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India's Once and Future Defence Industry

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India's defence industry is beset with a number of structural, institutional, and cultural problems that impede the timely development of state-of-the-art weaponry. So long as India continues to shield and coddle its defence sector in the name of self-reliance and strategic imperative, it will never be forced to reform and remake itself into an industry capable of supplying the armed forces with the equipment it requires.

IT USED TO be said of Brazil that it was "the country of the future and it always will be". Sadly, the same may be said of India's arms industry. Few nations have invested more effort and capital in their defence industries and have gotten so little back in return. And while the rest of India appears to be racing into the 21st century, its defence sector is still mired in the country's Nehruvian socialist and protectionist past. The history of India's defence industry is a nearly unbroken story of spectacular failures. Today, Indian armaments production is still a vicious cycle of ambitious overreach and costly setbacks, in the face of relentless determination to become self-sufficient in defence procurement.

Indian Armaments Production: Not a Pretty Picture

India has long embraced the idea of building a high-tech, self-sufficient arms industry, going back to its attempt in the early 1960s to design and build its own fighter aircraft, the HF-24 *Marut*. To this end, New Delhi has created a huge military-industrial complex, consisting of eight state-owned Defence Public Sector Undertakings (DPSUs), 40 Ordnance Factories (OFs), and, at the top, the powerful and influential Defence Research and Development Organization (DRDO), which is charged with designing, developing, and managing the country's indigenous weapons programmes. The defence sector employs more than 1.4 million workers, including some 40,000 in the DRDO alone, and enjoys sales in excess of US$4 billion a year. For all this, India has gotten:

- **Light Combat Aircraft (LCA):** This supposedly state-of-the art fighter jet is more than twelve years behind schedule, while R&D costs have nearly doubled. The LCA will not go into production until 2010, to be manufactured as a very low rate of around ten aircraft a year for twenty years; at that rate, the aircraft will be obsolete before the last one is delivered to the Indian Air Force (IAF).

- **Arjun Tank:** The Arjun is still not yet operational 30 years after the programme was initiated. The tank has a history of engine overheating, its excessive weight and width makes it too big for current tank transporters in the Indian Army (IA), and its rifled gun barrel means that it cannot fire anti-tank rockets. So far, the IA has committed to buying just 124 Arjuns.

- **INSAS assault rifle:** At nearly $400 apiece, the IA's standard assault rifle costs three times that of an imported AK-47.

Even the country's much vaunted Integrated Guided Missile Development Programme (IGMDP), initiated in 1983 as a comprehensive, intensive effort to make India self-sufficient in tactical missile systems, has produced more failures than successes. Only two IGDMP projects – the Prithvi and *Agni* surface-to-surface ballistic missiles – have so far been deployed, while several others, including two surface-to-air missile systems and an air-to-air missile – are still in development 25 years later and will likely never be anything more than "technology demonstrators".

Consequently, the Indian military has been forced to continually scrounge for foreign stop-gaps to compensate for delays and setbacks in domestic weapons programmes. For example, the IAF is acquiring up to 240 Russian Su-30s, and it has recently inaugurated the Multi-Role Combat Aircraft (MRCA) competition to buy 126 foreign fighter jets. The IA is buying several hundred Russian T-90 tanks, and the Indian Navy has had to acquire Russian and Israeli surface-to-air missiles for its ships because a local missile system is still unavailable.

Forward into the Past

While the rest of the world marvels at India's globally competitive high-tech sector, the defence industry remains an overwhelmingly statist enterprise, undauntedly committed to self-reliance in armaments production. In 1995, for example, New Delhi announced that within ten years it would increase its "local content" of weapons in the Indian armed forces from 30 percent to 70 percent. In 2005, however, foreign weapons systems (that is, both imports and licensed production) still comprised around 70 percent of the Indian military's inventories. Overall, the local defence industry is still heavily dependent upon licensed production of foreign weapons systems or the import of critical components (for example, the LCA's radar and the engine are both foreign-sourced). The Indian arms industry still functions mostly as an assembler, rather than an innovator.

The defence industry's problems are structural, institutional, and cultural. The Indian military-industrial complex comprises mostly monopolistic state-owned enterprises, with bloated workforces and excess productive capacity. Historically, the defence industry has been starved of capital for modernization and for keeping pace with the state-of-the-art in arms production. There has also traditionally been a lack of coordination between the defence sector and the armed forces when it comes to requirements, planning, and oversight.

The greatest impediment, however, lies with the DRDO. Arguing that maintaining an indigenous defence R&D and industrial base is a strategic technological and economic imperative, the DRDO has relentlessly pushed indigenous solutions. Consequently, the organization has had the persistent tendency to overestimate the technological abilities of the local defence sector while also low-balling weapons costs and development timelines.

Reform: An Unblemished Record of Failure?

To be sure, the Indian government has long reflected on how to reform and revitalize the defence sector, including opening up defence contracting to private sector, permitting foreign firms to invest in defence firms, encouraging more joint R&D/production with foreign firms, encouraging arms exports, instituting stricter rules on DPSUs and OFs when it comes to fiscal management, accountability, quality control, performance, and, improving DRDO-industry-armed forces coordination and planning. So far, however, there have been few tangible results. Some private Indian companies have been allowed to compete for defence work; for example, two local firms, Larsen and Tubro (L&T) and Tata, were recently awarded a joint contract to develop components for a new multiple rocket launcher. It is still difficult, however, to encourage the private sector to invest in a line of work that requires large, risky investments in R&D and infrastructure, in exchange

for low returns.

While the government has permitted foreign firms to buy into DPSUs (up to 26 percent of shares), so far there have been no takers. Overseas investors have no independent means by which to valuate these companies' stock, and they are not permitted any say in how the DPSUs would be run. At the same time, any privatization of the country's defence sector has been absolutely ruled out.

The defence industry's shortcomings will only get worse over the next several years, as India embarks on a massive recapitalization of its armed forces. Estimates are that the military will, over the next two decades, need to buy up to 400 combat aircraft, 100 transport aircraft, 140 helicopters, 1,500 tanks, 500 combat vehicles, 1,500 artillery pieces, and 140 naval ships, including up to 20 submarines and two to three aircraft carriers. The local defence industry is simply not up to the task of supplying state-of-the-art systems to the armed forces in a suitable timeframe.

Therefore, much of this equipment will likely have to be imported, but this will cause an additional problem for the local defence industry. New offset rules require that foreign arms suppliers provide Indian firms with one-third of the work, but local arms producers will be hard-pressed to provide substantive contributions unless they can significantly upgrade their production capabilities. So long as India continues to shield and coddle its defence sector in the name of self-reliance and strategic imperative, it will never be forced to reform and remake itself into an industry capable of supplying the armed forces with the equipment it requires.

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