inception to delivery, including export sales. Since the technical knowledge resides in the private sector, the DGA relied upon the industry. However, to control costs, the DGA hired the best and the brightest, allowed them years of experience in the industry and deployed them on those very programmes for years. The French also switched to fixed price contracts for development of weapon systems and engaged in precontractual negotiations to identify areas of risks to avoid cost overruns in later stages. As it is impossible to foresee all risks at the commencement of the programme, the French have established a 'responsibility principle' wherein whichever party, be it the government or the contractor, fails to meet contractual obligations, that party will bear the costs of the delay.[52]

[52] Kapstein E.B., 'Smart Defense Acquisition: Learning from French Procurement Reform'

5.17 **Table 4** summarizes how the acquisition systems across the world compare with each other:-

	UK	France	USA	Australia	Brazil	Canada	India
Structure	Multidisciplinary Centralized procurement agency DSE&T	Multidisciplinary Centralized procurement agency DGA	Decentralized tightly meshed system of resources and regulations DOD	Multidisciplinary Centralized procurement agency DMO	Multidisciplinary Centralized procurement agency SEPROD	Decentralized system of procurement DND, PWGSC and Industry Canada	Decentralized system of procurement Multinodal, Heirarchical AW, SHQ, MoD, DGQA, DRDO
Process							
Defence Strategy	Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review	The French White Paper on defence and national security	Defence Strategic Guidance	Defence White Paper	National Defence Strategy	Canada First Defence Strategy	No publicly articulated Defence Strategy
Links between policy planning and budgeting	Four year plan Program budgeting	Organic Law on Finance Laws (Lolf) Missions-programs	PPBE system connected to Joint Capability Integrated Development System (JCIDS) and Defence Acquisition Management System (DAMS)	Defence Capability Plan aligned with four year forward estimates of budget	Four year plans and annual budgets Accounting on cash basis	Report on Plans and Priorities for the DND &CF	LTIPP, SCAP. AAP, Input Based Budgeting Financial Reporting on cash basis
Defence Procurement Regulation	Defence and Security Public Contracts Regulation 2011Defence procurement not regulated at all Procurement on a case-by-case basis-	Act of Parliament, the *Code des Marchés Publics*	DOD 5000 FAR International agreements, DoD Directive 2060.1 Customary international law, and the law of armed conflict	Defence Procurement Policy Manual	Brazilian Complementary Law	Munitions Supply Program Trade Agreements Agreement on Internal Trade	DPP2011
Performance Measurement Framework	NAO Strategic Plan, Goals, PI, Performance Agreements Integration of financial and performance information	Stringent enforcement system Internal Audit department of Defence, Mission Support Flight (MAP) Court of Auditors, Corporate Accounting System Audit	Govt Accounting Office (GOA), Congress, GPRA 1993 Strategic Plan, Goals, Performance Indicators	FMA Act 1997 ANAO Major Project Reports, Annual Reports Lack of detailed parliamentary oversight Need to develop KPIs in MSA	The Congress Federal Inspector General Officer (CGU)	Policy on Management, Resources and Results Structures (MRRS) Auditor General of Canada Strategic Outcomes Performance Indicators, Targets	C&AG, SCD No Strategic Plan, Outcome Goals or performance indicators
Decision Making Culture	Professional analysis based decision making Increasingly commercial orientation	Commercially oriented, Private sector engagement	Outcome focused Flexibility for greater competition, innovation Professional workforce skilled across disciplines Risk-based and results oriented management approaches have to be integrated with business cycles	Needs to improve focus on performance and results. Become Business like Greater Engagement with Industry needed	Professionalism in Civil Service and Managerial Flexibility required	Bureaucratic Lack of transparency Over cautious approach Need for better engagement with the industry	Bureaucratic Compliance oriented decision making Lack of focus on outcomes

Unavailable or Limiting Weak or Evolving Established and Enabling

Table 4 : Characteristics of Defence Acquisition Systems of Select Countries

Source: Kumar Vandana (2013), "Reinventing Defence Procurement in India"

Improving the Defence Procurement Process in India

5.18 From the above it is apparent that each country has tried to establish a system according to its own national priorities. While India and Canada realize their defence needs largely from foreign procurement, the UK, US and France have a mature defence industrial base and acquire domestically. Brazil aspires to develop its defence own industrial base. All these countries have continuously reformed their acquisition systems to meet their evolving defence needs and continue to do so in order to enhance efficiency and effectiveness in view of the competing resource pressures to keep defence spending within sustainable levels.

5.19 In the Indian context, over the last few years a number of steps have been taken towards reforming the defence planning and acquisition process:-

(a) Promulgation of important policy documents such as the Defence Procurement Procedure (DPP). The DPP, which was first released in 2002 has thereafter undergone several evolutions and improvements and was revised in 2005, 2006, 2008, 2009, 2011 and 2013.

(b) DPP-2016 introduced specific provisions that will act as a growth stimulus to the domestic defence industry. These include introduction of the "Buy-IDDM" category of acquisition and a separate chapter on the Strategic Partnership model.

(c) Subsequently, the Defence Acquisition Procedure (DAP 2020) was promulgated in Sept 2020. The DAP 2020 is aligned with the self-reliance of the government.

(d) Creation of a new Department of Military Affairs (DMA) headed by the Chief of Defence Staff (CDS) and demarcation of responsibilities between the Department of Defence (DoD) and DMA in 2020.

(e) Formulation of service specific Long Term Perspective Plan (LTPP) which is integrated into the Long Term Integrated Perspective Plan (LTIPP). The LTIPP which covers a 15 year period is further split into three five-year Service Capital Acquisition Plans (SCAP). These are further divided into two year roll-on Annual Acquisition Plans (AAP) which are formulated in consultation with Service Headquarters. These steps have brought in renewed focus on planning and coordination between the three services.

5.20 At a systemic level, the above measures still fall short of achieving the desired outcomes. To establish a result-oriented system, reforms in the areas of establishing a performance management framework and infusion of professionalism in decision-making are imperative. These can be summarised as follows:

(a) Articulate a defence strategy which has a definitive strategic vision and clearly lays down strategic objectives for which capabilities have to be built.

(b) Develop a strong performance measurement framework that seeks results and accountability. The services of the CAG and CVC, presently largely confined to ensuring compliance with procedures and audits, can be broadened and used towards achieving these goals.

(c) There is also a need to induct skilled professionals and subject matter experts into the decision-making system. Infusing the acquisition wing with specialists with externally recognized qualifications should be considered, for both military and civilian personnel.

Chapter 6

SP Model: An In-depth Study & Analysis

Strategic Partnership – An Introduction

6.1 Major defence platforms and equipment in India are currently either procured directly through foreign sources or manufactured (often with major involvement of foreign stakeholders) by Defence Public Sector Undertakings (DPSUs) and the Ordnance Factory Board (OFB). Though defence manufacturing has been open to private sector participation for some time now, the private sector has repeatedly pointed to the lack of a level playing field compared to DPSUs and Ordnance Factories (OFs). These public sector entities continue to play a leading role in defence manufacturing, mainly on account of the various forms of governmental support that they receive, including long-term purchase arrangements. There is thus a need to bring in and institutionalise a rational, transparent and functional mechanism towards encouraging broader participation of the private sector in manufacturing of major defence platforms, whilst at the same time accessing the best and most contemporary technologies available globally.[53]

6.2 Having seen the precedence of the liberalization of the Indian economy in the 1990s, active involvement of the private sector in defence manufacturing will have a transformational impact. It will increase competition and efficiencies, lead to better absorption of new and contemporary technologies, develop a tiered and vibrant indigenous industrial ecosystem, ensure development of home grown skill sets, encourage innovation and promote participation in global value chains and defence

[53] [MoD 2017]

exports. Most importantly, from a strategic perspective such an approach will help reduce the existing dependence on imports and gradually ensure greater self-reliance and dependability towards meeting national security objectives.

6.3 Further, Defence procurement is entirely a government led function and operates in a *Monopsony*, wherein there is only one Buyer. The current defence procurement procedures focus mainly on short and medium-term contracts. However, the emphasis on purchase of equipment alone does not promote the creation of a defence industrial eco system.[54] Achieving self-reliance and self-sufficiency requires assimilation and integration of new technologies, extensive indigenisation, developing a multi layered ecosystem of partners and undertaking long term upgrades of the platforms through dedicated Research and Development. Achieving such an objective will require the private sector partner (Strategic Partner) selected through a laid down procedure by the government to make the necessary long term investments in creating the required manufacturing infrastructure, creating an eco-system of suppliers, pool of skilled human resources, focussing on R&D for modernization, in addition to producing the equipment / platform.

6.4 The Indian defence manufacturing sector comprises of defence public sector undertakings (DPSUs), ordnance factories (OFs) and private players including domestic and foreign companies. These are supported by a substantially large but disorganized group of Micro, Small and Medium Enterprises (MSMEs) which form the bedrock of indigenous defence production. The Make in India initiative of the Modi government places its confidence in the domestic defence industrial base for

[54] [MoD 2017]

indigenising production of major defence platforms. This vision however needs enabling policy. It is with this background that various Expert Committees set up by the Ministry of Defence (MOD) provided a detailed road map for development of a defence industrial base through the 'Strategic Partnership' route. In the recent past, two significant reports, the *Dhirendra Singh Experts Committee for Amendment to DPP-2013 including Policy Formulation Framework Report* (Committee Report of Jul 15) and the *VK Aatre Taskforce Report on Selection of Strategic Partners* (Taskforce Report of Jan 16) have contributed majorly in recognizing the importance of developing the Indian defence industry ecosystem and in bringing the narrative on this into the mainstream policy.

6.5 Emanating from the above, the ***Strategic Partnership Model*** (SP Model) is a major policy reform which was introduced by the Ministry of Defence in May 2017. **The SP Model forms part of Chapter VII of the Defence Procurement Procedure 2016 (DPP 2016)**. The model aims to promote *Make in India* in defence manufacturing through a suitable combination of Indian private sector and established foreign companies. The model advocates identifying a few Indian private sector companies as ***Strategic Partners*** (SPs) who would initially partner with a few shortlisted ***foreign Original Equipment Manufacturers (OEMs)*** to manufacture high value military platforms. To start with, it is envisaged that the selection of SPs would be confined to four main segments: Conventional Submarines, Naval Utility Helicopters, Fighter Aircraft and Armoured Fighting Vehicles (AFVs) / Main Battle Tanks (MBTs).

6.6 The model envisages that the Strategic Partners would not only assume the role of *System Integrators* but also lay a strong defence industrial foundation by making long-term investment in manufacturing / production and the supporting R&D infrastructure, creating a wide and multi-tiered vendor base, creating and nurturing a pool of skilled workforce, and making a commitment for indigenisation and technology absorption in defence manufacturing. **The overall aim of the SP Model will be to progressively build indigenous capabilities in the private sector to design, develop and manufacture complex military platforms for the future needs of the Armed Forces. This will be an important step towards meeting the larger national objectives, encouraging self-reliance and aligning the defence sector with the 'Make in India' initiative of the Government**.[55]

History and Conception of the 'Strategic Partnership Model

6.7 Citing security concerns, India's defence procurement had always been driven by the DPSUs and the Ordnance Factory Board (OFB). As early as 1991, the manufacturing of components, assemblies and sub-assemblies was opened up to the private sector. In 1998, towards promoting defence-industry partnership, the MoD constituted six Joint Task Forces in collaboration with the Confederation of Indian Industry. Consequent to their recommendations, in Jan 2002, the Government, in a major policy change, opened up defence production to the private sector by allowing 100% private equity in the defence sector with 26% Foreign Direct Investment (FDI).

6.8 **Kelkar Committee**. The Kelkar Committee was set up in 2004 to examine and recommend changes needed in defence acquisition procedures and enabling a

[55] [MoD 2017]

greater participation of private sector in defence production for strengthening self-reliance in Defence preparedness. The Committee submitted its report in two parts. The first part of the report focused on the review of the defence procurement procedure and made several recommendations including encouraging involvement of the country's best companies in Defence, promoting Offsets policy to bring in the best technologies along with investment, and encouraging synergy between the private sector and DPSUs, OFs and the DRDO, to promote high technology capabilities in the defence sector. The Second part of the committee's report recommended that the Government should give greater freedom to the PSUs to form joint ventures and consortiums. Whilst the government accepted a majority of these recommendations, their implementation left much to be desired and there was not much discernible change on the ground, with the private sector mainly involved in supplying some low-tech items to the public sector. Till 2013-14, the figures for such supplies to the DPSUs and OFs were indicative of the fact that the private sector largely continued to be an outsourcing base for the public sector. However, there was a marked shift thereafter, coinciding with the government's 'Make in India' campaign and former Raksha Mantri Shri Manohar Parrikar's initiatives towards providing a boost for the indigenous defence industry.

Dhirendra Singh Committee & V. K. Aatre Taskforce

6.9 The Dhirendra Singh Experts Committee was constituted in 2014 with the mandate of suggesting amendments to the Defence Procurement Policy (DPP) 2013 and create enabling guidelines for the implementation of the revised version – the DPP 2016. The Experts Committee was chaired by Shri Dhirendra Singh, a former Director General (Acquisition) and had participation from all key stakeholders,

including the armed forces, various wings of the MoD and the industry. The Experts committee made several important recommendations, both with regard to promoting 'Make in India' and also with regard to amendments to the DPP. A major focus of the Committee was on streamlining the acquisition process and structure so as to create more opportunities for the indigenous industry. The report also laid a lot of stress on indigenisation and emphasised on progressively increasing the indigenisation content, not only through DPP-driven procurement but also by entities like DRDO, DPSUs and OFs. However, one of the most far reaching and important recommendations of the Dhirendra Singh committee was to introduce the concept of strategic Partnership model. The strategic partnership model visualises selective identification of a few big private players and nurturing them through preferential treatment, which would entail co-opting them for 'Buy and Make' and Government-to-Government procurement programmes. The Committee also recommended the setting up of an independent taskforce towards further examining how to increase private sector participation in defence manufacturing.[56]

6.10 As brought out above, based on one of the recommendations made by the Dhirendra Singh Committee in 2013, a Taskforce was to be set up to lay out the criteria for selection of 'Strategic Partners' for weapons platforms of critical importance. The V. K. Aatre Taskforce was convened in September 2015 and its report made public in early 2017 and thereafter approved by the Cabinet. The Taskforce Report is an important document because it takes an honest and pragmatic view of Indian defence procurement. Not only does the Report suggest an alternative

[56] Dhirendra Singh Experts Committee Report (2015)

model to defence procurement, but it also suggests a framework, which if successful, could be a major driving force for the growth of defence related MSMEs in the country. The Report has recognised the importance of MSMEs not only as possible strategic partners but also the crucial role that they play in the defence manufacturing value chain..

6.11 **Rationale for the Taskforce Report**: The strategic partnership model was envisioned in order to bring private industry in to the fold of defence manufacturing, but under the auspices of well-defined terms of agreement. Given that development and production of weapon platforms is a time intensive process, the idea was to ensure that long-term, regulated partnerships for product development and production could be put in place. The Dhirendra Singh Committee noted that private industry can be involved in defence procurement only through "well-defined models depending upon … strategic needs, quality criticality and cost competitiveness."[57] **It has been clearly stated in the Taskforce report that the SP Model would be in addition to the existing infrastructure and capacity of the DPSUs.** This implicitly meant that it was time to bring in new players in the defence manufacturing sector who would compete with the DPSUs, in the process improving the efficiency of the DPSUs and also providing alternate sources. The Taskforce report also laid down detailed criteria and methodology for the selection of strategic partners.

6.12 **Weapon Platform Groups for Strategic Partnership**: The platforms identified as important for strategic partnership by the Dhirendra Singh Committee

[57] VK Aatre Task Force Report on Selection of Strategic Partners

were aircraft, missile systems, armoured vehicles, warships and submarines, command and control systems, and critical materials. The Dhirendra Singh Committee also laid down the broad parameters for selection criteria, which were then further detailed by the V K Aatre Taskforce. The Taskforce report highlights that "*the main difference between the commercial bidding process under the 'Buy and Make' category of DPP 2013 and 2016 and the Strategic Partnership Model is that the selection criteria in the latter are based on "inherent capacity and ability of the entity rather and not on the lowest bidder principle*."[58] **This is a significant and momentous change because it not only paves the way for private sector participation on the basis of capability and not cost, but also more importantly, it signals a paradigm change in the entire philosophy of defence procurement.**

6.13 The Report, based on best practices followed in defence manufacturing internationally, brings out that India needs strategic partners who are "*System of Systems Integrators"*. The weapons platforms identified by the Dhirendra Singh Committee have been differentiated into two groups: **Group I** as '*System of System* Projects' (Aircraft /helicopters, Submarines and Battle tanks / Armoured vehicles) and critical materials under **Group II** as '*Other Projects*' (includes ammunition). The SP model, in its present form, focuses only on Group I.

<u>Methodology and Criteria for Selection of Strategic Partners</u>

6.14 The Taskforce has recommended setting up of an Evaluation Committee and a Verification Sub-Committee for reviewing the applications made by companies for becoming strategic partners. The Evaluation Committee will be responsible for

[58] VK Aatre Task Force Report on Selection of Strategic Partners

evaluating the applications of companies competing to be strategic partners, whereas the Verification Sub-Committee will be responsible for conducting on-site inspection and verification of the technical capabilities of prospective companies. These constitute the first two steps in the process of evaluation and selection of strategic partners, that is the '*Composite Gate*' and '*Verification of applicant companies'*. **The final step involves evaluating each company's application on the basis of Technical, Financial, and Segment specific criteria and then ranking them**. The ranking will be based on the company's preference for each segment and the outcome of the evaluation that they receive for each set of criteria. Among the composite gate criteria, companies applying to Group I are required to have a turnover of Rs 4,000 crores and those applying to Group II a turnover of Rs 500 crores.

6.15 Another important point is related to foreign market access for the selected strategic partners. While the new proposed model for strategic partners provides for limited competition in private sector defence manufacturing, besides a certain degree of purchase security to the manufacturing company, at the same time the MoD is under no obligation to purchase systems from the strategic partners. MoD may choose to continue to either buy from DPSUs who are after all competitors to the strategic partners, or worse, continue to import. If either of the latter two were to happen, it defeats the entire purpose of strategic partnership, but it also then leaves the strategic partner with no other discernible revenue stream other than exports. **Unless a new export policy is created that will work in tandem with the new SP Model and strategic partners are allowed to export some of their products (subject to the requirements of domestic supply and security concerns), private sector participation in defence manufacturing may not reach the desired levels.**

6.16 The inclusion of the research and development (R&D) culture as an evaluation parameter is a double edged sword. The lack of focus on R&D in India is as much the fault of the private sector as it is of the government's and public sector undertakings. The engrained indifference to R&D is alarming and to this extent, the inclusion of R&D culture into the evaluation parameter is an excellent provision that will compel the private sector to concentrate more on this oft ignored segment.

6.17 The permissible FDI limit for strategic partners is 49 per cent. The fact that the strategic partner must be *Indian Owned* and *Indian Controlled* has been specifically emphasised. The rationale behind the 49 per cent permissible FDI is to allow for foreign OEM participation. Despite increasing FDI limits in defence, actual capital inflows into the sector have been minimal. One is hopeful that this might change if the recommendations of the Taskforce are implemented in a timely manner and procurement processes are changed. There is however a serious doubt with regard to technology transfers, since at 49 per cent FDI technology transfers are not likely to take place. Further, our defence manufacturing ecosystem in India has not developed sufficiently to facilitate and incorporate cutting edge technology. One of the important pillars of the SP Model is technology transfer and/or technology innovation through R&D. If, through the SP Model, we are able to absorb and utilize the latest technologies, then defence production and indigenisation will receive a big boost.

Strategic Partnership Policy

6.18 The Strategic Partnership (SP) Policy or Chapter VII of DPP 2016, which was approved by Cabinet in May 2017, is a modified version of the SP policy as laid out

in the V K Aatre Taskforce Report. Four segments of platforms have been approved for development under the SP policy. These include fighter aircrafts, helicopters, submarines, and armoured fighting vehicles (AFVs)/main battle tanks (MBTs). Chapter VII provides an introduction and rationale for the strategic partnership model. It also lays down the detailed selection criteria for applicant companies, role of OEMs and the procedure for selection of strategic partners and foreign OEMs. It also specifies the ownership structure required for applicant companies and the selection criteria (segment specific / technical).

Role of Strategic Partners and Foreign OEMs

6.19 What is expected of the Indian private sector has been laid out quite clearly in the Preamble of Chapter VII. As stated in the Preamble, "The private sector partner selected through a laid down procedure by the government to make necessary long term investments in manufacturing infrastructure, an ecosystem of suppliers, skilled human resources, R&D for modernization and upgrades as well as other capabilities, besides production of equipment."[59] Whilst this may seem as a difficult proposition for private sector companies which have, by and large, been weary towards large investments in the defence manufacturing sector, the guarantee of a long term contract with at least one assured order for the platform developed would be a significant incentive.

6.20 It has been stated that SPs will need to tie up with foreign OEMs since the objective of SP policy is to build indigenous capacity for major defence platforms' production. Such a tie up can take the form of joint ventures (JV), equity partnerships,

[59] [MoD 2017]

technology-sharing, and/or royalty to name a few. However, the ownership of such a tie-up must be Indian, with a majority of Indian representation on the board of directors. Any change in ownership structure of the JV or special purpose vehicle (SPV) will require MoD approval. It is stipulated that the contract between the SP and OEM cover all aspects from protection of classified information and technology transferred to life-cycle support for the platform manufactured. It has also been clarified that the foreign OEM will provide a formal acceptance of their government(s) that necessary licenses to transfer technology will be granted in the event that the OEM is selected as a partner for the SP. This will be done at the stage of *Expression of Interest (EOI)* and prior to the issue of the *Request for Proposal (RFP).* This is to ensure that transfer of technology(ToT) is facilitated with least resistance once the SP and OEM are selected.

Selection of Strategic Partners and Foreign OEMs

6.21 Chapter VII lays down the procedure for the selection of Strategic Partners and foreign OEMs. The entire process kicks off with the issue of an EOI to Indian private companies. After submission of EOIs by applicant companies, they will be evaluated based on Minimum Qualification criteria and Segment Specific criteria. Evaluation can also entail on-site verification of applicant companies. This will be to ensure that companies have the requisite technical and segment specific capabilities to build on. Companies that satisfy the Minimum Qualification criteria will be shortlisted for issue of RFP. A request for information (RFI) will be issued to foreign OEMs at the same time as the EOI is issued to Indian private companies. This is to ensure a simultaneous selection process for both the SP and OEM. Based on the response to the RFI, Service Qualitative Requirements (SQRs) will be formulated.

Thereafter, an EOI will be issued to OEMs in each segment based on the SQRs and information collected. A Technical Evaluation Committee (TEC) will check the compliance of the OEMs' to SQRs, ToT, ,extent of indigenisation proposed, besides other requirements. OEMs that meet the TEC's requirements will be shortlisted with the approval of the Defence Acquisition Council (DAC).

6.22 Upon approval of Acceptance of Necessity (AON) by the DAC, segment wise RFPs will be issued to Indian private companies which will include a list of shortlisted OEMs. This is to facilitate tie-ups between the potential SP and OEM. It has been specified that only 10-15 per cent of units of a platform being procured may be manufactured in the OEM's premises specifically for purposes of training and skill development of SP's manpower. This will help the SP to gain the knowhow it needs to further develop and manufacture the defence platform. The response to the RFP is to be submitted in two parts, the first a technical offer and the second a commercial offer. Based on the technical offers received Field Evaluation Trials (FET) will be conducted except for equipment which has been previously tested or for which the FET can be waived (for example, submarines). Thereafter, Staff evaluations would be undertaken and platforms meeting the SQRs and ToT requirements would be shortlisted. Finally, the companies with the lowest price bid in their commercial offer will be designated as the SP for that segment.

Contract Details

6.23 Once SP and OEM have been selected for each segment, the MoD will set up a Contract Negotiation Committee (CNC) to negotiate terms and sign a contract for deliverables with the SP. The OEM may only participate if required. If a JV/SPV is

formed by OEM and SP, a tripartite contract between the MoD, SP and JV/SPV will be concluded on the condition that this does not dilute the SP's responsibilities towards delivery timelines, quality and other criteria. The SP in each segment must provide an indigenisation roadmap. This includes a plan to indigenise value of production or manufacture of platform, building a tiered eco-system of domestic manufacturers including MSMEs and an R&D roadmap for achieving self-reliance in that segment. The MoD will have the right to carry out periodic assessment of the SP's technology absorption and development of a domestic ecosystem for manufacturing. The MoD will also have the right to conduct special audits of all certifications and costs related to the segment at any stage of manufacturing or assembly. The MoD can terminate the contract in the event of a breach of any of the contractual terms by the SP or JV/SPV, if it loses over half its net worth as submitted in its application or if there is a declaration or judgement of insolvency or bankruptcy.

6.24 Finally, with regard to subsequent acquisitions, the Chapter states that acquisition of identified platforms should be from Indian companies under the Buy indigenously designed, developed and manufactured (IDDM), Buy (Indian) and Buy and Make (Indian) and Make categories under DPP 2016. There is therefore no guarantee of the SP receiving subsequent orders. However, while evaluating bids by SP for subsequent acquisitions they will be given weightage for factors such as investment in segment specific infrastructure, building of test and evaluation facilities, vendor eco-system created and acceptability with regard to teaming up with DPSUs /OFs/ DRDO, as development partners. [60]

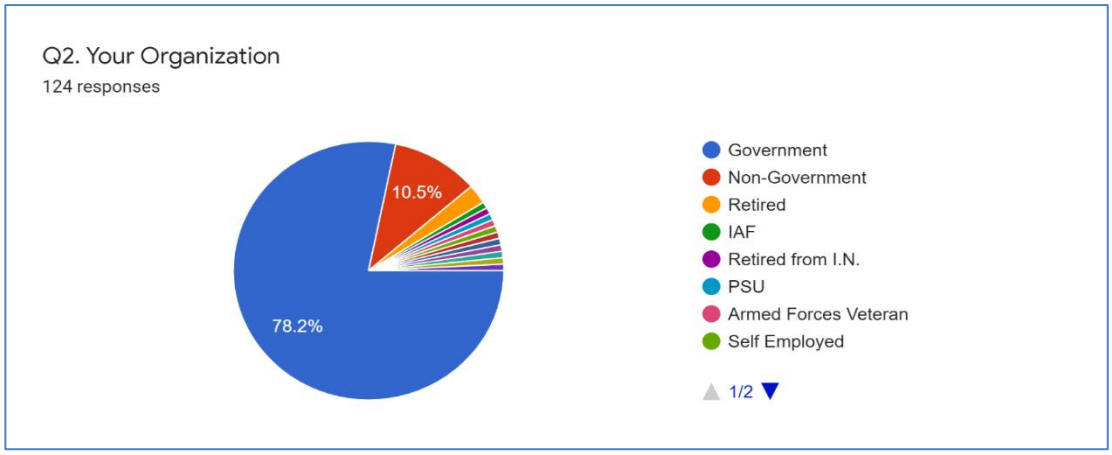
[60] [MoD 2017]

6.25 **The approval and inclusion of Chapter VII opened the doors and set the ball rolling for the implementation of the SP policy.** SP model is expected to not only increase private sector participation in defence production, but also improve the indigenisation process, thereby reducing our dependency on imports. **However, there are significant hurdles that need to be overcome to ensure efficient and satisfactory implementation of the SP Model.** As could be expected, there has been a lot of debate regarding issues with implementation of the SP policy. The following chapters of this report will detail what some of these issues are and will also elaborate the recommendations and Way ahead for the Strategic Partnership Model.

Research Survey For Strategic Partnership Model

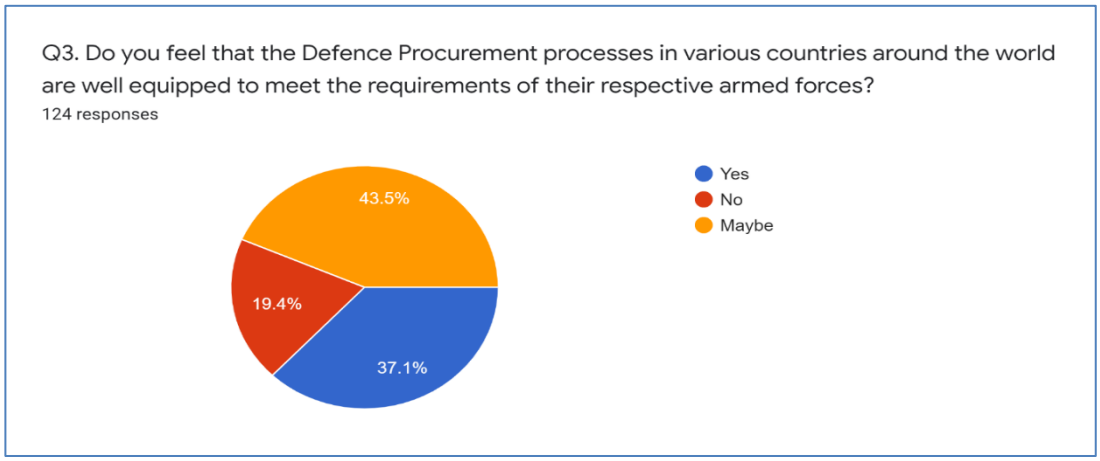
6.26 As a part of the research, a survey was also conducted towards ascertaining the views of informed personnel on various aspects related to defence procurement and specifically with regard to the Strategic Partnership model. The survey was conducted in Online Mode using the Google Forms application. The survey with a target audience of about 150 comprising of individuals with exposure to defence procurement / defence sector included a brief background on the SP Model and was followed by 16 questions on various related aspects. A total of 124 responses were received and recorded. The same have been explained in the succeeding paragraphs.

6.27 An Analysis and Interpretation of the Responses to each of the questions is given in the subsequent paragraphs:-



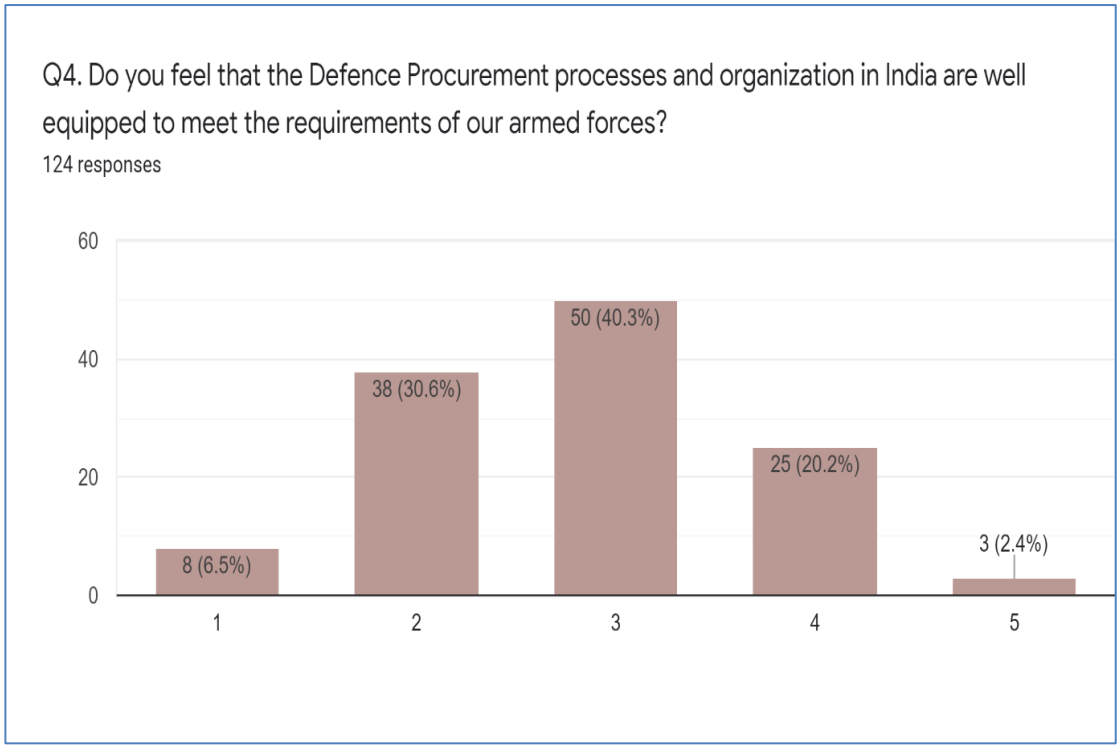
Analysis: As seen from the above chart, a vast majority of the Respondents were from the Government / PSU / Retired. A little more than 10% of the respondents were from the Private sector, albeit with exposure to Defence procurement and manufacturing issues.

Interpretation: The Target audience of the Survey had exposure to Defence procurement and manufacturing issues.



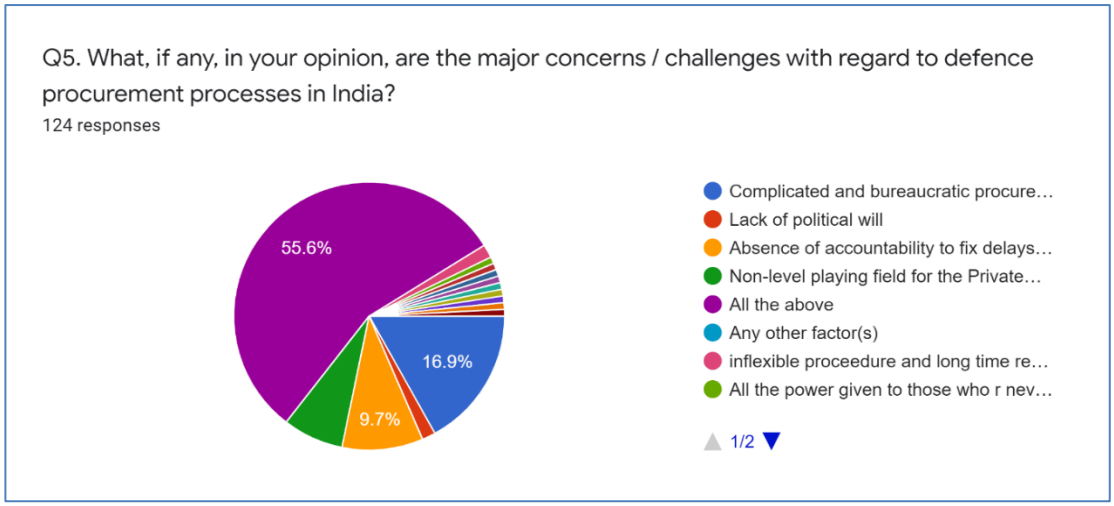
Analysis: As seen from the above chart, only about 37% of the Respondents were of the opinion that Defence Procurement processes in various countries around the world are well equipped to meet the requirements of their respective armed forces.

Interpretation: Defence Procurement processes in various countries around the world are **NOT** well equipped to meet the requirements of their respective armed forces.



Analysis: This question was on a Linear Scale of 1 to 5 with 1 denoting "*Not at all Equipped*" and 5 denoting "*Fully Equipped*". As seen from the above chart, very few of the Respondents had extreme views on either spectrum. Only about 23% of the Respondents felt that Defence Procurement processes and organization in India are NOT well equipped to meet the requirements of our armed forces. Majority of the Respondents (about 77%) were of the opinion that Defence Procurement processes and organization in India are not well equipped to meet the requirements of our armed forces.

Interpretation: Defence Procurement processes and organization in India are **NOT** well equipped to meet the requirements of our armed forces.



Q6. Which of the factors listed at Q5 above, in your opinion is most relevant?124 responses

Lack of political will

Absence of accountability

Non level playing field

Complicated and bureaucratic procurement procedures

Analysis:

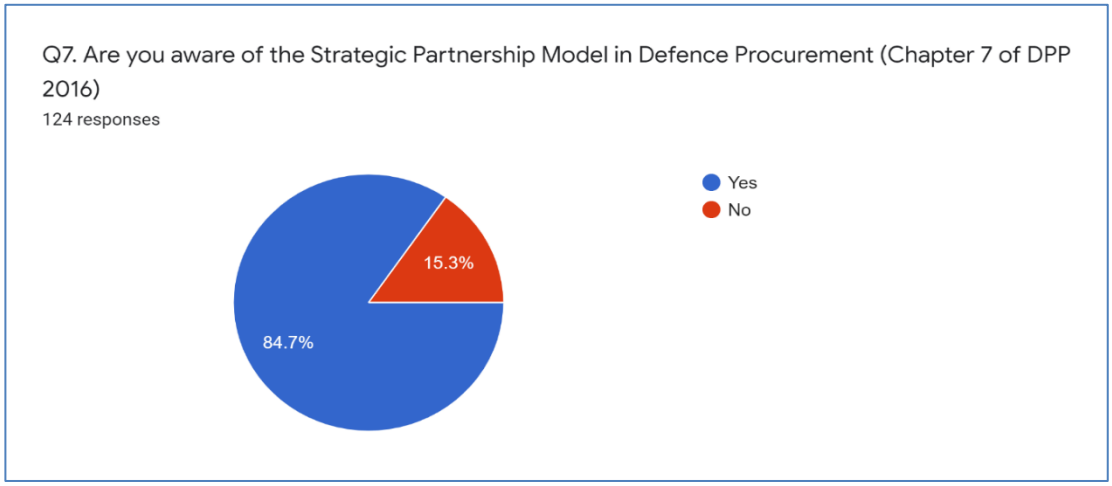
Q5: As seen from the above chart, a majority of the Respondents (55.6%) felt that all the factors listed (that is, Complicated and bureaucratic procurement procedures, Lack of political will, Absence of accountability to fix delays and cost over runs, Non-level playing field for the Private sector vis-a-vis DPSU's / OFB) constituted the major concerns / challenges with regard to defence procurement processes in India. In addition to the above some of the respondents also cited certain additional reasons such as Absence of accountability to fix delays and cost over runs, inflexible procedure and long time required not matching rapidly changing environment, Inability on the part of the Services to define requirement specs adequately and clearly and inability of industry to appreciate specs and invest in R&D and Low Volumes of

Technology intensive equipment and centralised procurement of high volumes of low end procurement as concerns.

Q6: Further, when asked to pinpoint the Most Relevant of these issues, most Respondents indicated Complicated procurement procedures, followed by Absence of accountability, Lack of political will and a Non level playing field, in that order.

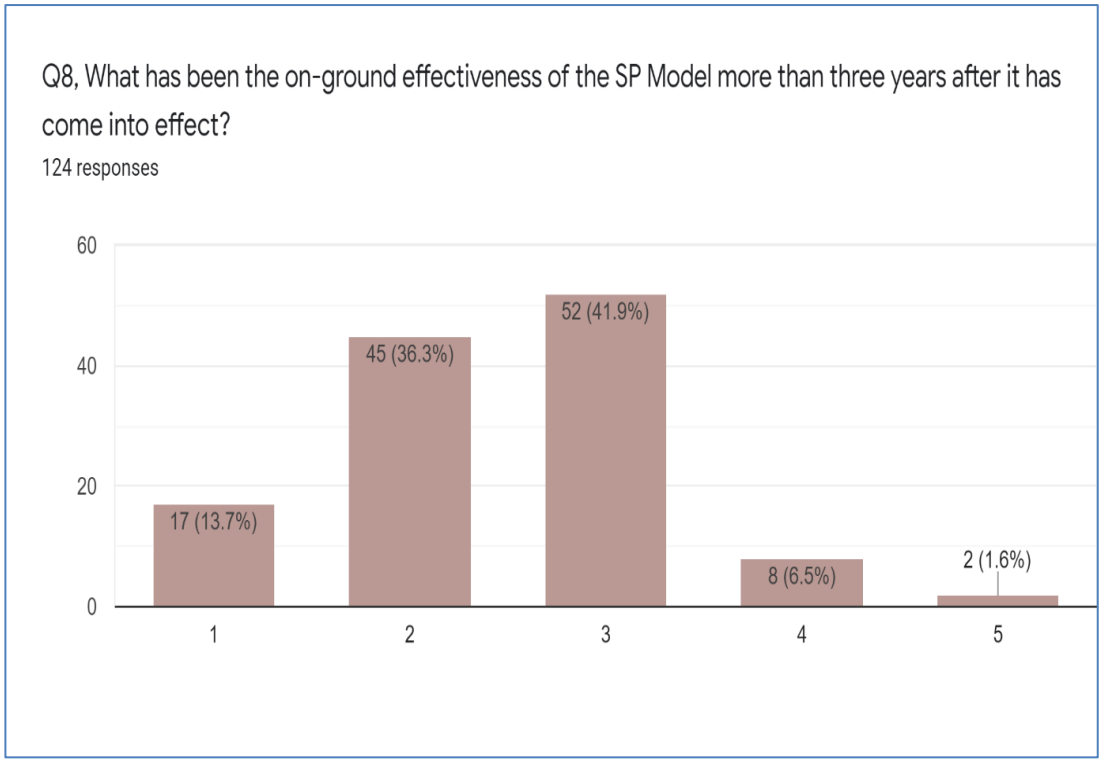
Interpretation: All the factors listed (that is, Complicated and bureaucratic procurement procedures, Lack of political will, Absence of accountability to fix delays and cost over runs, Non-level playing field for the Private sector vis-a-vis DPSU's / OFB), besides certain others constitute the major concerns with regard to defence procurement processes in India.

Complicated and bureaucratic procurement procedures followed by Absence of accountability are the two most relevant concerns.



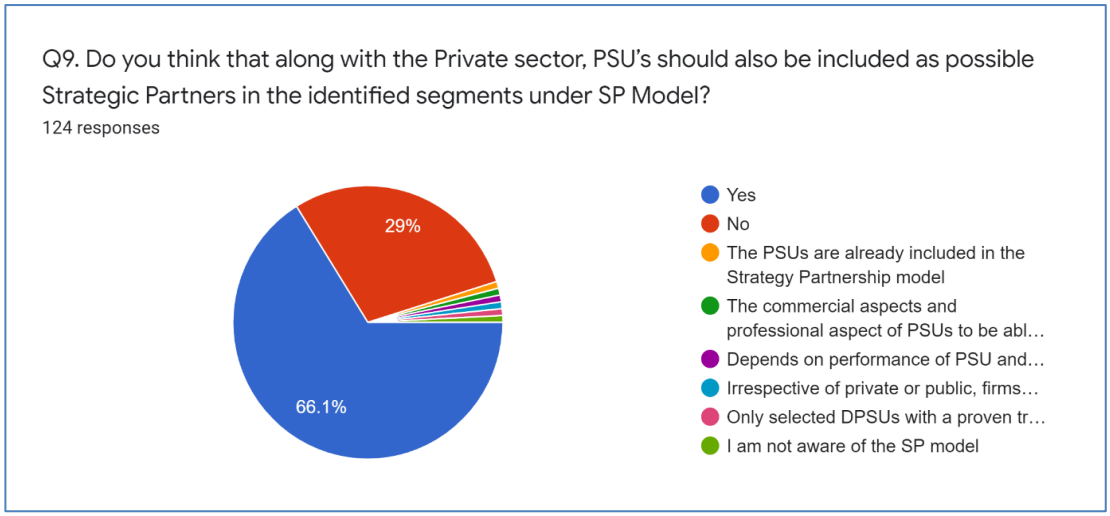
Analysis: As seen from the above chart, a vast majority (85% of the Respondents) were aware of the SP Model in Defence Procurement.

Interpretation: The Target audience were suited for the issue being surveyed.



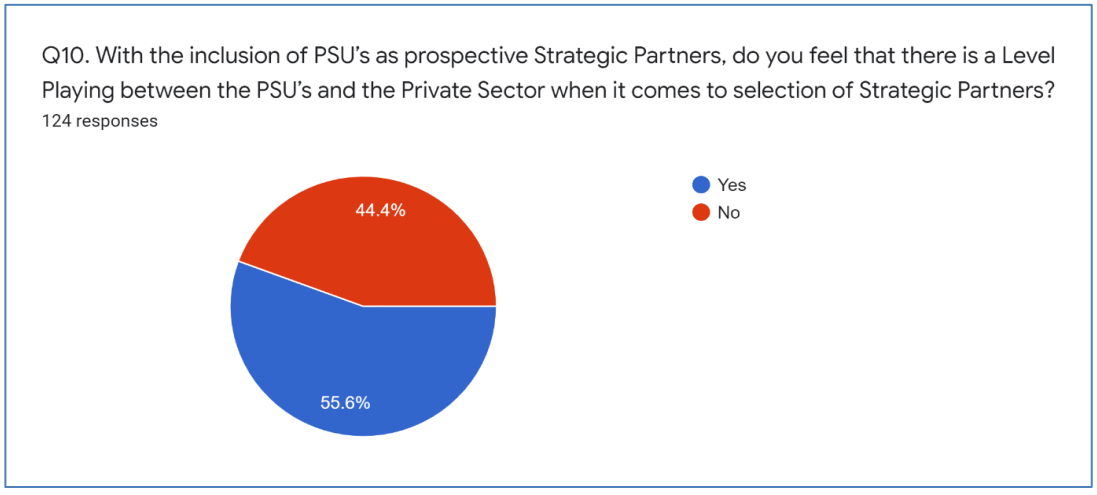
Analysis: This question was on a Linear Scale of 1 to 5 with 1 denoting "*Least Effective*" and 5 denoting "*Very Effective*". As seen from the above chart, very few of the Respondents had extreme views on either spectrum. Less than 10% of the Respondents felt that the SP Model had been Effective more than three years after it has come into effect. Majority of the Respondents (about 90%) were of the opinion that the SP Model has been either ineffective or only partly effective.

Interpretation: The SP Model has been either ineffective or only partly effective more than three years after it has come into effect.



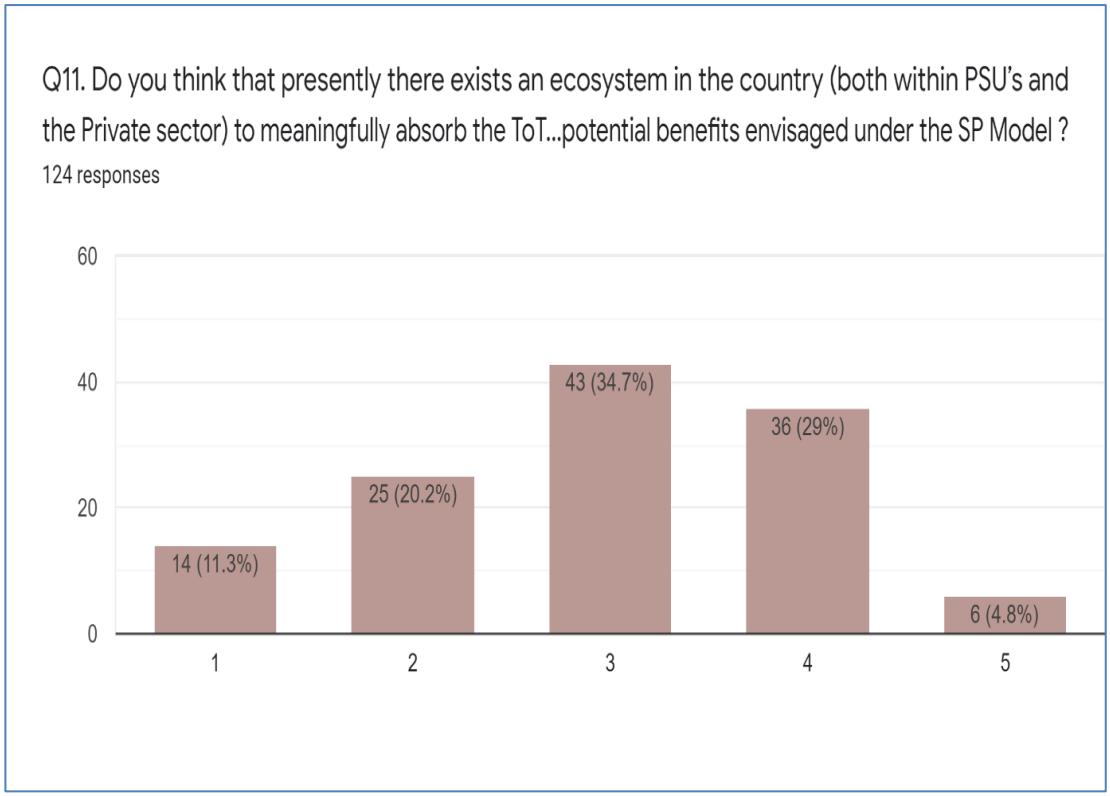
Analysis: Here the opinion is more in favour of inclusion of PSU's as possible SPs. However, a significant percentage of Respondents (close to 30%) are not in favour of the same. Some Respondents have linked inclusion of PSU's to their proven track record and capabilities.

Interpretation: Majority opinion is in favour of inclusion of PSU's as possible SPs.



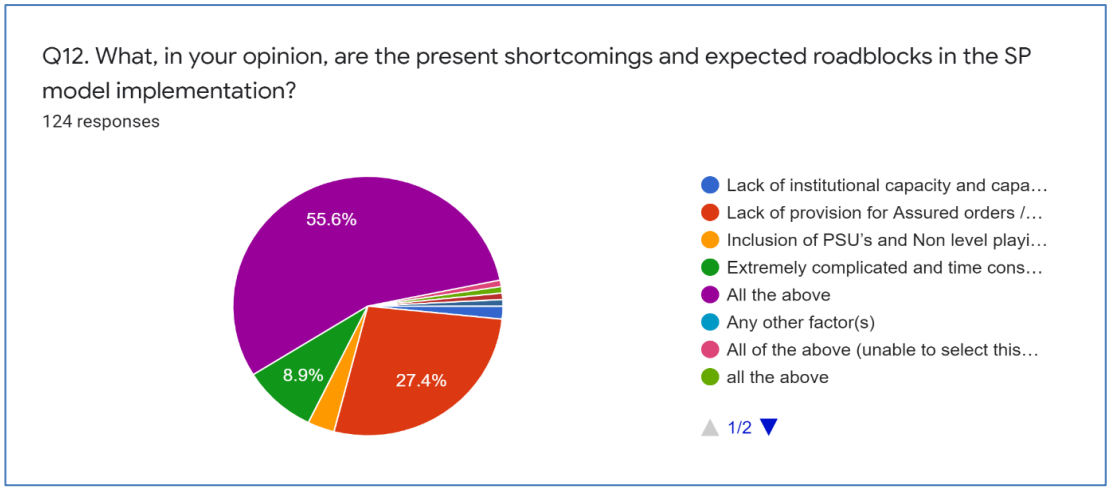
Analysis: Here the opinion as to whether or not there is a Level Playing between the PSU's and the Private Sector when it comes to selection of Strategic Partners is almost equally divided.

Interpretation: The issue of Level Paying Field between the PSU's and the Private Sector when it comes to selection of Strategic Partners is open to debate.



Analysis: This question was on a Linear Scale of 1 to 5 with 1 denoting *"No Ecosystem exists to absorb ToT"* and 5 denoting *"Ideal Ecosystem exists to absorb ToT"*. As seen from the above chart, majority of the Respondents answered with 3 & 4 ratings, indicating a existence of reasonable ecosystem for absorption of ToT.

Interpretation: Reasonable ecosystem for absorption of ToT and other potential benefits envisaged under the SP Model exists within the country.



Q13. Which of the factors listed at Q12 above, in your opinion is most relevant?

Lack of provision for Assured orders / Long term commitment by the MoD to selected Strategic Partners

Lack of institutional capacity and capability

Complicated and time consuming process

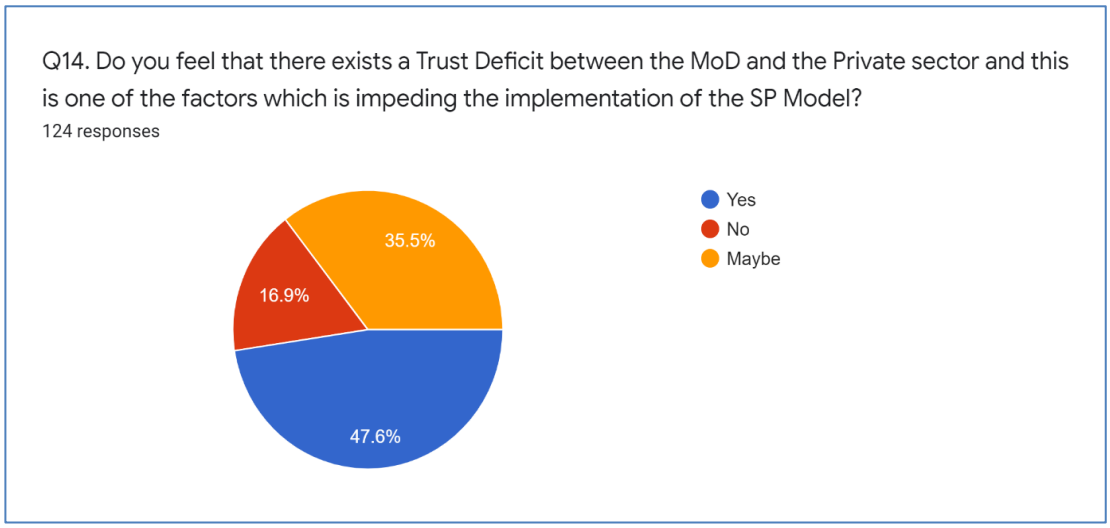
Analysis:

Q12: As seen from the above chart, a majority of the Respondents (55.6%) felt that **all the factors listed** (that is, Lack of institutional capacity and capability, Lack of provision for Assured orders / Long term commitment by the MoD, Inclusion of PSU's and Non level playing field between PSU's and Private sector, and an Extremely complicated and time consuming process for selection of Strategic Partners) constituted the major present shortcomings and expected roadblocks in the SP model implementation.

Q13: Further, when questioned as to pinpoint the Most Relevant of these issues, most Respondents indicated Lack of institutional capacity and capability, Lack of provision for Assured orders / Long term commitment by the MoD, and a long and tedious Process for selection of SP, in that order.

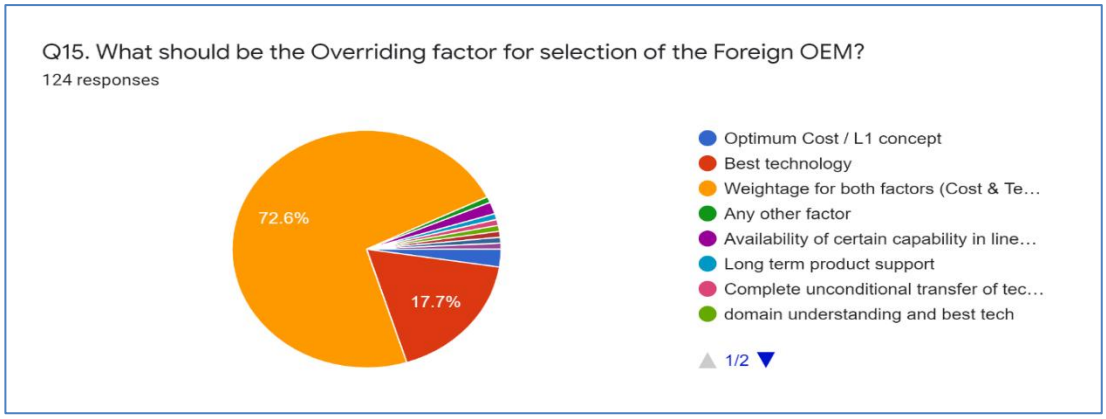
Interpretation: All the factors listed (that is, Lack of institutional capacity and capability, Lack of provision for Assured orders / Long term commitment by the MoD, Inclusion of PSU's and Non level playing field between PSU's and Private sector, and an Extremely complicated and time consuming process for selection of Strategic Partners), besides certain others constitute the major present shortcomings and expected roadblocks in the SP model implementation.

Lack of institutional capacity and capability followed by Lack of provision for Assured orders / Long term commitment by the MoD are the two most relevant concerns.



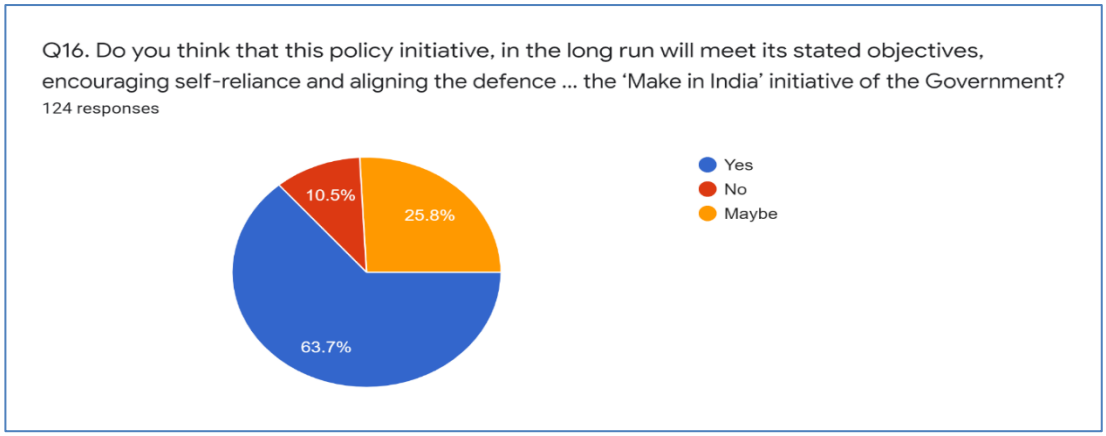
Analysis: Here a majority of the Respondents feel that there is a Trust Deficit between the MoD and the Private sector and this is one of the factors which is impeding the implementation of the SP Model. Only about 17% of the Respondents categorically do not feel so.

Interpretation: A Trust Deficit does exist between the MoD and the Private sector and this is one of the factors which is impeding the implementation of the SP Model.



Analysis: Here a majority of the Respondents feel that Weightage for both factors (that is, Optimum Cost and Best technology) should be the overriding factor for selection of the Foreign OEM? About 18% of the Respondents feel that only the best technology should be the overriding factor. Some Respondents have also indicated certain other considerations such as Long term product support and Readiness to shift assembly line and design engineering centre to India for selection of foreign OEM.

Interpretation: Weightage for both factors (that is, Optimum Cost and Best technology) should be considered for selection of the Foreign OEM.



Analysis: Here a majority of the Respondents feel that in the long run the SP Model will meet its stated objectives. Only about 10% of the Respondents do not think so.

Interpretation: In the long run the SP Model will meet its stated objectives of encouraging self-reliance and aligning the defence sector with the 'Make in India' initiative of the Government.

Summary of Inferences / Conclusions Drawn

6.28 The Inferences / Conclusions drawn from the survey are summarized below:-

(a) Defence Procurement processes and organizations in various countries around the world, including in India are **not** well equipped to meet the requirements of their respective armed forces.

(b) Complicated and bureaucratic procurement procedures followed by Absence of accountability emerged as the two most relevant concerns with regard to the defence procurement process in India. Lack of political will and a non-level playing field for the Private sector vis-a-vis DPSU's / OFB) were highlighted as the other major concerns.

(c) The SP Model has been largely ineffective, or at best only partly effective more than three years after it has come into effect. Lack of institutional capacity and capability, Lack of provision for Assured orders / Long term commitment by the MoD, Inclusion of PSU's and Non-level playing field between PSU's and Private sector, and an Extremely complicated and time consuming process for selection of Strategic Partners constitute the major present shortcomings and expected roadblocks in the SP model implementation.

(d) The issue of Level Paying Field between the PSU's and the Private Sector when it comes to selection of Strategic Partners is open to debate, with

certain factors favouring either of the entities and some against. However, majority opinion is in favour of inclusion of PSU's as possible SPs.

(e) Due weightage for both, Optimum Cost and Best Technology should be considered for selection of the Foreign OEM. Further, majority opinion was that a reasonable ecosystem for absorption of ToT and other potential benefits envisaged under the SP Model exists within the country.

(f) A Trust Deficit does exist between the MoD and the Private sector and this is one of the factors which is impeding the implementation of the SP Model.

(g) There is confidence that in the long run the SP Model will meet its stated objectives of encouraging self-reliance and aligning the defence sector with the 'Make in India' initiative of the Government.

Chapter 7

Issues with Implementation of Strategic Partnership Model

7.1 As brought out in the previous chapter, despite its many potential benefits, there are a few concerns associated with the Strategic Partnership model. Among the many issues that can affect implementation of the SP policy, some of the very pertinent ones include aspects related to FDI limits in the Strategic Partnership, ToT from foreign OEMs, long-term sustainability and viability of the Strategic Partners (SPs) due to absence of a guaranteed revenue stream and also on account of the privileged position enjoyed by public sector entities, lack of institutional capacity financial criteria for selection of SP, avenues for financing SP, and participation of MSMEs as Tier I and II vendors (or the lack of a supply chain and vendor development process). Each of these issues is commented upon and analysed in detail in the subsequent paragraphs.[61]

FDI Limits in Strategic Partnership

7.2 Despite the increase in FDI limits in defence (from 26% to 49% under automatic route), actual capital inflows into the sector over the last few years have been abysmal. The hope is that the numbers will improve if the SP Policy is implemented in a timely manner. All policy enablers need to be in place for this. However, with the government now increasing the FDI limit in defence to 74%, the strategic partnership model in its present form may not serve the desired purpose, as is elucidated in the succeeding paragraphs.

[61] Soundararajan N & Palkar D (2017)

7.3 The SP Policy requires that the Strategic Partner (SP) be Indian owned and Indian controlled. Appendix A of Chapter VII which explains 'Ownership Structure' recognises that partnerships or tie-ups between SP and OEM may also take the form of JVs, equity partnerships, technology-sharing, royalty or any other mutually acceptable arrangement. However, such arrangements have also been made subject to the aforesaid overall FDI limit, thereby implying that the foreign OEM would only be permitted up to 49 per cent stake in the JV. Further, it is expressly stated that, "*No pyramiding of FDI in Indian holding companies or in Indian entities subscribing to shares or securities of the Applicant Company or the Strategic Partner shall be permitted*."[62]

7.4 At the time of notifying the DPP-2016, India's FDI limit in defence under the automatic route was 49%. With 51% ownership in the hands of an Indian defence manufacturer, it was naïve for the government to expect that leading defence firms around the globe would make significant investments in the defence sector in India and transfer high-end technology to their Indian partners. The reason for this was that these global companies already had large investments pouring into their R&D facilities. This, coupled with the huge entry barriers into the defence industry in India, resulted in global weapon manufacturers neither investing large sums nor parting with their proprietary technologies, while not owning the majority stake. As a result, the 49% upper limit on FDI served as a deterrent in promoting indigenous defence manufacturing.

[62] DPP Appendix A of Chapter VII, MoD (2017)

7.5 Between April 2000 and December 2019, India incrementally increased its FDI limits, but received only US$ 8.82 million in FDI into its defence sector. In 2016-17, immediately after FDI in defence was increased to 49%, India failed to attract any investment. In 2017-18, India received US$ 0.01 million, and in 2018-19, India received US$ 2.18 million in FDI.[63] These are small numbers when looked at in the context of the huge potential for foreign investments in the country's defence sector.

7.6 In order to become a defence manufacturing hub, India needs the financial investment, technology transfer and long-term operational involvement of foreign defence OEMs. These OEMs need to have the assurance that upon investing, they will stand a fair chance to be contracted for the manufacture and supply of high tech defence equipment involving cutting edge technologies. **Inconsistency between the new FDI rules that allows for 74% foreign investment and the SP model that limits it to 49%, does not provide this assurance**. For example, let's say Boeing decides to enter into a JV with the Tata group, to manufacture attack helicopters in India, with Boeing owning 74% of the JV entity. Subsequently, if the MoD decides to procure a large set of these attack helicopters through the SP route, the JV between Boeing and Tata would be ineligible to bid view exceeding the ceiling for FDI.[64]

7.7 For the SP Model to yield the desired results, it must have higher FDI limits than what is allowed normally under the automatic route. When FDI limit under the SP Model is lesser than what is permitted under the normal route, it

[63] Data given by Commerce and Industry Minister Piyush Goyal in the Lok Sabha on 26 Jun 2019
[64] Karthik P (2020)

not only results in an inefficient acquisition model but also reduces the chances of attracting higher FDI through the normal route. Therefore, acquisition under the SP route must be resorted to only when acquisition under other categories (except *Buy Global*) are not possible. Under such circumstances, the government must allow for FDI exceeding 74% into the joint venture entity with which it intends to enter into a strategic partnership.

Transfer of Technology

7.8 The cap on FDI at 49 per cent and the lack of share of administrative control for the foreign OEMs makes them wary of sharing technology. Defence manufacturing entails huge capital expenditure on the part of domestic companies. Even if Indian companies are willing to invest in expanding their manufacturing and technological capabilities, it would be on the condition that a government to government negotiation process is pursued in parallel. Transfer of technology, specifically the intellectual property rights of the concerned technology rests, in most cases, not solely with the foreign OEM but completely or jointly with the government of the nation of origin (in most cases with more than one consent being required from the government). This means that even if the foreign OEM is willing to transfer technology, mere company to company negotiations may not suffice. **Government to government negotiations will have to play an active part in determining the range and depth of ToT by foreign OEMs to Indian companies**.[65]

7.9 Another point that must be highlighted is that 100 per cent ToT is unlikely, except under very rare circumstances, without paying for the technology being sought.

[65] Soundararajan N & Palkar D (2017)

Further, absorption of technology takes both time and skill. It is neither feasible nor practical to move from developing low-end technologies to state of-the-art technology in a single attempt. Given current limitations of the Indian defence industrial base, a more prudent approach would be to adopt a phased development from current outdated systems to Mk 1 and progressively to Mk 2 and 3 systems.

Long Term Viability of the SPs[66]

7.10 Another major concern is the one regarding the long-term sustainability and viability of the Strategic Partners (SPs). One of the main reasons for this is the privileged position enjoyed by public sector entities. On a number of instances in the past, the MoD handed over large orders to DPSUs and OFs on nomination basis. It would therefore not be fair to expect SPs to make major investments in the defence manufacturing sector in the absence of a level playing field for the private sector.

7.11 While the strategic partnership model has provided for limited competition in private sector defence manufacturing and has also provided a certain degree of purchase security to the manufacturing company (the initial contract for supply of platforms), the MoD is under no obligation after the initial contract to subsequently purchase systems from the SPs. Private companies will need a firm commitment on business volumes in order to affect any change in the production through the value chain mainly because of the investment volumes that are warranted.

7.12 The initial strategic partnership contract provides order security for the SP, however, vendor management and supply chain innovation could become a burden

[66] Soundararajan N & Palkar D (2017)

given the lack of guarantee of future orders. Private companies are sceptical about involving the DPSUs or DRDO in the process, as the approach to technology, innovation and research is vastly different in the public and private sectors. It must be emphasized here that for any sizeable private sector participation, the government (especially since it is the only buyer in defence, unless it relaxes export norms) needs to commit on minimum order quantities. Simultaneously, it is incumbent on private sector players to abide by strict project timelines and ensure reasonability of costs.

7.13 Having invested and created a massive infrastructure and supporting ecosystem for production, it is very important that the same is utilised effectively, at least for the next 30 to 40 years. Towards this, repeat / follow-on orders to the selected Strategic Partner need to be ensured, to the extent feasible. Even if repeat / future orders cannot be ensured, the SP can be made responsible for the entire life cycle support, including refits and repairs, thereby ensuring some degree of sustainability.

Lack of Institutional Capacity

7.14 One of the principal concerns associated with the SP Model is the lack of institutional capacity and ability to guide the process to its logical end. The same problem has plagued a number of promising initiatives in the past, including the 'Make' and 'Buy and Make (Indian)' procedures. Though Chapter VII of DPP does talk of institutional and administrative mechanisms along with adequate expertise in relevant fields like procurement, contract law and ToT arrangements, the success of the SP Model would depend to a large degree on how these measures are actually implemented and how they unfold on the ground.

7.15 During the course of the implementation of the SP model, there is a requirement for providing institutional guidance and 'handholding' by the MoD and the concerned service headquarters. This is particularly pertinent since this is a new model and there may be a number of procedural and contractual unknowns that would come up during the course of implementation, which is likely to be spread over a long period of time.

Minimum Qualification and Financial Criteria for Selection

7.16 Another hurdle to implementation of the SP Policy is the selection criteria and methodology. Appendix B to Chapter VII of DPP 2016 specifies the Technical Gate, Financial Gate and 'Other Conditions', apart from the Segment specific criteria as the minimum qualifying criteria for the SPs. Amongst these, 80 per cent weightage is accorded to the cost of the venture (financial and technical criteria) and 20 per cent to segment specific capabilities. It is the Financial Gate which is a source of concern for potential SPs. Whilst the SP will have to make sizeable investments for production and manufacturing facilities, he has recourse to financing largely only through the banking sector. In the absence of any guaranteed purchases, investments of such magnitudes will yield delayed or no returns. This will result in creation of more Non Performing Assets.

7.17 Further, there is also a view that the base criteria, specifically the Technical Gates for different product groups, need to be more detailed. However, it must be noted that it is not possible to include these details until the evaluation stage. This means that selected SP and OEM(s) would have to be prepared for changes in

technical specifications or SQRs at a later stage of product development. This would add significantly to costs and affect project timelines adversely.

Financing the Strategic Partnership: Through SPV's [67]

7.18 Chapter VII provides significant detail on the selection criteria for SPs and OEMs, however there is no mention of any framework for the financing of strategic partnership. While normally such decisions are left to market forces, the lack of assurance on future orders further reduces the prospects of receiving finances or accessing capital markets. With the banking sector already under a lot of stress, it cannot be expected of them to finance large defence deals.

7.19 The burden of financing can be shared by all stakeholders by setting up a Special Purpose Vehicle (SPV). Relevant companies may also consider accessing the capital markets by way of issuing bonds (similar to green bonds) or other instruments. However, there are concerns with regard to the creation and role of the SPV. These include issues related to transfer and division of assets to the SPV, concerns that over time the SPV may grow beyond the control / sphere of influence of the SP and OEM, profit sharing throughout its tenancy, etc. If SPV creation is essential, then the option of creating it without equity may be considered. Existing models, including the RDPA (Reciprocal Defence Procurement Agreement) can be looked at in this respect.

Creation of a Level Playing Field

7.20 In any scenario where the public and private sectors are competing against each other, the issue of creating a level playing field is always a contentious one.

[67] Soundararajan N & Palkar D (2017)

From the Private sector's perspective, wherever private industry has to compete with government-owned entities (OFBs, DPSUs) anomalies such as use of government-funded plant and machinery as well as assets like earlier transfer of technologies (ToT), and skill development at nil cost make it a non-level playing field. This acts as a disincentive to the private industry resulting in underutilisation of private sector capacity.

7.21 From the Public sector's perspective, DPSU's, being government organizations, are bound by a number of statutory and non-statutory regulations and procedures. Whilst the private sector too has its own set of rules and regulations, the same may not always be as stringent and procedure driven as in the case of the DPSU's. This aspect has an impact on the cost competitiveness and time schedules of DPSU's vis-a-vis the Private sector.

Role of MSMEs

7.22 The SP Policy is touted as an enabling policy for MSMEs in the defence sector. However, there is no mention of what has been done to provide a push for MSMEs to develop further. MSME representatives have suggested that there be a more open procurement system that encourages innovation. While there is no doubt that the SP Model Policy will provide a boost to the MSME sector, but this will take time. Supply chain development is mentioned in Capter VII of the DPP as an avenue to build capacity among MSMEs as Tier I and Tier II vendors. Since the cost of capital, especially for R&D is very high for MSMEs, the Ministry of MSMEs has launched the Cluster Development Programme (MSME-CDP) under which funding of up to INR 15 crores is available to MSMEs for building capacity in certain sectors or

clusters. This could be one avenue that MSMEs can use to help with their financing requirement in defence manufacturing.

Need for an Independent Regulator for Strategic Partnership[68]

7.23 The VK Aatre Taskforce Report clearly states in section 7.3 the need for an independent regulator for "regulation and development of the Strategic Partnership model"[69] . The Taskforce Report also states that such a body is needed because the SP model will require continuous modification and improvement, as opposed to an annual or multi-year review. However, this aspect has not been included in the SP Model advocated in Chapter VII of the DPP. Further, the Taskforce Report had also recommended the setting up of a specialised wing and auditing wing in MoD for Strategic Partnership. This aspect also does not find mention in the DPP.

7.24 It is important that an independent regulator be set up to oversee implementation of SP Policy. The functions of this body as envisaged in the Taskforce Report range from dealing with development and regulation of the SP model, reviewing pricing mechanisms and adjustments, publishing binding rules or regulations, recording and monitoring contracts to investigating allegations of fraud or breach of contract by SP.

[68] Soundararajan N & Palkar D (2017), pg. 15
[69] VK Aatre Task Force Report on Selection of Strategic Partners

Views on the SP Model from Private Industry & Public Sector

7.25 The biggest benefit of the SP Model from the Private sector's perspective would be the opportunity to participate in some high value contracts and which were hitherto reserved for the DPSUs / OFs. Further, Strategic Partners, being private sector companies, are expected to exploit their dynamism, competitiveness, profit orientation, and exposure to the civilian sector for efficient utilisation of the technology, manpower and infrastructure developed in the process. Moreover, since the SP Model does not envisage for future orders to be awarded automatically after the initial contract, it would be in the interest of the SPs to stay competitive and build their core expertise. The development of competitiveness and expertise to compete to win future contracts (which may have been lacking to a certain extent in the case of DPSUs/OFs because of assured orders), would positively contribute to laying a strong and credible foundation for the country's military industrial complex.

7.26 Whilst the potential benefits of the SP Model are enormous, there have been a number of very pertinent issues related to the model and its implementation that have been repeatedly raised by both, the Private sector and the defence PSU's. These issues also came up in the extant case during the interactions with concerned personnel from the DPSU's (M/s Mazagaon Docks Ltd) and the big private sector players (M/s Larsen &Toubro), during the course of this research. Some of these concerns and views are highlighted in the succeeding section of this chapter.

Views on the SP Model from Private Industry [70]

On the Strategic Partnership Model to implement Make in India

7.27 The SP programmes have the potential to boost the entire defence manufacturing ecosystem in the country provided a level playing field between private and public players is ensured. **Sooner the procurement of platforms is initiated through this policy, the sooner the positive spin-offs to develop system platform capabilities to realise indigenous requirements at differentiated cost structure and eventually build exports**. However, the implementation of the model and the process of selection of SP's has been plagued by delays in all the initially identified segments.[71]

7.28 The Expression of Intent (EoI) for Naval Utility Helicopters were issued on 12 Feb 2019. Responses to this were submitted on 26 April 2019. The shortlisting of strategic partners and foreign OEMs is still pending while the same was to be completed and RFPs issued by September 2019. The EoI for the P75(I) conventional AIP submarines were issued on 20 June 2019 to Indian companies and on 3 July 2019 to foreign OEMs. These were responded on 11 and 24 September 2019 by Indian and foreign OEMs respectively. The RFPs were scheduled to be issued to shortlisted Strategic Partners in December 2019. They are still awaited, so are issuance of EoIs for the FRCV and fighter aircraft programmes. While both were announced and RFIs issued to foreign OEMs, responses received and issuance of EoIs was expected in 2019 itself. The above timelines are a clear reflection of the inordinately long delays associated with implementing the model.

[70] Interviews / interactions with M/s L&T on 10 Feb 21
[71] Patil J (2020)

On Creation of a Level Playing Field: Stopping Nominations to DPSU's / OFB

7.29 Even in cases where Indian industry has demonstrated capabilities, and there has been an announcement of stopping nomination of acquisition programmes, nomination of DPSUs can be seen to have continued in line with old AoNs or on the pretext of security concerns. And wherever private industry has to compete with government-owned entities (OFBs, DPSUs) anomalies such as use of government-funded plant and machinery as well as assets like earlier transfer of technologies (ToT), and skill development at nil cost make it a non-level playing field. This acts as a disincentive to the private sector resulting in underutilisation of capacity.

Time Frames from AoNs to Issuance of RFPs to Contract Signing

7.30 While there are a large number of AoNs in favour of Indian industry, RFPs released thus far are not commensurate to kick-start the procurement process through Indian industry. A typical defence procurement cycle from release of RFPs to contract signing takes anywhere between three and seven years, and even in the case of repeat orders for similar systems the process consumes a minimum of two years. Firm implementation of time frames from AoNs to issuance of RFPs to contract signing by periodic monitoring at the apex level will boost Make in India in defence.

On Funding of R&D in Defence by Industry

7.31 Defence, by its very nature, is capital intensive even for investments. To compound this, defence continues to be an import dominant sector. With R&D cycles being long and complex and averaging 5-10 years, special policies are needed to

promote defence R&D in the industry. The MoF provided income tax benefits for R&D with sunset clause till 2016-17 which was later extended up to March 2020. [72]

7.32 Considering the strategic nature of the defence sector, the targeted R&D spend deduction rate multiplier needs to be increased and the sunset clause for R&D tax benefit should be extended/ deferred up to 2030. The cost of financing in India being high, this would allow for part relief to industries investing in R&D. This will also be a low-cost option and a very effective enabler for driving up investments and promoting industrial R&D in the defence sector with long-term impact.

On the push for 'Make-1' programmes

7.33 The 'Make-I' procurement procedure was introduced in the Defence Procurement Policy 2006 to develop complex, multidisciplinary indigenous defence solutions through maturing Indian industry supported by government hand holding and funding for the prototype development. In spite of initiating the procurement activity for few Make-1 programmes in 2009, after more than 10 years, the response to the programmes has been lukewarm.

7.34 Putting 'Make-I' programmes on track and announcing many more Make-1 programmes is a key imperative for the long-term indigenisation in the defence sector. While the DRDO gets funding to the tune of Rs 20,000 crore every year (Rs 19,021.02 allocated for 2019-20) [73], even a small proportion of this earmarked for the industry through Make-1 will go a long way to encourage R&D in the defence sector.

[72] Patil J (2020)
[73] Written response to a question in Lok Sabha by Minister of State for Defence Shripad Naik

Hand Holding by the MoD

7.35 During the course of the implementation of the SP model, there is a requirement for providing institutional guidance and 'handholding' by the MoD and the concerned service headquarters. This is particularly pertinent since this is a new model and there may be a number of procedural and contractual unknowns that would come up during the course of implementation. Further, as brought out at para 7.2 above, whilst the DPP does talk of institutional and administrative mechanisms along with adequate expertise in relevant fields like procurement, contract law and ToT arrangements, the actual modalities for the same need to be worked out.

7.36 In this context, one of the suggestions was that once the Strategic Partner (SP) has been selected, the SP and the MoD should then engage with the foreign OEM as one entity. This would result in the benefit of the best deal, both financially and in terms of the ToT forthcoming from the foreign OEM (since the SP would be in a better position to identify the gaps in technology where ToT would be useful, rather than merely accepting what is being offered by the foreign OEM). For this to happen the SP should form part of the negotiating team along with the MoD.

SPV requirement under SP Model

7.37 L&T does not consider the clause with regard to the clause for formation of an SPV under the SP model very favorably. This is because formation of an SPV would result in creation on an Equity which would demand its own profit share during the entire life cycle of the project, thereby increasing the project cost without any practical value addition. L&T's view is that even if an SPV is essential to be formed, the same may be created without infusion of any equity.

Views on the SP Model from DPSU's (MDL)[74]

Bank Guarantee Model

7.38 The Strategic Partnership Model has been primarily formulated keeping in mind the Private sector. As a result of this, there exists a very high Bank Guarantee clause. Whilst this may be feasible for big private players, the same is not practical as far as DPSU's are concerned.

7.39 The Bank Guarantee (BG) envisaged for Project 75(I) is approximately Rs 9000 cr [75]. The BG requested for advance payments (Stage I, Stage II, HATs / SATs and 5% PWBG. Validity of the advance BG's is required to be kept up to the delivery of the respective submarines, even though the respective activities are completed progressively. Otherwise, this would block the DPSU funds and have an adverse impact on the cash flow. Therefore, M/s MDL have suggested to waive off the BG, at least on the Stage I and Stage II advance and allow roll on BG for milestone advances, such as Launching and HATs. This would reduce the maximum BG envisaged for the project appreciably.

7.40 Further, the draft RFP for P75(I) project even envisages requirement of BG on advances for material (equipment and steel). MDL is of the view that this is not a justifiable clause. The draft RFP also states that the advance for contract cost will be paid in two stages. With regard to the second stage of advance, it is mentioned to be distribute with commencement of construction of each submarine. MDL's view here

[74] Interviews / interactions with M/s MDL on 09 Feb 21
[75] IHQ MoD letter dated 01 Jul 20

is that commencement of construction should be taken as commencement of Procurement and Preparatory work for the respective submarines.

SPV requirement under SP Model

7.41 MDL is not very enthusiastic with regard to the clause for formation of an SPV under the SP model. This is because formation of an SPV would involve transfer and division of assets. The SPV would also have an independent board of directors and its own voice, and this may become a point of conflict between the SP, Foreign OEM and SPV in the times to come. MDL's view is that the existing Submarine division at MDL (Submarine and Heavy Engineering Division) can be considered as equivalent to an SPV. However, despite above views, MDL is in the process of working on the modalities for forming an SPV, as mandated by the P75(I) model.

Level Paying Field [76]

7.42 DPSU's, being government organizations, are bound by a number of statutory and non-statutory regulations and procedures. These include compliance to DPP/ DAP procedures, GFR rules, being subject to CAG and CVC audits and scrutiny, etc. Whilst the private sector too has its own set of rules and regulations, the same may not always be as stringent and procedure driven as in the case of the DPSU's. This aspect has an impact on the cost competitiveness and time schedules of DPSU's vis-a-vis the Private sector.

7.43 As a case in point, for the P75(I) project, the prospective SP needs to tie up with one of the five shortlisted foreign OEMs and factor this cost into their overall

[76] Interviews / interactions with M/s MDL on 09 Feb 21

bid. This process would involve extensive technical and commercial negotiations by with each of the five foreign OEM's. The decision-making structure and process required for such negotiations in the case of the private sector would definitely be more suited vis-à-vis a MDL and this would also have an impact on the time required by MDL to submit its bid, and also on the completeness and quality of the bid. Further, as per existing regulations, during the negotiations MDL would need to share the quotes of each of the foreign OEM's with the others. This would reveal the L1 cost thereby putting MDL at an unfair position vis-à-vis the competing SP.[77]

Maintenance Infrastructure

7.44 The draft RFP for P75(I) has sought details, including cost of the envisage maintenance infrastructure that is required to be developed at the SPV's expense. On this issue MDL is of the view that since this cost is to be borne by the SPV, indicating the same in the price bid is not logical.

7.45 Further, the draft RFP also states that setting up of the requisite maintenance infrastructure for carrying out Level II maintenance and repairs (Naval dockyard scope) is also the primary responsibility of the SP. MDL agrees to this clause subject to additional cost for setting up such facilities.

Life Cycle Management[78]

7.46 The draft RFP for P75(I) project envisages life cycle sustenance package from the SP for up to 30 years after commissioning of last the submarine. The SP's are

[77] Interviews / interactions with M/s MDL on 09 Feb 21
[78] Ibid

expected to factor in the spares requirements and costing for the entire life cycle of the project in their bids at the RFP stage itself. This may not be a practical proposition.

7.47 Further, in the draft RFP it is mentioned that the SP's quoting lesser MRL-OBS in terms of range and depth will have to make good the deficiency at their own cost (without any financial responsibility or liability to the Buyer) and that too within 45 days of intimation. MDL is of the view that since Ranging & Scaling of MRL-OBS is done by the Navy, putting the onus of non-availability of spares beyond the recommended list on to the SP's would not be appropriate. Further, it may not be possible to procure all spares from respective equipment OEM's in such a short time, amounting to keeping extra spares with the builder, which will incur extra cost. Therefore, the clause regarding delivery of such items within 45 days, at no extra cost, needs to be reviewed.

Analysis of Conventional Submarines Segment: Project P 75(I)

7.48 **Salient Aspects of Project P 75(I)**. The P-75(I) project envisages construction of six indigenous state of the art AIP equipped conventional submarines with cutting edge capabilities, to provide regional superiority to the Indian Navy at sea and in the underwater domain. The aim of Project P-75(I) is in line with the aims of the 30 year Submarine Construction Programme envisioned by the Government of India to acquire National Competence in Submarine Construction and enable the Indian industry to independently design and construct submarines in India. The availability of new technologies and advanced manufacturing capabilities to the Indian Industry will be an important step towards enhancing the nation's status in acquiring self-reliance in modern conventional submarine construction and possibly the creation of a submarine construction hub in South Asia. The project therefore is envisaged to provide unique long-term opportunities and planning certainty for Indian industry, to invest and support submarine construction and sustainment activities over the next 30 years whilst creating thousands of direct and indirect jobs in India. The total cost of the project is expected to be of the tune of about USD 7 billion (Rs 50,000 crore). The initial AoN for the Project was accorded in Nov 07. Subsequently, revalidation of AoN under SP Model was approved by DAC in Feb 19.

7.49 **Strategic Partnership Model**. Project-75 (I) is being processed under the ambit of 'Strategic Partnership Model' promulgated as Chapter VII of DPP-16 on 31 May 17. The submarines are to be built at an Indian Shipyard designated as the Strategic Partner (SP) based on design provided by the foreign collaborator. The Indian firm selected as the Strategic Partner will be required to tie-up with one of the

shortlisted foreign OEMs. The SP in conjunction with the foreign collaborator, will be responsible for the submarine construction, Transfer of Technology (ToT), training and product and spare support for the entire lifecycle of the platform. Thereafter, guidelines for Chapter VII have been approved by DAC on 30 Jul 18.

7.50 **Empowered Project Committee (EPC)**. An 'Empowered Project Committee' has been formulated for Submarine Segment of SP Model under the chairmanship of the CWP&A / IHQ MoD(Navy) on 15 Feb 19. The committee is a multi-disciplinary committee with members from MoD, DRDO and IHQ MoD (N), which will steer the project from EOI stage to Contract conclusion. As per present progress, the RFP and Contracts have been finalised by EPC.

7.51 **Shortlisting of SPs and Foreign OEMs**. The following Strategic Partners and Foreign OEMs have been approved by DAC on 17 Mar 20:-

(a) **Strategic Partners**.

(i) M/s Mazagon Dock Limited, Mumbai.

(ii) M.s Larsen&Toubro, Mumbai.

(b) **Foreign OEMs**.

(i) M/s Naval Group, France

(ii) M/s TKMS,Germany

(iii) M/s DSME, Korea

(iv) M/s Navantia, Spain

(v) JSC ROE, Russia

7.52 The principal criteria for the selection of OEMs would be the conformity of their products' capabilities with the Services' Staff Qualitative Requirements (SQRs) and the OEM's commitment to providing transfer of technology together with an initial period of hand-holding to enable technology assimilation by the SP with a view to maximising indigenisation. To maintain transparency of the process, the selection of the SP and the foreign OEM partner would be undertaken in parallel, through a competitive bidding process. The Indian SP would need to meet minimum requirements related to infrastructure, technical capabilities and financial strength. The shortlisted candidate Indian SPs, would be issued RFPs along with a list of potential OEMs. The candidate Indian SPs would be required to coordinate with the OEMs and submit a response.

7.53 **Present Status & Way Ahead**. The Statement of Case has been forwarded to external agencies for comments. The case for issuance of RFP is to be taken up with DAC for approval. As brought out above, the RFP for the project will be issued to two Indian shipyards already selected as 'Strategic Partners'– the DPSU Mazagon Docks Shipbuilders Ltd (MDL) and the private sector shipbuilder M/s Larsen & Toubro. Once the RFP for P-75(I) is issued, it could be the first project under the 'Strategic Partnership (SP)' policy promulgated by the MoD in 2016.

Complexities Associated with the Project[79]

7.54 The Strategic Partners selected for P-75(I) – Mazagon Docks Limited (MDL) and Larsen & Toubro (L&T) can choose to collaborate with any of the five overseas OEMs shortlisted for P-75(I) – Rubin Design Bureau of Russia, Naval Group (NG) of

[79] Shrikumar S (2021)

France (formerly DCNS, France), Navantia of Spain, ThyssenKrupp Marine Systems(TKMS/HDW) of Germany and Daewoo Shipbuilding & Marine Engineering of South Korea. The Rubin Design Bureau is offering the Amur 1650 submarine, NG, France is offering the Scorpene AM-2000, Navantia the S-80-class submarine, TKMS its HDW class 214 and Daewoo the KSS-III.

7.55 After the RFP is issued and the responses have been received – the MoD/Indian Navy is likely to be presented with some tough choices and difficult questions in selecting the most suitable SP–OEM combination from among the available options. A few of the complexities involved are highlighted in the succeeding paragraphs.

MDL as a Strategic Partner ?

7.56 MDL has, over the past few decades, invested heavily in building infrastructure and expertise for the construction of conventional submarines. It has previously built two conventional submarines of the Type-209 design of HDW, Germany. MDL is also currently building six Scorpene-class submarines under Project P-75 with assistance from the Naval Group (NG), France. The project is running behind schedule and the delivery of the sixth & the last submarine of the series, originally to have been delivered by 2016, is now expected to be delivered by 2022. Even if the delivery of the sixth & final submarine is delayed beyond 2022, it is almost certain that it will still be completed before the award of the contract for the new P-75(I) project. On average, it takes two and a half to three years after the issue of a RFP for a contract to be awarded. For contracts of the value envisaged for P-

75(I), it takes longer (case in point – the time taken for the award of the order for MMRCAs for the Indian Air Force).

7.57 MDL and NG, France have tied-up/are expected to tie-up and jointly bid for the P-75(I). Awarding the P-75(I) contract to the MDL-NG pairing will enable the most effective utilisation of the infrastructure and expertise developed for the ongoing construction of six Scorpene submarines. MDL-NG, by the end of the Scorpene construction program, will also have developed a good handshake and that should translate into improved efficiency during the execution of the P-75(I) project. In the event that the MDL – NG partnership fails to win the P-75(I) contract, the infrastructure and expertise developed during the Scorpene construction will, for the most part, left to lie idle. Though the Scorpene submarines would still be refitted / subsequently modernised at MDL, however, it will still be sub-optimal utilisation of the infrastructure and specialised technical expertise acquired by MDL at great cost.

7.58 However, it would also be pertinent to note that MDL has been a recipient of ToT for conventional submarines on two occasions now – first for the HDW class from the Germans and then for the ongoing Scorpenes from the French. The P75(I) project (if MDL is selected as the SP), would be the third occasion when MDL would be going in for ToT. There is a school of thought which raises questions over the capability of MDL to meaningfully absorb the ToT and its ability to subsequently produce the next versions of the submarines independently without any external help. It is therefore very important that the selected SP has a clear and demonstrable ability to absorb and internalise the ToT on offer from the foreign OEM.

L&T as a Strategic Partner?

7.59 It is understood that L&T has inked/is likely to soon ink an understanding with the Rubin Design Bureau, Russia to jointly bid for the P-75(I) order. L&T built India's first nuclear submarine (INS Arihant) and is currently building the follow-on submarines of the class. These submarines were designed with substantial Russian assistance. Although many of the competencies required for the construction of nuclear submarines & conventional submarines are vastly different, a majority of the fundamental design & construction principles are identical. Adapting the skills acquired while building nuclear submarines, to build conventional submarines will not pose any challenge to L&T. L&T's familiarity with Russian submarine design & construction philosophy will be decidedly beneficial to the L&T – Rubin combination if it is awarded the P-75(I) contract.

7.60 In a welcome initiative which would definitely add value to L&T's stake as a Strategic Partner under the SP Model, L&T has invested heavily in raising and operating a modern shipbuilding and ship repair yard at Katupalli near Chennai. When fully complete, the shipyard will be capable of designing, building, repairing and modernising large warships, submarines, specialised ships for the merchant marine and offshore rigs/installations for the oil industry. L&T has already executed some shipbuilding orders for the Indian Navy, the Coast Guard and the shipping industry.

7.61 Further, the experience gained by L&T in running successful Joint ventures with leading global players, both in the defence and other sectors would also be an added plus. The example of the L&T-MBDA Missile systems JV has been illustrated in detail in Chapter 3. Even though Missile systems and missiles are not an identified

segment for Strategic Partnership, notwithstanding this JVs like LTMMSL are good examples where private sector is showing promise to deliver on the objectives for which Strategic partnership is being proposed.

Any other Foreign OEM (HDW / Navantia / Daewoo)?

7.62 In the scenario that the SPs – tie-up, bid and then go on to win the P-75(I) order with one of the other three shortlisted OEMs (Navantia, Thyssen Krupp/HDW, Daewoo), it will throw up an entirely different set of challenges. An MDL-HDW pairing will be able to leverage the capabilities & infrastructure already existing at MDL after necessary up-gradation/modernisation at a minimal cost. An L&T-HDW arrangement would require the establishment of a production line at L&T. On the other hand, in the event that one of the possible, MDL/L&T – Navantia/Daewoo pairings, go on to win the contract, the Navy will then be required to operate an entirely new class of submarines of unfamiliar design & operating philosophy. In such a scenario, the Navy will end up operating 4 different classes of conventional submarines (EKMs, HDW, Scorpene, Navantia/Daewoo) and will have to deal with the many problems associated with operating & maintaining a very diverse fleet. The Indian Navy presently copes with the challenges and complexities of having to operate and maintain three classes of conventional submarines (EKMs, HDW, Scorpenes). Adding a new class of submarines will also require the addition of support infrastructure, adding to the already high cost of the project.

Should the Contract be Split between the SPs?

7.63 Once the P75(I) contract is awarded to either of the two shortlisted SPs (the L1 firm), it would leave the other SP saddled with huge unutilised infrastructure and

capacity. Splitting the order equally between the two SPs to ensure that both their capacities are utilised and two production lines established may be one of the options that can be considered. Further, a model to this effect already exists with the construction of the seven Stealth Destroyers under the Project 17A class split between MDL (four ships) and GRSE, Kolkata (three ships).There are however, both pros and cons associated with this approach.

7.64 On the positive side it can be argued that introducing competition between the two SPs, by splitting the order, might help improve their performance in adhering to project schedule and project cost. Further, as brought out above, it will ensure that the capacities of both SP's are utilised and also that two production lines are established resulting in faster deliveries. In the unseemly scenario of one of the SP's running into problems in the future, a Fall Back Option would then be available.

7.65 However, the down side to such an approach would be the significant increase in project cost due to requirement of two ToT's, alongwith the requirement for setting up subsidiary partners at two locations. This approach also comes with the downside of producing submarines of variable quality from the two SPs, even though they may be to the same design. EKM submarines currently in operation with the Indian Navy were constructed by two different yards in Russia – to a common design. Despite the established capabilities of the Russian yards, there was a marked variance in the quality of construction of the submarines built by the two Russian yards. Further, in its present form, the SP Model does not permit splitting the contract between SPs.

7.66 It would also be prudent to consider the fact the no other country in the world (with the exception of the USA and Russia) has two separate lines for building conventional submarines.

Subjective Considerations

7.67 There are also a number of subjective considerations which can and do influence a project of such magnitude as the P75(I). These include competing schools of thought developed and based on operational experience, political, diplomatic and financial considerations, and the SP's and foreign OEMs themselves who at times lobby and exert influences through their respective governments. How these aspects play out during the course of the P75(I) project would be interesting to see.

Responsibility on Foreign OEMs

7.68 Several foreign firms have flagged concerns with the stringent provisions of the SP policy. The OEMs believe that the provisions of the policy place disproportionate responsibility on the OEMs – of delivering on project performance, without granting them commensurate control. Swedish firm Saab AB has already, withdrawn from the project, after having initially responded to the EoI.

Conclusion

7.69 Project P-75(I) is likely to be the first major project to be processed under the Strategic Partnership Model. It will provide a number of learnings and lessons that would be useful whilst processing subsequent segments under the model.

Chapter 8

Recommendations & Way Ahead

Conclusions

8.1 Based on the studies, survey and analyses of various aspects associated with the defence procurement process in general and the Strategic Partnership Model in particular, as brought out in the preceding chapters, the following conclusions can be drawn:-

(a) Several models of defence procurement exist throughout the world, with each country selecting an approach and thereafter customizing its defence acquisition process to meet the specific requirements of its armed forces.

(b) Most countries, especially the big military spenders have tried to introduce reforms in their respective defence procurement systems and processes in recent years. However, despite these reforms, most countries, including India, continue to face similar challenges and difficulties. Many processes are characterized by bureaucratic hurdles, political interference, huge cost overruns, and significant time delays in major defence projects.

(c) In the Indian context, over the last few years a number of steps have been taken towards reforming the defence planning and acquisition process. To establish a result-oriented system, reforms in the areas of establishing a performance management framework and infusion of professionalism in decision-making are imperative.

(d) As a part of these initiatives, the DPP-2016 introduced specific provisions that will act as a growth stimulus to the domestic defence industry. These include introduction of a separate chapter on the Strategic Partnership model.

(e) The approval and inclusion of Chapter VII opened the doors and set the ball rolling for the implementation of the SP policy. The SP model is expected to not only increase private sector participation in defence production, but also improve the indigenisation process, thereby reducing our dependency on imports. However, the SP Model has been largely ineffective, or at best only partly effective more than three years after it has come into effect. There are significant hurdles that need to be overcome to ensure efficient and satisfactory implementation of the SP Model.

(f) Among the many issues that can affect implementation of the SP policy, some of the very pertinent ones include aspects related to lack of institutional capacity, absence of level playing field between PSU's and Private sector, FDI limits in the Strategic Partnership, issues surrounding ToT from foreign OEMs, long-term sustainability and viability of the Strategic Partners (SPs) due to absence of a guaranteed revenue stream and also on account of the privileged position enjoyed by public sector entities, a complicated and time consuming process for selection of Strategic Partners and foreign OEM's, avenues for financing SP, and participation of MSMEs as Tier I and II vendors (or the lack of a supply chain and vendor development process).

(g) Further, one of the viable solutions to access the best and contemporary technologies and develop indigenous skill sets is through technology absorption by Industry through Joint Ventures with Foreign OEMs. Successful JVs like LTMMSL are good examples where private sector is showing promise to deliver on the objectives for which Strategic partnership is being proposed. Further, there is cause for optimism given the fact that a reasonable ecosystem for absorption of ToT and other potential benefits envisaged under the SP Model exists within the country.

(h) The issue of Level Playing Field between the PSU's and the Private Sector when it comes to selection of Strategic Partners is open to debate, with certain factors favouring either of the entities and some against. Further, due weightage for both, Optimum Cost and Best Technology should be considered for selection of the Foreign OEM. Further,

(j) A Trust Deficit does exist between the MoD and the Private sector and this is one of the factors which is impeding the implementation of the SP Model.

(k) On a positive note, despite the concerns associated with it, there is confidence that in the long run the SP Model will meet its stated objectives of encouraging self-reliance and aligning the defence sector with the 'Make in India' initiative of the Government.

Recommendations

8.2 Having identified the major issues associated the SP Model, recommendations towards the possible solutions to address these issues are highlighted below:-

Joint Ventures

8.3 As brought out above, one of the viable solutions to access the best and contemporary technologies and develop indigenous skill sets is through technology absorption by Industry through Joint Ventures with Foreign OEMs. The example of the L&T-MBDA Missile systems JV has been illustrated in detail in Chapter 3. Even though Missile systems and missiles are not an identified segment for Strategic Partnership, notwithstanding this JVs like LTMMSL are good examples where private sector is showing promise to deliver on the objectives for which Strategic partnership is being proposed. JV companies like LTMMSL have already initiated industrial activity in India. They need hand holding by the MoD. These JV companies being Indian companies should be permitted to compete with other companies for future programs that are envisaged for indigenous development.

FDI Limits in Strategic Partnerships

8.4 The provisions of the SP Policy need to be aligned with those of the FDI Policy in recognising the possibility and avenues of greater than 49 per cent FDI in the sector. All stakeholders have concerns regarding IPR of technology, especially in the context of getting technology export approvals from foreign governments. Given this and the difficulties in obtaining export approvals, it is important that specific provisions be allowed for control rights for the foreign technology transferors, in companies where such technology is being received in India. One must recognise the

role that these companies play in supporting potential SPs. The concerns of the Government will be addressed when they receive ToT and those of OEMs by giving them visibility and an administrative share in the Indian companies receiving the technology. The SP Policy should either, provide for a description of "modern technology" and set out the circumstances that could merit greater than 49 per cent FDI in the SP/ SPV, or provide a list of key technologies where the government will be open to FDI above 49 per cent.

8.5 With the introduction of the new FDI rules, the strategic partnership route would not yield the desired results. For the strategic partnership model to yield the desired outcomes, it needs to have higher FDI limits than what is permissible under the normal automatic route. When FDI limit under the strategic partnership route is lower than what is permissible under the normal route, it encourages an inefficient acquisition model, besides weakening the chances of attracting higher FDI through the normal route. Therefore, acquisition under the strategic partnership route should be resorted to only when acquisition under the other categories indicated in the DAP 2020 (except *Buy Global*) are not possible. **Under such circumstances, the government must allow for foreign investment exceeding 74% into the joint venture entity with which it intends to enter into a strategic partnership**.

Transfer of Technology

8.6 To ensure a meaningful and comprehensive ToT , **the SP Policy or the RFPs that would be issued under the model should provide room for Government to**

Government negotiations. This would cover for dual comfort of performance surety on the part of the OEMs as well as non-disclosure/security comforts to OEMs.

8.7 Absorption of technology takes both time and skill. It is neither feasible nor practical to move from developing low-end technologies to state of-the-art technology in a single attempt. Given current limitations of the Indian defence industrial base, a more prudent approach would be to adopt **a phased development from current outdated systems to Mk 1 and progressively to Mk 2 and 3 systems**.

Creating an Eco-System for Absorption of ToT

8.8 Specific focus needs to be put on skilling and training programs by the government, potential SPs as well as the OEMs to facilitate quicker absorption of technology. Measuring ToT warrants continuous interaction between manufacturers, end users and the government during the development and life cycle of a product. The government must pursue dialogue with the OEMs in order to determine the cost and quality of product platforms and available technologies. A '*One Size Fits All*' approach for ToT across all segments and platforms would not serve the desired purpose. It is also very important that the selected SP has a clear and demonstrable ability to absorb and internalise the ToT on offer from the foreign OEM.

Long Term Viability / Future Prospects of SPs

8.9 Private companies will need a firm commitment on business volumes in order to affect any change in the production through the value chain mainly because of the investment volumes that are warranted. Whilst the initial strategic partnership contract provides order security for the SP, however vendor management and supply chain

innovation could become a burden given the lack of guarantee of future orders. For any sizeable private sector participation, the government (especially since it is the only buyer in defence, unless it relaxes export norms) **needs to commit on minimum order quantities, and repeat / future orders, to the extent feasible**. Simultaneously, it is incumbent on private sector players to abide by strict project timelines, and also to keep the costs involved to reasonable levels.

8.10 In this light, **government may also consider relaxing the extant export norms to permit an additional revenue opportunity for the SPs**.

Life Cycle Cost & Management

8.11 Having invested and created a massive infrastructure and supporting ecosystem for production, it is very important that the same is utilised effectively, at least for the next 30 to 40 years. Towards this, as also brought out at para 8.9 above, repeat / follow-on orders need to be ensured, to the extent feasible. The SP can be made responsible for the entire life cycle support, including refits and repairs, thereby ensuring sustainability. In this context, **the concept of an LTBA (Long Term Business Agreement can be adopted between the SP and the MoD / Service Headquarters (as is already being done for some projects), that would be beneficial for both parties**.

Hand Holding by the MoD / Building up of Institutional Capacity

8.12 During the course of the implementation of the SP model, there is a requirement for providing institutional guidance and 'handholding' by the MoD and the concerned service headquarters. This is particularly pertinent since this is a new

model and there may be a number of procedural and contractual unknowns that would come up during the course of implementation. Further, as brought out at para 7.2 in the previous chapter, whilst Chapter VII of DPP does talk of institutional and administrative mechanisms along with adequate expertise in relevant fields like procurement, contract law and ToT arrangements, the actual modalities for the same need to be worked out. There is a need to induct skilled professionals and subject matter experts into the decision-making system. The success of the SP Model would depend to a large degree on how these measures actually unfold.

8.13 In this context, one of the suggestions is for **infusing the acquisition wing with specialists with externally recognized qualifications and domain knowledge**. This should be applicable for both, military and civilian personnel. Another recommendation is that once the Strategic Partner (SP) has been selected, the SP and the MoD should then engage with the foreign OEM as one entity. This would result in the benefit of the best deal, both financially and in terms of the ToT forthcoming from the foreign OEM (since the SP would be in a better position to identify the gaps in technology where ToT would be useful, rather than merely accepting what is being offered by the foreign OEM). **For this to happen the SP should form part of the negotiating team along with the MoD. These measures would also, to a certain extent, help in addressing the existing Trust Deficit between the MoD and the Private sector.**

<u>Minimum Qualification and Financial Criteria for Selection</u>

8.14 When it comes to consolidated turnover and net worth, government should consider prioritising healthy balance sheets and investments in India over the

company's investments abroad. Government could consider allowing potential SPs to rely on their parent/group companies as long as the parent/group companies furnish a support letter/affidavit of comfort. Reliance on parent/group companies may be allowed subject to the condition that such entity will infuse equity in the SP in a phased manner.

8.15 Further, once a private player clears the three gates and qualifies as an SP, it may be treated on par with a DPSU for all practical purposes.

Financing Strategic Partnership

8.16 The high value investments that defence manufacturing necessitate and the relative shortage of capital in financial markets make for a difficult environment for financing SP projects. As already mentioned in the previous chapter, there are two ways of easing the burden of financing. One, all stakeholders involved in the project pitch in and share financial responsibilities. Two, have relevant companies issue bonds (similar to green bonds or infrastructure bonds) in order to raise capital for funding production. The latter option will require some help from the government, which can facilitate such capital raises by drafting a framework under which defence bonds can be used (not to fund war, but to raise capital for defence manufacturing).

Level Playing Field

8.17 Even in cases where Indian industry has demonstrated capabilities, and there has been an announcement of stopping nomination of acquisition programmes, nomination of DPSUs can be seen to have continued in line with old AoNs or on the pretext of security concerns. This practice should be ceased.

8.18 From the Private sector's perspective, wherever private industry has to compete with government-owned entities (OFBs, DPSUs) anomalies such as use of government-funded plant and machinery as well as assets like earlier transfer of technologies (ToT), and skill development at nil cost make it a non-level playing field. This acts as a disincentive to the Indian private industry resulting in gross underutilisation of private sector capacity.

8.19 From the Public sector's perspective, DPSU's, being government organizations, are bound by a number of statutory and non-statutory regulations and procedures. Whilst the private sector too has its own set of rules and regulations, the same may not always be as stringent and procedure driven as in the case of the DPSU's. This aspect has an impact on the cost competitiveness and time schedules of DPSU's vis-a-vis the Private sector.

8.20 **Whilst the above-mentioned factors are difficult to quantify in any model, an attempt can be made to provide certain weightages to these and other factors in subsequent versions of the SP Model towards creating a more level playing field when the Public and Private sectors compete with each other**.

Support for MSMEs

8.21 While there is no doubt that the SP Model Policy will provide a boost to the MSME sector, but this will take time. Since the cost of capital, especially for R&D is very high for MSMEs, the Ministry of MSMEs has launched the Cluster Development Programme (MSME-CDP) under which funding of up to INR 15 crores is available to MSMEs for building capacity in certain sectors or clusters. This could be one avenue

that MSMEs can use to help with their financing requirement in defence manufacturing.

Need for an Independent Regulator for Strategic Partnership

8.22 It is important that an independent regulator be set up to oversee implementation of SP Policy. The envisaged role and functions of this body have been clearly spelt out in the VK Aatre Taskforce Report. The recommendations in this regard need to be included in the SP policy.

Responsibility on Foreign OEMs

8.23 In view of several foreign firms having flagged concerns with regard to provisions of the policy placing disproportionate responsibility on the OEMs, without granting them commensurate control, there may be a case for reviewing the *Responsibility-Control Balance* with respect to the role of the foreign OEM in the existing SP Model.

Splitting of Contract between the SPs

8.24 Splitting the order equally between the two SPs to ensure that both their capacities are utilised and two production lines established may be one of the options that can be considered. Further, a model to this effect already exists with the construction of the seven Stealth Destroyers under the Project 17A class split between MDL (four ships) and GRSE, Kolkata (three ships).There are however, both pros and cons associated with this approach, and a considered decision would need to be taken for each segment on a case to case basis. In its present form, the SP Model does not permit splitting the contract between SPs.

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