

# Offset Absorption Roadmap for the Indian Air Force

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Offsets in some form or the other have been practiced in many countries over a long period of time. Even in India, licensed production contracts and technology transfer contracts with the erstwhile USSR were a type of offsets. However, Defence Procurement Procedure-2006 (DPP-2006) had streamlined the process to a great extent. DPP-2008 has refined the policy further. Random scrutiny of the few of the offset contracts finalized in the past couples of years indicates that offsets offered are by and large relate to buyback of certain sub-systems/support equipment of the systems procured, simulators for the equipment or maintenance facilities or such allied aspects. These offsets, while meeting the DPP requirements in letter, may not raise the technology base of the Indian industry as envisaged by the offset policy. Therefore, the thrust should be towards ensuring that the offset policy facilitates overall national aim of raising the technology base. In view of this, certain aspects are proposed to be dealt in this paper.

## Road Map for Offset Absorption

It would be rather restrictive and against the tenets of offset policy to chalk out a road map for offset absorption for the Indian Air Force (IAF). The entire offset policy is aimed at bringing in value additions in Indian defence industry by leveraging on the enormous defence budget expended on imports in large part. Therefore, restrictive definition such as 'road map for IAF' must be avoided. Offsets provided against a contract for IAF could

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well be for improving technology needed for equipment utilised by land forces. This flexibility must be made use of by formulating a 'total road map for the offset policy absorption'. In fact it would be the Indian industries which have to absorb the offsets rather than the defence forces, which are the consumers.

Scrutiny of offset contacts finalised / proposed till date indicates that limitations of Indian industry to absorb the technology are sited by the vendors for any meaningful upgrade of technology. Though many companies are technologically advanced and capable of absorbing the offsets, it may not fit into their business models. As a result, offsets are not resulting into desired outcome. One of the problems is that the companies do not know what the defence forces need. While official secrets act restricts publishing details of future planned inductions, adequate information is available in the public domain for industry to short list some of the areas that could be sought by defence forces in years to come; e.g. missile technology, guidance systems, propulsion, radar, fuses, weapons and other related technologies, navigational equipment, precision guidance equipment, avionics, aircraft and sub-systems, etc. The organisations such as FICCI and CII must formulate such guidelines to facilitate companies to look for areas of interest that suit their business model. At the same time the Service Head Quarters (SHQ) / Ministry of Defence (MoD) must publish a list of technologies that would be required by the defence forces in years ahead.

Progress made on schemes using 'Make' procedure is not adequate. This is mainly because the procedure is long and past experience does not instil confidence in the outcome of such projects. With very limited number of companies capable of handling such 'Make' projects, there is no competition. As a result, the mantle of progress of such schemes falls on the DPSUs, who have made immense contribution to the defence preparedness in spite of inefficiencies plaguing them by way of structure,

business environment, labour laws and many other reasons well known to all. Therefore, there is a need to increase competition by raising the technology base of private sector companies in the field of defence production.

Defence related equipment needs certain technologies which are specific to the sector. Licenses, procedures, Intellectual Property Rights and other issues are also restrictive. The R&D has a long gestation period and demand is not predictable in almost all cases. The market worldwide is large but is invariably subject to government controls, restrictions and international control regimes. Many defence products especially in the weapons' category have limited shelf life and replacement demand would continue. Invariably the replacement cycle is adequate to bring in new technologies to address the needs of the segment. The industry has few players and thus in it may operate in monopolistic / duopolistic environment with attendant benefits. It has a long gestation, high investment, high risk but extremely high yield field. The company that develops the technology and is available with a product in the market when needed could reap gains disproportionately to the initial estimates, which may prove to be worth against the above conceived drawbacks. At the same time, the effort cannot be directed to emerging product requirement, but has to address the needs of future requirements so as to have a proven product when the demand arises. This aspect is a bit different than most other sectors where products have lesser gestation period and could be addressed to existing demand or demand which is perceived to emanate in near future, thus providing revenue stream in the shorter timeframe. This aspect needs to be understood by the private sector. This is not a field to prop up your balance sheet in the short run. However, records show that world wide companies have thrived in this field.

Considering the present technology base of the Indian industry, it would be prudent to follow step by step approach. One scan of the industry would

reveal that ship building industry is very similar to the defence products industry. There too the gestation period is long, initial investments are very large, the demand is sporadic and cyclic with little or very limited overlap in terms of alternate usage of technologies. The industry cycle is also large but there is generally a mismatch between the industry cycle and production cycle. In spite of these adverse aspects, over the years Indian ship building has grown from a minor player with capacity to build only smaller craft to one that has orders to build large vessels such as Panamax Carriers. From a mere 0.001 per cent of the world trade in this field during the year 2000, today the contribution has increased 1000 times to one per cent of the world trade in this sector. Though the overall contribution may not be significant in terms of number, the meteoric rise if sustained through continuous enhancement of investments in capacity and technology development, it is definite that the country would have a distinct edge in years to come. Following this strategy may yield the best results. The steps suggested are as follows:

- *First Step:* Arrange Joint Venture (JV) or Consortium Company to absorb transfer of ripe technology through offset contracts and commence revenue stream.
- *Second Step:* Plough back investment to enhance technology base. Set up R&D units with own investments / JV route to address medium term requirements by making use of offsets if feasible or through other resources – near ripe technology.
- *Third Step:* Form JVs / consortiums for R&D in defence sector keeping the requirements of at least 15 years hence.

Offsets could be facilitated in all the three stages. Each company should analyse its state of technology and business plan and adopt the steps as deemed fit. The thing to be remembered is that the *light at the end of the tunnel is very bright*. It is not very clear how offsets in the service sector would be dealt, though permitted. However, there are enough opportunities in the civil sectors for the service industry to thrive and

indeed excellent contribution of this sector to the GDP is evident. It is not clear how service sector offsets would bring in much by way of enhancement of capabilities, unless they are in niche segment. Though not totally ruling out, one cannot be too sanguine about contribution of service sector with respect to offset policy. It would be prudent to focus the efforts on manufacturing sector, which has immense potential.

In view of the aforesaid, the following steps are suggested to progress offset policy so that offsets generated are best absorbed:

(a) Information Sharing: Publish technologies required including details of systems and sub-systems that are envisaged in 5-15 years time. Many of these systems / sub-systems have a large component of software and power source equipment. We already have fair amount of expertise in these segments. Some of the areas suggested are:

- *Armament / Weapons:* Explosives, fuses, guidance for precision munitions, specialized munitions, anti-minefield devices, mines, grenades, rockets, fire arms, pyrotechnic devices etc.
- *Aircraft and Avionics:* Light to medium transport aircraft / helicopter and sub-systems i.e. control systems, navigation and attack systems, aero-engines, airborne radars, electronic warfare systems, hydraulic systems / pneumatic / pressurization and oxygen systems, bearings and propulsion systems, etc.
- *Missiles:* Propulsion / guidance systems, seeker heads, data-links,
- *Radars:* Wide range of radars would be required e.g. acquisition radars, tracking radars, search / surveillance radars, secondary radars and radar based avionics etc.
- *Communication Systems:* Trans-receivers, secrecy devices, ECCM devices, etc.
- *Specialised Equipment:* Bomb disposal equipment, runway rehabilitation equipment, NBC sanitisation / decontamination equipment, NBC protection habitat, habitat for extreme weather

areas, survival kits, Search and Rescue equipment, desert / snow mobility solutions, etc.

(b) Level Playing Field: Ensure level playing field to private sector industry. Preferential purchase arrangements / tax concession or any other incentives must be extended to all recognised companies operating in the defence goods domain in the private sector as well.

(c) Licensing Norms: Licensing norms may be reviewed. It may not be feasible in the short run for most companies to invest significant amounts over a longer periods envisaged in defence production to address demand for full systems. It would be, however feasible to address demand for individual sub-systems. To increase the number of such sub-system suppliers, licensing as 'Mini Raksha Udyog Unit' (MRUU) status may be considered. Certain percentage of annual turnover towards defence related products should be made mandatory to retain the MRUU status.

(d) Streamlining Export Policies: Domestic demand is unlikely to be large enough in some of these segments. Domestic demand being sporadic and unpredictable, to achieve a viable business model, additional volumes would have to be garnered and only source could be exports. In this field there may be a few hurdles that would have to be addressed by streamlining the relevant policies. In absence of market friendly policies concerning exports of defence goods, however, there would be a strong impediment to companies accepting this sector in their bouquet of verticals.

(e) Vendor Base Development: DPSUs / Raksha Udyog Ratna (RURs) must encourage and develop ancillary units as mentioned above amongst the MRUU. Certain tax benefits at the expenses of vendor base development may be considered specifically to address defence production requirements.

(f) **Quality Control:** Strict quality control can be ensured at every stage. If the market becomes as competitive and effective as the civil sector, it is sure that market forces would drive the quality control significantly. However, this scenario is unlikely. By nature this sector tends to function in near monopolistic conditions and therefore, high grade quality control without being an impediment in the functioning would be called for.

(g) **Liaison:** To ensure better liaison / interaction with the selected vendors / sub-vendors, representatives from the concerned services / MoD may be deputed at appropriate level in all such companies. Such representatives should be responsible to the Department of Defence Production (DDP) / MoD. Their status could be in capacity of an advisor to the board of directors.

(h) **Offsets with Multiplier:** Offsets should be credited / accounted taking into account 'Multiplier' factor to ensure technology transfer related offsets get an impetus. Graded multiplier, for buy back of complete system / sub-systems, maintenance facilities, provision of allied facilities such as simulators / training, ripe technology transfer, setting up / participate in R&D activity in one of the desired fields, should be considered.

(i) **Offsets in the Service Sector:** Offsets in the service sector are unlikely to result in rise of technology base and should be considered only in niche segments and as a last resort. Without offsets there are innumerable opportunities in this category and therefore, it would suit the policy makers to ignore this sector altogether as a priority sector for offsets.

(j) **Banking of Offsets:** Banking of offsets is now permitted as per DPP-2008, albeit only for two years. Banking of offsets over longer duration of at least five years may result in better vendor response considering the acquisition cycle time.

(k) Trading of Offsets: If banking of offsets is to be limited to two years, wider consideration for trading of offsets may be considered. Lapsing of offset credits in a system that has long and uncertain decision cycle does not make good business sense. This aspect is likely to deter many vendors to come forward with meaningful offset proposals. Trading of offsets is likely to bring in even more valuable returns.

Offsets are an excellent tool to effect fast paced rise of technological base so it is very important for India. It must be understood that simple offsets are unlikely to result in any serious rise in technological base. It is the additional features such as graded multipliers, banking and trading of offsets that are likely to make the scheme more interesting and therefore attractive. The offset proposition needs to be a win-win situation for both the seller and buyer. Only then there is greater chance of a serious proposal for higher technology coming through. Else we would continue getting proposals that would increase the exports of existing technology without enhancing.

## Conclusion

To derive expected result of raising the technology base of the Indian industry, besides providing enhanced business opportunity to them, it is necessary to chalk out an integrated offset absorption roadmap for the Indian industry. The defence services, being consumers of such products, should make all efforts to facilitate such a road map. To this end, a consolidated list of technologies, systems, sub-systems that would be required by the defence forces in the next 5–15 years and beyond should be made available to the industry. The licensing norms should be reviewed to include smaller companies which could be capable of undertaking sub-system level production and R&D. JVs / consortium approach should be encouraged. Level playing field for private / public sector companies should be ensured. Recognition of MRUU along with incentives to MRUU

may be considered. Development of vendor base by the DPSUs / RURs with associated tax benefits for such efforts may be considered. Liaison / advisory officers from concerned service / MoD / DDP may be positioned at RURs / MRUUs. Offsets with multiplier factor for transfer of technology and R&D effort would enhance industrial base at a faster rate. Trading of offsets if permitted is likely to bring in significantly higher quality offset proposals. There may be a necessity to streamline policies related to exports of defence goods, without which absorption of huge offsets which are envisaged is unlikely to be feasible. 