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INDIGENIZATION OF MILITARY HARDWARE: A NECESSITY FOR INDIA?

SIDDHARTH RATHORE
ALUMNI
DEPARTMENT OF ECONOMICS
DELHI SCHOOL OF ECONOMICS
UNIVERSITY OF DELHI
NEW DELHI

ABSTRACT

This paper analyses why and how of indigenization Defence technology and Military hardware has become a necessity for India in the 21st century, if it wishes to see itself as major global power of the century. Currently as a nation we are heavily dependent on our strategic partners for military hardware which compromises our national security and entails a huge economic burden. This limitation has been duly identified by our policy makers and there has been a marked shift in our defence procurement policy which now puts major thrust on indigenization. Finally, the paper highlights how the new manufacturing policy, the private sector, and foreign direct investment in defence sector can help to evolve a self-reliant and robust defence sector.

KEYWORDS

Defence, DPP, DRDO, FDI, GDP.

LIST OF ABBREVIATIONS

- DRDO: Defence Research and Development Organization
- FDI: Foreign Direct Investment
- GDP: Gross Domestic Product
- MMRCA: Medium Multi-Role Combat Aircraft
- MoD: Ministry of Defence
- PSU: Public Sector Undertaking
- ToT: Transfer of Technology

INTRODUCTION

Perhaps the foremost responsibility of any nation state, let alone an aspiring world power, is robust national security. To be dependent on other nations for military hardware, systems and technology is tantamount to a dependency on others for national security. However, this is precisely the kind of situation India finds itself in today. Given the fact that India is located in what can perhaps be called the most dangerous, uncertain, tense and challenging neighborhood in the world in terms of strategic considerations, it can ill-afford to be at the wrong end of a dependency regarding the acquisition and smooth functioning of weapon systems. India's relations with Pakistan continue to remain tentatively poised while China's defence and strategic assertions have rattled many in India's establishment. Against this backdrop, the "Ten Year Plan for Self-Reliance in Defence Systems", which was formulated in the early 1990s¹, aimed at reducing the import content of defence procurement to 30 per cent by 2005. However, this percentage continues to hover around 70% till today. This essay explores the various facets of this issue and analyzes ways in which India could hope to achieve an acceptable level of indigenization in defence manufacturing given the context of our global stature ambitions.

India is the largest arms importer in the world and accounted for 12% of global arms purchases during the period 2008-12. India's imports during this period were 109% higher than those of China, the 2nd largest arms importer in the world. On the one hand, China has been able to translate defence imports into a thriving domestic defence industrial complex and become the world's fifth largest exporter of weapons, while India on the other hand continues to import up to 70% of its defence requirements². The fact that the top 3 weapons importers in the world are India, China and Pakistan is a reflection of how troubled a neighborhood India finds itself in. While India has made efforts at military modernization by spending money on foreign acquisitions, a big limitation is the fact that most countries in the world are unwilling to share the latest state-of-the-art technologies with other countries. India's dependency on foreign firms for defence equipment renders it vulnerable in a number of ways. A stoppage of assembly lines abroad could jeopardize our defence preparedness. Further, this provides a tool for diplomatic leverage for the countries that these firms are located in during times of geo-political tensions. Another element of the discussion to be kept in mind is that for a country of India's stature to be involved in a client-patron relationship with vending countries is an anomaly that must be eradicated.

THE STATUS OF THE PROBLEM

The country's defence research establishment comprises of research laboratories and other establishments of the Defence Research and Development Organisation in addition the Defence Public Sector Units involved in the production military equipment. The grouse of the defence establishment is that the armed forces seek to purchase from overseas, denying them opportunities to design and develop machinery indigenously. Further, the armed forces are accused of keeping unrealistic expectations and constantly changing qualitative requirements. The armed forces, on the other hand, point out the inordinate delays and unrealistic targets taken up by domestic manufacturers. They also attribute changes in qualitative requirements to the need to keep pace with newer technologies in the face of delayed deliveries. The delays are the most important factor prompting the armed forces to acquire equipments and systems from abroad as any delays in important machinery have implications for overall preparedness, maintenance and operational availability. Therefore, in a very crude sense, it can boil down to a trade-off between indigenization and modernization, and while the defence production establishment places great value on the former, for the armed forces it is the latter that really matters.

The sky-high levels of defence imports have borne out serious repercussions for the country's economy as well through the widening of the Current Account Deficit (the difference between a country's imports and exports). The CAD touched a record level of 4.8% of GDP for 2012-13. Apart from the concerns already laid out, arms purchases from abroad consume scarce foreign exchange as well.

One of the reasons for delays can be associated with the overall state of manufacturing industry in India. Manufacturing contributes only 16% of GDP and some defence experts like Sandip Dikshit from The Hindu have opined that in light of this number, an indigenization level of 30% is in fact very good. Inadequate physical infrastructure and a debilitating policy environment combine to make manufacturing a high-cost industry in India. The private sector has not been encouraged sufficiently to come forward and contribute in this field. It is often pointed out that the private sector has an important role to play in the defence sector and must step up to the plate. However, companies in the private sector have not shown the willingness to invest heavily in an industry that is capital intensive and where the returns are uncertain and come after long gestation periods.

Acquiring the requisite technology has been a major challenge in the face of international restrictions and unwillingness of advanced countries to share state of the art know-how.

Also, the FDI limit of 26% in defence production is too low to induce and foreign manufacturer with worthwhile technology to invest in India. As a result, FDI in this field has been abysmally low. Another important factor is the poor management of defence PSUs. The public sector management is usually not as accountable for its performance as its counterparts in the private sector. This creates an atmosphere that does not place a premium on timeliness. India's overall expenditure on defence is low given the security environment that the country operates in. also, R&D in particular deserves greater attention on the part of the government.

DEFENCE PROCUREMENT PROCEDURE (DPP)

In April 2013, major changes in the Defence Procurement Procedure (DPP) were approved by the Defence Acquisition Council (DAC), the apex decision-making body of the Ministry of Defence. The changes in the DPP were made with the twin objectives of "infusing greater efficiency in the procurement process and strengthening the defence manufacturing base in the country"³. The changes are important as they pay ample testimony to the fact that the government is cognizant of the fact that indigenization of military hardware is crucial for India in the years to come. The modifications in the policy contain provisions aiming at the elimination of the virtual monopoly of the public sector in defence production as they will henceforth not be automatically nominated for maintenance and repair of systems obtained from outside the country as private firms would also be allowed the opportunity to win these contracts. According to the Defence Minister, "Preference for indigenous procurement has now been made a part of DPP through an amendment that provides for a preferred order of categorization, with global cases being a choice of last resort."⁴ Therefore, 1st choice would be given to domestic manufacturers and foreign procurements shall henceforth be undertaken only as the last option.

THE WAY FORWARD

IMPROVING THE OVERALL STATE OF MANUFACTURING IN INDIA

The National Manufacturing Policy aims to increase the contribution of manufacturing to GDP to 22% by 2020 as against 16% today. It uses the cluster mechanism in the form of National Manufacturing Zones that will provide tax incentives and other back and front-end infrastructure. However, for manufacturing to pick-up, all the dimensions of physical infrastructure have to be invested-in in a symbiotic manner. The state of India's ports, roads, airports and very importantly power, have to improve drastically in order to make Indian manufacturing cost-effective and globally competitive. It is important to recognize the complementarities and inter-relationships between these sectors. For example, the power sector has been hampered due to lack of coal-linkages. Only when the general state of physical infrastructure in India improves can we aspire to be globally competitive in manufacturing in general and defence manufacturing in particular.

INVOLVING THE PRIVATE SECTOR

A growing realization that the public sector alone could not fulfill India's defence production requirements prompted the Ministry of Defence in 2001 to push for the entry of private sector into the field. However, this sensible policy change has not shown any tangible results on the ground more than a decade since then. Part of the reason for the inadequate indigenization despite the entry of the private sector is the complete lack of clarity regarding what indigenization actually entails. The MoD has so far not undertaken the process of identifying critical technologies – technologies that are crucial in order for a particular system to continue running. Under these circumstances, foreign original equipment manufacturers (OEMs) pay lip service to indigenization through low-tech products like packaging and casings. Experts have pointed out that a focus on mere numbers and components instead of design expertise and integration of systems and sub-systems into a weapons system would mean that we do not have any real control over the product cycle even if we manage to indigenize to the level of 70% or more⁵.

Another initiative that was supposed to stoke the indigenisation process was a public version of the Armed Forces' 15-year Long Term Integrated Perspective Plan (LTIPP), which would lay out a roadmap of the military's equipment requirements over a period of the next 15 years. This would provide guidance to the defence industry in terms of channeling its R&D and technology investments. However, the document that has been put out has failed to excite industry for lack of clarity regarding the exact specifications of the products, the costs acceptable, and the timeframe within which individual products need to be inducted. The MoD would do well to alleviate these concerns of manufacturers in future versions of the document.

The "make" procedure, under which private firms would compete for the development of future weapons' platforms with the government contributing 80% of the required expenditure on development, can be an important component of India's strategy to build a globally competitive domestic private defence manufacturing industry.

The private sector has a crucial and large role to play in the efforts at defence indigenization. In a recent decision, the Ministry of Defence in concurrence with the Air Force, decided that the aircraft to replace the 40-year vintage Avro HS-748 medium transport aircraft (used by the IAF for communications and troop movement) would be designed, developed and manufactured in the private sector⁶. Requests for proposals (RFPs) are to be sent out to a number of private sector companies. The company chosen thereafter will be the lead production house and will have the option to choose a partner developer from India or abroad. This is a step in the right direction and will galvanize more competition in the domestic supplier market, objections from defence PSUs like HAL notwithstanding. One important reason why the private sector has been unenthusiastic in investing in the defence industry is the restriction on exports. Defence manufacturing is capital intensive and restricting the market to just a single buyer is a major disincentive for producers, both private as well as public. India should take a leaf out of China's book who has become one of the leading defence exporters of the world in spite of being in a position similar to that of India's today till only about a decade ago.

ACQUIRING TECHNOLOGY AND THE QUESTION OF FDI

One constant factor inhibiting the modernization of India's indigenous defence industry is the lack of access to high-end technology from abroad on account of unwillingness of countries to share the same. However, with the rapid surge in the quantum of defence imports, India has acquired considerable buyer's clout and should use it to the hilt in a monopsonistic fashion. As mentioned earlier, India is now the largest arms importer in the world and should therefore no longer be satisfied with a buyer-seller kind of relationship. Companies like Dussault and Grippin, which have been competing for the MMRCA contract worth USD 12 billion, have no outstanding orders from outside their respective countries. In fact the former would only survive if it gets the Indian order. Therefore, India wields considerable bargaining power and should try and bargain hard for transfer of technology and joint development. Instead, the focus should be on technology transfer and joint development, testing and marketing of futuristic platforms. Some good beginnings have been made in this area. Examples are the Fifth Generation Fighter Aircraft development with Russia and the Barak missile with Israel. Also, India can bring its significant software prowess to the table. Today software already comprises over 50 per cent of the total cost of a modern defence system⁷. In the years ahead, this is expected to go up to almost 70 per cent as software costs increase and hardware production costs decline due to improvements in manufacturing processes. India's vast pool of software experts can make it a lucrative proposition for potential partners to engage with India in high-end research and development. Further, India's own efforts in R&D in general and defence R&D in particular, must be scaled up. Currently, India spends only 0.8% of GDP on R&D. There is considerable scope to increase it, by at least another percentage point. Moreover, India's defence budget is still languishing at less than two per cent of India's GDP – compared with China's 3.5 per cent and Pakistan's 4.5 per cent plus US military aid. Under these circumstances, it won't be possible for the defence establishment to undertake the level of modernization and indigenization that is called for by the troubled neighborhood of India. There is a case for moving away from populist expenditures and reorienting them so that the foremost task of national security is not compromised with.

An important source of technology, in any field, is Foreign Direct Investment. However, this source has been kept untapped in India as far as the defence sector is concerned by the limit of 26% imposed by the government. Although in a recent decision, it was decided that 49% FDI would be allowed but on a case-by-case basis, this qualification has translated into a subdued response from investors. "On May 17, at the Defence Expo, Suraksha 2013, in Kerala, the then DRDO Chief V.K. Saraswat gave a strong dissent and said that raising FDI cap would lead to foreign control over indigenous capability. This was well countered and a question was raised, "Where is the indigenous capability?" Indeed, insulation from foreign investment is one of the important factors for the lack of technology upgradation in the sector. The Naresh Chandra Committee has suggested an increase in the FDI limit in the defence sector to attract better foreign technologies. The Ministry of Commerce and Industry has been pushing for increasing the cap of 26% on FDI in defence. However, this proposal has met stiff resistance from

the MoD. The Wall Street Journal mentioned about the report submitted by R.K. Mathur, the then Secretary Defence Production, to the Parliament on April 29, that stated, "The stand of the Defence Ministry has always been that beyond 26 per cent FDI at this stage, would be a compromise on the security of the country. Whether it is 49 or 74 per cent, we believe that there would not be full transfer of technology (ToT)." Mathur is right that implementation of ToT has been poor." One of the reasons why China has been more successful in ensuring ToT is the highly centralized and focused approach to defence deals. India should establish a permanent National Security Commission mandated by an act of Parliament to oversee the development of military and non-military capacities for national security. This agency could also push for ToT clauses to be built into arms purchase and FDI contracts.

REFOCUSING ENERGIES

Over the last 17 years, a mere 29% of DRDO's products have been inducted into the forces. While these products are capital and time-intensive, such high levels of time over-runs suggest a need for change. Various committees have argued for the entry of the private sector in defence manufacturing and this essay has highlighted the need for the same as well. The DRDO should only focus on developing high-end futuristic technologies lest India continue to play catch-up in the field of defence manufacturing with the rest of the world. The effort should be to develop those state-of-the-art technologies that no strategic partner is likely to share; for example, ballistic missile defence (BMD) technology. Non-critical and current technology development should be left to the private sector. In a gradual fashion, the Universities and the IITs should also be co-opted in the area of defence R&D. "Recommendations of the Rama Rao Committee to privatize sections of Defence Research and Development Organisation (DRDO) and the Kelkar Committee to corporatize ordnance factories need action." India's defence establishment needs to be made more accountable for its performance, particularly in terms of timeliness. Thus, a reorientation of focus, co-option of private sector and educational institutes of repute, and reforms in the management of DRDO and DPSUs are crucial elements of the overall strategy of defence indigenization in India.

CONCLUSION

India can ill-afford to be dependent on foreign entities for the smooth functioning of current defence systems, as well as the acquisition of modern weapons platforms. Not only do foreign countries withhold the latest technologies, it also acts as a drain on scarce foreign exchange reserves, provides a tool of diplomatic leverage to seller-nations, traps India in a patron-client relationship and compromises national security and strategic autonomy. Therefore, there is need for action in a number of areas to ensure India achieves autonomy to a significant degree in the production of modern defence equipment. India needs to leverage its status as the world's largest arms purchaser by incorporating ToT and joint development clauses into contracts. Also, there is a strong case for allowing higher levels of FDI into the country and pushing ToT through a centralized focused agency. The DRDO and DPSUs need to improve both in terms of management and focus, and privatization to a certain extent can help alleviate the problems. Besides, the energies and market dynamism of the private sector need to be harnessed by easing of restrictions and provision of adequate incentives. All of these steps if and when taken would go a long way towards ensuring that India acquires a significant level of military hardware indigenization which is a necessary component of the process of India becoming a world power to reckon with.

REFERENCES

1. http://www.spsaviation.net/story_issue.asp?Article=1238
2. <http://www.thehindu.com/news/national/defence-ministry-strengthens-its-new-procurement-policy/article4636876.ece>
3. <http://www.thehindu.com/news/national/defence-ministry-strengthens-its-new-procurement-policy/article4636876.ece>
4. http://www.business-standard.com/article/economy-policy/indigenisation-a-false-debate-113091001027_1.html
5. <http://www.hindu.com/fline/stories/20130503300809600.htm>
6. http://www.idsa.in/issuebrief/DefenceTechnologyIndigenisation_gkanwal_190913
7. http://articles.economicstimes.indiatimes.com/2013-03-18/news/37815093_1_top-arms-importer-largest-importer-weapons-importer

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