

PROSPECT OF INDIGENOUS DEFENCE INDUSTRY IN BANGLADESH

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INTRODUCTION

Bangladesh (BD) Armed Forces has been striving to perform its primary responsibility of safeguarding the sovereignty in times of crisis by building a conventional military power. Conventional military power, still the predominant component of 'comprehensive national strength' is a function of superior technology.¹ Various states have pursued a variety of policies to acquire defence requirement. Some have chosen the course of domestic production, while others have preferred to purchase from others.² Shortage of foreign exchange, difficulties of acquisition, preference for import substitution and a degree of economic and strategic independence may provide more practical reasons. Most important one at this moment is raising the capability of defence production to minimize the strategic vulnerability that may result from cessation of supply during war.³ Therefore, self-reliance in defence production is being considered as an obvious choice. For that BD requires to develop indigenous capability to sustain a war. Development of indigenous defence industry demands a deliberate study for making appropriate choices to ensure degree of self-reliance necessary in defence sector. This is a critical problem area for defence forces in pursuing national security and military objective.

Bangladesh has achieved considerable degree of self-reliance in producing many general stores, clothing, medicine and other equipments.⁴ Development of indigenous defence industry is still a tough proposition considering the towering challenges it faces.⁵ Finding a correct approach to defence industry is of high significance as it will guide Bangladesh to bring in appropriate policy to enhance indigenous defence production for the country. It is indeed timely that an indigenous defence industry blueprint is formulated basing on opportunities and challenges to provide the strategic direction for the industry.

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1. Inbar, Efraim and Z Benzion 1998, *The Politics and Economics of Defence Industries*, Frank Cass Publishers, London, p 154.
 2. Ibid, p xiii.
 3. Markowaski, Stephan, P Hall and R Whyllie (edited) 2010, *Defence Procurement and Industry Policy A Small Country Perspective*, Routledge Studies in Defence and Peace Economics, Routledge Taylor and Francis Group, London and New York, Pp 82-83.
 4. Hossain, Brigadier General Md Anwar, ndc, psc, (retired) 2007, '*Feasibility of Developing Indigenous Missile for Bangladesh Army*', Individual Research Paper, NDC, Dhaka.
 5. Matin, Major General Md Abdul, afwc, psc, ptsc, Master General of Ordnance, Bangladesh Army, Presentation on 'Logistics System of Bangladesh Army,' as part of Course curriculum of AFWC 2013, 27 February, 2013.

OVERVIEW OF GLOBAL DEFENCE INDUSTRY

Global Defence Industry Trend

Hierarchy of Global Defence Industry. There are no generally agreed upon criteria for how defence product-producing nations may be grouped. It is customary to divide the global defense industry into three or more tiers.⁶In the Table below a hierarchy is shown:

Table 1: Tiers of Global Defence Industry				
First Tier : Innovators	1A	Critical Technological Innovators	United States and Western Europe	
	IB	Having a state-of-the-art technological edge in weapons research and development	Russia, United Kingdom, France, Germany, Italy	
Second Tier ; Adaptors	2A	Adapters and Modifiers (Small but advanced defense industry)	China, Japan, Sweden, Israel	
	2B		Brazil, South Korea, Taiwan and Turkey	
	2C		India, Singapore	
Third Tier : Emulators	3	Copiers and Reproducers (Low-technology arms producers)	Pakistan, Egypt, Syria, Mexico, Thailand, Vietnam, Nigeria, Bangladesh	
Source: Raska 2011; based on Mahnken 1999; Farrel, Terriff 2002; and Ross 2010 ⁷				

6. Bitzinger, R M Raska and C K S Lean and K W K Weng September 2011, Locating China's Place in the Global Defense Economy, Policy Brief No 18, SITC [online], <<http://igcc.ucsd.edu/assets/001/503250.pdf>> (accessed online, 17 September, 2013).

7. <<http://igcc.ucsd.edu/assets/001/503250.pdf>>, (accessed online, 27 May 2013).

Provision of Offset to Promote Defence Industry. Offsets⁸ are a widely used mechanism by countries to promote counter trade and investment. In some countries offsets are applicable for transactions as small as US\$ 1 Million and the offset obligations can be as high as 300% of the procurement value.⁹ Direct offsets require the supplier to purchase goods or make investments which are related to the sector of the primary transaction. Indirect offsets obligate the supplier to purchase goods or make investments from the purchasing country which may be in certain stated sectors or be entirely at the discretion of the vendor. Governments in at least fifteen countries, including France, USA, UK, Israel, Switzerland, and Germany permit companies to license the production of their arms and ammunition in other countries.

Assessment on Contemporary Defence Industry

To develop a viable indigenous defence industry like India, Pakistan, Thailand, Vietnam and Malaysia have developed a functional structure to allow defence industry to grow. Deliberate offset structure is followed for technology acquisition. India has recently introduced system of “Buy (Indian)”, “Buy & Make (Indian)”; “Make” “Buy & Make with technology transfers”; Buy (Global) structure in acquisition for identifying appropriate offset. Government policy support is aimed to promote local defence sector. Malaysia has formulated a comprehensive Defence Industry Strategy in 2005 to provide strategic guidance to defence industrial sector. More and more nations are moving towards joint development. Offset and counter trade issues are practiced in many forms. Malaysia and Thailand also encourage various forms of technology acquisition mostly through joint ventures.

ANALYSIS ON DEFENCE INDUSTRY IN BANGLADESH

Analysis of Current Profile of Defence Industry in Bangladesh

Facilities Available for Defence Production. Current production facilities and their involvement in defence production may be summarized as in the Table 2.

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8. Offset, There is neither one specific terminology nor definition of offsets. Each country labels offsets differently. Offsets are also known as Industrial Participation, Economic Enhancement, Compensation Packages, Industrial Benefit Programme and Countertrade Policy. Generally, offsets are defined as practices that are required as a condition of sale or purchase. Offsets are an arrangement between a national government and a foreign arms supplier to direct some benefits of the contract back into the purchasing country as a condition of sale.
 9. http://www.kpmg.com/IN/en/IssuesAndInsights/ArticlesPublications/Documents/Opportunities_in_the_IndianDefence_Sector.pdf, (accessed online, 20 August 2013).

Table 2: Involvement of Various Facilities in Indigenous Defence Production								
Defence Ministry Installations/Enterprise		Civil Enterprises				Technical Institutions		
		Public		Private				
Enterprise	Role	Enterprise	Role	Enterprise	Role	Enterprise	Role	
BOF	S/P	BD Railway Workshop	L/P	Automobile Sector	L/P	BUET	L/P	
BMTF/BDP	M/P	TSS	L/P	Shipbuilding Sector	M/P	MIST	N/P	
KSY/DEW	S/P	BITAC	L/P	Clothing Sector	S/P	BD Textile University	N/P	
BN Dockyard Chittagong	S/P	Chittagong Dry Dock	L/P	Aeronautical Sector	N/L	BD College of Leather and Technology	N/P	
Bangabandhu Aeronautical Center (BAC)	S/P	Pragati	S/P	IT	L/P	Civil Experts and Scientists	L/P	
901/902 Central Workshop	S/P	Atlas BD	L/P	Light Engineering (LE) Sector	S/P	BD scientists abroad	L/P	
S= Significant, M=Medium, L= Low, N-No, P= Has Potential to Contribute								
Source: Author								

Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis on Defence Industries

Strength of Defence Industry

Defence industries in Bangladesh have adaptable and resourceful work force. Bangladesh is one of the cheapest sources of labour. Experience in the production of light armaments and ammunition will certainly support.

In the field of Reverse Engineering (RE) there had been some attempts which have given some dividend. Civil sector like Light Engineering (LE) has significant potential in this regard.

Though currently utilization of civil sector is insignificant but there is huge potential in this sector.

Weaknes of Existing Defence Industry

Weaknes of existing defence industries are: Lack of technological capability is by far the biggest challenge, most of the major hardwares are procured from abroad having sometime multiple models from country of origin. Non-existence of domestic source of raw material is another challenging issue. Bangladesh is yet to develop a comprehensive Research and Development (R&D) culture, fund allotment for R&D is inadequate to conduct any sustained R&D project. Bangladesh has not yet developed a comprehensive structure to manage multifarious issues related with defence industry. Defence Science Organization was known to be functional in the early 80s, which was subsequently relinquished without any alternative provision, within services there is no long term perspective of planning on acquisition, unplanned acquisition has resulted duplicity of effort amongst services, huge logistics burden, difficulties in indigenization etc. The latest Industrial Policy - 2010 declares certain categories of industries' including defence production prohibited for private sector and foreign investments.¹⁰ The current export policy 2009-12 of Government of Bangladesh (GoB) prohibits export of arms and ammunition from Bangladesh.¹¹ Unfortunately Bangladesh has not developed a structured backward support industry. also Domestic requirement of the defence product is small. There are items like tanks, fighter aircraft, anti-tank weapons etc. where total requirement within services is insignificant for undertaking any production venture.

10 <http://www.moind.gov.bd/index.php?option=com_content&task=view&id=489&Itemid=524>, (accessed online 06 July 2013).

11 <<http://www.bdembassyusa.org/uploads/Bangladesh%20Export%20Policy%20%282009-2012%29.pdf>>, (accessed online 06 July 2013).

Opportunities for Setting Up Indigenous Defence Industry

There is increasing trend of joint venture undertaking for acquiring technology. There had been a proposal from a reputed US aviation company to manufacture basic trainer aircraft with an approximate investment requirement of Taka 500 Crores in 2010.¹² The proposal was not carried forward as it called for requirement of export provision. Bangladesh army has received number of joint venture proposal from various reputed firms from Korea, China, Russia, and Serbia for manufacture of wide range of military hardware including APC, SAM, artillery gun, ammunition etc.¹³ Many Original Equipment Manufacturers (OEMs) are now looking for joint venture undertaking in various commercial sectors if favorable financial and political condition prevails.¹⁴

In last five years significant effort to modernize the armed forces were taken. Forces Goal 2030 is under active consideration for implementation. The projection of defence budget in last few years as shown in Figure 1 shows that the defence budget has largely remained stable in last few years. Out of allotted budget currently Bangladesh Army spent around 26%, ¹⁵BAF around 55%¹⁶ while Bangladesh Navy (BN) around 48% of respective ¹⁷ services budget for capital purchase which is quite good in Bangladesh context. In immediate future it is likely that Services will concentrate more on capital purchase.¹⁸ As such, favorable environment for considering defence production venture is likely to prevail as the effort for acquisition of platform is increased.

12 Ehsan, Group Captain M Kamrul, ndc, psc, Officer Commanding 214 MRO, Interview by the Writer, 19 September 2013.

13 Quadir, Major General Abdul, Commandant Bangladesh Ordnance Factory, Interview by the Writer, 26 June 2013.

14 Uddin, M Kamal, Dr, Professor, Director (Head), Institute of Appropriate Technology, Bangladesh University of Engineering and Technology (BUET), Interview by the Writer, 16 July 2013.

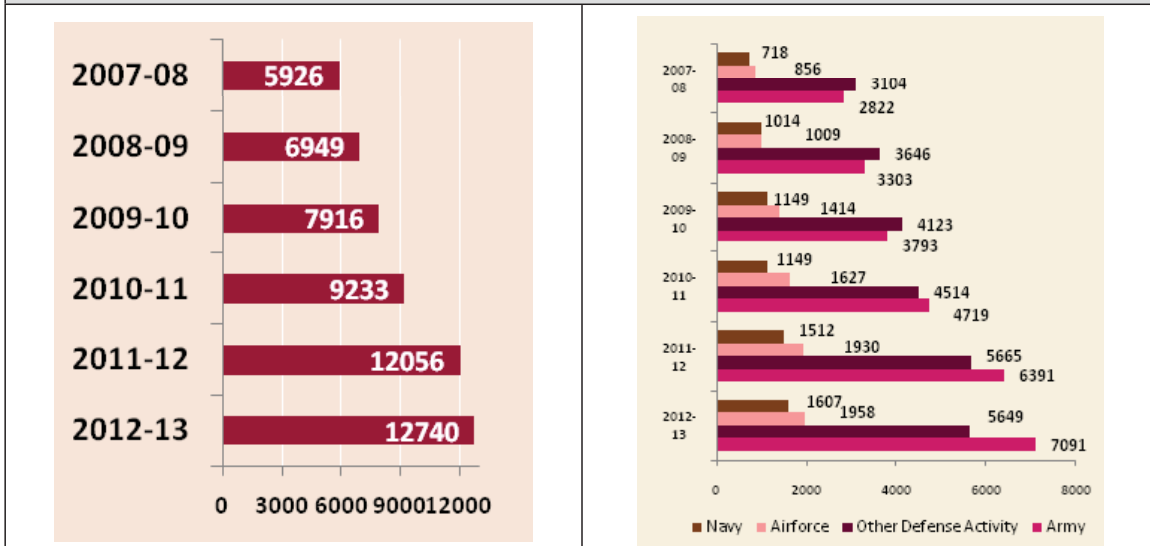
15 Haque, Lieutenant Colonel Md Munirul, psc, General Staff Officer 1 Budget Directorate, AHQ, Interview by the Writer, 27 June 2013.

16 Mamun, Wing Commander Abdullah al Mamun, GD(P), psc, Assistant Director, Directorate of Plans, Air Headquarters, Interview by the Writer, 27 June 2013.

17 Rahman, Commander Shafiq, psc, Deputy Directorate of Budget, Naval Headquarters, Interview by the Writer, 08 June 2013.

18 Belal, Lieutenant General Abu Shafiq Md, psc, Principal Staff Officer, Armed Forces Division, during an Interactive session with Course Members of AFWC 2013, April 2013.

Figure 1: Defence Spending in Bangladesh (FY 2008-13)



Source: FSMU, Finance Division, Ministry of Finance

Opportunity for Indigenous Production. There are enormous untapped potential in civil sector which can contribute significantly in indigenous production. Just to emphasize, the case of LE sector can be deliberated further. Involvement of LE sector in maintenance of automobiles in Bangladesh Army is enormous. LE sector has huge opportunity to manufacture spares in commercial field. There is worldwide untapped market of approximately 6.1 Trillion US \$ as the major spares producing country like Japan, China considers it to be “Sunset technology” and wastage of manpower resources.¹⁹ At the moment the potentials of civil sector can be exploited in five major areas namely: RE, R&D, and manufacture of spares, maintenance of platforms and manufacture of platforms.²⁰ Sectors that can be concentrated are shipbuilding, automobile, textile, electronic, IT and LE sector.²¹

Production of Platforms. If appropriate political and economic condition prevails, various public and private enterprises like Aftab automobiles, Rahim Afroz etc. may be utilised for production of automobiles in collaboration with OEMs.²² Engagement with private shipbuilding entrepreneurs may be enhanced further to prepare warships for domestic and international use.

19. Khan Interview, Op cit.

20. Ali, Monwara Hakim, First Vice President, The Federation of Bangladesh Chambers and Commerce Institute, Interview by Writer, 16 September 2013.

21. Helal, Mohammed, Associated Professor Department of Economics, Dhaka University, Interview by the Writer, 17 August 2013.

22. Uddin Interview, Op cit.

R&D Effort. Various institutions like BUET, MIST, and BITAC etc. may be integrated with defence sector for various R&D projects. Till date formally armed forces has not asked for any R&D projects through BUET or MIST which is a common phenomenon in many advanced nations.²³ Even R &D of many sensitive military technology like communication and surveillance technology is also conducted in the universities like Oxford etc.²⁴

APPROACH FOR DEVELOPMENT OF DEFENCE INDUSTRY

Operational Perspective

To sustain adverse air situation preponderance in GBAD system will be required. Operational doctrine of land forces demands indigenous capability of low to medium technology man-portable light weapon system, anti-tank weapon system, surveillance system. Availability of munitions, complete maintenance capacity including up gradation and innovation, large number of small but offensive ships²⁵ will be required by BN. BAF will need the capacity to develop indigenous avionics to remain operationally valid in the face of far superior threat air forces.²⁶ Capacity to undertake system up-gradation and innovation to integrate various systems are of high importance.

Strategy for Development of Defence Industry

Strategy One. The strategy focuses on acquiring technological capabilities in selective basic weapons, munitions and platforms only in stages to attain the degree of self-reliance. Development of sovereign capability to support, maintain and repair critical equipment and systems will be done by maximizing potential of indigenous capability. As such, this will call for emphasizing ‘dual use’ technology particularly in automobile, general upkeep, communication, spares and shipbuilding sector. Once the required structure and support industry is developed, advanced technological capability in collaboration with strategic partners will be developed. Hallmark of commercial orientation will be aimed to sustain the production ventures to attain the degree of self-reliance. R&D capacity will be limited.

Strategy Two. This strategy will focus on acquiring technology in wide range of platforms by variety of technology transfer ventures right from now instead of stages. It will rely predominantly on offshore technology to develop and sustain the production ventures. Additional emphasis will be placed to undertake projects having export

23. Uddin Interview, Op cit.

24. A Daylong Interactive Session with a Team of Professors of Department of Appropriate Technology and Department of Electrical and Electronics Engineering of BUET, 17 July Dhaka.

25. Chowdhury, Rear Admiral A M M M Aurangzeb, (G), ndc, psc, BN, Assistant Chief of Naval Staff (Operations), Interview by the Writer, 18 July 2013.

26. Islam, Aminul, Brigadier General, Deputy Commandant, Bangladesh Ordnance Factory, Interview by the Writer, 17 July 2013.

potential. Strategy will strongly promote a deliberate R&D structure on all platforms. It will lay emphasis on developing the capacity to acquire high standard for winning export orders. The strategy will focus on military technology development instead of ‘dual use’ technology.

Preferred Strategy. Strategy one builds on the current structure better as it does not undertake immediate large scale production ventures where BD does not have capacity at this moment.²⁷ It also develops the required technological capability in stages where the national industrial sector has reasonable capacity. It is also more practical considering the technological capability gap as it only promote R&D in selective field and demands adjustment in procurement process. Integration process of civil enterprises is more comprehensive as it emphasizes ‘dual use’ technology and allows time to build supporting industry. The strategy two will be relatively costly and risky as it relies more on overseas capacity initially. Its focus on export market might be detrimental if substantive export market cannot be created. Considering these, strategy one will be preferred strategy to develop a viable defence industry.

KEY ACTION PLAN FOR DEVELOPMENT OF INDIGENOUS DEFENCE INDUSTRY

Identification of Thrust Areas

Five thrust areas have been identified for development of an indigenous defence industry in Bangladesh. The thrust areas are:

Thrust Area 1: Human Resource and Competency Development.

Thrust Area 2: Technology Development.

Thrust Area 3: Industry Development.

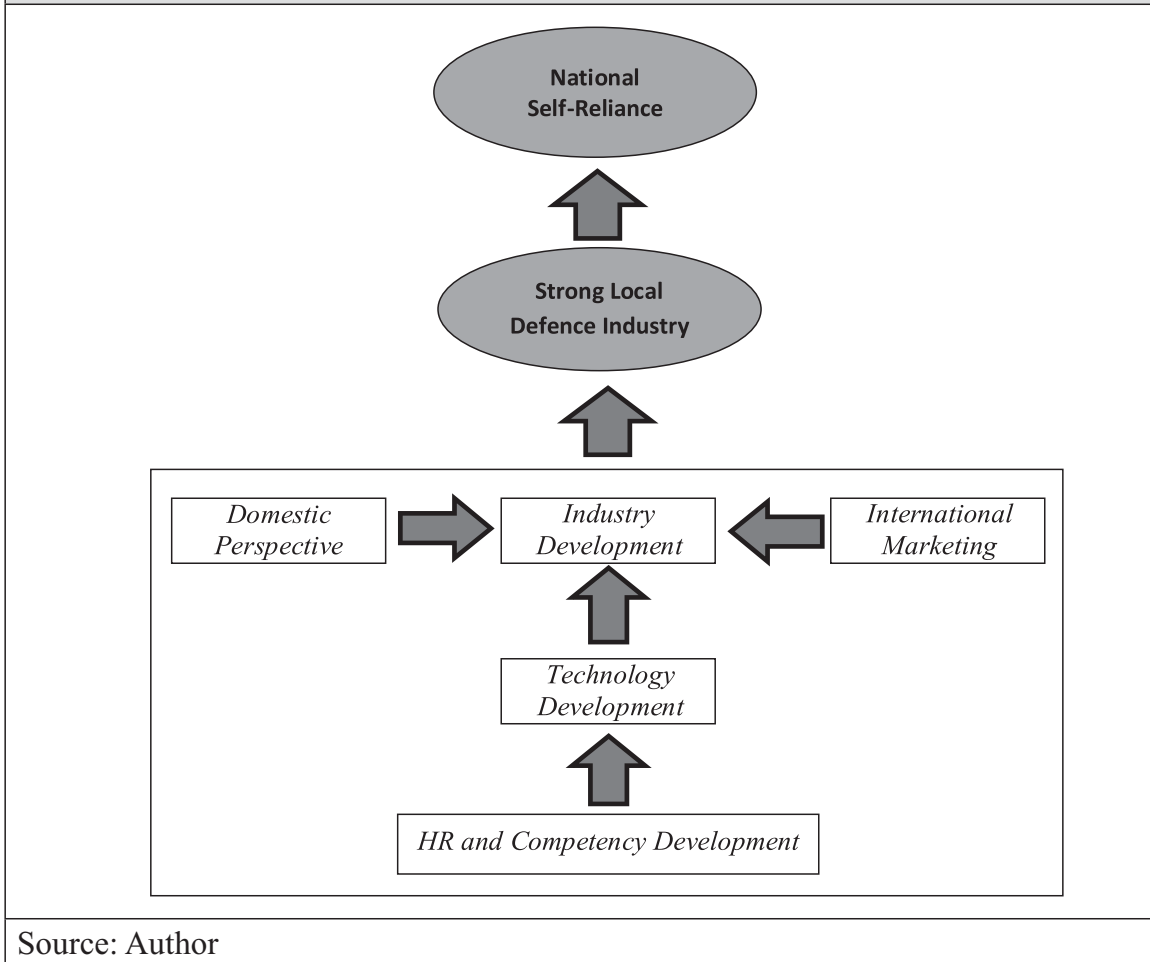
Thrust Area 4: Domestic Perspective.

Thrust Area 5: International Marketing.

The impact of thrust area in development of a strong indigenous defence industry is shown at Figure 2.

27. Matin, Major General Abdul, afwc, ptsc, psc, Master General of Ordnance, Interview by Writer, 17 July 2013, Dhaka.

Figure 2: Drivers for Growth of Defence Industry



Key Initiatives and Actions Needed against Thrust Areas

Thrust Area 1: Human Resource and Competency Development. A collaborative human resource development program has to be initiated. The development of human resource on defence technologies will require specialized training facilities at skill training centres. New faculties like Robotics, Mechatronics²⁸ and Instrumentation and Industrial engineering may be introduced in the local universities which will assist in development of military technology.²⁹ Skills training centres should focus on the production techniques.³⁰ A Memorandum of Understanding (MoU) in this regard may be signed with appropriate

28. **Mechatronics:** Mechatronics is the synergistic combination of precision mechanical engineering, electronic control and systems thinking in the design of products and processes. It pursues the design of systems, devices and products aimed at achieving an optimal balance between a basic mechanical structure and its overall control. The design of mechatronic products requires engineers with the ability to perform analysis and design in a variety of disciplines.

29. Ali, Dr Abu Rayhan Md, Professor, Department of Mechanical Engineering, BUET, Interview by the writer, 17 July 2013.

30. Matin Interview, Op cit.

ministries. Bi-lateral agreement with OEMs and friendly countries may also be pursued to initiate skill and knowledge exchange programs.

The pool of trained military personnel leaving the armed forces may be retained with attractive remuneration packages. They may be permanently employed or use their service in consultation basis.³¹

Thrust Area 2: Technology Development

Determine and Negotiate Effective Technology Transfer Programs. Various offset programs traditionally practiced may be evaluated for incorporation as an obligatory clause during procurement of major platform. In this regard Bangladesh may introduce system for acquisition of technology based on 'Buy (BD)', 'Buy and Make (BD)' and 'Buy and Make with technology transfer' and 'Buy (global)' clause.³² All categories will require technology acquisition except 'Buy (global)' category. Buy (BD) category is likely to be limited to various clothing and general stores, spares and minor items. Other two categories will necessitate acquisition of technology either through offset or other suitable means like joint ventures. 'Buy and Make BD' option will involve more capacity in development of indigenous capacity. Decision in this regard can only be implemented if reflected in procurement policy.

Step-up Investments in the Development of Support Facilities and Infrastructure. Supportive infrastructure and facilities both in private and civil sector will be needed to even negotiate with foreign investors.³³ Various cutting edge technologies are needed for manufacturing purpose. Facilities developed to be shared between defence and civil sector. Example of sharing facilities could be, recently acquired 'Non Destructive Testing' (NDT) facilities in BAC. This can be shared between suitable defence and civil sector.³⁴ Opening up second production outlet of Bangladesh Ordnance Factory, expansion of facilities of all central workshops and BN dockyard in line with BAC and declare it as a public enterprise and allotment of an industrial park for LE sector may be undertaken. Armed Forces Division may also work out necessary modalities to share the production facilities within and outside defence forces in consultation with appropriate stakeholders.

Encourage Smart Partnerships/Collaborations/Alliances with Overseas Technology Partners. All defence industry companies including public and private sector has to be encouraged to enter into collaborations/alliances with overseas OEMs when found suitable.³⁵ With current orientation of military hardware it is assessed that countries like China, Russia, the USA, Serbia etc. could be most preferred destination for such undertaking. Decision to enter into such agreement which contribute

31. Uddin Interview, Op cit.

32. Matin Interview, Op cit.

33. Brigadier General Islam Interview, Op cit.

34. Ehsan Interview, Op cit.

35. Islam Interview, Op cit.

defence and national technological development objective has to be made through a coordinating body.³⁶

Hosting and Participation of International Defence Exhibitions and Seminars.

Regular interaction with contemporary defence industries and associate stakeholders will stimulate technology development drive. All defence production outlet to develop required brochures and exchange visits between various stakeholders within and outside countries.

Enhancement of Maintenance Capability. The production objective set in the research focuses to acquire self-sufficiency in maintenance and up gradation of all major platforms. This underpins the need for acquisition of maintenance technology of all major platforms.³⁷ Some of the selected maintenance functions within services may be outsourced after evaluation. BN has successfully outsourced the repair and overhauling responsibility of MAN B&W Generator of BNS OSMAN.³⁸ Suitable maintenance functions of all services may be outsourced through customer service agreement with the manufacturer or maintenance contract.

Promoting Strong RE Culture. Bangladesh should focus to develop an indigenous RE culture for development of selective technology. RE activities has to be structured under some focal organization so that required specialization can be developed.³⁹ AFD may nominate and coordinate focal point to develop RE projects related to defence industry. Focal points could be as following:

Automobiles	BMTF
Weapon and Ammunition	BOF
Avionics	BAC
Naval Platform	BN Dockyard
Communication	BAC
Missile System	AD Brigade

Development of R&D Structure. The government has to commit, initiate and promote dedicated long term R&D program which should not be too ambitious. It has to be co-ordinated and closely monitored by a coordinated agency. All services isto remodel their existing R&D structure to formulate a comprehensive R&D structure by 2015.If any small outfit is required, should be provisionally raised in line with proposition of CNRD of BN on ad-hoc basis and subsequently authorized. AFD will initiate a detailed R&D policy and strategy to promote comprehensive R&D culture. National R&D capacity to be exploited by engaging various national institutions into

36. Mahmud, Lieutenant Colonel Abdullah Al, psc, 'Development of Indigenous Defence Industries in Bangladesh: Realities and Prospects', BD Army Journal, 40th Issue, 2006.

37. Islam, Lieutenant General M Moinul, awc, psc, Chief of General Staff, AHQ, BD Army, Interview by Writer, 27 June 2013, Dhaka.

38. Alam, Commander Maksud, (E), psc, BN, 'Outsourcing in BN Dockyard', The BN Dockyard Journal -1.

39. Lieutenant General Islam Interview, Op cit.

defence oriented R&D. Once a deliberate industrial structure is formed there is likelihood of private R&D structure coming in the fore. Those structures have to be patronized by the government.⁴⁰ All defence outfits have to have R&D undertaking by compulsions. This R&D effort should be funded by the company itself.⁴¹

Thrust Area 3: Industry Development. Defence industry should be identified, recognised, supported and prioritised as a manufacturing sector by the Government. This has to be reflected in government policy initiatives to derive necessary regulatory framework. Current Industrial Policy 2010 and Export Policy 2011 have to be revised so that defence industrial sector is opened for private, foreign investment and export as well.⁴² A Defence Industry Strategy (DIS) has to be outlined by AFD outlining the desired production priority. All resource personnel within and outside the armed forces recommended to have an apex body to manage the diversified functions related with defence industry. An organization named Defence Production and Development Organization (DPDO) may be raised directly under AFD.⁴³ This organization will be the apex body in all matters related with production, research, technology acquisition and indigenization functions. It will be managed by civil and military specialized personnel. Like in Thailand, India eminent scientists and academia may be also employed in different engagement terms.⁴⁴

Formation of Defence Industry Framework. Total manufacturing sector need to be structured according to the role and capacity that current industry has. Current structure of BOF will remain as it is. Besides, under complete government supported if any joint venture facility is developed it will be also an ordnance factory like the one in Malaysia. All public enterprises like BMTF, KSY will be grouped as Public Enterprises Undertaking (PEU). Local industry willing to invest and operate in the defence industrial sector will be termed as Local Defence Industry (LDI).⁴⁵ All LDI will receive special incentives and come under consideration of receiving ‘offset facilities’ when found capable.⁴⁶ Import duties exemption to be provided to LDI by DPDO on equipment / spares to support defence needs. BAC, BN Dockyard, central workshops will be upgraded and turned into public limited companies to open commercial enterprises like there in Vietnam Army.⁴⁷

40. Hossain, Sheik Md. Mubarak, Director, Planning and Development, BSEC, Interviewed by the Writer, 17 September 2013.

41. Quadir Interview, Op cit.

42. Matin Interview, Op cit.

43. Matin Interview, Op cit.

44. Matin, Dr Md Abdul, Faculty, Department of Electrical and Electronic Engineering, Bangladesh University of Engineering and Technology, Interviewed by the Writer, 16 September 2013.

45. Sadek, Brigadier General Md Abu (retired), ex Director Ordnance Services, Interviewed by the Writer, 18 July 2013.

46. Islam, Sajedul, Vice Chairman, Navana Group, Interview by the Writer, 19 August 2013.

47. Interactive Session conducted During Overseas Study Tour to Vietnam, As Part of Course curriculum of AFWC 2013, 07-12 September 2013.

Promoting Supportive Procurement Action. There are few areas which will require revision of current DPR 2010 to promote sustained development of indigenous defence industry. There will be a requirement of streamlining the current standardization system as this is directly related with the future course of defence industry.⁴⁸ A Long Term Perspective Planning for Procurement (LTPPP) to be made for a period of 10 years and henceforth will ensure uniform and interoperable standardization of equipment between the services. To promote indigenous production provision of leverage may be further expanded. Current provision of 15% price allowance in comparison to foreign vendors may be increased to 25 % till 2025. System of declaration of ‘proprietary item’ may be reviewed for items of defence needs in consultation with Ministry of Industry (MoI). Provision of ‘guaranteed contract’ of a term of 03-05 years may be considered in case of LDI.⁴⁹

Thrust Area 4: Domestic Perspective. Defence industry has to take wider national requirement into account. Integration of domestic demand and potential in civil sector will facilitate sustainable growth of defence industry.

Development of ‘Dual Use’ Technology by Patronizing LDI. Emphasis has to be placed on development of technology where the application has requirement in military and civil sector. If defence industry can focus on development of ‘Dual use’ technology it will attract private sectors to invest and enlist for production in defence sector.⁵⁰ Focused field could be automobiles, shipbuilding, communication technology, IT etc.

Facilitating Growth of Local Industrial Sector. The Bangladesh Government needs to invest and allow private sectors participation in defence industries.⁵¹ For FDI, not more than 49 % equity may be allowed.⁵² Some of the selective spares of B Vehicles, naval vessels, armaments and tools can be locally manufactured from LE sector, BITAC, shipbuilding industry, railways workshops etc. In this regard a gadget notification published by MoI may be further strengthened to promote LE sector.⁵³ This notification called for all public institutions except defence to arrange sub-contracting for establishing linkage between public industry and LE sector. AFD will have to issue necessary guidelines for identification of vendors in collaboration with Army Headquarter (AHQ) and Bangladesh Small & Cottage Industries Corporation (BSCIC). A mandatory policy provision will be enforced by AFD for compulsory procurement of approximately 25 % of fast moving spares from enlisted LE sector. Modalities for selection of vendors will have to be evolved and guaranteed contract for 05 years may

48. Matin Interview, Op cit.

49. Razzaque, Abdur, Chairman, Bangladesh Engineering Institute Owners Association Interviewed by the Writer, 18 July 2013, Dhaka.

50. Islam, Sahafiul, Chairman & Managing Director, Aftab Automobiles, Interview by the Writer, 17 September 2013.

51. Mamun, Lieutenant Colonel Abdullah Al, psc, EME, ‘Development of Indigenous Defence Industries in Bangladesh’, BD Army Journal, 40th Issue, December 2006.

52. Brigadier General Islam Interview, Op cit.

53. Ministry of Industry Gadget Notification number Shilpo/Shasa-3/Par-11/88/255 dated 15 September 1989.

be awarded. For securing contracts with BITAC and BMTF restrictive tendering policy may be adopted.⁵⁴

Remanufacturing or Reusing Assemblies Spares. Remanufacturing⁵⁵ is a big industry in many countries. There are many areas where defence industry may benefit if culture of remanufacturing is used. Currently all ship breakers deposit various radio communication, navigation equipment etc. from old merchant ships under the government authority to BN dockyard.⁵⁶ Since 2000, BN Dockyard collected 235 radars, 759 HF/VHF sets, 463 GPS and distributed 140, 397 and 178 sets up to June 2009.⁵⁷ There are thousands of surplus, obsolete and inactive spares of different equipment including automobiles lie idle in the inventory of all services. These spares and gadgets can be utilised for remanufacturing of spares and tools of different equipment.⁵⁸

Thrust Area 5: International Marketing

Ministerial and wider government support for export marketing drives. A streamlined export approval process, including a cabinet level single point of contact (preferably Export Promotion Bureau under MOC) and provision for accelerated approval in cases where that is vital may be made. Products and services have to be promoted through participation in international defence exhibitions. Bilateral defence meetings have to be undertaken to promote defence products and services. Capitalizing on the exploits of military diplomacy by bringing on board the indigenous defence products as an agenda for engagement. The limited export objective should be appropriately represented in international forum to guard against any diplomatic fall out.

RECOMMENDATIONS

In light of the study, for development of a viable defence industry following recommendations is made:

- AFD to initiate a broad defence industrial strategy outlining the likely production objectives and industrial structure recommended in the study. An apex organization, DPDO may be formed under AFD and necessary modalities for incorporation of LDI in the defence production to be defined. Various policy revisions for integration of indigenous sector in defence production, opening up defence sector for private and FDI, promotion of 'dual use' technology, setting LT PPP for a period of 10 years and provision of incentives for participation of indigenous sector to be initiated.

54. Public Procurement Regulation 2003, Regulation Number 17 and 37.

55. Remanufacturing is the process of disassembly of products during the time parts are cleaned, repaired or replaced and then reassembled to sound working condition.

56. Bangladesh Gazette Notification on Extraction of Naval Items dated 27 January 2010.

57. Matin, Commander M A Matin, (ND), Silent Contributions of Ex-Bhatiyary Items for the Fleet Worth Taka 26 Crores, The BN Dockyard Journal 1, October 2009.

58. Razzaque Interview, Op cit.

- A high power working group may be formed by AFD involving appropriate stakeholders within Armed Forces and from appropriate ministry to revise DPR 2010 to introduce provision of incorporating technology acquisition through 'Buy (BD)', 'Buy and Make (BD)' and 'Buy and Make with technology transfer' and 'Buy (global)' clause during procurement of major platform. In line with the suggestions made in the study the working group to incorporate necessary amendment for inclusion of 'offset' clause in big procurement venture and streamline the provision of property item, guaranteed contract etc.
- Necessary infrastructural development outlined in the study including allotment of industrial park for LE sector, opening of second composite production outlet for BOF, up-gradation of all base workshop facilities for conversion into public enterprises may be affected in phases by AFD in conjunction with MOD, MOI.
- Appropriate ad-hoc R&D and RE structure may be incorporated within Services with restructured organization to undertake selected research. AFD to set working methodology for utilization of expertise from civil sector for various purposes.

CONCLUSION

From Bangladesh perspective the rationale for developing indigenous defence capabilities is mostly strategic. The enormous untapped potential of indigenous sectors in various fields appropriately position Bangladesh to develop indigenous defence production capability. The study identifies that selected field will focus indigenous effort in light weapons, munitions, upkeep and maintenance of all major fields. Five thrust areas where key action plans may be evolved have been identified. The key action plans identified by the study will call for revision of various policies including procurement process. Considering the strategic requirement and tremendous potential of the indigenous sector it is justified to say the least that Bangladesh is rightly positioned to develop indigenous defence industry in the selected field. It will definitely stimulate armed forces to attain degree of self-sufficiency that we all so desperately need.

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