Centre for Land Warfare Studies, New Delhi

Defence Acquisitions and Offsets Series -1

21 August 2014

Seminar Report

Introduction

The Centre for Land Warfare Studies organised a National seminar on Defence Acquisition and Offsets in Gulmohar Hall at the India Habitat Centre on 21 Aug 14. First of the series of two seminars being organised on this important topic this seminar focussed on the impediments to acquisition reforms recommended by various committees on national security and more specifically reports on reform of acquisition systems spanning last five decades. At this seminar, a wide canvas of speakers to include senior retired officers, heads of corporate sector and senior civil servants from various ministries and departments such as Railways and Ministry of Commerce participated. Certain important concepts were discussed for the first time in this seminar such as the system of capital procurement in the Railways and the concept of Defence Economic Zones(DEZ) which was amplified in the special address by Additional Director General (ADG) Foreign Trade from the Ministry of Commerce. The seminar was preceded by release of the book 'Nuclear China, A veiled secret' authored by Dr Monica Chansoria, renowned China expert and senior fellow at CLAWS. The Book was released by Gen Deepak Kapoor, PVSM, AVSM, SM, VSM (Retd) former COAS.

Welcome Remarks: Maj Gen Dhruv C Katoch, SM, VSM (Retd), Director CLAWS

India's military modernisation has been extensively debated over the years. We have a strong public sector defence Research and Development (R&D) base with the Defence Research and Defence Organisation(DRDO) having a total of 52 research labaratories. We also have a strong defence industrial complex consisting of 42 Ordnance factories nine Defence Public Sector Undertakings(DPSU) and yet we face a serious challenge in meeting the nations defence needs. So obviously when we look at all this there is something wrong somewhere. Over the last five decades we have had various high powered committees giving recommendations on what

needs to be done. From the Henderson Brooks report of 1962 to the Naresh Chandra Committee report of 2012 we have exhaustive recommendations in every field. The translation of ideas into executable instructions remains missing in our system. It is interesting to note that the same recommendations repeat themselves year after year. These pertain to 'Synergy among all stakeholders involved in defence capital acquisition'. 'Reorganisation of Department of Defence Production'. 'Simplification of procedures for facilitating participation of domestic industry in defence sector' and 'Rationalisation of regulatory mechanism and the creation of an agency on lines of Defence Advanced Research Projects Agency (DARPA)'.

Many of you may not be aware that a procurement case today goes through eleven phases of evaluation that are carried out by no less than seven committees and thirteen departmental organs between Service Qualitative Requirement formulation and post contract management with a number of these phases have no time limits. This is perhaps one of the reasons for acquisition delays. It cannot be a matter of pride for India to be the biggest importer of military hardware in the world. The Parliamentary Standing Committee on Defence figures reveal that the Army's equipment modernisation is steadily falling. In 2008-09, the Army spent 27 paisa of each rupee on capital expenditure. This fell to 24 paisa in 2009-10; 23 paisa in 2010-11; 20 paisa in 2012-13 and just 18 paisa in the last two years. In 2012, Army shortlisted a total of 680 projects worth Rs two lakh crores to fructify in the twelfth Army plan period. A critical list of thirty one out of these 680 projects in the pipeline was identified to include assault rifles, howitzers, Bullet Proof Jackets, Tank and Artillery ammunition, as Priority one. Come 2014, the above contracts still remain Priority one most being struck in procedural wrangles. General staff Qualitative Requirements (GSQR) and trials which are the domain of the Services are often blamed as the major reasons for delay in acquisition cases. If that be so, why is the fast track procedure(FTP) which mandates neither of the two take so much time. Since its inception in 2001, only one case has been cleared through the FTP i.e. the case of procurement of boats for Pangong Tso lakes. We can talk of many issues but I will mention just one. The Advanced Jet Trainer (AJT) 16 Sitara intermediate jet trainer was truly heralded as an Indian made aircraft in the IAF stable. It has been showcased in the Paris air show in 2005 and an analyst wrote in Dec 2013 that it was weeks away from certification. However the defence minister recently confirmed in parliament that Hindustan Aeronautics Limited (HAL) has not so far been able to resolve critical wing and airframe design and development issues. This statement has virtually put a lid on the Rs 600 cr plus project out of the national budget. We have as of now a strategic window of opportunity to resolve the many challenges that beset the defence sector which in my view and analysis is a ten year window. It is hoped that today's proceedings will lead to a way forward to address the implementation issues. I now request the panellists and the chair of the first Session to come forward and start the proceedings.

SESSION I: IMPEDIMENTS TO ACQUISITION REFORMS

Remarks by Chair: Lt Gen Davinder Kumar, PVSM, VSM** (Retd), former SO-in-C

The reform process sadly has remained a '***work in progress'***. The first group of ministers assembled in 2001 and that is when the acquisition department came into being as an adhoc committee under the Ministry of Defence. Thereafter there have been several eminent committees who have given exhaustive recommendations on acquisition reforms namely, Kelkar committee in 2005, Sisodia committee in 2007, Rama Rao committee in 2008, Defence expenditure review committee under VK Mishra in 2009, Naresh Chandra committee in 2012 and Ravinder Gupta committee on modernisation and acquisition reforms also in 2012. Not surprisingly, a number of recommendations given by these committees are common. What is then really holding us back from implementing these recommendations?

I would like to remind the gathering here that in the recent history there has been a definite effort to prevent India from building a viable defence industrial base. During World Wars I & II a quarter million Indians were war casualties yet the colonial masters decided against setting up of large scale manufacturing facilities in India. In the last 50 years we have been talking of indigenising as we are yet again doing today but imports still remain about 70 percent of our total capital acquisitions. We have a number of Ordnance factories and defence Public Sector Units but their product range is obsolete. That is the defence industrial base we have been living with. What are we doing to improve the situation vis-a-vis China for instance? Here I would like to raise three particular issues.

First is the political will and second is the structure of governance. We are a democracy and there are lot of anomalies in our governance structure. For instance we have defence production units as part of the Ministry of Defence which is akin to having the jury and the judge in the same platform. Acquisition is a specialised subject that needs domain expertise and knowledge. The most critical part of the acquisition frame work is the supply chain which can cut down enterprise wide costs and improve efficiency. The governance structure that exists today in the Ministry of Defence is ill suited for creation and sustenance of a responsive acquisition supply chain. Several committees have recommended that defence production should be under a separate ministry say the defence production and indigenisation ministry. Their charter being to oversee the functioning of the Ordnance factories and PSUs which first need to be modernised. Instead of a mere thirteen member Defence Acquisition Wing buying equipment worth thousands of crores of rupees annually, we need a separate directorate of acquisition with a broader frame work.

How do we as Defence Services affect the political will? We are a democracy and need the voice of the Services to reach the public so that critical issues are flagged. Unfortunately, the highest level of political interaction for the Services is the Parliamentary Standing Committee on defence staffed by parliamentarians who have little knowledge or interest in matters military. Then there is also the problem about a poor awareness level of the people in general about the issues facing the Armed Forces. Unless we have the support of the masses we cannot make our voice heard and affect the political will. That brings me to the third issue which I seek to flag, that is the issue of a Strategic Defence review. Before the budget session of the parliament the finance ministry issues an economic survey. May I suggest that on lines of the economic survey can we have a National Security Survey and Strategic Defence Review in two parts one open and other classified. This would give a good exposure to masses to the needs and the aspirations of the Armed Forces. As per the Indian constitution, the defence of India is the responsibility of Defence Secretary but those most visible and called upon to render military advice to the government in times of crisis are the three Service Chiefs. It is thus possible that we have a quarterly review of national security

including projects either by the Prime Minister or the Cabinet Committee on Security (CCS). Can we have an integrated approach towards security which combines both the views of the civil and the military. Today the concept of sovereignty is being challenged and the concept of physical borders is becoming blurred. If that be so we cannot have the subject of civil security and border security dealt with as separate subjects. We require synergy of security agencies and policy making. Unless we have that we really cannot get on to the subject of acquisition or talk about improving national comprehensive capability through indigenisation.

I shall now talk about the Defence Procurement Procedure (DPP) 2013. In a typical procurement case, if everybody in the hierarchy says yes to a project without any delay which incidentally is a physical impossibility, it would take 462 days for that item to be acquired, the timelines laid down in the DPP not withstanding. The DPP 2013 is actually based on distrust among the stake holders as also encourages a risk averse attitude. It is time we opted for a positive aspect by changing to a framework based on mutual faith and trust. We need a structure which penalises corrupt officials but also protects those doing their job so that they can take decisions without the fear of prosecution. We positively need a Defence Technology Mission and Project Implementation Agency accountable to the Parliament through the CCS or an alternate mechanism. Without these features, we cannot have a national view of the projects that are taking place and what is needed to get technological sovereignty to become masters of our own destiny.

Yesterday's newspaper has three news items. Two teenage boys made a cellular charger which produces electricity with the movement of a shoe. Second article was about the creation of Google glass for a mere Rs. 4500 by an 18 year old boy through open source hardware. Third article was about manufacture of a Unmanned Aerial Vehicle (UAV) by an Indian Institute of Technology (IIT) student. The UAV has a range of 150 kilometers and can achieve a height of 5,000 feet with an endurance of ten hours. This is something fantastic and is called Low Altitude and Long Endurance. Such talent has to be encouraged and nurtured. The system should give such people a platform and synergise their efforts to achieve the desired levels for Indian technology. We also need a defence technology cadre who have a say in the government. The point that I am trying to make is that we need a multilevel approach i.e. local R&D, co-development and coproduction, transfer of technology and exports through indigenous manufacture. Last and most important is that with civil and military technologies converging, we need to invest in dual technologies which is what the future portends.

There is a need to create awareness, and build public opinion on national security so that people can be exposed to strategic decisions of the government. We need to develop that strategic culture in the country and start thinking as Indians rather than squabble over turfs. On ground we see that this synergy is absent which is detrimental to national security.

Impediments to Acquisition Reform - A Services Perspective: Lt Gen Narendra Singh, PVSM, AVSM, SM, VSM, (Retd) former DCOAS(P&S).

The bane of our system is the huge number of studies, recommendations and recommendations on the recommendations, large number of committees which limit the freedom of the man on the ground. It is well known that defence allocations as a percent of Gross Domestic Product (GDP) is reducing. The allocation is based on recommendations of the Planning Commission at a time when we were having a growth rate of eight percent. It

would have been good for the Services had the growth rate been the same all along which is not. Yet we are making allocations based on Planning Commission's recommendations. If this is the case we will have much lesser allocation next year. This is the reason Defence Services completely spend their capital allocations and there are large number of schemes pending for fresh allocation. Out of that budget year after year bulk of the money we spend is on imports from abroad. That's why we have become the top arms importer. If we see the list of requirements it is pretty large. I have been Deputy Chief for almost two and half years and my predecessor too had a stable tenure and we have been putting in almost 60 hours plus every week handling acquisitions without making a very sizeable difference in the larger canvas. We therefore have to analyse as to why we are where we are. Post retirement I had time to reflect and think at the issue from a slightly stand off distance. One thing that always comes to the fore is, that are we really serious about acquisition reforms? For instance we if think of the futuristic Main Battle Tank in the make category it will take at least eight years irrespective of the timelines given in the DPP. Implementation is something we seriously lack. I would like to bring out certain pertinent issues which cause impediments to acquisition reforms:-

- **Major Political directions are not enforced** – To take an example, It was said about the food security bill that it would not clear the floor of the parliament of the due to lack of budgetary support yet when the time came, budgetary support was pledged and the bill was implemented. On the other hand, the need to reverse the percentage of Indigenous to import ratio of capital acquisition from 30:70 to 70:30 has been talked about for decades but no progress has taken place on ground.

- **Focus on Form** – Lofty statements at all levels are made that all needs of defence forces will be met and no efforts shall be spared to achieve the operational readiness and battle worthiness of the Services. Activities such as DPP revision do follow from such statements however the focus appears to be on maintaining the correct form but again nothing much is happening on the ground.

- **Lack of involvement & Accountability** – Procurement to my understanding is the sole responsibility of the Service Headquarters (HQ) and the within that people dealing with the procurement. Year before last, in the Parliamentary Committee a statement was made that the GSQR is made by Services, Request for Proposal (RFP) is made by Services, trials are carried out by the Services so if there is a fault, ask the Services. There is thus a hands off approach which percolates right down to the desk officer.

- **Systemic lethargy** – There is a systemic lethargy in acquisitions and there have been instances when the quotes have been opened but at the Deputy Secretary level, the Commercial Negotiation Committee (CNC) has not declared the lowest tenderer for one year!! Such cases have occurred actually on ground and the concerned person has gotten away with it.

- **Turf loyalties**–When reforms are announced there are turf loyalties which affect its implementation for instances. If there is privatisation initiative being discussed, vested interests clamour as to who will lead the privatisation initiative which should be to my

understanding be the private sector. Everyone wants to protect and expand their turf the best of recommendations get lost in the turf battles.

- **Status quo suits current players** – Therefore, what suits everyone is status quo. That's the best situation for the current players. Because they are 'within the system' and can ensure that no new reforms are carried out which disturbs their status quo position.

- **Over sensitivity to anonymous complaints & resultant delays, cancellations & blacklisting** –We are over sensitive to anonymous complaints. Cases get cancelled after the entire process after as long as five years based on anonymous complaints. If we backlist everyone that's the best way as indigenous route is the only option left which too is not allowed to develop as an option.

- **Play safe Attitude** – The system as a whole lends itself to play safe attitude as that's the best way to avoid problems later. All stakeholders start looking as to the path of least resistance. So the fate of the decision is decided the day the defence minister signs on the document.

- **Acquisition considered routine activity** – Capital acquisition is not understood by anyone other than those who are dealing with it. We are buying weapons which are very expensive and sophisticated and we are framing GSQRs for those systems we haven't seen before which is indeed a tough call.

- **Sub optimal staff selection & training**–Starting from the Service HQ till the top there is a need to train the staff dealing in acquisitions. To take the example of an officer in charge of a trial team who is selected not because he forms the part of the core group for operational issues nor because is he an expert in the equipment but is selected because usually he is the only one who is available.

These are the issue that convince me that we are not serious about reforms. Last time when DPP was being revised, all three Services jointly represented against a particular amendment, but despite that the same was it was incorporated which brings out the fault lines between the two stakeholders of the same system. This eventually hampers the system from evolving. Coming back to the DPP, it is more of an auditing and restrictive manual rather than being a facilitating document. There are very few paragraphs which expedite or facilitate the system. It is complex, cumbersome, multi stage and time consuming procedure. A word about the General Staff (GS) evaluation would be pertinent here. Traditionally the General Staff is a strongest organ of the Services because it looks at things from an operational perspective. Today GS evaluation has been reduced to mere compliance verification exercise for conducting the trials which is unfortunate. In most cases, after the trials, the elephant gets through but the tail gets stuck due to one particular GSQR parameter not being met. In case there are certain deviations, and the Services agree that the same is operationally required and we can go ahead with the production under the provisions of Para 75 of DPP which allows deviations, still no deviations are permitted by Ministry of Defence (MoD) / Director General Acquisition due to the fear of repercussions. The acquisition structure is thus essentially a strait jacketed procedure with no flexibility or provisions for operational urgency and logic . The point is that If you are not ready to take decisions then you cannot build a world class defence force. It is both transparent but

Opaque. As per DPP the system is supposed to be quite transparent. We interact with the vendor before issuing the RFP, we interact after the issue of the RFP, we interact at every trial stage to discuss the compliances and non-compliances. This is stated in the DPP. However anyone who is dealing with the Services will say it is an opaque system. Another issue is there are too many agencies &everyone having a negative veto without any accountability. Wherever the user has taken the lead and there has been a user involvement, it has resulted in a success story. The Arjun tank could have been a success but the user was not taken into confidence and therefore today it is where it is. The user is the key to success as it is seen in case of Artillery gun by the Ordnance factory Board (OFB). In fact there are lot of facilities and ranges in the country with DRDO and others and there is a suggestion to make a provision in the DPP to let the private industry use them on payment of a certain fee. This has been agreed by the government but has translated into action. The ray of hope is that the new government seems serious about making up the hollowness of the Armed Forces. There have not blacklisted any vendor recently due to operational reasons and the statements of the Prime Minister are relevant in this regard. I will now end with certain recommendations as shown on the view foil :-

- Review, revise / rewrite the DPP - The DPP needs to be rewritten. If we write procedures for every contingency then we will end up having a procedure which cannot be implemented.
- Evolve simple, transparent & swift procedures
- Review & relax licensing norms and other rules to open defence sector to private players.
- Level playing field both for Private Sector and DPSUs
- Integrated vision & approach: MoD, Services, DRDO, Public & Private sectors need to integrate.
- Sense of ownership, involvement & accountability of all acquisition agencies
- Greater development of subject matter expertise
- Need for longer & multiple tenures of Staff
- Increased involvement of Services in R&D, Quality Assurance and project monitoring activities
- There is a need for a reasonable amount of overlap between appointments in the Defence Acquisition Wing to ensure continuity in the procurement process .

Foreign Direct Investment in Defence Challenges for Technology Transfer: Shri JD Patil, Head Defence & Aerospace, Larsen and Toubro (L&T) Limited

In the private sector a procurer is essentially measured by what he knows of his vendor base. He is accountable for constant reduction is the input cost. He is measured by how he finds efficiency through repeat orders which generates scale. We apply an absolutely piece meal approach. Supply chain today is genuine efficiency that comes by economies of scale. We keep talking in an economy of hyperinflation times of 7-8 percent per year. The price is frozen from the time the offer is submitted till the time of delivery which is some five years later. The costs genuinely go up by 30-40 percent which no one is bothered. If someone takes a hedge on it they are on the line and ultimately, there is a very miniscule difference which decides the fate of the contract. One simply loses the contract because of the L1 regime and no one looks at the time value of money. On the strategic side India has done reasonably well. If a country was ever denied something it never lasted beyond a decade. We have with our inherent strength have always found ways to overcome and develop on our own technologies. If we talk of big ticket items like aircraft, even these can be manufactured in house provided there is a will on part of the stake holders. DPP doesn't allow extensions more than twice but there are instances when it has happened five times. So there is a way provided the policy makers want to achieve the timely deployment of a capability and we do not keep delaying decisions. On the strategic side, Navy has moved much further than the other two Services in terms of acquisition. We can build a large strategic submarine but cannot think of building a much smaller conventional submarine because we permit a foreign vendor to enter while no Indian vendor is allowed to enter into the strategic sector of building small submarines in house.

We have been hearing of Indigenisation as a future goal for more than two decades now and the first to propound this was Dr. APJ Abdul Kalam. Whenever we wanted to stand on our feet we have been pulled down by various control regimes. We have had to carry out acquisitions or develop technology against deadlines always in an arm twisting mode. In house manufacturing genuinely can lead to significant economic boom as typically every rupee invested in India leads to a economic multiplier of 8 to10 times. A US study specifically for the US economy put it at four to five times. This explains why nothing is imported by the United States out of the USD 600 billion that they spend on defence. Only small systems and components are imported but you cannot export big systems to the US. Even Russia till date hasn't inducted the Brahmos missile system it helped India to develop. If France for instance wants to engage us in a Rs two lac crore program will they buy in return from us? So there are nations which have decided and moved on and in that perspective when we talk of that same rupee being invested in India generating jobs and so on that is something we can look forward to. Talking of Intellectual Property Rights (IPR), we have remained for the last 60 years in the Transfer of Technology (ToT) domain. We still wait for someone to give drawings, designs and we think of simply wanting to build it in India. What happens to even upgrading it five years later and also of next generation technologies is not thought of. Nor are the aspects of lifecycle and dependence on foreign sources considered. There have been cases where for years an equipment was cannibalised or was not battle worthy due to lack of up gradation or lack of spare support triggered by a control regime. We need advanced technology. We don't have a great neighbourhood around and as a nation with 20 percent of the world population we deserve our rightful position in this world.

Let's look at examples within the country namely the Nuclear and the Aerospace sectors. I represent a company which has been working for 48 years in the first sector and 43 years in the second. As a private sector partner we never ever felt discriminated from a PSU. If we see the mechanism of how it was done and how have these departments created those empowered bodies we can replicate the same in the defence sector. For example if a few hundred crore of asset needs to be created within the country and that asset cannot be commercially justified as an investment by a private sector shareholder investments have been affected not only in private sector but also in public sector. In L&T factory in Powai, Mumbai which is a 70 year old unit now has a large amount of investment which has come in from these departments. Today we have a joint venture for nuclear materials being produced as large forgings for futuristic reactors. Earlier as a buyer country we had to wait about five years for a nuclear reactor vessel for a foreign vendor before he tells us as to which year we will get the reactor. A decision was taken at the national level and a facility for forging of these reactors was decided to be put up. It so happened that L&T was selected as the partner in which we own 74 percent and Nuclear Power Corporation of India Limited has 26 percent in this Joint Venture (JV). It is in L&T premises and it's a Rs 2000 crore investment. It is genuinely worth pondering as to what enabled that to happen and what mechanisms let it happen. Rules in government are not different for different sectors. It's just that one department that takes the bull by the horn and runs its own affairs while another department allows itself to be over run and that is what I see as an issue here. Fundamentally as a nation we are today a service provider in space and in nuclear nobody can match India's price for producing a nuclear reactor. Today we are negotiating with six different economies to buy reactors from them and they are going to cost many times more than the reactors which we are producing in India. Hence my point that if we decide to stand on our own feet then we can actually deliver. Probably to my mind in each of these sectors we have not taken more than 10-15 years to get where we are. So thinking radically what if we say no to acquisitions imports for the next 15 years. It may sound radical but something that should tax our minds is that how many countries will still be willing to offer their knowledge and IPR at our terms. Think of the size of the market we have and say we are going to do this and that's a national policy. That has happened in these two sectors and time has proven we haven't come out badly. The fundamental point is in these sectors all units viz the user, R&D and Industry have moved in unison. In all developments all investments have gone upfront into an 'Escrow' account. All developments have escalations. It is not possible to predict timelines and inflation for development. So the 'Escrow' account and the interest generated by it funds the escalations. This system exists within the government and is functioning well but there are structures and processes that have made it happen.

If we look at the defence scenario now, we need systems, command control network, platforms, platforms management systems and a unified structure of the whole. We are primarily dependent on licensed production which is our bane and there has been no transfer of knowledge for the next generation of technology. We kept on paying not just for the acquisition but also the subsequent lifecycle costs. This became a sizable issue three years back when highest dollar-rupee rate variation happened in the last week of every month . The dollar used to rise from Rs 45 to Rs 71 and stablise at Rs 63. In the corporate sector we had palpitations as to what would happen to all the foreign exchange exposure. The nation actually lost a lot of money due to lack of strategy on part of the MoD as to how to handle the exchange rate variation. They would buy at a particular rate and the next day there would be a sudden two rupee drops. First we have a sizable acquisition which is import

based. Second we don't have a strategy of hedging out the vendor who keeps losing money then the same ministry would say that I gave you a fixed price contract and I cannot hold your hand even if it has become 40 percent more expensive. No vendor has a zero import situation and you don't bid on a contract on 50 percent margins which only the foreign firms bid for. We bid on wafer thin margins and the exchange rate variation wipes out whatever you have bid for and after a few times forces the company to rethink whether it is worth doing business in this area. Why are there no hundred L&Ts and TATAs? If the defence sector is so good why are there only a limited number of players? We have to think this over.

I shall now talk of the positive aspects. If we have a look at the Navy, we see that they have created a design arm and a system integration arm namely the Weapon and Equipment Systems Engineering Establishment (WESEE) for a complete integration within. Construction of ships like Offshore Patrol vehicle (OPV) and Anti Submarine Warfare (ASW) Corvettes is open to public and private sector on a level playing field. The design department in the Army and Air Force should have happened on the lines of the Navy which is building frigates and aircraft carriers. I am in the know that a WESEE type of organisation was approved for the Army which never took off on ground. The navy earlier had a limitation of submarines which is also being addressed. Maintenance used to be with Naval dockyards in the earlier days now that is changing. Across the Navy there is very sizable indigenisation which is visible. How did Navy achieve this kind of indigenisation? It did not come about just by creation of a design arm or a WESEE. It happened because till the DPP came in trust me, Navy hedged with the same taxation and played with it so beautifully and controlled the shipyards so beautifully and said that I will sit on your CNCs you will not conclude any internal purchases for fulfilling my order and that you will come to me for settling the extras in a future date. They took control and ownership of the process in the beginning itself. Any Indian company if it was to be promoted, the contemporary foreign bid used to be loaded with taxes akin to a commercial purchase and the foreign firm would lose out. This gives the Indian company an advantage as he gets the job even though he is a new entrant. 70-80 percent of indigenisation is happening in the Navy today except the basic weapon. The bane of the weapon is the numbers are very small. Even on that account Navy is working out ways to source these weapons from within the country. On the strategic side the level of indigenisation is amazing. Even one third of such indegenisation achieved by the Navy is not there in the commercial acquisition through the Defence Acquisition Wing. That is the kind of acquisition scenario that we see right within this country. Whatever the Navy did in those days by exercising its freedom, the day the DPP came, the Navy has come back to square one and the situation has become '***Jaise The'***. Last 11-12 years the indigenisation in the Navy has slowed down because of the DPP. **There is a need to rewrite the DPP or the next decade won't forgive us.** If today, the Navy has lost its freedom it is only because of the DPP. The DPP has curtailed their freedom in promoting innovation. There are huge partnership models within the Industry because we at L&T have ourselves indeginised more than 150 systems with 70-80 systems with the DRDO as partners. The Navy and DRDO have facilitated such indigenisation through such forward looking proposals. Today a whole lot of systems of DRDO are being indigenised and the private sector is doing a sizeable work in the production mode. Historically DRDO has worked on technologies and not on platforms while the Navy worked on platforms. There is a huge knowledge on technologies within DRDO which needs to be exploited. Another relevant aspect about DRDO is that it is extremely difficult to pay and get work done by the private industry through the DRDO labs

as no formal mechanism exists to pay and get the work done. Such a mechanism needs to be built at the earliest.
Right now private sector is banned in production of ammunition and there is need to change that. Why should the country import basic ammunition and waste precious foreign exchange? We in the L&T are holding a licence for manufacturer of ammunition but I will start manufacturing only if am assured of a business which in today's restrictive environment is not guaranteed.

To achieve these initiatives the appointment of the Scientific Adviser (SA) to Chairman Chiefs of Staff Committee (COSC) needs to be given a greater role. These are the positives which have sustained the system so far. Before I come to Foreign Direct Investment (FDI) proper, I would like to just make a mention that FDI does not always have to be equity, It can be a simple working or teaming relationship? If we create equity and create a corporate, will that corporate be given repeat orders and if not, how will he sustain. Without sustained business that how can the equity run?

In case of the orders of the Artillery gun being fielded by L&T, 98-99 percent of the parameters were met but the case was stuck for a very small issue and that is when we formulated a hand holding mechanism jointly with the Service HQ. The private sector has asked for an indigenous trials and testing the equipment within the country before the actual field/ user trials begin. How can we be successful in trials while building the system in the country for the first time without having tested it. There are many JVs today but none of them are genuinely commercially successful except Brahmos. It is successful because of the facilitation that has happened in case of Brahmos. Others are not commercially successful. JVs bring Manufacturing facility within India which benefit to economy in terms of Foreign Exchange as well as Employment opportunities. JVs in FDI also bring in negative issues. Futuristic and latest technology is often denied to be transferred as there are no repeat orders and the partner has no commitment. The decision making power is shared among partners commensurate with ownership which makes it susceptible to control regimes. Joint responsibility for performance will remain on paper because there it is finally a corporate and it is controlled by a board of directors. Finally, the termination / un-winding of JV is complicated. I shall now spend some time on FDI. Flow of technology is controlled by the 'host country's Governments and not the original equipment manufacturers (OEMs). What was the impact of the so much talked about liberalisation of 1991 on Indian Economy, especially for (Small and Medium Enterprises) SMEs and Micro Small and Medium Enterprises (MSMEs). So many companies have closed down but this aspect is not talked about. Half of the indigenous corporate supply chain ceased to exist. Has 100 percent FDI in sectors like Telecom really help us? It only got us Imported Equipment and even handsets with some exception in cheap indigenous handsets. Globally, countries are inclined to restrict FDI in strategic sectors with an aim to protect national security and safeguarding strategic industry. For example Germany has done the reverse of what we are advocating by reducing the FDI limit from 26 percent to 25 percent. Why is India an exception? ToT / Teaming experience in the Past – Futuristic is Denied, State of the Art is expensive and affordable is obsolete. Denial Regimes and Import Blockage are irrespective of FDI limits and cannot be wished away.

Unless we replicate the Models Adopted by Other Arms Exporting Nations and Success Stories of Indian Strategic Sectors we shall not move forward. Rules being same across the

government cannot be used differentially. Invest in Technology development. Even after eight years of the make procedure being started, there has not been a single acquisition through that route. Tata Consultancy Services (TCS) can be cited as one of the partial successes of the make procedure after the Futuristic Infantry Combat Vehicle (FICV) dropped off and imagine an investment of Rs forty thousand crs with that multiplier of 10 making it Rs four lakh crores would have done for the Indian economy. We need to push such cases and encourage investment by private sector which they will only if they are assured of a market. If I am buying Mark 1 of an equipment from Company A and Mark 2 from Company B, then no corporate will invest in India. We need to promulgate Policy Guidelines to treat Public & Private Sector Industry at Par and create a level playing field. I can cite eleven examples where the private sector is discriminated against. The current structure ensures that level playing field to private sector is not provided and this structure needs to be corrected. There have been many committees that have talked of this issue and recommended this but their recommendations have not been accepted. The government needs to encourage teaming agreements between Private companies and DPSUs and explore synergies consortium models so that the DPSUs created from the tax payer's money can be utilised. Recently a joint team consisting of the DPSUs and Private sector participated in defence expo abroad for the first time ever and was headed by the Scientific Advisor to Defence Minister. There was a tremendous response and people outside realised that such products are manufactured by India. Can the govt give the private sector assured orders for even five or ten years and allow it to stabilise by instituting a suitable hand holding mechanism. We need to disallow Imports, rationalise taxes & duties 'Look Within' and then Export before further enhancing FDI. We need to develop a linkage between ToT, IPR, Indigenous content and Exports and view it holistically. A separate secretary for the 'Private Industry' which was a recommendation under the Naresh Chandra Committee needs to be appointed. Under National Security Council Secretariat (NSCS) discussions happened with all stakeholders on this issue and many committees have heard us including the Rama Rao committee but things haven't moved on ground.

Overcoming Impediments in Capital Acquisitions - The Railways' Perspective: Dr Madhu Ranjan Kumar, Executive Director Railway Stores

I will give a brief narrative of the Railway procurement system. If we look at the way government procurement was designed historically it was in 1947 when the first version of General Finance Rules (GFR) came and the second version came in 1963 and that incidentally says that Defence, Railways and Posts & Telegraph are permitted to have their own procurement systems. IN 2005 the latest and the current GFR came in which permits anyone to have their own procurement system as long as they are in line with what GFR says. What the GFR says is very rudimentary, its organised common sense. If we look at the procurement system of Space, Defence and Railways the technology dependent sections within government there is no difference as far as the procurement policy is concerned. Space and Atomic energy have the same policy of vendor assessment, trial and retrial. Unlike Defence there is strong emphasis in Railways on indigenisation. In Railways the import is 8.3 percent. The annual value of procurement, goods, and works is about 50,000 crore and the import is that low. The DPP came sometime in 2003 but thanks to the British legacy the Indian Railway Stores code started in 1938. So when India became independent there was already a basic document available or the government to work upon. After that we have been substantially emphasising on indigenisation for the technology that we take. Indigenisation is position at four levels. First at the level of design which is what Design Organisation does, second at the level of technology done by production unit. In machinery and plant where there is not much requirement only maintenance knowhow is taken. Position procurement at three segmented levels gives the authority as well as the insight to design procurement systems tailor made for that. In case of L&T, they have been able take advantage of the fact that the Department of Space has given them the go ahead for the partnership in certain critical areas.

Coming to the issue of compliance ad noncompliance Railway has acknowledged that there are items wherein because of the lack of knowledge both with the seller or the buyer, who do not know how can they match, Railway goes for hand holding. It has been segmented based on the level of compliance and all vendors retained to ensure there is more than one vendor in the process. There is also the issue of price being the fundamental criteria which may be so for routine procurement but as we move from more routine to strategic procurement there are aspects which are not even quantifiable today. Nowadays there is an acknowledgement within the government for quality based procurement. GFR says that procurement across divisions is constant. It is up to the acquisition to make sure to design systems which are suitable to the requirements. The issue of turf wars, ordinance factories not being able to deliver will always be there. But if we are able to mimic our intention into the bid document that's it, that bid design is the critical job. In defence the customer i.e. the man on the field doesn't himself understand what he wants because technology keeps changing. In railways the products designed are used by non-technical people the travellers.

We need a procurement vendor base who is responsive to my desire and not my specifications and that necessitates that there is a critical mass of constantly evolving products that can cater to a variety of requirements. If we look at the history of defence lot of engineering knowledge was developed pre or during first and second world war. The entire concept of operations research started there. Mr. Shredwarth who started the statistical

policy control was actually working in defence and later went to Japan. Because the requirements of defence are state of the art and you have to constantly outpace your opponent the requirement of engineering has to derive from a large mass of innovations. So any industrial setup needs that organic base from which the user can selectively pick innovations which give value addition. This is where indigenisation comes in. If we don't do that we lose the race as no country will give them as a large of money has been put in by their production and industrial ecosystem to derive that requirement. So for defence the requirement what is called constantly evolving goods. Even the user doesn't know what he wants and hence we need to go for such procurement systems which are beginning from design and prototyping and then to production. In the DPP there is no acknowledgement of the fact that you need to own the value chain either be the ordinance factory or L&T. Hence for such products if India is going to allow indigenisation this is the model to follow design, prototype to production. If we do this we are actually catering to that large innovative ecosystem. There is negative economic profit during innovation and positive economic profit during production.

In railways we allow procurement from our approved vendors as we have our production units but we segregate best buyers and not so good buyers. The best buyers are permitted to have a price different from the not so best buyers. We acknowledge that bulk of the orders go at a higher price to the best buyers. There are problems but in principle it solves many problems. There are few things that have to be encouraged while promoting indigenisation. Firstly, Innovation cannot be measured and so it cannot be compensated for. The vendor has to perform a series of activities to deliver a value which cannot be quantified and thus should be rewarded as it is. Secondly, It is not possible to design contract which gives larger award to superior innovations. Thus a contract should be designed to provide economic profit during production stage to enable the vendor to recover the sunk costs. An equilibrium in innovation is reached when the cost of rent seeking becomes equal to the economic profit.

The implications of this are as under:-

- The purpose of permitting economic profit is to control the rate of innovation. So the right way to appreciate the amount of economic profit is not to see whether it is too low or too high but whether it is generating the right amount of innovative activity.
- There may be a trade-off between encouraging innovation and encouraging productive efficiency.
- Dual sourcing which reduces economic profit on production contract may reduce innovation.
- If reward for excellent innovation is profit on production contract, it encourages vertical integration.
- Different sectors of defence industry merit different economic profit.
- Defence ministry can directly subsidise independent R&D expenditure.

Closing remarks by the Chair: Lt Gen Davinder Kumar, PVSM, VSM** (Retd), former SO-in-C.

- There are four stakeholders in the procurement process the government, Services, industry and the R&D. There have to synergise for smooth functioning and to deliver. The DPP proper takes about 462 days for an item to be procured which is again different from a capability from being deployed. A project sanction takes roughly two years, completing of the project three years, field trials after it goes to the unit one year, and operationalisation two years. That's an eight year cycle period or three generations of technology cycle. It has been adequately articulated that the DPP needs to be re written. I would further like to add that we need a DPP that differentiates between IT, electronics, systems and clothing items. They are all different animals and need different procurement policies. Further, it has also been rightly brought out that the acquisition process needs to be more collaborative one of the measures for which can be that before the RFP is frozen there should be a pre RFP meeting with the vendors to obtain their inputs before it is finally issued out. This will result in a better RFP and save valuable time. Another issue is that in India we discourage innovation by SMEs who actually drive innovation in countries like the United States (US). SMEs in India are usually told to be a vendor to a PSU which stifles innovation. Innovation happens when there is interaction between the user and industry and later, the procurement system builds on that idea. In fact we need to raise dedicated trial units in the Army on lines of the Indian Air Force (IAF) which has the Aircraft and System testing Establishment (ASTE) .If there are similar establishments for the Army and Navy it will hasten the process. In my opinion, trial wings of each arm within the Army already existing should be strengthened and converted to trial units. The biggest challenge to India is converting engineering into production. Whatever the R&D has done take the drawings and make the product. System integration is too a big weakness in India. There are many small countries with excellent technologies, we can take those technologies and leapfrog the development cycle. One of the ways of acquisition of technologies is to set up factories and export before the local industry is ready for it. Tata has done this in collaboration with foreign OEMs and have five factories doing this work. There is technology apartheid e.g. in the US we one cannot access even a brochure without clearance leave alone technology. In the US defence is an integral multiplier of the GDP rather than being seen as a part of GDP. It's not a cost centre but is looked as a profit centre. We need to bring it to the notice of our policymakers. We need to look at how defence can contribute to the GDP. It's time to do a study on this Indian context which CLAWS can undertake. We have to develop our own technologies and study the models of Atomic Energy Commission and the Department of Space.

SPECIAL ADDRESS, 'VIABILITY OF DEFENCE ECONOMIC ZONES'

By

Dr. L.B Singhal, ADG Foreign Trade,
Ministry of Commerce & Industry, Government of India

Thank you to CLAWS for providing me the opportunity for having an interaction with the strategic community. What we are discussing today is a very important concept,. I have gone through this paper on DEZs by Mr. Ashish Puntambekar of the Planning and Design Lab Mumbai. He has discussed several models for going about this futuristic enterprise. I find that his concept of the DEZ, relies heavily on the Special Economic Zone (SEZ) concept and he has suggested certain facilities of the SEZs to be extend towards the development of DEZ. He has also suggested certain changes or alterations in the SEZ act. He has proposed four models based on which DEZ could be established.

Since SEZ is proposed to be the base concept for the DEZ, it is important to understand it. While explaining an SEZ, whatever issues regarding the DEZ crop up, I will explain those as well. Thereafter the concerned departments in the Services can take a view as to which is the appropriate model and how to go about it. In fact if we see the paper, in the beginning itself it says that DEZ, will transform India's military industrial complex by serving as a platform that makes it easier to do business and to set up a defence manufacture facility in India within traditional SEZ format while offering a number of world class facilities.

Global Scenario of SEZs

As per the World Economic Processing Zones (WEPZA), SEZs have been operating in 138 countries. There are approximately 3600 export zones in operation. They provide direct employment to 67.86 million people. Total investment in these zones is approximately USD 1596 billion. The exports from these zones are approximately worth USD 751 billion. This is the kind of contribution this concept is making. It is known through various names throughout the world such as free trade zones, export processing zones, tax free zone etc.

SEZ Policy in India

We started with this in India in 1965 with the concept of export processing zone (EPZ). The first one was set up in Kandla and known as the Kandla free trade zone. This was set up by the central government. Subsequently, in between smaller EPZs were set up. They were Mumbai, Chennai, Vishakhapatnam, Cochin, Noida and

Kolkata. One EPZ was set up in the private sector, i.e. in Surat. However, after operating EPZs for 35 years (1965-2000), we found that exports from EPZs were only around USD two billion i.e. Rs 8000 crore.

That was the point of time we decided to have a re-look. Consequently, we started with the SEZ scheme in 2000. It was incorporated in the first place in the export-import policy. Subsequently we realized that if we have to provide long term continuity and stability to the scheme, we have to have a parliament enactment. Accordingly, SEZ act was enacted in 2005 and made operational from February 2006. After the SEZ scheme had been started, last year i.e. 2013-14, total exports from SEZs were Rs 4, 95,000 crore. This was a significant jump from the export value of Rs 8000 crore, fourteen years ago. This jump captures the significance of SEZs.

What is SEZ?

Basically, a SEZ is a specially demarcated area. It operates in a custom bonded area which means that you identify an area as a SEZ, a boundary wall is there. One can keep importing duty-free goods for manufacturing export products. One can import duty free capital goods, make the product and export it. E.g. if I have a unit in the Noida SEZ for manufacturing a shirt, I can import duty free fabric, thread, buttons, textile machinery i.e. whatever I need. I can keep on exporting shirts, no issues on that. In case I want to sell shirts in the domestic market, I can do that but I will have to pay full duty on the shirt that I am selling. That broadly is the concept of the SEZ.

The SEZs are supposed to be a territory outside the custom territory of India and the operations therein will be guided by the rules laid down in the SEZ act. Supply from domestic tariff area to the SEZ is taken as export with all the applicable benefits. SEZs are there in India in all fields such as manufacturing, servicing, trading etc. Objective of SEZ include, generation of economic activity, promotion of exports of goods and services, promotion of investment from domestic and foreign sources, creation of employment opportunity and development of infrastructure facilities.

Synergising the Goals of SEZ *vs*. DEZ

SEZs traditionally have been primarily for promoting the export of goods and services. However, the main focus of DEZ once established would be to cater to the demand within India i.e. supply to the defence sector, government of India etc as well as to provide world class products for exports as has been enunciated recently by the RM. Though the exact format of SEZ as it exists today may not be exactly applicable for developing DEZs. Even the benefits available in the SEZ scheme i.e. duty free import of capital goods and raw materials, is meant for exports. The income tax benefits are applicable only on the profits derived from exports. The profits derived from making sale in the domestic market are subjected to income tax. However, if the DEZ decides to export all the benefits will be applicable to it.

The paper suggests that whatever benefits are given in the SEZ policy, should be extended to DEZ for thirty years. This is well within the realms of possibility however we may not require to set a time limit on the said benefits. I will just clarify the rule position at this point. Duty free imports are there in perpetuity for SEZs. There is no time limit in the SEZ act except the Income tax benefits which do have a time limit of fifteen years. The first five years, 100 percent tax exemption, next five years 50 percent and next five years if the investment is ploughed back then 50 percent of the investment is exempt for 15 years. In the of DEZ, the income tax exemption can be given provided we incorporate another concept such as area-based exemption which would mean that for promoting industries in say Jammu and Kashmir, Himachal or Uttarakhand. The government often provides excise duty exemption for goods manufactured in those areas.

Viable Model for DEZ

We really have to take a view on exactly how our DEZs are required to be modelled. Whatever is manufactured in the DEZ, can in addition to catering to indigenous requirements, be exported also. So in my view, a kind of a mixture of a SEZ and a domestic DEZ would be a viable way forward. You could have a small area within the entire demarcated area as a SEZ wherein you could carry out the manufacturing for the exports. That way the DEZ can get all the benefits that you need for an SEZ.
We have one such specialised SEZ in Sri City in Andhra Pradesh. Maybe the defence forces can plan a visit there and learn more about it. That is in a narrow district, around 70 km from Chennai. It has got one SEZ in around 1200 hectares or so. That area is exclusively meant for exports. Along with that there is another area called DTZ i.e. domestic tariff area zone. It is an industrial base for servicing domestic needs. Thus both domestic and export dimensions exist simultaneously and maybe this model can be applied towards developing a DEZ.

The exact proposal containing what exactly is required has to be formulated by the Services and submitted to the Directorate General of Foreign Trade (DGFT), Ministry of Commerce. It will be worth while if a study is carried out at your end to determine the exact requirement. The SEZ acts and rules are available at the website *www.sezindia.nic.in* which can guide the proposal formulation. You need to decide first whether you need a separate act for DEZs or can you avail what you need within the ambit of the SEZ with certain amendments? Does it need to be area based? We will need to take a view as a separate body. Currently, we are in the process of formulating the export policy 2014 - 19 and I will request you to send a proposal to this effect to us and we shall surely look into it.

Acquisition of Land for DEZ

The paper also proposes that the government should help in acquiring the land for DEZ. Let me clarify that in the context of SEZ, it has been clearly decided that the developer who is developing the SEZ, has to acquire his own land at the market

rates. As I explained we started the concept of the EPZ in 1965. From 1965 to 2000, seven EPZs where set up by the Central Government. In that case the land belonged to the Central Government, which acquired the land and set up EPZs.

Subsequently, the SEZ scheme was adopted and it stipulates that the SEZ can be set up by the Central Government, State Government, Private Sector or a combination thereof. But as a matter of principal, no SEZ is being set up by the Central Government. Today we have 190 SEZs operating in the country. All of them have been set up either by the private sector or by state government agencies. Wherever, the private sector is acquiring the land for SEZ, the government is not coming in the way. So, this is another matter that needs to be looked at carefully when you decide how you would like to set up the DEZ.

Single Window Clearance Facility in SEZs

This facility operates at two levels. Firstly, there is a Board of Approval in the Ministry of Commerce, which is chaired by Commerce Secretary himself. In that members from other ministries are also present. So if someone wants to set up an SEZ, an application is made to the Board of Approval. The board gives the final approval and the application does not have to go to the different ministries. So when we are talking about getting approval for DEZ, we could take this route. Secondly, once the SEZ is set up then the individual investors come for setting up of the manufacturing unit. For giving all approvals for units, in every SEZ there is a development commissioner. He is an officer of the Central Government and chairs the Unit Approval Committee. All appropriate local and state officials are on the committee and the application does not have to be taken to different departments. Thus, this two-level operation of the single window mechanism, i.e. one for setting up the SEZ and the other for the manufacturing unit, would be very significant in the setting up of DEZ as it would provide faster clearances.

Power Plant Facility for SEZ

We have also provided the facility for setting up of a power plant in the SEZ with the intention to facilitate availability of continuous supply of power at competitive rates. SEZs permit setting up of the power plant in the SEZs by the SEZ developer or captive power plant by the SEZ unit. Even for setting up of the power plant, inputs/plant and machinery are permitted to be imported or procured from domestic market without payment of duty. A power plant can also be operated as a SEZ unit in the processing area wherein even fuel required can be imported without payment of duty.

Current status of SEZs in India

As of today, we have given formal approval for 566 SEZs. Formal approval means that the applicant has the land in their possession. Of these about 185 SEZs are now operational containing a total of 3800 SEZ units. Total exports from SEZs in 2013 were INR 495,000 crore whereas total investment in SEZs is INR 296,000 crore. Investment in SEZs till 2005 was approximately INR 4000 crore. This was after the SEZ act was adopted and we gave a message to the international investor that this is stable and continuous policy. Today thirteen Lakh people are directly working in SEZs. Indirect employment is twice or thrice of that. In a period of nine years, from 2005 onwards, exports from SEZs have grown 21 times i.e. from INR 22,840 crore to INR 4,95,000 crore. Nokia, Apache, Branzix, Reliance and Mahindra are some of the major SEZ success stories.

SESSION II: TECHNOLOGY AND OFFSETS - THE WAY AHEAD

Remarks by Chair: Lt Gen SP Kochhar, AVSM**,SM, VSM (Retd), former SO-in-C

We have had an exposure to Defence Offsets in the first session. Defence Acquisitions and Offsets need to be viewed holistically and not in parts. For this it is important that the three components of the environment namely the academia, the industry and the user come together. Many times during formulations of defence acquisition and offsets policies, one of these components is notably left out and this creates inadequacies. Willy Nilly academia is ignored while formulating policies, as the field is viewed as cerebral and less practical, which is not true. In reality, the academia possesses crucial analytical skills and knowledge which, if incorporated at the policy making stage, can avoid pitfalls and bring in succour. The same can be said of the Industry and also of the user. The problem occurs when a policy is drafted without consulting all stake holders and it is not acceptable to all stake holders. Defence offset policy is often cited as a complicated and unhelpful. It is however one of the best drafted policies like all other Indian policies. The problem lies in its implementation, which is not done in letter and spirit of the policy.

Why is it that the Indian brain in a foreign ecosystem produces the best of equipment but in the defence sector in India, there is hardly any component which is made in India and bulk is delivered through foreign vendors. This is despite the offset policy making the scope to bring in manufacturing, technology and production to grow in India. With the defence acquisition growing from USD 1.09 million to projected USD 2.98 million, the offsets in offering are going to be huge. If the offsets are offered at 30 per cent, there are very few vendors capable of absorbing it. In India, only four to five players fall in the purview of the offset policy, but even they don’t have the capability of absorbing the entire amount of 30 per cent offsets. The Indian

government has recognised this major pitfall and has offered multiplication factor of 1.5 to MSMEs, hoping to bring these enterprises in absorbing small offsets. However, this as well has been ineffective as the policy of Defence Ministry is not in consonance with the Commerce Ministry. The government wants majority of the offset amount to be integrated into MSMEs, but these industries are not capable of taking up. With the Foreign Direct Investment in defence being increased from 26 to 49 per cent, the pressure on absorbing offsets into small industries, getting them integrated in manufacturing components and imported systems will become more acute. Globally, any industry that is less than USD 300 million is not considered an MSMEs unlike Rs 25 lacs in India. To keep up on this international standard, India needs to redefine MSMEs as industries with an investment of Rs Ten crores and below. Simultaneously, the offset partner can be facilitated for creating a Defence Offset fund which can further assist the MSMEs. Foreign banks offer a rate of three per cent. If this money is ploughed into a Defence Offset fund in India and give them at 4.5 per cent and use this money for facilitation of MSMEs under a new definition, it will bring in better participation in defence acquisitions and also allow major Indian industries and MSMEs to grow.

If the implementation of the Defence Offset policy is not done creatively or out of the box solutions, it will continue to appear weak. If the parameters of the policy and the environment for its implementation are not changed, it will continue to be plagued with problems. Defence offset vendors have to go through numerous checks and scrutiny before they could be enrolled in the list as vendors. The list of India's defence vendors should be automatically included as Offset Partners instead of MSMEs. Since due diligence is already taken to scrutinise these vendors, designating them as official partners will prevent their time for applying to another license (as partners), money while allowing the Indian companies to grow.

Role of Academia in Nurturing Talent : Dr Prahalada Rama Rao, former Vice Chancellor, Defence Institute of Advanced Technology.

In the given parameters and constraints of the Defence Offset Policy, how can academics be leveraged to provide capabilities for Defence? In the last two decades academics have improved with a number of private institutions and NITs (National Institute of Technology) have been set up. It is wiser for policy makers to include and exploit academics from the beginning of planning and capability process.

Why Academia?

There is continuous flow of young bright students and researchers with high academic degrees: M Tech, B Tech, PhDs who are exposed to global ecosystem. For example an IIT student made a 150 km range UAV at throw-away price. Global multinationals like Google Inc are already tapping in the creativity and energy of

these students by supporting and funding their start-ups in Bangalore this month. The students have Blue Sky ideas which are virgin, innovative, risk taking which can be harnessed at a very low cost. There is a perspective that academia is not user or industry-oriented, poor in implementation, weak in industrialization and academic rigidity. The ideas look good only on paper but this perspective is changing, as many universities have brought in patents for their ideas. There are many success stories where professors have delivered products, hardware and solutions. There are almost 1000 educational institutions in India. These include institutes of national level, central universities, deemed universities, state universities, exclusive defence universities and private universities which have the capacity to provide great output. Academics not only produce graduates with degrees, beyond education they are also involved gamut of activities in which can be harnessed by the Defence industry such as:-

- Publications and patents
- Joint Projects
- Conferences
- Exchange of expertise
- Incubators
- Contracted research (DRDO has contracted research with over 150 Indian universities)
- Start-ups
- Training

- Currently, there is a greater communication between the user and the academia. Educational institutes are getting a feedback from the users, R&D Labs, defence industries and subject experts on curriculum and syllabus. Ministry of Defence can give project work which will ensure quality result from the scientific, technical and management students. It can also get patent and publications, licensing, support a chair in universities to get indigenous results.

- Most universities including Defence Institute of Advanced Technology which enjoys a Deemed University status have linkages with global institutions in Canada, USA, UK, Belarus, Israel, Korea, Taiwan, Singapore and Australia. This facilitates student exchange, joint PhD projects.

- Academia is good in basic, fundamental and exploratory research as it requires minimum hardware engineering and maximum intellectual/analytical work. R&D establishments like DRDO, Centre for Scientific and Industrial Research (CSIR) laboratories are good in field development, product development, prototyping, and validation, testing and field evaluation. While industry does tooling, manufacturing, production and packaging, along with generating products and jobs. Whenever industries have a problem, the feedback goes to R&D, but they are yet to reach academia for finding solutions. Industries can open a centre of excellence or chair in

Universities or promote academics in by roping in professors and scholars to work in industries. The distance between frontier research and industry output becomes zero and industries can get the benefit of new R&D instantly. The work done by academics could be of laboratory level and it can quickly be fine-tuned and absorbed by the industry into a well-engineered product, as there is no time-lag between the two.

- Defence Institute of Advanced Technology is organically synergised with DRDO. The (Defence Institute of Advanced Technology) DIAT conducts training for fresh scientists from DRDO, conceives customised courses, creates and undertakes M Tech Projects, PhD topics and research projects upon DRDO's requirements. The DRDO is free to use and apply all the patents, products and solutions developed by the DIAT. Ordnance Factory Board has now approached DIAT for training all its officers four times in a year in specified knowledge areas. Bharat Electronics, Brahmos also get their technology knowledge upgraded through DIAT. DRDO, DPSU and private industries need to exploit academic knowledge.

- Industry and academia can both mutually exchange knowledge, human resource and benefit. Industries can appoint a chair or a centre of excellence in academic institutes, and professors, scholars from academia can take sabbatical in an industry set up for practical work knowledge. Industries are working with national educational institutes and laboratories while educational institutes exchange with knowledge partners in the rest of the country is also growing at a high rate.

- Along with science and technology, knowledge in the field of management has become paramount important these days. Management teaches us about how to manage new technology, cut down cost, how to encourage start-up amongst students and professors, what are the revenue models, finance sources. Experts from the business institutes are now offering courses on business management project management, R&D management, entrepreneurship and leadership skills.

- There is a provision in the Defence Offsets policy that even academia can be made an eligible offset recipient like the MSMEs. Educational institutes can assist in analysis, modelling, simulation, offer new solutions in technology up gradation, operation research of a new system. So far, academics have not been included as offset partners. In the future, government universities, defence universities along with reputed national institutions should be given prominence to receive offsets.

It is essential to involve academia as an inclusive partner in Defence Offset Acquisition policy. This needs to be strategized as academics have limitations and their strength needs to be harnessed. There should be a greater interaction between the industry and academics, which is rightly prevalent in current times. Associations like Federation of Indian Chambers of Commerce and Industry (FICCI), Associated Chambers of Commerce and Industry (ASSOCHAM), Canadian Aviation electronics

(CAE) are all encouraging academia to work with the industry. Presently, the environment is ripe where the academia is willing to work for industry for innovative and customised technology solution and this need to be supported by the industry.

Technology Absorption - The Naval Experience: Admiral BR Taneja, NM, Director General Weapon and Equipment Systems Engineering Establishment (WESEE).

I thank Director CLAWS for inviting me to this seminar. My talk will cover the Navy's experience with technology in the backdrop of Acquisition. I have the distinction of having been the Technical manager Maritime Systems (TMMS) in Acquisition wing of the MoD for more than two years. Defence acquisition suffers from lack of structures and model to implement policies and make success of an entity. A small country like Netherlands has eight thousand personnel for defence acquisition; the United States has Defence Acquisition University to train officials involved in capital acquisition. In India, service officers are tasked to draft Naval Services Qualitative Requirements (NSQRs) without having been finally trained for it. As I brought out earlier, structures and models are missing.

Technology absorption is a multi-dimensional and multi-contextual subject. It maps the entire lifecycle of the equipments, system or technology used in the Services. WESEE is just one dimension. Ship building fundamentally begins with ship designing. India had a great heritage and maritime history and ship yards on coastal lines for centuries had knowledge of buildings boats and ships. The single visionary decision taken by Navy which gave fillip and started diverting the industry of ship building to constructing war ships was setting up a `structure.' Navy devoted time and resources into raising a new cadre called Naval Constructors' Cadre and an in-house design house. What better than the user who knows what he wants is actually a designer. We exposed our workforce first into the Naval set up through a series of appointments and recruitments and then put them in the design. Godavari Class Ship was first indigenous platform built in the country based on indigenous design.

During ship building we realised that weapons and sensors would be assembled from diverse origin. Russia was a major source but western countries had also begun supplying and Bharat Electronics was also providing some indigenous products. Integration of these varied weapons and sensors together was a major task. DRDO at that time was a project oriented set-up and did not possess the skills for system integration. A group of 20 Naval officers and scientists worked together and a small organisation WESSO was established to look into Godavari Class System Integration. WESSO grew into WESSE and the raison d'être is system integration. Today WESSE is at par with Lockheed Martin, sylex who charge millions of dollars for this job of system integration. This came about not only with the policy formulation but model and structure which has ingredients for success. It has around

50 Naval officers each an M Tech from IIT which is the minimum qualification to join WESSE, 20 scientists from DRDO exclusively assigned to WESSE and 300 odd software programmers and engineers from the industry. We have been able to design a model a system with intense domain knowledge. The fundamentals of ship building come from the Naval community, they are professionals because they have been on multiple tenures, they have academic qualifications in various disciplines and industry gives it helping hand. The model is also beautifully fed by academia. In all the successful projects of WESSE, there is academia behind.

WESSE as a model came about to develop a technology base called system integration. Today, WESSE is designated as a system integration authority for the entire Indian Navy. Technology absorption is not a subject that can be dealt with in isolation. It needs to have a model and a structure. From the initial days of its journey, WESSE decided to follow the standards and processes of international repute, so that there is no ad-hoc manner in which a project is progressed. WESSE is producing combat operation management for every platform of the Navy. The recently commissioned INS Kolkota and stealth warship INS Kamrota both have a WESSE developed combat management system which for the first time is being operationalised to its hundred per cent efficiency from day one. The complexity of the system can be judged by the fact that it is run by four million light support and 25 hardware nodes. This was possible because we invested over a period of time in training manpower on ecosystem which is better off for software development. We have a solid foundation for running a software development life-cycle.

At some point we realised that if Navy has to achieve a net centric stature then more elements and domains need to be explored. System integration includes platform level integration; and combat management system is an integration of information and data which is being generated by platform. The next logical step was to integrate all the platforms together on the existing fleet and data links was the solution for this. Link 11 is a famed US data linkage technology for the Navy and all NATO countries followed it up with Link 16 and Link 22.

WESSE in an early attempt developed its own data link system which was totally conceived with the help of IIT professor Dr Shyamsundar. The fundamentals were positioned as foreign criteria, but thereafter we brought all elements of technology together. WESSE is also a partner of a National Project on Software Defined Radio, a consortium of five organisations: two from DRDO, one from WESSE, CDAC Traivandrum and Bharat Electronics Limited.

A decade and half back, when Navy was going in for proliferation of IT system in all the ships and on shore, it was realised that information security was going to be a new challenge. There was no thought given nationally in the direction of information security or no work was done in this field. As a part of The ‘Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies’, a

crypto system is compared at par with nuke. The sanctions applicable to nukes in India are the same as crypto. WESSE decided to start working in this direction. We went to all educational institutions in the country and drew a blank, there was no professor or scholars working on this subject. We stumbled on Dr Maninder Agarwal, working on complexity theory in computer science department, who suggested that his work may have an offshoot towards crypto. Today, the entire cryptographic security of India's signalling system in the Navy rests on an algorithm called 'Trinetra' which was co-developed by Dr Agarwal and WESSE.

Now a catalyst sown by WESSE has grown into a full-fledged institute called RC Bose Centre for Cryptography Kolkata with a sanction of Rs 130 crore from the National Security Advisor. The centre is operational and has already started courses for all three Services and other intelligence security agencies in the country. If we would have developed our time to generate some lab product for the end use of Navy, we would have miserably failed. In WESSE, any development of a product is viewed with an absolute holistic view for the end use. In WESSE the user is the developer and that makes it stand apart. There is a tremendous gap in respect to synergy between various elements; academia, industry, policy making, MoD. We have to invest money in models and structures as only policy making will not help. Tech absorption is not induction, but it is practising technology. We will not absorb technology unless we practice it. We need more generate more centres which practice technology.

Arms Trade Offsets: Global Trend & 'Best' Practices: Dr Laxman Behera, Senior fellow IDSA.

I thank CLAWS for giving me an opportunity to speak in this seminar. If arms trade is a murky business, offsets is even murkier, because apart from national security issues, there are commercial and industrial issues and no agency is willing to part with statistics on the subject. At global level, there is only one reliable source which is the US Bureau of Industry and Security (BIS) data for offsets. But even this has limitations as the data is restricted to US companies. According to the projections made by US based Avascent Consulting firm, the estimated value of offsets transaction between 2005 and 2016 in the world would be USD 440 billion. If this statistics is to be generalised on a global level then an offset trade of USD 37 billion takes place annually.

Why is offset declining? The US is the largest arms exporter and also the largest provider of offsets. Countries generally stick to the same offset policy, irrespective of the source of import. Based on this, the projection of offset percentage demanded by other countries from the US, from 1993-2011, with a three year moving average, can be gauged from data given in Table 1.1 below:-

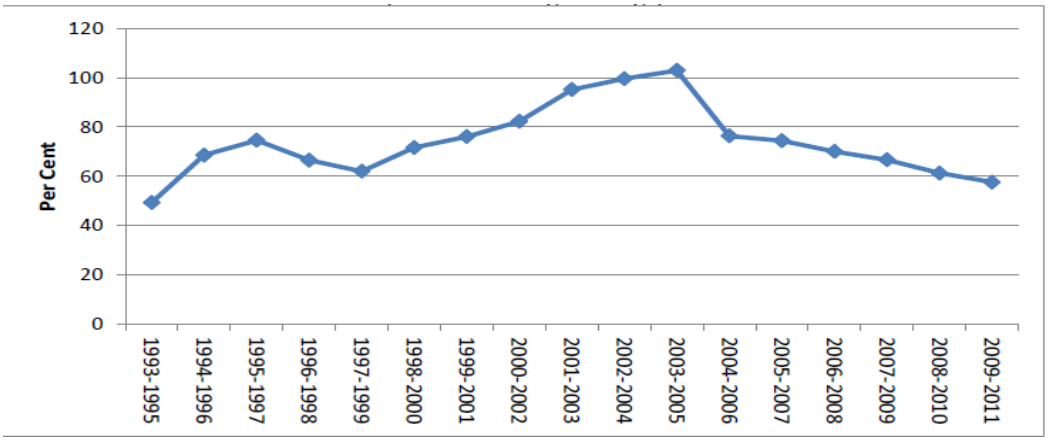

Table 1.1 – *Total Aggregate Projection of Offset percentage Demanded by Importing Countries from United States 1993-2011*

There are two distinct phases, from 2000 to 2005 percentage of arms value import contracts is rising. It kept on increasing from 50 percent in 1993 to 95 till it reached 100 per cent and then there is slight decline and this continues even now. Thereafter in the second phase after 2005, it saw a sudden decline. During the rising phase, the US government was highly concerned about offsets and this concern is visible even in its annual report. While there is no explanation for how and why the offsets declined since 2005. In my understanding, I can think of two reasons for the decline firstly, it can be assumed that US's official policy to convince other countries about the '**adverse impact'** of offsets which may have led to the decline.

The second reason for decline of offsets is the European Defence Agency (EDA). Euro zone is notorious for offsets. The offsets demanded by European countries were always more than 100 per cent, the average in many cases was between 120 per cent to 150 per cent. EDA tried to control this through the EDA Code of Conduct, 2009. Its ultimate aim is to do away with offsets; but it recognizes the reality that arms market is not perfect and offsets will have to be continued to be practiced. However, it has put a cap that no EDA country will demand offset of more than 100 per cent. India has the lowest offset requirement at 30 per cent since 2005 as can be seen from Table 1.2 below:-

Country	Threshold Limit (US$ Million)	Offset Requirement (%)	Multiplier
Canada	100*	100	4-9
India	55	30	1.5-3
Israel	5	50	1.5
Malaysia	15	100	No multiplier**
South Korea	10	50	No multiplier
Turkey	No Threshold***	70	2-8
UAE	10	60	1.5-5

Table 1.2 – *Threshold Limit, Offset Requirement and Multiplier of Select Countries.*

Threshold determines scope of offsets. Because India's threshold limit is high at USD 55 million (Rs 300 crore) the scope for demanding offsets reduces. If the threshold limit is reduced to Rs 100 crore, there will be more contracts which can be used for offsets. Percentage and multiplier determine size. More multiplier reduces the amount for offsets. Compared to other countries, India has a high threshold and low percentage in offsets.

Multiplier puzzle

As a part of false propaganda spread by the foreign OEMs, a high offset percentage with high multiplier is almost same as low offset percentage with low multiplier which may not be true as I have already demonstrated with the help of an example. In reality, multiplier is given for select sectors like R&D, High-end Technology and OEMs have freedom to choose the sector but it has been seen that they are reluctant to choose the high end technology sectors for offsets due to obvious reasons. Globally, only 12 percent transactions have multiplier of greater than one with average multiplier value being 1.2. What matters more for a buyer country is high offset percentage requirement and low threshold which will increase the value of offsets.

Value addition

Value addition by definition is the fundamental principle of offsets policy. Offset credit is given to the foreign company for the value addition done in the buyer's country. This principle is now forgotten in India's offset policy. Normally offset credit equals local content. Norway offers 100 percent credit after 80 percent of local content. Value addition principle is applicable in both for manufacturing and services like Canada. But India it is restricted only in manufacturing and not services. The offset policy is biased in favour of services sector in which foreign companies can claim credits for the transactions which may have 100 percent import content. This distorts the level playing field against the manufacturing sector. This key element needs to be revised in India's offset policy.

The Principle of additionality and Causality is also fundamental to offsets policy. By definition, offsets involve transactions which are over and above what would have occurred without an offset contract. Offsets involve both Additionality and Casuality and both these aspects are insisted upon by countries like Canada, Malaysia and UAE. The Indian offset policy is however silent on this. It is not difficult to measure Additionality and Casuality and Canada provides mathematic calculations for the same. In the Canadian system, in case of Additionality, the local offset partner has to provide an average of past three years purchase to the foreign company and anything above that will be counted as offsets. In case of causality, the offset transactions should be caused strictly as written in the contract. Documentary proof including official presentations / correspondence / business emails are mandatory. Final acceptability rests with Canadian authority.

There is an emerging trend amongst countries like Canada, India, Turkey and UAE insist on offsets obligation on domestic industry if the product offered has import content. The idea is to prevent industry from becoming trading house and to promote development of sub-supplier base. There is a difference in approach on how countries mandate the offset obligation.

For example, Canada has a 100 percent uniform offset obligation on both foreign and domestic companies. Even domestic companies are expected to place business worth 100 percent of procurement contract on domestic industry. Indian offset policy however discriminates between the domestic and foreign companies. There is a burden on domestic companies and the same is visible under the 'Buy (Global)' greater than 30 percent offset liability of the foreign companies. (Table 1.3 below refers).

Indigenous Content (%)	Offset Liability, % (30% of Import content)	Total Burden, % (indigenous Content plus Offset liability)
0	30	30
10	27	37
15	25.5	40.5
20	24	44
25	22.5	47.5
30	21	51
35	19.5	54.5
40	18	58
45	16.5	61.5
49.9	15	65
50	0	50
>50	0	>50

Table 1.3 – *Comparison of Indigenous Content vis a vis Offset Liability and Total Offset Burden in Percentage in India*

There is also discrimination in Offset discharge period. Foreign companies have a liberty to discharge offsets throughout the contract period and are given additional two years grace period. Indian companies are however expected to localise content at the field evaluation stage. There is higher penalty on the Indian companies than the foreign companies. The total burden on Indian companies can go upto 65 percent while the maximum burden on foreign companies does not exceed 30 percent.

Channelling Offsets

India gives complete freedom to foreign companies to choose their Indian Offset Partners for offset discharge whereas countries like Turkey, Canada and South Korea ask specific offsets through RFP. Turkey requires foreign companies to import Turkish equipment as part of offsets. Its focus is to increase arms export through offsets route. This has given Turkey rich dividend, its arms export was USD 1.2 billion in 2013 and 80 per cent was offset induced. Turkey is now the 20th largest arms exporter in the world. Canada on the other hand has reserved five per cent

offset for investment on technology development in local companies while South Korea chooses its own offset partner and uses offset as the main criteria of bid selection.

Establishing Long Term Relations through Offsets

This is clearly specified in Malaysia's off set policy. In its earlier experience, the offset projects were shut down after the offset period was over. Since then, Malaysia emphasizes on long-term economic viability of offset projects proposed by foreign companies. Israel as well emphasizes on long-term relations with foreign companies and this is based on the recognition of involving best Israeli companies in offset projects. Israel's offset management agency, the Industrial Cooperation Authority (ICA) plays a proactive role firstly by providing assistance to overseas companies in identifying suitable Israeli partners for manufacturing / R&D /outsourcing /co-production / Co-development secondly by providing information about Israeli Industry, thirdly by conducting surveys related to Israeli Industry, fourthly by coordinating visits by representatives of Israeli industry to foreign companies, fifthly by coordinating visits by representatives of foreign companies to Israel in order to survey local industry and sixthly by organizing conferences between foreign companies and Israeli industry. Israel claims that for every USD 1 offset inflow, Israel gets USD 3 to 4 in the long run. In India, Defence Offsets facilitation Agency (DOFA) / Defence Offsets management Wing (DOMW) is never involved in such proactive measures and their charter of duties urgently need to be enlarged.

Offset Policy at National Level

Certain sections in India believe that there should be a national offset policy not just for defence sector. Other countries like South Korea and Israel have dynamic offset policy which is applicable for both defence and civil procurement. In case of Israel, 50 percent offsets are required to be discharged in the field of defence procurement, 20 percent offsets are to be discharged in civil procurement from Government Procurement Agreement (GPA) countries which is 35 percent in case of civil procurement from Non-GPA countries. The 20 and 35 percent offsets in civil procurement have been so designed that do not violate WTO rules. Signatories of WTO's Government Procurement Agreement prohibit offsets, but provide full exemption given on military procurement and specific exception given for civil procurement. India so far is an observer in GPA and in future may become member. While India mulls for a national offset policy, it should look at the case study of Israel and how it has exploited GPA provisions.

Implementation & Monitoring

Loophole in effective management of offsets can lead to sub-optimal results which is the case with the Indian Offset policy. Comptroller and Auditor General of India (C&AG) audit of India's Offset Policy points out weak management of offsets as one of the reasons for poor results. India does not have a single-window agency for

offset management. The DOMW claims to be a single window agency however its role leaves much to be desired. However other countries like Canada, Israel, Turkey and South Korea have dedicated single agency for evaluation/crediting/monitoring and the final decision rests with the agency. Canada and Israel have Offset agency is outside the MoD. Turkey and South Korea have the agency within MoD. Both setups work in `single window agency', in letter and spirit.

Banking and Offset Trading

South Korea allows only pre-banking. Canada, India, Israel, Malaysia, S Korea & Turkey allow both Pre-& Post banking. Canada's policy is a little strict and also allows pre banking against identified procurement up to a maximum of 15 percent and post banking up to a maximum of 10 percent subject to cap of USD100 million. In case of Canada, 100 percent of banked credit is valid till three years, 75 percent between three and four Years, 50 percent between five and seven years, and 0 percent after 7 years. Offset trading is not popular among many countries though foreign OEMs have been seeking offset trading from India. The details of offset banking as practiced by various countries is given as per Table 1.4 below.

Country	Validity of Banking Period (Years)	Trading
Canada	5	Not Permitted
India	7	Permitted with the scope of the same contract between the main contractors and its Tier-I sub-contractors
Israel[25]	Not less than 5	Permitted among the supplier's corporate divisions and subsidiaries
Malaysia	5	Permitted subject to a limit of 50 per cent of the new obligations
South Korea	3	The banked offset credit of subcontractors can be utilised by the main contractors provided the former participate in the "identical main acquisition programme"
Turkey	5	Permitted to a limited extent
UAE	No provision	No provision

Table 1.4 – *Offset Banking as Practiced by Select Countries*.

UAE is stringent about calculation of offset credit. It has devised a hybrid model of calculation. In UAE, offset credit is divided into input credit; and output credit. Maximum 30 percent credit for investment inflows and minimum 70 percent credit for outcomes to include export sales, net profit and salary of UAE employees.

Offset Swapping

This is a new feature involving compensation of offsets' obligation through reciprocal abatement practiced in South Korea to promote domestic industry with offset obligations in a foreign country.

Recommendations

The recommendations flowing from the above discussions are that there is a need to lower the threshold limit of offsets to minimum Rs 100 Crs and increase offset percentage from existing 30 percent to minimum 50 percent. Secondly, uniform value addition needs to be adopted for manufacturing and services sector in the Indian Offset Policy. Thirdly, we must emphasize on value addition and causality as is being done by certain other developed countries such as Canada. Fourthly, offset obligation both direct and indirect on domestic companies should be equal to the obligations on foreign OEMs and there should be a level playing field with regards to discharge period for offsets. Fifthly, selected offsets should be asked through the Request for Proposal (RFP) itself. Sixthly, the charter of DOMW should be enhanced so that it can perform its task as a single window agency for entire Offset Management. Seventhly, offsets policy can be extended to the national level so that a holistic management of offsets is facilitated by all stakeholders from various ministries and lastly, there is a need to establish a defence offsets fund to derive full benefit from Offsets.

Closing Remarks by the Chair **Remarks by Chair:** Lt Gen SP Kochhar, AVSM**,SM, VSM (Retd), former SO-in-C

There is an ecosystem in the academia in India which is isolated and not interacting with the Industry. This needs to change. Research should be outsourced to academia. India is now a signatory to the Washington accord by the National Accreditation Council and Indian degrees such as B Tech and M tech have been internationally recognised. We need embedded labs to foster greater interaction between Industry and academia so that the skill gap between what academia produces and what the Industry wants can be bridged. We need to utilise our retired officers by ploughing them back into the system through an institutionalised mechanism and providing domain knowledge both to the Industry and the academia. WESEE stands out as a success story because the three pillars of the system that I talked about have come together and synergy has been displayed in the WESEE experiment. We need to follow the WESEE example and move towards technological sovereignty.

In a country like India, offsets are not going to decline but only increase. We need to build an ecosystem where Indian companies are able to absorb this offset. As of June 2012, offset deals of nearly Rs 23,000 crore have been signed and are set to grow three times in the coming years. But the Indian industry is not ready to absorb these offsets. If you ask the Industry however, they will say that they can easily absorb offsets but experience has shown on ground that it is not so. In any case, you don’t ask offsets with a thought process that whether you can absorb the offsets or not. You ask for offsets to develop an industry through offsets. If you don’t have a plan chalked out to develop an Industry it is better not to ask for Offsets. This is the

case with India as we don't have a definite plan to develop our Industry. The civil aviation ministry is an example where they sought offsets during purchase of commercial aircrafts however the case was completely mismanaged. As a counter policy, a Defence Offset fund needs be created, where offset obligations of suppliers can be clubbed together. An interest rate of 3.5 per cent can be provided to offset suppliers which they get in their own country and the balance 1.5 per cent can be used by the manager of the fund to help venture capitalists to promote Indian industries and fields for the development of indigenous products and import substitution. The effectiveness of any policy lies in the organisation structure available to manage it. Indian offset policy is about 30 pages with a weak structure of DOMW while the Israeli policy is just two pages but is highly effective due to its correct management by the Israeli Cooperation Authority (ICA). The ICA consists of experts from Government, Industry, and academia and is a single window agency for managing offsets. The bottom line is, that monitoring and supervising offsets is more important than articulating a policy because we must remember that offsets don't come free and we are paying 10-15 percent extra money for the offsets is in built by the vendor into the contract. I dare say that it is better not to have a offset policy than to have a offset policy like India.

Concluding Remarks : Maj Gen Dhruv C Katoch, SM, VSM (Retd), Director CLAWS.

India currently has a strategic window of opportunity *vis-a-vis* Pakistan. The current spate of political instability in Pakistan has reduced its conventional threat at least for a decade. Similarly the Chinese are not looking at getting involved in another armed conflict with India. This ten year window has provided India with an opening to manufacture its own arms and ammunition. I see no reason why we cant accept an 80 percent capability from indigenously produced weapons rather than seek a 100 percent capability from abroad. India currently buys Tanks from Russia stressing on quality perfection on these foreign imports. Instead, why don't we make tanks in India especially when we don't have any threat from Pakistan. The Indian weapons need not be the best. They can be the second best. Efforts should be made to upgrade the domestic weaponry to high end quality in this ten year window. I think more than the others, the Army should understand this. Another interesting point that emerged was that defence indigenisation will increase the GDP. If we present this format it will find favour with the policy makers in Delhi. Linking this with the proposed Defence Economic Zones will bring in rich dividends for India's Military Industrial Complex as well as the Indian economy. Both the PM and the RM in recent months have under scored the importance of self reliance through effective Defence Exports and we need to encourage this concept through the establishment of Defence Economic Zones. One more point emerged that most of Defence imports are ammunition related and it is prohibitively expensive. India has expertise for arms and ammunition manufacturing and there is a need to throw this sector open to the private sector. None of this is however going to be successful unless we have defence exports. The issues flagged in

this seminar are going to be recommended by us to the concerned policy makers. This is not really the end. This is the beginning. We shall have the second seminar from CLAWS on this topic in Dec 2014 in which we will take the issues raised in this seminar forward.