INDIA'S DEFENCE EXPORT POLICY: COMPULSIONS, CAPABILITIES AND CONSTRAINS

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DECLARATION

I declare that the dissertation entitled **"India's Defence Export Policy: Compulsions, Capabilities and Constrains"** submitted by me for the award of the degree of **MASTER OF PHILOSOPHY** of Jawaharlal Nehru University is my own work. The dissertation has not been previously submitted for any other degree of this University or any other University.

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CERTIFICATE

We recommend that the dissertation be placed before the examiners for evaluation.

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Dedicated
to
My Parents and Sister Nagaratnamma

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Acronyms and Abbreviations

ALH	Advanced Light Helicopter
ASSOCHAM	Associated Chambers of Commerce and Industry of India
ATT	Arms Trade Treaty
BJP	Bharatiya Janata Party
BEML	Bharat Earth Movers Limited
BEL	Bhart Electronics Limited
CTBT	Comprehensive Test Ban Treaty
CII	Confederation of Indian Industry
DCC	Defence Committee of the Cabinet
DPP	Defence Procurement Policy
DoDP	Department of Defence Production
DRDO	Defence Research and Development Organization
FDI	Foreign Direct Investment
FICCI	Federation of Indian Chambers Of Commerce and Industry
GNP	Gross National Product
GDP	Gross Domestic Product
HAL	Hindustan Aeronautics Limited
IAEA	International Atomic Energy Agency
IAF	Indian Air Force
IMF	International Monetary Fund
ISRO	Indian Space Research Organization
ISO	International Organisation for Standardisation

LCA	Light Combat Aircraft
MBT	Main Battle Tank
MoD	Ministry of Defence
MNCs	Multi National Companies
MRCA	Multi Role Combat Aircraft
MTCL	Multi Tech Contractors Limited
MTCR	Missile Technology Control Regime
NAM	Non Aligned Movement
NPT	Non Proliferation Treaty
PSUs	Public Sector under Takings
PSUs	Public Sector Undertakings
R&D	Research and Development
SPDC	State Peace and Development Council
UN	United Nations

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Chapter-I

Introduction

Defence exports are embedded in the complex network of international relations. During the cold war years, it was often influenced by the East-West competition as expressed in the military strategies and arms export policies of the super powers and their allies. It was also influenced by regional and sub regional conflicts, by South-North relations and by the politico-economic dependency patterns of interstate relations. The reverse is also true. Arms productions in the third world countries have major implications for relation both with neighbouring countries and with the industrialized countries. Defence production is also influenced by host country's strategic culture, experience, tradition and in turn it also influences the internal policies as also the economy of the producing countries themselves.

India, over the years, registered itself as an "emerging power"[1] (Cohen 2001: 31) and it has established for itself a broad defence industrial base. To begin with, India's defence posture and policies have also evolved in response to its external and domestic circumstances. Legacies of being a major ex-colony of the British Empire have chiefly moulded the nature of India's defence sector. India, for example has a rich pre-independence history of consciousness about diplomatic and military affairs. Post-Independent debates, as a result, have successfully managed to examine and highlight India's heightened defence consciousness and complex strategic culture through centuries, with periods of Ashoka the great and Mughal Empire today being subject of research around the world.

One can trace at least four different approaches or traditions in this regard. The oldest but not the dominant was the "*realpolitik* tradition represented by the writings of Kautilya and by the history of war and statecraft in India ancient, medieval, and Mughal" (Kapur

[1]The notion of Emerging Power according to Stephen P.Cohen implies movement upward in a hierarchical or class system. To make sure a move, a State must acquire the capabilities (they may be economic, military, strategic, some other criteria by which Nations are graded) to change its rank.

1992: 341). The second tradition sought a "peaceful synthesis of diverse and competitive cultural and political forces" (Ibid). In about 5000 years of "Indian" history, both of these approaches were embedded in Indian elite and popular psychology. The third tradition—"pacifism"—reflected the influence of Buddhism and Jainism in India and was popularized by Mahatma Gandhi (Ibid: 551). It gained ground as a method of social and political mobilization because of its use against British rule in India. The fourth tradition is revealed by the "principles and strategies employed by the British to organize Indian political and strategic affairs from the 1600s onward, especially from 1757-1947" (Ibid). British authority in the Indian subcontinent was achieved by a process that nursed rivalries among neighbouring princes and by the skilful use of intrigue, alliances, and superior British military force.

After independence, Gandhian understanding of truth and non-violence was the principle that India's first Prime Minister, Jawaharlal Nehru further reinforced in diplomatic and military affairs (Chaulia 2002: 218). It was evident when he signed the *Panchsheel*[2] agreement with China in 1954. He upheld these principles during the cold war and adopted a non- aligned foreign policy and helped evolve the Non Aligned movement (NAM) in the world. At the domestic front "Nehru focused on the scientific temper, the technological self sufficiency" (Kavic 1967: 100). The Parliament adopted Nehru's "Science Policy Resolution" in 1958. Three institutions were established under this plan. They are (a) the Department of Atomic Energy (DAE) which functioned under H.J.Bhabha (b) the Council of Scientific and Industrial Research (CSIR) that worked under S.S.Bhatnagar, and (c) the Defence Science Organisation (DSO) headed by D.S.Kothari (Ghosh NA : 238). All the three institutions played very important role in the promotion of science and technology and defence research and development in the later years.

[2]Called Principles of Peaceful Coexistence, Panchsheel consists of Mutual respect for each other's territorial integrity and sovereignty, Mutual non-aggression, Mutual non-interference in each other's internal affairs, Equality and mutual benefit, Peaceful co-existence.

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Impact of the China war

The 1962 war with China was a knockout blow against Nehru's policy of non-alignment and friendship with China. It also revealed that Indian diplomacy without the support of a sound military mechanism was irrelevant. The rhetoric of Non-violence and steering clear from all military alliances had to take a pragmatic turn. Aftermath of the Chinese debacle, India focussed on diversifying its defence imports and significantly increased its military spending and preparations as also evolved a strategic closeness towards the Soviet Union. The defence budget for 1963-64 were doubled in February 1963 amounting to 28 percent of the national budget compared with 15 to 17 percents in the previous years (Perkovich 2002: 61). At this stage, in order to achieve an indigenous defence production base which is "self-reliant" and "self-sufficient"[3], Government of India established the Department of Defence Production in 1962. By 1970, the number of ordnance factories had risen to 31 and by the 1980s the number had reached. Department for Defence supplies was established in 1965, with a view to forging links between the civil industries and defence production units. The two departments for (a) production (b) procurement were eventually merged into one 1984.

Over the years, India also has evolved a defence research and development capability. The Defence Research and Development Organization (DRDO) established in 1958. The organization really came into its own in the early 1980s, under the leadership of Dr A.J.P Abdul Kalam, when a number of major research and development projects were launched. These were: Integrated Guided Missile Development Project (1983); the Light Combat Aircraft (1983); the Advanced Light Helicopter; the Arjun Tank (first conceived in 1974); and a number of smaller projects, such as the Pinaka, a Multiple Barrel Rocket Launcher (MBRL). The Department of Defence Research and Development is headed by a Secretary who is also Scientific Adviser to the Defence Minister. This ensures that the position has always been occupied by professional scientists not by any civil servant who

[3]Self sufficiency" is the phrase which guided the defence industrial policy in the initial years after independence. This was subsequently modified to "Self-reliance"

normally head the Govt department. Its main responsibilities are R&D planning and advising the Defence Minister on scientific aspects of military equipment.

Recent decaded have witnessed the Government of India has been investing heavily into its defence industry due to strained relations with its neighbouring countries and lately due to the unprecedented growth in international terrorism. The defence budget for the year 2005 was $17.80 billion, a growth of 7.6 percent from the budget allocation of 2000. Typically 5.0 percent to 10.0 percent of the defence budget is allocated for modernization and weapon induction. The larger share is allocated for payment, allowances, and for maintenance of aging military equipment (Vatsal 2006: 3). The Government of India expects its defence expenditure to exceed $20.00 billion by 2008.

Due to the influences of Gandhiji and Jawaharlal Nehru, defence exports had remained a taboo subject in India, it is only in the backdrop of India's opening up and economic reforms their issues of public-private partnership and exports entered partly inside India's defence establishment. Even after that, it was only rather reluctantly that India had begun to export some non-lethal defence equipment. But the real momentum to defence export policy came in 1999 when India hosted its first international land and naval systems exhibition, DEFEXPO INDIA'99[4]. From then on India sporadically exported weapons systems but they remain limited to a few isolated areas, including MiG-21 spare parts to Egypt and Vietnam, communications equipment to African countries, brake parachutes for MiG fighters to Algeria, and small arms to Thailand and Cyprus.

In the domestic front as well the Government had announced a policy change in May, 2001 whereby it allowed Private Sector to take up production of Defence items under licence. The main contribution from the Industry is expected in the development and production of equipment required in the future. India's defence sector has also opened for, up to 100 percent Indian private sector investments in the defence industry and to

[4]The Defexpo India exhibition was conceptualised in the year 1998 by the Department of Defence Production, Ministry of Defence Government of India in partnership with the Confederation of Indian Industry with an objective to promote defence exports from India at the same time exhibit the capabilities of Indian Defence R&D and production.

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Foreign Direct Investment (FDI) of up to 26.0 percent in select areas of the defence industry. Some of the key non- Public Sector Undertakings (PSU) industry participants supplying defence equipment and services include Mahindra & Mahindra, Tata Group, Kirloskar Brothers, Larsen & Toubro, Ashok Leyland, Jindal, Max Aerospace & Aviation, and Ramoss India.

At the same time India remains committed to International trade regulations in arms. India has always critiqued the illicit arms trade and supported the 2001 Programme of Action that called for an Arms Trade Treaty (ATT)[5]. They supported the international conventional arms registry. However, India has reservations on the ATT and in October and December 2006, while United States (US) opposed the ATT, India abstained. India has opposed ATT because "it does not want any Treaty bound to social clauses like violations of human rights" (Chenoy 2007: 1). It seems India's reluctance to sign ATT is lot to do with the post 9/11 scenario[6].

On a parallel front, India's leadership is trying to match future weapons production and acquisition to deal with specific threats to national security. The Government of India has been reiterating its commitment to achieve the much-publicised and ambitious target of procuring 70 per cent of its defence requirements from indigenous sources by 2010. Despite its best efforts over the last two decades, India is nowhere near that figure as yet. India has yet to demonstrate, even to itself, the ability to produce any heavy weapon system acceptable to its own armed forces (with naval surface vessels being the only exception). Current systems under development, including the Arjun Main Battle Tank (MBT), the Light Combat Aircraft (LCA) and the Navy's super–secret nuclear–powered submarine have become notorious for technical setbacks and programming delays, to the irritation of both military and political leadership, forcing continued heavy reliance on imports.

[5]The ATT would prohibit states from authorising arms transfers where there was a clear risk of the weapons being used in violation of the U.N. charter or to commit serious abuses of human rights, genocide or crimes against humanity. This was in line with India's Constitution and values aimed at holding back dictators and armed militants who cared little for human life (See the *Appendix* for the draft of resolution)

[6]At last, this nuclear submarine was launched In Vishakapatnam on 26th July, 2009.

But in recent years, defence production has also undergone profound changes. Since 1990's government is showing enough willingness to export weapons despite its continued dependence on procurement of weaponry system. How far will it be successful, what are the factors behind it and whether or not the defence industry will be able to cope with the demands are some of the aspects, which are yet to be explored. It is important to engage in this debate as more than half of India's defence needs are currently met by the imports and are entangled often with severe restrictions and financial liabilities and political undertakings. The controversial Indo-US EUMA signed during July, 2009 visit of Ms Hillary Clinton can be cited as a case pointing to such future trends. All of these will have implications for India's defence and defence exports.

In the subsequent chapters attempts have been made to examine all these aspects of India's defence export policy and to probe various dimensions attached to it. The chapters also deal with the aspects of economic feasibility and political viability which are seemingly compelling India to attempt for defence exports. It is done by systemically scrutinising the existing literature. The method, definition and scope of the study are illustrated in subsequent paragraphs.

Review of the Literature

Availability of the material on debates on defence production and exports are rather rare in India. Long protected as a closed sector, India's "defence production and its export capacity have been subjected to the wild guess of the defence analysts" (Smith 1994: 140). Indian government has never come out with the export figures. However, there are academic writings and press reports which give some evidence that India is engaging in the defence overhauling with primary goal of fulfilling domestic requirements and later to export as well. It is important to deconstruct the vision behind India's partial and sporadic formulations about defence exports.

It is proper to look at India's defence consciousness before entering into the intricacies of the present defence postures. Several opinions are expressed by the strategic analysts.

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Bharath Karnad (2002: 14) is one of the frontrunners in elucidating nature of Indian strategic mindset and policies. He decodes the traditional Hindu *machtpolitik*, contradicting the image of passivity conveyed by Mahatma Gandhi and his doctrine of non-violence. He draws attention to Jawaharlal Nehru's successful policy of *moralpolitik* and subsequent defence policies of India. Karnad is of the opinion that there is ambiguity in the ancient history regarding the defence consciousness, but contradicting with him is T.T Poulose (1998: 77). Offering Nehruvian critique to the understanding of strategic and military consciousness, Prof.Poulose reminds that Indian policy makers are always in favour of Non-violence. Making an exception to BJP tenure, he dwells on various policies of the past governments as to show how they refused to weaponise India, even when relations with Pakistan and China were far worse. He further reaffirms that the Nehruvian position is the one supported by the vast majority of the Indian people.

On the other side there is plethora of writings existing at the parallel front to argue that the Indian civilization and ancient texts were pragmatic enough in understanding military power and realistic assessment of the Inter state relationship. George Modelski (1964: 550) viewed that the ancient Indians understood 'Power' very well and saw what prevailed was law of fish. He writes that the ancient India's single most comprehensive tome on state craft, *Arthasashtra*, was concerned exclusively with the orderly functioning of the society and with the existential problems of governance, which describes it as premised on "the small fish being swallowed by the big fish". Arguing on the same lines Rodney W. Jones (2006: 3) makes a far more nuanced exposition. He views India's strategic culture not as monolithic, rather as mosaic-like, and feels defence consciousness is more distinct and coherent than that of most contemporary nation-states.

This is due to its substantial continuity with the symbolism of pre-modern Indian state systems and threads of Hindu or Vedic civilization dating back several millennia. Subhash Kapila (2000: 94) adds another dimension to the argument. Kapila views that India's political dispensations in power, over the years, have exhibited the propensity to be pacifist or defensive in nature. Kapila reaffirms that India's political leaders have shied away from the use of power despite its size and resources. Some scholars like

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George Tanham (1992: 52) argue that India doesn't even have the strategic culture and alleges India as the "State without strategy". Rebutting such arguments are Kanti Bajpai and Amitabh Mattoo (1996: 5) where they analyse India's strategic thought and India's strategic options along with three more commentaries assessing Tanham's views by Varun Sahni, Waheguru Pal Singh Sidhu, and Rahul Roy-Chaudhry. Commenting on Tanham's essays Prof. Kanti Bajpai discusses three aspects: the absence of a tradition of strategic thinking; the future of military strategic thinking in India; and India's grand strategy for a new century. In response to Tanham's argument that India lacks a tradition of strategic thinking, Bajpai explained that "India has had strategy and grand strategy, and one could distil these from Indian pronouncements and behaviour; but it cannot produce a canon of strategic thought of any great lineage and certainly not comparable to Europe's" (Ibid). Bajpai argued that the laggarddiness in Indian strategic thinking is not because of the absence of political unity, but because of overwhelming unity under successive empires or near-empires, that obviated or retarded strategic thinking.

In the same book Prof. Varun Sahni in his commentary: "Just another Big Country" argues that the '*mandala*' concept influencing Indian strategic thinking, and the hierarchical view of the world, as emphasised by Tanham, was not some thing uniquely Indian. Rather it was "merely acting like a big power, or mimicking the way other big powers behave". Referring to Tanham's thesis regarding a lack of strategic tradition in India, Prof. Amitabh Mattoo argued that this was true as far as coordinated military planning in India is concerned. Mattoo further argued that in the narrow terms of definition this was true, however, as far as a grand strategy was concerned the argument by Tanham does not have weight. Mattoo has termed Nehru as "one of the most sophisticated grand strategists".

Arguing on the same lines, Rajesh M. Basrur illustrates how the persistence of restraint, stability and minimalism in India's nuclear policy is best explained with reference to its strategic culture. Disaggregating Indian strategic culture into three analytically distinct components - the level of assumptions and beliefs, the operational level and the structural

frame- he writes that India indeed had a long tradition of distinct strategic insights and followed it in the due course of policy decisions on international issues.

The second important theme of this study is Indian defence production set up and its evolution. Chris Smith (1994: 131) explores the evolution of Indian defence policy since 1947. He looks carefully at the domestic dynamics of Indian defence policy. This includes an in-depth analysis of the period 1947-62, which is often ignored by Indian defence analysts, and the performance of the defence industrial base. He concludes, perhaps rightly, that India's defence policy is designed more as one aspect of the quest for great power status than as an attempt to acquire security at an affordable price. Ashok Kapur (2001:800) who narrates the schizophrenics in India's defence evolution fails to capture the emerging buoyancies with the ever rising Indian aspirations to reach to the "self-reliance" in the defence production. In the second part he traces the pattern of development of Indian security system, but that description is not so relevant given the fact that Indian defence industry is far bigger and more complex now than ever before. Irreversible broadening of the Indian defence debates, i. e. a shift away from the small and closed decision-making of the Nehru and Indira Gandhi years to a broad-based articulation of defence concerns are though not adequately captured in his writings.

In the 1990s, Indian defence Industry underwent a profound change but Stephen Cohen (2000: 32) argues that they are all "cosmetic changes". He further argues that what ever changes India made in its defence industry during Kargil war will not make fundamental difference to the Indian defence industry. While lauding the rising Indian economic power, Cohen evaluates India as state with a "modest capacity to project military power". As if to vindicate Cohen's argument, Jasjit Singh (2005: 89) writes about the widening gap between Indian defence requirements and standards of production. Amit Gupta (2004: 58) presents a clear picture of defence industries strengths and weaknesses. Analyzing the overall nature he concludes that Indian arms industry projects have been marked by a philosophy of seeking too much and achieving too little. He predicts the powerful structural constraints that may force the arms industry to continue along this path.

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Ketan Kapoor (2008: 12) opines that the newly entered private sector was to primarily supply raw material and semi-finished products. The decision to expand the role of the Private sector was implemented in the May of 2001, where the Government opened up the Defence Industry to 100% Private Equity and 26% Foreign Direct Investment. All the Defence items were removed from the 'Restricted' to the 'Licensed' list. This policy reform has only gained momentum after the submission of the Kelkar Committee Report, which suggested reforms on the lines of models existing in other countries. With so many new players in the fray, especially private players, we have to see whether this scenario will make any difference. But there is no convincing recent writing to give a clear picture on the present state of affairs. An examination of the questions on capacity and standards of Indian defence will not only provide the answer to the above question but also indicates the possible attraction for Indian defence equipments across the world.

Amongst the factors shaping India's defence export policy, there almost exist a uniformity of opinion that the economic feasibility and political viability remains a foremost significance. Ravinder Pal Singh (1998: 45) while doing a comparative analysis of the arms procurement decision-making processes in five countries (China, India, Israel, Japan, South Korea and Thailand) expresses the opinion that the costs and the troubles attached to the procurements made the recipients to look for the alternatives.

Analysing the budget figures V.N.Srinivas, (2006: 63) presents an Indian case which invests a staggering Rs 83,000 crore amongst which major chunk is allocated to imports alone. For the first 12 years after Independence, the defence expenditure of India as a per cent of GDP was as low as 1.8. Following the Sino-Indian War of 1962, this figure witnessed a 3 per cent average mark over the next 25 years. Trends of military expenditure/GDP in the past two decades i.e. the period 1985-2005 reflect that this figure has been around 2.75 per cent. The average figure for the first of the last two decades was 3 per cent and for the latter decade, this was around 2.5 per cent. In absolute figures, the expenditure moved up from Rs 7,987 crore in 1985-86 to Rs 26,562 crore in 1995-96, a 3.3 fold increase. Ten years later, in 2005-06, the budgeted figure for defence was Rs 83,000 crore. Again, in a ten-year period, the allocation has gone up by 3.1 times.

Srinivas concludes that the states which are powerful did posses considerable defence production to show their military strength. So India, being constantly presented as the emerging power, perhaps, was toeing the same line.

On the compulsions, capabilities and constrains there is no clear picture either. The immediate concern expressed by Charles Wolf Jr. (1962:13) is the question of overall development. Presenting an interesting description on how military assistance programs can derail the developmental process. He advises states to go for economic development rather than military modernisation. But the method he suggests may not be useful to the biggest countries like India, where the borders are incredibly wide and national security is intrinsically complex as also a pre condition for social development. Reminding the external obligation Anuradha Chenoy (2007:2) expresses displeasure on India's reluctance to sign Arms Trade Treaty (ATT). She opines that if India signs the treaty the global principles will further India's interest since the ATT code encourages criteria, like promotion of democracy that favours India. Chenoy articulates India "being a victim of irresponsible arms transfers" should restrain from the arms production. Praful Bidwai supports Chenoy and advocates stopping defence production, let alone exports.

Among the aforementioned arguments there almost exists a consensus that developing countries like Indian are more prone to Imports from out side, some times at their development cost. While, majority of the writings added the economic dimension, what was commonly shortcoming was the inadequate focus on the structure of Indian defence set up, triggering factors behind this policy, security aspirations of an "emerging state". If the written arguments are to be the benchmarks to our preliminary conclusions then India's defence export policy is driven more by the external factors. Missing element in many writing, as they are written after the collapse of Soviet Union and before 11, September 2001 attacks in United States, is private companies' participation in the Indian defence production and its repercussions. Hence the proposed study attempts to capture this continuity and change in India's defence evaluation in which, India's inclination to exports are increasingly playing an important role.

Methodology

This study has adopted a descriptive and historical method. The official reports of Government of India, the Ministry of defence documents and UN resolutions and debates will be used in this research work. Apart from the above mentioned documents, secondary sources like books, periodicals, Journals, newspapers etc are used extensively. Internet sources are also used to have a wider reach to the information. Hence the technique of the study is deductive.

Definition, Rationale and Scope

This study aims at examining India's defence export policy and tries to explore the factors behind it. It to deal not only with the compulsions but investigate the capabilities and explore constrains in the onward march of India's defence export policy in the future. It also deals with evolution of Indian defence set up with emphasis on recent changes concerning the defence industry and its production capacity, keeping in view clash and the compatibilities of the requirements of Indian defence forces and the aspirations of defence industry to export overseas.

The study has importance in the sense that it seeks to provide the consistent and systematic analysis of Indian defence export policy and the intricacies of the indigenous defence set ups. At the time when India is investing heavily on defence production and initiating to export, it still spends whopping allocations (about 70%) to defence procurements, hence the proposed study by attempting to analyse the intricacies in overall issues concerning defence industry retains the relevance.

As per the scope is concerned, the proposed study will look into three factors: The nature of Indian defence export policy, what triggers this policy and how is it evolving. Secondly, to what extent Indian defence industry is prepared to fulfil the demands from the domestic defence forces. Finally, what this evolving policy means to the India's stand on various issues.

Hypotheses

1. It is the issues of economic viability of India's defence establishment that have been the reason behind the evolution of India's defence export policy.
2. India's defence exports have helped India subsidise its defence procurements and also obtain influence with recipient countries.

The above mentioned hypotheses are tested through examining and answering the following questions.

1. What is the nature of India's defence policy?
2. What are the Triggering factors behind India's defence export policy?
3. How the Policy decisions in defence exports are made in India?
4. How beneficial was the domestic defence production to India's defence requirements?
5. What are the production capabilities of India's defence industries?
6. What benefits did India get by indigenous defence production and exports?

In issues of specific outline, the present introductory chapter deals with the overall picture concerning Indian defence and briefly presents the outline of the dissertation itself.

The second chapter analyses the historical background of Indian defence perspectives and how they evolved, who the actors are etc. It illustrates the defence policies India practiced over the decades. Indian initiatives with regard to trade in defence equipment and armaments in the international fora like United Nations and on other organisations are reviewed. The chapter makes an attempt to depict the continuity and transformation in India's Defence postures.

The third chapter in its first part sketches Indian defence institutional set up. While illustrating the capacities of Public Sector Units (PSUs) it also looks into the Defence Research Development Organization (DRDO), which carries the main tasks of research

and development in defence related issues. Chapter closes with analyses of emerging trends in defence production.

The fourth chapter analyses numerous factors that are vital to Indian defence production. The chapter takes up individual factors and explores the strengths and weaknesses it poses to defence production. The chapter is significant in the sense that it takes all the minute factors that can directly or indirectly influence the defence industries discourse.

The fifth chapter of the dissertation explores internal and external compulsions behind India's defence export policy. Then capabilities of the India defence Industries and constrains like International norms building, Arms Trade Treaty and India's stance on various issues of armaments have been taken up to survey their influence on Indian defence exports.

Sixth chapter summarises the conclusion and also verifies the hypotheses.

In the end, therefore there remain severe limitations for India's limited defence production and export. However, New Delhi sees external factors converging with its domestic strategic imperatives. This convergence is driving the current evolution of India's defence export policy. It is in this context that the subsequent chapter would look into the reasons behind India's intensions to export the defence equipments. The chapters will look into strengths and weaknesses of this policy and will address the future trends. To sum up, the war with China, shrinking scope for the secured neighbourhood, and prolonged waiting for the outdated but very costly defence equipment seemed to have triggered the conditions for the domestic defence production set up. The pragmatic approach, buoyed economic growth and impressive scientific achievements added the momentum for defence exports.

Chapter- II

India's Defence Consciousness

> *We do not have a document called India's National defence policy. But we have got several guidelines which are followed, strictly followed and observed. This policy is not merely rigid in the sense that it has been written down, but these are guidelines, these are objectives, these are matters which are always kept in view while conducting our defence policy*[1]

India's defence consciousness and its practices, over the decades, have been highly contested and widely debated. It is a commonplace of the discourse on India's defence that "India does not have a strategic culture and that Indians have historically not thought consistently and rigorously about defence and strategy" (Tanham 1992: 50). To support such arguments is the limited record on defence planning or thinking in written texts, the only exception being the ancient classic, *Arthasastra.*[2]

India's defence consciousness emerges from multiple inputs. Irony is that each of these inputs could arguably produce alternative, even contradictory conclusions. India had seldom invoked the 'Defence Policy' as a distinct structured process. It may not be exaggeration to say that defence Policy, traditionally, has taken a shape out of "Governmental assessment and option to various emerging state-of-affairs" (Roy 2007: 10). Though the contemporary Indian defence consciousness has taken its shape under the individual philosophy of national leaders or political ideologies of ruling parties to "thwart evil design of visible or invisible enemy" (Prabhu 2005:16), the roots of this behaviour can best be seen as emanating from their cultural context, which is continues and dynamic till date.

In order to understand the basis of India's defence consciousness and the factors behind it, one has to devour various obstacles that are attached generally to the closed and

[1]This is the statement given in the Parliament by the former Prime Minister and the Defence Minister PV Narasimha Rao on 16 May, 1995.

[2]The Kautilya Arthasastra, a Sanskrit work of the 4th century B.C., is said to be the only text professing benefits of offensive strategy and use of force at first place in Indian defence thinking. This was the master piece during Chandra Gupta Maurya period.

confidential nature of India's defence establishment. Newspaper and Magazine commentaries are probably the largest single source on Indian defence thinking. In addition, the strategic community and the think tanks dealing with defence issues have generated a corpus of scholarly writings on defence consciousness. The texts of Indian prime ministers and other leaders who have over the years written and spoken publicly on defence policy are other sources that help us understand Indian defence consciousness. Defence consciousness in India is rooted in the domestic cultural and socio-political ethos centred on the historical experiences and of Indian freedom movement as well as the ideals and aspirations of the leaders such as Mahatma Gandhi and Jawaharlal Nehru of India's freedom struggle.

This chapter, however, attempts to piece together the major themes and events that shaped India's defence consciousness. In doing so, it invokes the offshoots of foreign, economic and internal security policies into a National Defence Policy. An attempt is made to incorporate the broad policies and thinking of important personalities of modern India with a special focus on the post independence era. The first part of the chapter outlines the defence consciousness from the view point of civilization and religious texts of India. The second section deals with the irreversible broadening of the Indian defence debates, i. e. a shift away from the small and closed decision-making of the Nehru and Indira Gandhi years to a broad-based articulation of defence concerns and resources. The final part is analytical, tracing the pattern of development of Indian defence consciousness as it stands today.

Utility of dialogue and use of force in Indian civilization

India is an ancient civilization. Its harmonious and composite culture is thousands of years old. India has been a leading nation in the fields of spirituality, science and arts for centuries; it gave the slogan of *Vasudhaiva Kutumbakam*[3] to humanity (Roy 2007:235). It

[3]Vasudhaiva Kutumbakam (from "vasudha", the earth; "eva" = emphasizer and "kutumbakam", "family") is a Sanskrit phrase which means that the whole world is one single family. The theory originates in ancient Indian texts of India called the Upanishads and is considered an integral part of the Hindu Philisophy

adheres to a long term perspective in which today's impressions may prove evanescent or unreliable. This hierarchical view of the world is informed by the basket of distinctive Hindu mythologies and symbols, which emphasize both what is worthy morally and of durable practical importance.

The *Vedic* [Hindu] Philosophy, which directs day-to-day practices of most Indians on the basis of guidelines, decided by the *Vedas,* especially the *Rig-Veda* itself, considers *Ahimsa* to be an evil-free *Dharma*[4]. Of course, this *Dharma* establishes itself in the form of duty as well as goodness (Karnad 2002:145). Therefore, along with not harming anyone by thought, speech or deed, and not depriving someone of life, relying for support of violence to maintain order and to accord justice is the basis of *Vedic Ahimsa (Non Violence).*

In essence, history reveals the presence of at least four different approaches or traditions in India's defence calculus till Jawaharlal Nehru. (Kapur 1992: 339). The oldest but not the dominant was the *realpolitik* tradition represented by the writings of Kautilya and by the history of war and statecraft in India ancient, medieval, and Mughal (Ibid). Expressed in the book *Arthasastra,* this tradition stressed the utility and moral necessity of territorial expansionism and material gain.

Modern Western institutions of statecraft such as war, alliance, intrigue and deception, spying and clandestine behavior, were/are staples in arthashastra and remain to be part of ancient and modern Indian statecraft. Kautilya was not only cautious in proposing the utility of the force and the advantage of being offensive but also pragmatic in advising his king, who is inferior to another to seek *sandhi* (accommodation) with the powerful (Modelski 1964: 549). Kautilya deals with the concept of *sadhgunya* (six-fold policy). This comprises *sandhi* (Accommodation), *Vigraha* (Hostility); *asana* (indifference); *Yana* (attack); *samsraya* (protection); *dvaidhibhava* (double policy) (Ibid). Kautilya also deals with the methods of dealing with internal and external enemies. He mentions four

[4]The Sanskrit term Dharma is a central concept that is used in order to explain the "higher truth" or ultimate reality of the universe.

upsayas (means of policy) for that: *Sama* (conciliation). *Dana* (gift), *Bheda* (dissention), D*anda* (punishment).

The above mentioned policy recommendations not only worked during Chadragupta period, an Indian king under whom kautilya was minister, but also "passed on to the present Indian thinking" (Boesche 2003: 9). "Ancient Indians viewed what prevailed was the law of the fish" (Rangarajan 1992: 15) but acted over the decades, steadfastly, on the premise that "peace begets security" (Alagappa 1998: 231). The second tradition sought a peaceful synthesis of diverse and competitive cultural and political forces. In about 5000 years of "Indian" history, both of these approaches were embedded in Indian elite and popular psychology.

The third tradition—pacifism—reflected the influence of Buddhism and Jainism in India and was popularized by Mahatma Gandhi (Kapur 1992: 340). Professing and practicing of Non- Violence has in fact embedded in every religion[5] of India. In Jainism the concept of *Ahimsa*[6] has been analyzed minutely. The Twenty-Fourth Jain *Tirthankara*[7], Mahavira, gave a unique dimension to *Ahimsa* via his own humanely practices-making it a subject of self-control, pure conduct and discipline. (Gopalan 1973: 39). "The essence of Jain Ahimsa is complete aloofness from Himsa [violence] is Ahimsa" (Ibid).

Buddhism also advocated and practiced Ahimsa. Gautama Buddha, outlet of its founders and developers was also from the followers of *Vedic* religious-community; this philosophy also had deep impact of *Vedic* philosophy on it. Like Buddhism, Sikhism also accorded its due place to *Ahimsa* (Kumar 2007:10). All Sikh Gurus and Guru Nanak Dev in particular, emphasized upon pure and virtuous humanly deeds and self-control to pave the way for developing *Ahimsa* in mans daily practices.

It gained ground as a method of social and political mobilization because of its use against British rule in India by Mohandas Karamchand Gandhi. Mahatma Gandhi stands

[5]India is the birth place of four religions: Hinduism, Jainism, Buddhism, Sikhism
[6]Ahimsa, a Sanskrit word , implies non-killing
[7]In Jainism, a Tirthankar is a human being who achieves enlightenment (perfect knowledge) through asceticism and who then becomes a role-model teacher for those seeking spiritual guidance

in a category of his own. His generalship lay not in making war but in waging peace. His weaponry was not arms and ammunition but "truth force", satyagraha as he called it. He described Satyagraha as "a force born of truth and the love of nonviolence", a moral equivalent of war. In his own words *"nonviolence is mightier than the mightiest weapon of destruction, devised by the ingenuity of man"* (Gandhi 1955: 112). He shunned violence in any form as an instrument to force the pace of change.

Mahatma Gandhi bequeathed to India and the world three guiding principles: *Ahimsa* (or nonviolence), *Satyagraha* (or the force born of truth and nonviolence) and *Sarvodaya* (or upliftment of all) (Deats 2005:34). This is in keeping with the Gandhian consonance of ends and means. Mahatma Gandhi was decidedly against the idea that violence is the only answer to violence. As he famously remarked: "An eye for an eye only ends up making the whole world blind" (Ibid). Mahatma Gandhi even declared that intolerance is the worst form of violence.

In the immediate aftermath of Hiroshima, Mahatma Gandhi had said that the moral to be legitimately drawn from the supreme tragedy of the bomb is that it will not be destroyed by counter-bombs, even as violence cannot be destroyed by counter-violence. Gandhi has left a legacy to all to experiment with Truth in every area of life, thereby giving call to join the global movement of nonviolence, justice, and disarmament. Gandhi brought a "good harmony among all Indian concepts pertaining to *Ahimsa"* (Srinivas 1995:90). This clearly indicates that Gandhian non-violence is an excellent introduction to the Indian concept of *Ahimsa* overall.

But to put it briefly, it should be placed in pre independence history; despite the resort to Gandhism in post-1947 Indian official rhetoric and despite Gandhi's place as the father of the nation, though India's approach to diplomatic and military affairs was not based on Gandhism (Deats 2005: 66) it deserves a mention as a "symbol of ideas, as an expression of morally concerned pacifism and politicized Hinduism, which have a popular and historical base in Indian social thought" (Ibid). Gandhi's non-violence was in turn inspired by the example of King Ashoka of India, who lived approximately 304–232

B.C.E and who established the first nation committed to abstaining from violence (Ibid). King Ashoka was a Buddhist convert, giving up a lifetime of brutal conquests that had built an empire with uncountable corpses, grieving widows, and orphaned children as its foundation. Ashoka disbanded his armies, sent missionaries of peace around the world, imported medicinal plants to help his people, established a public health care system for people and animals, and abolished capital punishment. As H.G. Wells (2004: 67) put it, "Amidst the tens of thousands of names of monarchs that crowd the columns of history ... the name of Ashoka shines, and shines almost alone."

The fourth tradition is revealed by the principles and strategies employed by the British to organize Indian political and strategic affairs from the 1600s onward, especially from 1757-1947. British rule in India had a benign character as a result of the introduction of the legal code and the rule of law; but, on the other hand, political and military order and British authority in the Indian subcontinent were achieved by a process that nursed rivalries among neighbouring princes and by the skilful use of "intrigue, alliances, and superior British military force" (Kapur 1992: 355). They indicate that the "British rule in India reflected a well-defined theory of power politics and power, but there was no well-defined Indian theory of power that combined force and diplomacy" (Ibid). Whether the same tradition continued after the independence or not is the matter of debate.

India's Defence after Independence

Each of the above mentioned traditions had an influence, negative and/or positive, on independent India's political leadership, especially Nehru, the man in charge from 1947-1964. Underlying the supremacy of national security goal is also the belief and the experience of colonialism and foreign invasions and domination. Historically, as and when India had a weak or a fissiparous state structure, the country had been prone to foreign domination and rule. "Pre independence history is the context in which Jawaharlal Nehru's diplomatic and military ideology was formed" (Ganguly 2003:57). Nehru adhered to some principles and policies that arguably were "idealistic in their inspiration" (Ibid: 58). Nehruvian consensus was built around the ideals and principles that had developed in the

course of India's struggle for freedom. Nehru had "combined Gandhian moral and social imperatives while analysing the course of international relations" between the two World Wars (Ibid).

Nehru had a conception of India as a model of peace and democratic development and a conception of global economic and social security through peaceful change. "Nehru and his successors till 1998 promoted a foreign policy based on the ideology of Non-alignment and zone of peace and peaceful coexistence among nations including India's two hostile neighbours, Pakistan and China" (Kapur 2006: 63). As early as 1928, Nehru stated his position on defence on several occasions for example: "when freedom comes, we shall develop our army and strengthen it and make it more efficient than it is today" (Smith 1994:76). Nehru had found that the two dominant norms in international relations were the politics of power and the threat of force.

It remains a matter of debate among scholars to view Nehru as an idealist who sought to base Indian foreign policy on certain ideals; or somewhat even as a realist who accorded high importance to diplomacy in order to circumvent the power politics of international system (Kapur 1988: 693)). "Nehru cast Indian diplomacy and military strategy in terms of the need for global disarmament, North-South economic-political dialogue, reforming the United Nations systems or reduction of East West tensions and a commitment to a world of norms rather than a world of power" (Kapur 2006: 63). When designing policy for defence, he seemed keen to ensure three basic conditions. First, "the armed services and the threat of militarism had to keep in check". Second, "attainment of self-sufficiency[8] in defence" and thirdly and most importantly, over the course of nation-building programme, "expenditure on defence should not reduce significantly the resources available for investment" (Ibid).

Nehru policy laid the foundation of India's vast "educational and scientific infrastructure on which the country's current soft strengths are rising" (Kavic 1967:112). As far as

[8]Strategies like self-sufficiency and license production were vigorously pursued to achieve some degree of self-reliance at time when India had only a rudimentary defence industrial infrastructure

defence is concerned, Nehru has been termed as "one of the most sophisticated grand strategists" (Bajpai & Mattoo 1996: 13). Internally, Nehru preferred nation building and in defence he planned and focused on self- reliance, which is still to be realized. Nehru believed India's moral and political stature would gain from emphasizing the peaceful aspects of nuclear energy and assuring the world India opposed nuclear weapons. On the other hand Sardar Patel, the man in charge of Home Affairs at that time adapted a tough stand to integrate over 600 princely states[9] into Indian union. Most Indians agree that its first Prime Minister Jawaharlal Nehru had defined unique policies for India at the very dawn of its independence. Despite many critics of his world view, "broad national consensus had emerged around Nehru's ideas on independent foreign policy, non-alignment, and third world solidarity" (Mohan 2006:212). Externally Nehru viewed Cold War as excessively militarized. This militarization included an "arms race that quickly became a nuclear arms race, endangering the entire world". (Cohen 2001:197). While he permitted Homi J. Bhabha[10] to develop the facilities that eventually produced an Indian bomb, he remained strongly opposed to nuclear weapons, to their testing, and to the risk of a global holocaust. To distance from this vertical divide of the world, Nehru initiated Non- Alignment Movement (NAM) to maintain independence in decision making.

NAM, in Nehru's times, was used as a "bargaining chip in international politics" (Karnad 2005: 134). India through NAM advocated disarmament and cautioned the newly independent states not to involve in arms race. Even to reduce the existing weapons in the world, Nehru called for a worldwide test ban treaty (CTBT) in April 1954. The intention was to end the nuclear arms race, in which the United States and Soviet Union had just been joined by Britain. He proclaimed that it "will take us towards disarmament and peace". The USSR responded to Nehru's call by moving a draft resolution in the UNGA for convening an international convention on the reduction of armaments and the prohibition of atomic, hydrogen and other weapons of mass destruction (a resolution that

[9]Princely State (also called Native State or Indian State) was a nominally sovereign entity of British rule in India that was not directly governed by the British, but rather by an Indian ruler.
[10]Homi Jehangir Bhabha was an Indian nuclear physicist who had a major role in the development of the Indian atomic energy program and is considered to be the father of India's nuclear program.

was subsequently adopted by the UNGA as Resolution No.808 (IX) on 4 November 1954.

Keeping his words Nehru was one of the first world leaders to sign the Partial Test Ban Treaty (Singh 1984: 42). With regard to the Indian sub-continent and the extended neighbourhood his actions preferred dialogue not the force. Signing of Panchsheel[11] agreement in 1955 to evolve a peacefully coexist with China is the vindication of such stance. Nehru's initiative on Non-Alignment, the choice of the UN as a forum to settle the Jammu and Kashmir issue even when it was winning the war, the restraint in the nuclear weapons field are indicative of the underlying Indian belief in negotiation and tolerance as the essential element of state policy.

China Factor: from an allay to betrayal

"China did not figure prominently as a classical enemy, but a sense of Indian rivalry with China has emerged" (Cohen 2001: 200). The Buddhist links between Indian and China, Nehru's attitude and support to China on various issues signalled as if they are allies. But the 1962 war changed all. The debacle caused by China's invasion led to a loss of Nehru's credibility and on his model of defence through development. As a result, it bolstered public support for Indian defence expenditures. It has also changed the domestic political context of Indian defence planning and thinking. Indian public opinion was radicalized, and India's defence posture began to be questioned; the closed nature of Nehru's small decision making structure was opened up (Ibid)[12]. Indeed, the 1962 crisis changed positively the defence decision making process there by change in defence thinking in India.

Most importantly, India embarked on a substantial program of military modernization. It committed itself to the creation of a million man army with ten new mountain divisions

[11]The Five Principles of Peaceful Coexistence or Panchsheel are a series of agreements between the China and India

[12]Stephen P. Cohen in the second chapter of his book *India: Emerging Power* (Washington, D.C.: The Brookings Institution), 2001, examines the shifts in strategic orientation and in the foreign and defence policies of Nehru and his following leaders. What is remarkable notwithstanding these policy shifts is the resilience of core values and their continuity.

equipped and trained for high altitude warfare, a 45 squadron air force with supersonic aircraft and a modest program of naval expansion (Brecher 1977: 100). What is unchanging though, in reflecting or substantially modifying Nehru's approach to defence issues, his successors drew obliquely on the pre-1947 traditions in responding to changing international, regional, and domestic imperatives (Singh, 1984: 99). Hence, a link exists between the pre independence history and post-Nehru Indian defence thinking.

India's defence policies underwent an "unnatural change under the leadership of Indira Gandhi" (Kapur 1992:703). Indira Gandhi came to accept the importance of defence preparedness and "increasingly overcame its reservations about the use of force in international politics" (Ibid). Not surprisingly, when faced with several million refugees from East Pakistan as a consequence of the outbreak of a civil war, the country quickly forged a plan to military intervention in East Pakistan, now called Bangladesh. Another major shift in India's defence behaviour was 1974 nuclear testing. India for the first time conducted Peaceful Nuclear explosion, which many perceived as the turning point in India's stance on Nuclear weapons. Those testing, which were later culminated with a full scale nuclear testing in 1998, helped India moved from its traditional emphasis on the "power of the argument" to a new stress on the "argument of power". (Mohan 2006: 221). This in turn has triggered the major shift in India's security calculus and defence preparedness.

Succeeding Indira Gandhi was her son Rajiv Gandhi. In 1988, he presented to the UN General Assembly a detailed, phased "Action Plan" for Ushering in a "Nuclear Weapon-Free and Non-Violent World"(Ahuluwalia 1985:119). It calls upon the international community to negotiate a binding commitment to general and complete disarmament. It urged for the total commitment without reservation. The plan prescribed a binding commitment by all nations to eliminating nuclear weapons in stages, by the year 2010 at the latest. Rajiv Gandhi, on behalf of India, proposed negotiations to commence in the first stage itself for a new Treaty to replace the NPT, which was to expire in 1995. He urged the international community to immediately undertake negotiations with a view to adopt a "time –bound Action plan" to usher in a world order free of nuclear weapons and

rooted in non-violence (Ibid). Domestically, Rajiv Gandhi talked about India in terms of the 21st century and high technology and this served to further the ambition of self reliance in defence strength.

Collapse of the Soviet Union: Its repercussions on Indian defence calculus

The collapse of the Soviet Union was a traumatic experiance for India not only because of economic and military dependence but also because it removed "India's counter to an increasingly powerful China which posed a military threat" (Tanham 1992: 4). Though PV Narasimha Rao, the then Prime Minister of India, ensured a soft landing for India, the biggest concern remain undoubted was defence. That was also the time when a new wave of economic globalization left India scrambling to find new anchors for its conduct of external relations and to maintain domestic defence (Ibid). The fear of the new and fondness for the old lingered in India's policies.

With the BJP led National democratic Alliance (NDA) taking the reigns "realpolitik and furtherance of India's national interest outweighed principles of non-alignment and peaceful conflict resolution" (Karnad 2002:149). The BJP's concern with strategic thinking was demonstrated with the 1996 publication of the future foreign minister Jaswant Singh's *National Security: An Outline of Our Concerns*, which critiqued the lack of strategic thinking in previous regimes and offered his own outline of strategic considerations for the future.

The government also created a National Security Council and the National Security Advisory Board (NSAB). The NSAB was partly composed of India's foremost strategic thinkers, including journalists, academics, and former officials, and was charged with assessing nuclear doctrine and security strategy (Prabhu 2005: 18). In the fifty years prior to the creation of the national security architecture, elite groups of bureaucratic "mandarins" in the Indian Foreign Service and the Indian Administrative Service had run foreign and defence policy.

Working primarily through the Cabinet Committee on Defence and National Security, they were largely divorced from politics and from strategic thinking. There was no inter-agency process nor was there an open parliamentary process Instead, "the decision-making process took place largely behind closed doors in the respective ministries and in the cabinet" (Ibid: 19). The armed forces were excluded from the decision-making process due to distrust of the military by Nehru and other political leaders.

Traditionally, the minister of defence and other ministers were only asked for clarification on technical matters in parliament, and they were not subjected to probing questions, not even from their respective parliamentary committees. The establishment of NSAB changed all that and enhanced the scope do discuss and debate the defence related issues in various open forums.

The phase 1998 to 2007 marks the most significant period in India's defence calculus. In contrast to the earlier times the current period is "more of activism" (Tellis 2002:118). The turning point, as mentioned above, in India's defence policy came in 1998 when India conducted its nuclear tests and declared itself as a nuclear weapon state. Within seven years after its second round of nuclear testing in 1998, India signed the historic nuclear deal with the U.S. in July 2005 under which the U.S. agreed to change its domestic non-proliferation law and revise the international guidelines on nuclear cooperation in favour of India.

In August 2008 International Atomic Energy Commission (IAEA) and Nuclear Suppliers group (NSG) approved it. Furthere more, the nature of warfare is changing and is likely to affect the role of the armed forces. In India, threats have changed, limits of intervention are underlined and there is maturity in decision making. Apart from military aggression, "armed forces can play a number of other stabilizing roles in the vicinity" (Mohan 2006:224). Keeping all this in view, India is increasingly engaging with the powerful states and diversifying defence ties with various states. India has already conducted joint military exercises with China and United States. India is contemplating such exercises with Omen, France and Japan etc.

This is in contrast to New Delhi's experience of defence ties with Moscow, which primarily consisted of arms purchases without joint military exercises or exchanges (Ganguly 2003: 40). This, in turn marks the new journey of India's defence thinking. The destiny of this journey and the nature of this trend can and will be known only after some time. But what appears to be imminent from Indian side is the strong dose of indigenization driven by the exuberant Indian economy helped by an ever changing technology.

Continuity and Change in India's Defence Consciousness

India and the Indian leaders have often been accused of "lacking strategic vision" (Tanham 1992: 101). India chose the route of non-violence and of political struggle through constitutional means to wrest freedom from colonial rule. Its leaders brought to bear on the freedom movement a long tradition of negotiation and debate instead of armed struggle. Though such claims have been rebutted from time to time, India, at present, is in the midst of the "lengthy process of moving from the status of a defensive sub-regional, middle power, without a clear security strategy, to that of a more offensive-minded major power, with nuclear weapons" (Paul 2003: 75).

To begin with, "ensuring the security of India, preserving its democratic way of life, and creating the preconditions for comprehensive economic development have been the main objectives of India's foreign policy" (Raju 1986:32). Incidentally, these features formed the core of defence consciousness. Many such objectives are obviously common to other states in the international system as well, but the indelible experience of repeated foreign invasions like Alexander of Greece, the Scythians, Genghis Khan, Mahmud Ghazni (17 times), Mohammed Ghori, Timur the Lame and the Mughals (Ibid:98). In the later part the lengthy colonial domination also embedded this coloration in the Indian mindset.

Independence requires the absence of all competing influences along India's immediate periphery. This vision of security, readily consistent with a realpolitik (or realist) tradition of politics, could in principle justify a relatively muscular regional security policy—something India's smaller neighbors, especially Pakistan, fear and often accuse New

Delhi of. Such tendencies have usually been "tempered by India's civilizational ethos and a political culture that, emphasizing moderation and conciliation (often to the point of inaction), places a great premium on negotiating political compromises rather than pursuing military strategies aimed at administering absolute defeat on other" (Alagappa, 1998: 77). Since the end of the Cold War, "India's focus has been on economic renewal in order to secure the great power capabilities that eluded it" (Gupta 1995: 441). Toward this end, it has begun economic reforms at home while pursuing a good-neighbour policy toward the small South Asian states, with the intent of both minimizing resistance to the growth of Indian power and securing joint gains by assisting elites within these countries to resolve various internal problems.

It is true that Indian approaches to the use of force range from "distaste (under Nehru) to outright aggression" (Indira Gandhi) (Kapur 1998:694). These apparent contradictions are actually representative of the change India has undergone. Given its noisy democracy and rich Non- violent ethos, India cannot build domestic political support to defence and foreign policy initiatives purely on the argument of power. It would continue to need a set of values and norms to justify its actions on the world stage. As a consequence the tension between "power and principle" would remain an enduring one in India's defence strategy (Mohan 2006:221). But there is consensus on Indigenization of defence production and modernization of military. India is already undertaking these two in a big way.

To sum up, while Indian strategic culture supports ethical views that accord respect for human life, good governance, just administration of law, and social morality in ways that dovetail naturally with contemporary international norms of human rights, that strategic culture is flexible rather than doctrinally prescriptive on specific issues of war and peace, foreign or defence policy, and possession and use of nuclear and other Weapons of Mass Destruction (WMD). India's historical record in this regard is rather balancing.

While western scholars accuse India of a state without strategic culture, the State on the "strategic defensive" (Tanham 1992: 52), and without defence consciousness, its

neighbours allege it for the "excessive use of military Power" (Cohen 2001: 80). This contradiction of description will stay and unlikely to change in the foreseeable future. A scholar like Cohen feels that "India should not be rushed to develop a clear and coherent national security strategy". It will come in time in a slow evolution, as Indian think through various issues and act on them. Some even feel that greater Indian political stability would lead to greater clarity in strategic pronouncements. While there are arguments which emphasize that though India's independence in 1947 marked an administrative and ideological break between Indian and British, "continuity has defined India's geo-strategic policy" (Alagappa 1998: 77). It is viewed that to prevent the emergence of a genuinely independent power along India's borders, "India pursued this goal by a combination of diplomatic manoeuvre, economic blandishments and military coercion" (Ibid).

In the Indian case, as this chapter has dealt, there seem to be a powerful discourse which emphasises not the country's intermediate status but rather its historic civilization and distinctive culture. Its projections to become a great power still keep continued to role as the natural leader of a closed region in which outside interference is deeply resented. Power is conceived within this discourse both in material and moral terms. The post-independence Nehru project was about modernization and material development (of which the nuclear programme formed a logical part) and about the creation of a regionally and internationally powerful country. But it also involved the development of a moral and moralizing foreign policy which saw "India as the representative of a particular set of values and principles of international legitimacy" (Smith 1994: 55).

There is no uniformity of agreement on what decides a defence policy, which over the years becomes the defence consciousness of that country. "Political factors" (Thomas 1986: 238), "armed forces" (Kavic 1967: 17), "Geographical conditions added with the countries material resources" (Alagappa 1998: 78) all seem to have been playing their part in anchoring particular defence policy. However, three factors appear to have dominated in Indian defence consciousness. The first is the "regional threat perception that focuses primarily on the neighbours": Pakistan, China and subsequently the other

regional powers. The second factor is the "urge for self- reliance," which could mainly be seen in the context of India's relations with the West and the former Soviet Union. The threat perception in this case rested on a wide spectrum of relations including those dealing with the trade and commerce (especially in armaments). The third dimension of Indian defence consciousness is "the debate over the self-determination and limits to its application" (Paranjpe 1998: 140).

Going by the past experience it is impossible to predict the contours of trends in India's defence consciousness and practices with any confidence. At best, it might be possible to set forth a range of futures and use them to develop policy recommendations, but it would be unwise to assume that even a straight-line projection of the present will yield a reliable vision of the future. Nevertheless, any likely response from India to defend itself or to offend any other state will "surely carry with it the influence of putting premium on the peace and professing tolerance that has been painstakingly practiced over the centuries" (Alagappa 1998: 80). This is not to suggest that an emerging state like Indian will never resort to force. After all, it is the sovereign right of every nation to defend its security by means and methods that it considers as appropriate.

Chapter-III

Evolution of India's Defence Production Sector

> ..... *every state in international politics is not in conflict because they are armed. They are armed because they are in conflict and have not yet learned peaceful ways to resolve their conflicting interests.*[1]

India has an extensive defence production base and possesses one of the largest and most significant defence production capabilities in the developing world.[2] Though the foundations for India's defence industry are widely believed to have been laid in 1801,[3] "the birth of India's current defence industrial really came during the Second World War, when the decision was taken to establish a limited defence production capability in the country, to support the British war effort in Asia and the Middle East" (Kumar 2007: 40). But the production capability, then, was limited, confining only to repair and overhaul of the imported weapons.

After independence in 1947, India's defence sector underwent a rapid change. Pushing this process were the developments occurring globally, in adjacent regions, within the Indian sub-continent, and domestically. Key developments that had repercussions to defence included the "growing ascendance of economic power as a key factor in international relations, India's relationships with the United States and Russia, and continuing unease with China and Pakistan" (Bedi, 2000: 3718). Security concerns coupled with the dynamics of the issues derived from the global Revolution in Military Affairs (RMA) and India's impressive rise in scientific and technological stature seemed to have played an important role to hasten this process.

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[1]U. S. President, Richard Nixon, quoted in Charles W.Kegley Jr. and R. Wittkof (1993), W*orld Politics: Trend and Transformations*, New York, St. Martin Press.

[2]Defence production set up is referred to as an industry units or set of units devoted to the production of military weapons and services for the national security forces of the producing country

[3]The establishment of the Gun Carriage Agency in Calcutta in 1801 was the beginning of the defence industry in India.

Evolution of India's Defence Production Sector

Examined in this chapter is the evolution of India's defence production set up and the features associated with it. The first part of the chapter describes the historical march of India's defence Industrial structure, following with the critical analysis of the strengths and weaknesses attached to it. Second part of the chapter deals with the contemporary scenario of Indian defence production sector, and the final part looks into the possible future challenges and showcases the probable prospects.

India's Defence Production set up: Historical overview

In India, the initiation for the defence production was taken by the colonial rulers. The first among them are gun and shell factory at Cossipore (near Kolkota), established in 1801, an ammunition factory at Kirkee of 1889, a rifle factory at Ishapore of 1901, a gun carriage factory at Jabalpur of 1904. In British rule "possible threats to the sea lanes of communication in the Indian Ocean and requirements of the allied forces in the region, made it necessary to double the number of factories during this time" (Mohanty 2004: 35). In brief, pre-partition Indian defence-industrial capacities were confined only to a "supplementary role and were placed at the lowest end of the production spectrum" (Ibid: 41). These factories were built mainly to produce for the British forces.

After the Independence, India maintained defence industrial base principally owned by the government. While the rest of India appeared to be racing into the 21st century, its "defence sector was glossed over by the Nehruvian socialist and protectionist past, with bare minimum opening to the private sector" (Bitzinger, 2007: 1). In the initial years, defence industrial policy was guided by the simple phrase called 'self sufficiency'[4]. It was later replaced with 'self reliance' in defence production and has become a matter of varied interpretation. While for some it means the ultimate objective of complete non-dependence on imports for defence hardware, for others it means "selective self-sufficiency in certain critical technologies" (Rai 2000: 33). And for some others it is a

[4]"Self sufficiency" is the phrase which guided the defence industrial policy in the initial years after independence. This was subsequently modified to "Self-reliance" Self-reliance always meant meeting India's immediate demands through imports from foreign sources while also simultaneously striving for indigenous capabilities in defence production.

simple reduction in the ratio of imports to indigenous sources of supply to the armed forces.

India's military industrial complex or the defence industrial base lies in three main classes of enterprises: the Ordnance Factories (OF), the Defence Public Sector Undertakings (DPSU), and, to a much lesser extent, selected civilian public and private sector manufacturing establishments. The OFs are departmentally run government units. There are 39 ordinance Factories (OFs), grouped into five areas based on the type of armaments they produce: Ammunition and Explosives, Weapons, Vehicles and Equipment, Armoured Vehicles, and Ordnance Equipment. There are eight publicy-owned DPSUs: Hindustan Aeronautics Limited[5]; Bharat Electronics; Bharat Earth Movers; Mazagaon Dock Ltd; Garden Reach Shipbuilders and Engineers Ltd; Goa Shipyard Ltd; Bharat Dynamics Ltd; and Mishra Dhatu Nigam Ltd. (Defence year book 2009:29) Both the OFs and the DPSU's are trying to move toward greater self-reliance. The bulk of OF production constitutes large quantities of low-medium technology armaments, including small arms, anti-tank and anti-aircraft guns, mortars, rockets, and ammunition. Commercial products include sporting arms and ammunition, automobiles, chemicals, power generators, and clothing (Singh 1997: 45). Apart from the above mentioned factories two more factories are being set up. The 40th factory is being set up in Nalanda, Bihar, for production of Bimodular charges and the 41st at korwa, Uttar Pradesh for the production of new generation carbines.

India's present largest and most capable DPSU, Hindustan Aeronautics Limited, was created in 1964 and focuses on the design, manufacture, repair, and overhaul of aircraft, helicopters and related sub-systems. Baharat Electronics Limited is the major electronics manufacturer in India. Mazagon Dock Limited, taken over by the government in 1960, is the principal builder of warships, submarines, and offshore platforms. Baharat Dynamics, created in 1970, focuses on advanced guided missiles. Mishra Dhantu Nigham Limited concentrates on advanced materials development for a broad range of military and

[5]This is the largest Indian company along with two more among top 100 companies of the world defence production outfits.

commercial applications. Please see the table 3.1 for details on India's domestic Defence Production capacities.

Table No.3.1: India's Domestic Defence Production: Select Indicators

Industry/ No. of Units	**Value Of production 2006-07 (in millions)**	**Value Of production 2007-08 (in millions)**	**Major production**	**Defence/ Civil sales as % (1993-94)**
Ordinance factories/ 40	-	-	Arjun,T-90, T-72, ICVs, INSAS	90/10
Hindustan Aeronautics Ltd/14	92,020	87,910	Cheetah, Chetak, Dhruv,Marut,Migs, LCA, PTA,ALH,etc	94/06
Bharat Electronics Ltd/9	39,526.9	41,025.4	Sonars communication systems, electronics	45/55
Bharat Earth Movers Ltd/9	25,907.5	28,269.4	Military vehicles, heavy earth moving equipment	6/94
Mazagaon Dockyard Ltd/4	18,722.4	23,216.9	Veer Coverters, Khukri	45/55
Garden Reach Shipbuilders& Engineers Ltd/2	64,16.6	5,734.7	Brahmaputra class Frigates, Khukri, Merchant ships	82/18
Goa Shipyard Ltd/1	3,172.1	2,670.7	Samar OPV, fast attack Patrol Crafts, Sukanya OPV	99/01
Bharat Dynamics Ltd/1	3,858.37	5,058.48	Prithvi Missiles, Akash, Trishul SAMa, Nag ATGM, INSAS, LMG,etc	99/01
Mishra 'Dhatu Nigam Ltd/1	2,238.8	2,964.0	Various alloys, specialized metal plates and others	50/50

Source: Adopted From (Mohanty 2009: 86: 87)

At the top is the powerful and influential Defence Research and Development organization (DRDO), which is charged with designing, developing and managing the country's indigenous weapons programmes. Established in 1958, DRDO coordinates all the research and defence developmental activities. DRDO employs about 40,000 people, and operates through a network of 50 laboratories, 70 academic institutions, 50 national science and technology centers, and about 150 state-owned and private industrial units

(Ibid). The DRDO mission is to pursue self-reliance in critical military-relevant technologies. Overall responsibility for armaments development and production lies with the Department of Defence Production and Supplies in the Ministry of Defence, created in 1982 with a primary objective of developing an integrated defence industrial base for production of armaments (Ibid). Aftermath of 1962 there was a sense of urgency and desperation in the policy making circles of India. The shift is more evident in defence policies than any other. India has though continued with a broad policy of "defensive defence" (Singh 1996: 76). Weapons modernization, changing nature of war and the rising threats alongside the border and beyond have further facilitated the shift to "defence through deterrence"[6] (Ibid).

Towards the goal of self reliance

India has long embraced the idea of building a high-tech, self-sufficient arms industry, going back to its attempt in the early 1960s to design and build its own fighter aircraft, the HF-24 Marut[7] (Bitzinger 2007: 2). Ambitious plans for self-reliant arms production were formulated under the Minister of Defence Krishna Menon in the late 1950, but "competing claims on India's scarce economic resources, economic difficulties, the small industrial base, run-down foreign exchange reserves etc limited actual production" (Brzoska& Ohlson 1986: 19). India has tried to achieve self-reliance by a combination of diversification of sources of supply, licensed manufacture of armaments, and indigenous design, development, and production. However the decade of wars starting with the Sino-Indian conflict of 1962 caused India to forgo extensive indigenous developments in favor of "rapidly acquiring Soviet equipment on long-term credits at low interest rates" (Singh 1997:68) At that point, licensed manufacture of Soviet systems became the primary vehicle for self-reliance.

[6]The term is used generally to refer to a strategy in any field of potential conflict of being prepared to inflict unacceptable damage on an aggressor, and making sure the potential aggressor is aware of the risk so that he refrains from aggression.

[7]The project was initially taken up with the help of West Germany, but later Indian government could not take the project to the logical conclusion.

In 1994 India developed a ten-year plan to self-reliance. The plan focused on high technology armaments and is intended to make India "significantly independent of foreign technology in critical areas by 2005" (Ibid). The initiative focused on three areas: self-reliance in spare parts of specific weaponry; life-extension of existing weaponry by developing critical subsystems domestically; and increasing the indigenous development and production of high technology armaments (although complete self reliance may not be possible). Areas targeted for greater indigenization included missile components, early warning systems, radar, metals, robotics, fiber optics, lasers, Unmanned Aerial Vehicles (UAVs), and stealth technology.

In light of new global defence industrial realities, many initiations were mooted and steps were taken to reverse this policy. It all started when India in 1999 decided to host its first international land and naval systems exhibition, DEFEXPO[8] INDIA'99. All of the OFs and DPSUs and several private sector companies displayed products. About 80 Indian companies participated. Attendees included representatives from 30 countries and 117 foreign companies. According to India's Defence Minister then, the objective of this exposition was to "interest foreign partners in international collaboration and joint ventures, technology transfers, and co-production facilities to develop and produce arms exports for sale to third countries" (Mohanty 2009: 83). Minister also mentioned that India was considering exporting certain kinds of missiles and armor systems to friendly countries.

Transformations in the Defence Industrial Base

Gone are the days when India, constrained by limited resources and Cold War politics, depended significantly on the single-source, "cheap Soviet-era weaponry for its armoury" (Ibid : 90). With the end of Cold War and the global political realignment, especially post 11, September, 2001 Indian security requirements are no longer viewed adversely by the West. The impressive growth story of the Indian economy and its global character has

[8]The Defexpo India exhibition was conceptualized in the year 1998 by the Department of Defence Production, Ministry of Defence Government of India in partnership with the Confederation of Indian Industry with an objective to promote defence exports from India at the same time exhibit the capabilities of Indian Defence R&D and production.

favourably moulded the West's perception of India, which increasingly sees it security interests broadening as the economy goes global. The modernization drive of the defence infrastructure triggered "India to spend more than Rs. 80,000 crore on procurement of defence items in the last three years" (2005-08) (Ibid). In all possibility the total procurement budget would amount to a whopping Rs. 1, 88,000 crore in the next five years[9]. The huge potential of the Indian arms market is what makes it attractive to global companies who are constrained by shrinking defence spending in their domestic markets.

There is a strong rationale for major changes in the Indian defence industrial base. Much remained the same despite of the slow transformation in many areas. Hindustan Aeronautics Limited (HAL), for instance, India's premier aerospace company, has a massive infrastructure, poor productivity and efficiency, high overhead costs, much obsolete production technology, no experience with competition, and significant idle capacity due to declining Indian Air Force orders (Jayal 1998: 534). At the same time, HAL has a talented and motivated workforce. Some are encouraging restructuring and partial divestiture, placing HAL under professional corporate management, encouraging HAL to compete in the international market place, and diversification into both the civilian and export markets (Ibid: 539). Publicly held companies, facing growing under–utilization, rely heavily on government subsidization. For example, the utilization of the Ordnance Factories dropped from 100 percent to 68 percent of capacity from 1988 to 1994[10]. In another example, in late 1996 it was reported that the Avadhi tank factory, which manufactured T-72 tanks under license, had an annual capacity of 100 vehicles but production had not exceeded 75 units. Added production costs caused by supporting ancillary industries and inflation often resulted in vehicles "costing more than those bought directly from Russia" (Singh 1996:80).

[9]After the attacks in Mumbai, Govt of India in its interim budget-2009 allocated Rs 1, 41,703 crore (Rs 1,417.03 billion) for defence sector, almost a 35 per cent increase from the previous year's budget provisions.
See http://www.idsa.in/publications/stratcomments/LaxmanBehera180209.htm

[10]For the lucid analysis of the problems of Indian defence ordinance factories see http://pd.cpim.org/2008/0525_pd/05252008_20.htm

The Ordnance Factories also have obsolescent equipment and are developing low-end technology products. The Parliamentary Committee on Defence has directed that the underutilized capacity be leased to the private sector, that the labour force be reduced, and that the "OFs not duplicate technology development available in the civilian sector" (Basu 1997: 124). Though the government has taken steps to modernize the OFs, pledging $1billion for investment over the next five to seven years, the real issue is that "about 40 percent of the equipment needs replacement"(Ibid). There is no current intent to downsize the workforce, but some are arguing that without major changes in the administrative structure, and fewer staff, the OFs will not be able to meet India's requirements and continued imports will be required.

The Pace of change: Entry of the private players

The decision to privatize India's defence sector has been debated since the early 1990's. DRDO in 1998 opened up seven of its laboratories involved in dual-use technology and software development to the private sector. The then Defence Minister Fernandes argued that privatization "would not only upgrade obsolete machinery in DRDO establishments, but also push up exports". A government committee headed by the Vice Chief of the Army Staff Lt.Gen. Chandra Shekhar concluded that "India is far from achieving its self reliance goals", and advocated "basic changes in government policy and in the defence industrial base" (Mohanty 2009: 82). These included: increased participation by private industry, with a view to increasing export market share, overhauling the existing OF/DPSU operations to make them more flexible and improved procurement procedures. A better long-term perspective, and private industry involvement, was viewed to be essential to the reform of the defence industrial base.

In 1998, Confederation of Indian Industries (CII) was entrusted the task to suggest ways to revamp the DPSUs and privatize them in 45 days. Six committees were formed to establish six task forces to identify specific partnerships areas with at least seven DRDO laboratories involved in developing dual–use technologies, bio technologies and software products, but no progress has been made to date. However, some argue that the "huge

investments required by the private sector, combined with the unsteady demand for armaments is economically unsound, unless India wishes to export weapons to help support the defence industry" (Ibid). Thus, a gradualist approach to the privatization of part of the defence industrial base is argued, with only incremental strides anticipated towards this goal.

Although there has been an effort in recent years to expand civilian participation in defence production, there is a general consensus in the Indian defence establishment that "no clear government policy exists which formalizes an alliance and strategic partnership between the armed forces and private industry" (Ibid). One of the areas in which Indian defence sector is "almost satisfied and well in advance is in the space programme" (Paranjpe 1998: 139). There are precedents in the Indian space program that also indicate shifts in government views of high technology industry and export requirements.

The Indian government has recently agreed to transfer rocket building and satellite launch activities away from the state owned Indian Space Research Organization (ISRO). This will allow ISRO to concentrate on high-tech research and development and systems engineering, while at the same time facilitating the ability of private industry to operate in foreign markets. The same procedure in defence industries may yield the good results. The evolution of India's defence production set up has been exposed in DefExpo 2008, the fifth biennial defence exhibition on land and maritime systems held in New Delhi, which conveyed most emphatically India's growing clout in the international arms bazaar, "albeit mostly as a buyer"(Mohanty 2009: 77). The exhibition was attended by a "record 475 participants, including 273 foreign companies from over 30 countries" (Ibid). If recent evidence from the DefExpo, 2008 is taken into account, it will be seen that the area of activity of the private sector extends into virtually all the spheres of military production. Besides, the private sector has been able to form various degrees of partnership with major global defence contractors who, in turn, are increasingly relying on the Indian private industries to obligate the mandatory defence offsets requirements.

The TATA-Boeing joint venture[11], besides numerous other such ventures between Indian private industry and global contractors, declared during the course of the exhibition, shows the transformation of the Indian private industry from a mere "supplier of raw materials and components during the pre-liberalisation period to a credible defence industrial partner capable of producing complex defence systems" (Ibid: 4). While the transformation of the Indian private defence industry augurs well for the country's defence production, at the same time, it has vital implications for the existing state-owned enterprises. The state-owned industries, of late, have been over-shadowed by their private counterparts who are acquiring a new status due to their quick adaptability to the market situation and by forming global partnerships. As the Indian arms bazaar heats up in the coming years, the private players, supported by recent government policy, will intensify their involvement in the market and try to corner the maximum market share. The state-owned industries, which had monopolised the domestic market for a long time, will have to compete with these new players in the market, and will have to get their act together to justify their existence.

Government measures such as foreign direct investment[12] (FDI) in the defence industry and defence offsets[13] have been taken to provide a fillip to private sector participation (Mitra 2009: 2). Since the liberalisation in 2001, the private sector has shown a keen interest in defence production with the portfolio of items under production getting bigger each year. The Kelkar Committee[14] unveiled a comprehensive roadmap to modernize the government's defence procurement policy. Apart from that it also emphasized on exports, including the export of defence goods to economically weak countries, taxation and Foreign Direct Investment (FDI) issues, the structure of sub-groups and committees to recommend changes needed for DPSUs and OFs to become more readily involved with consortia of defence producers.

[11]Tata Industries Ltd, an Indian private company entered a joint venture with Boeing Company for defence-related aerospace component work. see http://www.financialexpress.com/news/tata-boeing-in-jv-for-defence-aero-parts/273070/

[12]In May, 2001, the Indian defence industry was opened up 100 percent for the private sector participation, with FDP permissible up to 26 per cent to 26% are allowed.

[13]The off set policy as enunciated in DPP 2008 stipulates that all contracts worth three billion rupees or above would have defence- specific offsets amounting to 30 percent.

[14]The brief analysis of the committee recommendation are available.see http://www.indiandefencereview.com/2007/09/kelkar-committee.html

New Arms procurement policy

India's new Defence Procurement Procedure focuses on "vitalizing India's indigenous defence capabilities and moving away from the decades-old practice of importing almost all its defence requirements" (Behra 2009:3). As part of this, the Ministry of Defence (MoD) came out with a new policy measures related to the concepts of "Make" procedure, and defence offsets, in its recent Defence Procurement Procedure (DPP). The aim of the "Make" procedure is to "ensure indigenous research, design, development and production capabilities sought by the armed forces in a given time-frame while utilising the potential of Indian industry" (Ibid). Under this procedure the OFs, and DPSUs or private companies would compete for any project and based on their ability and capability two agencies will be simultaneously selected for the development of the item on a level playing field and shared development cost. It is proposed that under the "Make" category the government would share 80 percent of the development costs with the concerned agencies, including the private sector.

Defence Offset Policy

In its bid to modernize the local defence equipment industry, India introduced the "Offset Policy" in 2005, which is basically a counter-obligation that India places on foreign vendors for buying defence equipment from them. The offset policy[15] as enunciated in DPP 2008 stipulates that "all contracts worth three billion or above must invest at least 30 percent of all deals they bag from the government" (Mitra 2009: 3). This can take any form, including setting up a manufacturing base or training facilities, sourcing components, sharing technology, or making use of information technology services from India-based global service providers.

[15]Defence offsets are "compensations" that a buyer of defence equipment/services seeks from a seller. So far all most all the major defence producing counties are following this polcy. On India's off set policy see http://economictimes.indiatimes.com/Getting_the_defence_offset_policy_right/articleshow/3794384.cms

Under the new procedure, investments made in India by foreign vendors before bagging a deal would be treated as banked offset credits for the tenders to be floated within two and a half years from the date of investment. Moreover, if a vendor should create more offsets than his obligations under a particular contract, the surplus offset credits could be banked as well and would remain valid for another two years following the closure of the first contract.

But in the attempt to make the country's defence procurement process more transparent in the murky world of arms deals, the new procedures seem to unwittingly favour foreign vendors. From promising foreign vendors brownie points for the money they would pump in for setting up bases in India, to shutting middle men out of defence deals, to making the country's defence procurement "more investor friendly," the new policy "offers everything to make it easy for foreign investors to participate in India's defence procurement" (Ibid). For instance, the rules have been revised to include offset credit banking, a key request of foreign vendors. This means that money a foreign vendor may pump in to set up a manufacturing base in India would be considered as an investment, satisfying the offset clause in the new regime.

So the New Procurement Policy, offset policy and the moves to liberalize the rules for the entry of the private players all taken together will give a greater fillip to the modernization programs that have been on the shelf are being dusted off and re-examined. The accelerated acquisition of new, high technology weapons systems is being studied, especially in light of an apparent plan to lift the defence budget ceiling. As a result of Kargil, for example, plans to accelerate the induction of the indigenous Advanced Jet Trainer (AJT) are being argued— apparently with renewed success— by the Indian Air Force (Subramanian 2000: 1225) The conflict has also given new urgency to armaments modernization, especially for UAVs, weapon-locating radar systems, and modern communications systems.

The Ministry of Defence has stated that the Kargil war also surfaced significant shortcomings in basic infantry weapons and ground surveillance capabilities. India is

giving special priority to naval developments. "Ninety seven percent of India's trade is sea-borne and the bulk of India's oil supplies are imported" (Ibid). Indian naval developments are focused on the eventual creation of a three aircraft carrier force, which will allow two to be at sea at all times. India also has decided to build a large aircraft carrier instead of the smaller air defence ship originally envisioned. The ship, to be called the INS Vikrant[16], will build indigenously, but will operate Russian aircraft. India believes that this will also contribute to the safety of the East-West sea lines of communications passing through the Indian Ocean. Additionally, the Navy will help contain the threat from Pakistan as well as provide air defence systems effective against China.

Some of India's purchases are designed to provide the platform capabilities needed to house and launch nuclear missiles. India has also announced a major new comprehensive development program designed to upgrade and field a broad range of new missiles. These will include an intercontinental range *Surya* missile system with a range in excess of 5000 km, a new medium-range naval missile, and a medium-range air-to-air missile.

Defence Industries: Problems and prospects

In the last five years, "the country has committed nearly 60 per cent of its total acquisition budget to foreign suppliers" (Mohanty 2004: 37). The heavy dependence on external sources for modern-day arms indicates the failure of India's domestic efforts to meet its desired levels of self-sufficiency. The domestic defence industries, comprising largely the state-owned Ordnance Factories (OFs) and Defence Public Sector Undertakings (DPSUs), lag behind in efficiency and productivity. Their poor performance is reflected, for instance, in the country's negligible defence export credential in the international arms market which is dominated by a few select countries

[16]This is the first indigenous aircraft carrier with 40,000 tonne displacement it is said to be ready for induction into the Indian Navy by 2015.

(SIPRI year book 2008: 19)[17]. India's Defence Research and Development organization (DRDO) is also having problems with modernization. The major projects (ArjunMBT, LCA) are far from completion even though there have been others that have been successful. The DRDO is also losing about 3 percent of its technical workforce per year. The services are highly critical of the DRDO, arguing that it is too inefficient and not capable of relevant production; the DRDO in turn criticizes the services for "ad hoc and inconsistent planning and budgeting" (Smith 1994: 230). There is also debate within India on future product directions, some argue that she should strive to develop the eventual capability to fully design, develop, and produce completed major armament systems. Others argue that India's considerable scientific and technical talent should be focused more efficiently on component design in conjunction with foreign partners to produce armament systems focused on competitive niche areas. In the latter case, India would continue to depend on an import strategy for acquiring sophisticated armaments.

In addition to foreign dependencies, there are also internal difficulties inhibiting India's quest to self-reliance. For example, "India's defence establishment does not have a wide range of off-the-shelf subsystems and component designs that can be incorporated into new systems, and also does not yet have an established network of subcontractors"(Ibid: 231). There is also a problem that stems from the way in which India's requirements are set. India does not have a robust technological development program that identifies future technologies that will be available for incorporation into armaments. Rather India "surveys foreign developments, and then picks the best technologies" (Ibid: 239). This leads to design specifications that are either cost-ineffective or not possible to develop. This creates even further delays reconciling the actual designs to reflect the realities of costs and developmental capabilities. India's three biggest recent systems projects— the Prithvi missile, the Arjun Main Battle Tank, and the Light Combat Aircraft (LCA) — have not been able to achieve the intended goals of self reliance in their development. The Prithvi missile has about 15-20 percent of foreign components and materials, and will be difficult to modernize its basic design without including foreign-developed sub-

[17]The US is the world's biggest exporter over the past five years, with $63 billion in total arms exports. Britain was second with $53 billion and Russia third with $33 billion. For details visit http://www.timesonline.co.uk/tol/news/politics/article4161341.ece

systems. About "half of the Arjun's components are German, and 70 percent of the LCA's components are imported" (Gupta 1997: 39). The successful deployment of an indigenously–built large weapon system would add significant momentum to the domestic development of the most expensive major weapons systems, which now must be bought overseas (naval surface ships being the exception). India is slowly doing exactly the same.[18]

India clearly has a long way to go in the achievement of self-reliance in major land and air combat platforms. Indicators of this include the technical setbacks in the Arjun main battle tank program, delaying its deployment in desired numbers and forcing the purchase of 300 new Russian T-90 tanks instead. There are similar problems with the LCA. Problems are being solved, but the pace, combined with fiscal restraints, are the matters still to be grappled with. Current systems under development, including the Arjun main battle tank, the Light Combat Aircraft and the Navy's super–secret nuclear–powered submarine had undergone technical setbacks and programming delays before it was launched in July 26th, 2009, to the chagrin of both military and governmental leaders, forcing continued heavy reliance on foreign systems. The Arjun and the LCA also have serious design and subsystems problems that have prevented them from entering series production. Although the Indigenous Guided Missile Development Program is one of the more successful programs of Indian defence industry, even in this area missile development is also 7-10 years behind schedule.

There are calls within India for more "integrated and comprehensive approaches to defence planning" (Singh 1999:100). A 1996 study by India's Finance Commission criticized the services for concentrating on capital intensive systems (e.g., aircraft, ships) at the expense of sensors, command and control, logistics support, and missile systems. India has yet to demonstrate, even to itself, the ability to produce an acceptable heavy weapon system (with naval surface warfare construction generally being the exception).

[18]The missile programme of India is one of the most successful indigenization programmes. After the initial set backs some of the missile are inducted and some are ready to be inducted into the army. See http://www.blonnet.com/2004/02/06/stories/2004020601500900.htm for the recent development in this regard.

Evolution of India's Defence Production Sector

In spite of the fact that India has a large, established, and diverse defence industry, the country also imports major systems in greater volume than any other developing or industrialized country.[19] India has not yet been able to create the capabilities that would allow her to shift to indigenous development. "India's goal is not self-sufficiency in the traditional autarkic sense, which is viewed to be unattainable, but self-reliance" (Subrahmanyam 2000: 1230). To Indian leaders, the most important aspects of self-reliance are the ability of India to field weapons manufactured locally, and to provide for security of supply of spare parts and components.

Indian armament strategy is based on an official policy of "increasing indigenization". However this policy is overshadowed by the need for continued imports of foreign weapons systems and manufacture of foreign weapons systems under license in India itself (Ibid). The indigenization program falls under the auspices of the DRDO, which is directly answerable to the Minister of Defence. A special requirement placed on India's armament strategy is the need to acquire systems that can meet the harsh and diverse climactic conditions of the Indian subcontinent. Foreign systems developed for other situations are especially vulnerable to these conditions. To date, "satisfactory armaments have resulted from imports that have been subjected to special tests, licensed production, and indigenous designs that were created in close conjunction with foreign partners, using imported components and material as needed" (Ibid: 1237).

The funding of defence expenditures was also not considered a core priority and was "handled ad hoc" (Smith 1994: 231). At the same time, there was also a great deal of "bureaucratic inflexibility in the Armed Forces structure and no tradition of true cross service considerations" (Ibid). Following India's indigenous projects and their condition shows how they are lagging behind.

[19]According to Enst& Young report, 2008, India is the third largest military hard ware importer. But, India is first amongst the developing countries. Saudi Arabia and China are in the second and Third positions respectively. For details See http://www.turkishweekly.net/news/18936/india-becomes-developing-world-s-top-arms-buyer.html

First one is **Light Combat Aircraft (LCA):** This supposedly state-of-the art fighter jet is more than twelve years behind schedule, while R&D costs have nearly doubled. The LCA is expected to go into production until 2010.

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

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

Even the country's much vaunted Integrated Guided Missile Development Program (IGMDP), initiated in 1983 as a comprehensive, intensive effort to make India self-sufficient in tactical missile systems, has produced "more failures than successes" (Ibid: 243). Only two IGDMP projects - the Prithvi and Agni surface-to-surface ballistic missiles - have so far been deployed, while several others, including two surface-to-air missile systems and an air-to-air missile - are still in development 25 years later and will likely never be anything more than "technology demonstrators." (Pratap 1994: 90) Consequently, the Indian military has been forced to continually scrounge for foreign stop-gaps to compensate for delays and setbacks in domestic weapons programs. For example, the IAF is acquiring up to 240 Russian Su-30s, and it has recently inaugurated the Multi-Role Combat Aircraft (MRCA) competition to buy 126 foreign fighter jets. The IA is buying several hundred Russian T-90 tanks, and the Indian Navy has had to acquire Russian and Israeli surface-to-air missiles for its ships because a local missile system is still unavailable.

Overall, the local defence industry is still heavily dependent upon licensed production of foreign weapons systems or the import of critical components (for example, the LCA's radar and the engine are both foreign-sourced). The India's defence industry still

functions mostly as an assembler, rather than an innovator (Narain 1994: 99). The defence industry's problems are structural, institutional and cultural. The Indian military-industrial complex comprises mostly "monopolistic state-owned enterprises, with bloated workforces and excess productive capacity" (Ibid: 121). Historically, the defence industry has been starved of capital for modernization and for keeping pace with the state-of-the-art in arms production, though the condition is no longer the same.

To be sure, the "Indian government has long reflected on how to reform and revitalize the defence sector, including opening up defence contracting to private sector, permitting foreign firms to invest in defence firms, encouraging more joint R&D/production with foreign firms, encouraging arms exports, instituting stricter rules on DPSUs and OFs when it comes to fiscal management, accountability, quality control, performance and improving DRDO-industry-armed forces coordination and planning"(Mohanty 2009: 85). So far, however, there have been few tangible results. Some private Indian companies have been allowed to compete for defence work; for example, two local firms, Larsen and Tubro (L&T) and Tata, were recently awarded a joint contract to develop components for a new multiple rocket launcher. It is still difficult, however, to encourage the private sector to invest in a line of work that requires large, risky investments in R&D and infrastructure, in exchange for low returns.

While the government has permitted foreign firms to buy into DPSUs (up to 26 percent of shares), so far there have been no takers. Overseas investors have no independent means by which to valuate these companies stock, and they are not permitted any say in how the DPSUs would be run. At the same time, any privatization of the country's defence sector has been absolutely ruled out. The defence industry's shortcomings will only get worse over the next several years, as India embarks on a massive recapitalization of its armed forces. Estimates are that the military will, over the next two decades, "need to buy up to 400 combat aircraft, 100 transport aircraft, 140 helicopters, 1,500 tanks, 500 combat vehicles, 1,500 artillery pieces and 140 naval ships, including up to 20 submarines and two to three aircraft carriers"(Bitzinger 2007: 3). The local defence

industry is simply not up to the task of supplying state-of-the-art systems to the armed forces in a suitable timeframe.

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

Historically, India has tried to achieve self-reliance by a combination of diversification of sources of supply, licensed manufacture of armaments, and indigenous design, development, and production. However the decade of wars starting with the Sino-Indian conflict of 1962 caused India to forgo extensive indigenous developments in favour of rapidly acquiring Soviet equipment on long-term credits at low interest rates. At that point, licensed manufacture of Soviet systems became the primary vehicle for self-reliance.

Considered a fairly distinct and comprehensive defence industrial sector, primarily comprising of forty-odd Ordnance Factories (OFs) and eight large Defence Public Sector Units (DPSUs) along with considerable support coming from DRDO, ISRO and other scientific and industrial institutions, Indian defence industry has been able to move from the lowest to the highest ends of production spectrum in a span of half a century. Self – reliance in defence, explained in terms of achieving a reasonable degree of strategic autonomy in the defence production sector, has been a consistent theme for the Indian defence industry.

Different evolving strategies adopted to achieve "self-reliance" in defence for the past half a century suggest that while 'self-sufficiency' was emphasized in the evolutionary stages of defence production, especially from the 1950s till late 1960s, 'license

production'[20] was emphasized in the subsequent decades (Singh 2001: 137). Strategies like self-sufficiency and license production were vigorously pursued to achieve some degree of self-reliance at time when India had only a rudimentary defence industrial infrastructure, a colonial legacy, and later on faced a technology denial era, which continues till date.

The result was that while "India was able to construct a large defence industrial sector, under state control, to a considerable extent it failed to produce desirable amount of military goods and services for the armed forces" (Ibid). Lack of a long-term defence industrial production strategy, insufficient financial support, denial of access to critical technologies from abroad and more importantly, lack of strong political will coupled with emerging differences within the bureaucratic-institutional organs responsible for defence production and acquisitions, have been advanced as major reasons for inability of the Indian defence industry to meet expectations. This was largely a bi- product of an intense debate within and among the government and military establishments on the one hand and the private industrial sector, on the other. This has resulted in a major shift in policy priorities as well as accompanying structural -institutional changes in the Indian defence industrial sector.

In sum, major policy initiatives undertaken by the Indian government for the defence industrial sector is likely to impact a whole set of stake holders in time to come. With the liberalized market rules in place "technology would be the primary driving force" (Terhal 1982: 258). The nature and future direction of involvement of the private sector commonly referred to as 'public-private partnership in defence' creates a new environment. Though this new arrangement would help finish the tasks faster, the foremost challenge for India would be to "ensure rapid integration with the global defence industrial network so as to catch up with the technology race" (Ibid). With the industry embedded in the public sector and other players yet to consolidate, "creating cross-holding entities" would be extremely vital in this regard.

[20]Licence production allows a particular country to produce some or all parts of a weapon but there will be no substantial technological transfer under this.

Finally, future planning should transcend defence PSUs and corporate groups. Along with the small-scale sector, India has to tap the potential in institutions like the Base Repair Depots, and the Indian Institutes of Technology (IITs) with the objective of a long-term R&D infrastructure. This will bring diverse skills together to enhance product capabilities, reduce costs, and facilitate mutual economic stakes. The stakeholders in this case are the defence ministry, the armed forces, the defence public sector undertakings, the Ordinance Factory Board and the Indian private sector, especially in the IT and electronics fields. All have to work in coordination to achieve the common objective of creating the world class defence production base to justify their existence in terms of their economic viability.

Chapter-IV

Factors Shaping India's Defence Production

Each sees the other do the same as it does; each does itself what it demands of the other, and therefore also does what it does only in so far as the other does the same.... They recognize themselves as mutually recognizing one another — Hegel

Defence industries play a significant role in a state's industrial development and almost all industry can be linked to defence. Defence industry is an integral part of a whole and of all successful industrial development. So every major power aspires to build a vibrant defence industrial base. This status is however not easily attainable. "Leaving United States and to some extent Russia and France, all other countries are in the state of struggling to arrive at such a defence industrial position" (Neihsial 2008: 1). In a case like India, as its industrial development has progressed, its economy has become increasingly tied to the growth of its defence industries. India for long considered as the significant actor in international politics and the major player in south Asian region. So it was imminent that "India engaged in building up the strong and sophisticated defence set up which may facilitate for the exports in the long run" (Ibid). This has already manifested itself in a rising level of domestic armaments production and the quantity of Indian defence exports.

Defence industry in India is witnessing a period of transition in recent times. It has been able to move from the lowest to the highest ends of production spectrum in a span of half a century[1]. Major shift in policy priorities as well as accompanying structural - institutional changes especially after 1990s in the Indian defence industrial sector accelerated this process. Military services are currently undertaking a major build up of conventional weapons, creating ways of delivering nuclear weapons and preparing defences against nuclear missiles by improving communication and surveillance systems. Ultimately, "the idea is that by inviting foreign and private competition into this domain

[1]Soon after independence India imbibed a small and stagnant Industry with 16 ordinance factories. But now it's a large chain with 40 ordinance factories and many public Sector Undertaking and DRDO as the head institute for defence research.

the government will obtain the leverage to compel the Indian defence industry, a noticeably lagging part of Indian industry, to become more competitive, able to produce indigenously made systems, including high-tech systems, and sell them not only to the Indian military but abroad as well" (Blank 2003: 1). Thus a major part of Indian policy and of the long-range plans formulated by the government entail India becoming a major exporter of conventional arms.

Evaluation of various studies on defence production in India provide an interesting dimension: the changing contours at international level and their influence on the domestic market, the dynamic factors that have evolved in defence industries over the years and decision taken to upgrade the existing infrastructure both with in and out side the defence industries etc have had their influence. Hence, the chapter attempts to take into consideration the evolving conditions within, around and outside India as well to analyse the discourse of defence production. The main factors that are at work can best be summarized into three categories: (a) Economic (b) Strategic (c) Political. It is not always that a single factor dominates the defence discourse but rather very often it is being influenced by, and criss crosses with each other.

The End of the Cold War

The end of the Cold War has had a number of often contradictory impacts for Indian defence production planners. Through Treaty of Peace and Friendship since 1971, Soviet Union had played a significant role in India's defence supplies and industry development. The treaty was the cornerstone of the strategic relationship between India and Russia and "Military-technical relations were among the first major areas of cooperation" (Patankar 2007: 1). For India, Soviet Union was the biggest supplier of defence equipment, and for Soviet India was the "biggest customer to its cash-strapped defence industries" (Sangani& Teresita 2003: 1). In fact, "India was the only country with which Russia is engaged in the joint development and production of high tech, very complex weapons systems" (Ibid). But the cold war left Soviet Union on the losing side which compelled India to diversify its defence sources. India's priorities shifted to closer relations with the

United States and also the active engagement with UK in defence related issues. In the last three years, India has signed major multibillion dollar deals with countries like France, Israel and USA. It is interesting to note that India is slowly diversifying her supply sources in recent times. All major and second tier arms suppliers have established their presence in India. "Sensing the changing times, Russia, India's largest weapons supplier accounting for around 70 per cent of the Indian inventory, has been striving hard not to let India slip away from its favourite recipient list" (Mohanty 2009:83). On the other hand "United states has been wooing India to get a slice of the huge Indian arms bazaar. The American 'Iron Triangle', consisting of the congress, armed forces and the military industry, seems to have in full swing to build the basis of the India-US relations on military transactions" (Ibid: 84). While it will be interesting to observe as to how the world's two biggest arms suppliers jostle to influence the Indian market in future, but suffice to argue that countries like Israel, France and even the UK are likely to stay put in the military business.

The second important consequence of the end of the Cold War was restructuring of the Global Defence Industry which lead to the decrease in Global defence spending.[2] The impact of this process on India has been two-fold. Firstly, as the "process of globalisation continued there was growing scope for partnerships to establish between Indian defence producers looking for access to new technology, and foreign defence manufacturers keen to tap the sales potential in the Indian market and also its strengths in areas such as IT" (Ibid). Domestically, meanwhile, the demand for the entry of the private players into the defence production gained the momentum. So the new technologies were welcomed and new partnership searched, all to add to the renewed determination to make domestic defence production better and bigger. New companies entered were often leaner and more competitive than their predecessors; while strategic alliances and joint ventures became the rule rather than the exception in the sector due to the rising costs of designing and producing the next generation of defence equipment.

[2]At the height of the Cold War between the United States and the Soviet Union in the 1970s, global military spending rose above $900 billion. But with the fall of the Berlin Wall in 1989, it kept declining, to about $780 billion in 1999 and rose to nearly $950 billion by the end of 2004, up from $900 billion in 2003. By contrast, rich nations spend $50 billion to $60 billion on development aid each year.

Third important change after the cold war took place in the political arena in India i.e. the assuming of the power at the centre by Baratiya Janata Party with its coalition. "The BJP led coalition government was more committed to tackling defence issues than its predecessors" (Patankar 2007: 1)). In May 1988, shortly after first coming to power, it presided over India's first nuclear tests since 1974; while March 2000 saw the government reverse the downward trend in defence spending established in the 1990s. From the start the BJP government has also made an effort to articulate what the country's defence and security policy was, in opposition to the previous government, which according to the BJP was merely to assure Indians and indeed the world that India actually had such a policy. During their rule under the coalition of National Democratic alliance (NDA), there was a substantial increase of budget around six per cent in the Research and Development category.

Economic Reforms and the entry of private players

India's economic reform programme gained momentum since 1991. Crucially, as the time progressed, economic reforms got support from across the political spectrum. Government slowly started retreating cash-strapped Russian defence industry's from the 'commanding heights' of the economy. Moreover, greater attention was started on the benefits to be gained from allowing greater private participation in defence, which to a large degree explains the involvement of the Confederation of Indian Industry (CII).

The wider liberal economic policy pursued since the early 1990's demonstrated to the defence establishment what the private sector can do with its pool of management, scientific and technological skills and the ability to raise resources in the market[3]. "Since liberalisation, the Indian private sector has made a significant impact on various fields, leading to a higher degree of economic development" (Behara 2008: 1). The success of private industry has not been limited to the national borders but has extended to foreign shores, as seen from an increasing number of merger and acquisitions activities it has

[3]For a comprehensive analysis on economic reforms and entry of private players see http://www.idsa.in/publications/stratcomments/LaxmanBehera080108.htm

been undertaking in recent years. Economic opportunities unleashed by liberalisation and the competitiveness of its industries have made India an attractive place for global capital and finance and an engine of the global economy. In a logical sense, "liberalisation in defence production is an extension of wider economic reforms undertaken at the national level" (Ibid). The growing influence of private industry has compelled policy makers to open up the defence arena to the private sector in order to gain from its strengths.

In 2001, India opened for up to 100 percent Indian private sector investments in the defence industry and allowed foreign direct investment (FDI) of up to 26.0 percent in select areas of the defence industry. Some of the key non-PSU industry participants supplying defence equipment and services include Mahindra & Mahindra, Tata Group, Kirloskar Brothers, Larsen & Toubro, Ashok Leyland, Jindal, Max Aerospace & Aviation, and Ramoss India. Significant numbers of licenses have been applied for and issued to major Indian companies for production of varied components and systems.

In fact, as of date, more than 140 companies are involved in about 345 defence items/products.[4] This reflects the ambition and confidence of the private sector in their new ventures. On the other hand, there is a flurry of partnership agreements/collaborative ventures by these industrial companies with major global defence industrial giants from the United States, Western Europe and Israel. This is of course not to ignore the existing and ongoing collaborative projects of Defence Public Sector Undertakings (DPSUs) and Ordnance Factories (OFs) with companies from these countries at the governmental level. An analysis would reveal that "India's defence industrial scene now is moving on two distinct parallel lines. The first is equipment and technology emanating from Russia and Eastern Europe, which represent approximately 70 per cent of the country's defence industrial set-up" (Neihsial 2008: 1). The new addition is Western technology or modified/upgraded technology through private sector companies that are poised to enter India's defence market.

[4]According to CII sources about 345 companies are directly or indirectly engaged in the defence production set up.

The involvement of private industry has increased during the past two decades, and state companies have become more commercialized. "More commercially oriented enterprises are believed to be more cost-effective and better in acquiring and adapting new technologies, and to have better prospects on the export market" (Blank 2003: 2). The integration of private capital in arms production also increases the base of political support for such production.

The defence industry is gradually liberalizing and the public sector is facilitating greater private sector participation in the area of defence goods production. "There are about 5,100 companies supplying around 20.0 percent to 25.0 percent of components and subassemblies to state-owned contractors" (Patankar 2003: 2). Of India's current defence procurement of capital items, more than 30 percent is imported, however, this is expected to change with the creation of more public-private partnerships.

The Indian Space Research Organization (ISRO) has a strong partnership with the Indian industrial sector for space programs execution. "Over 500 small, medium, and large-scale enterprises work with ISRO, supplying hardware, undertaking fabrication jobs, and establishing fabrication and test facilities" (Ghosh 2003: 23). The Indian industrial sector provides all raw materials and high-tech electronic items required by ISRO and has also contributed toward developing systems for launch vehicle spacecraft, remote sensing, and ground equipment. "Around 231 technologies developed by ISRO were transferred to the Indian industrial sector for commercial use. ISRO also undertakes technical consultancy projects for industries" (Ibid).

Rising Defence Expenditure in India

India is currently one of the top twelve military spenders in the world. For the first 12 years after independence the defence expenditure of India as percent of Gross Domestic Percent (GDP) was as low as 1.8. Following the Sino-Indian war of 1962, this figure witnessed 3 percent average mark over the next 5 years" (Srinivas 2006:81). Soon after that the Government of India had ushered in phased liberalization into the defence

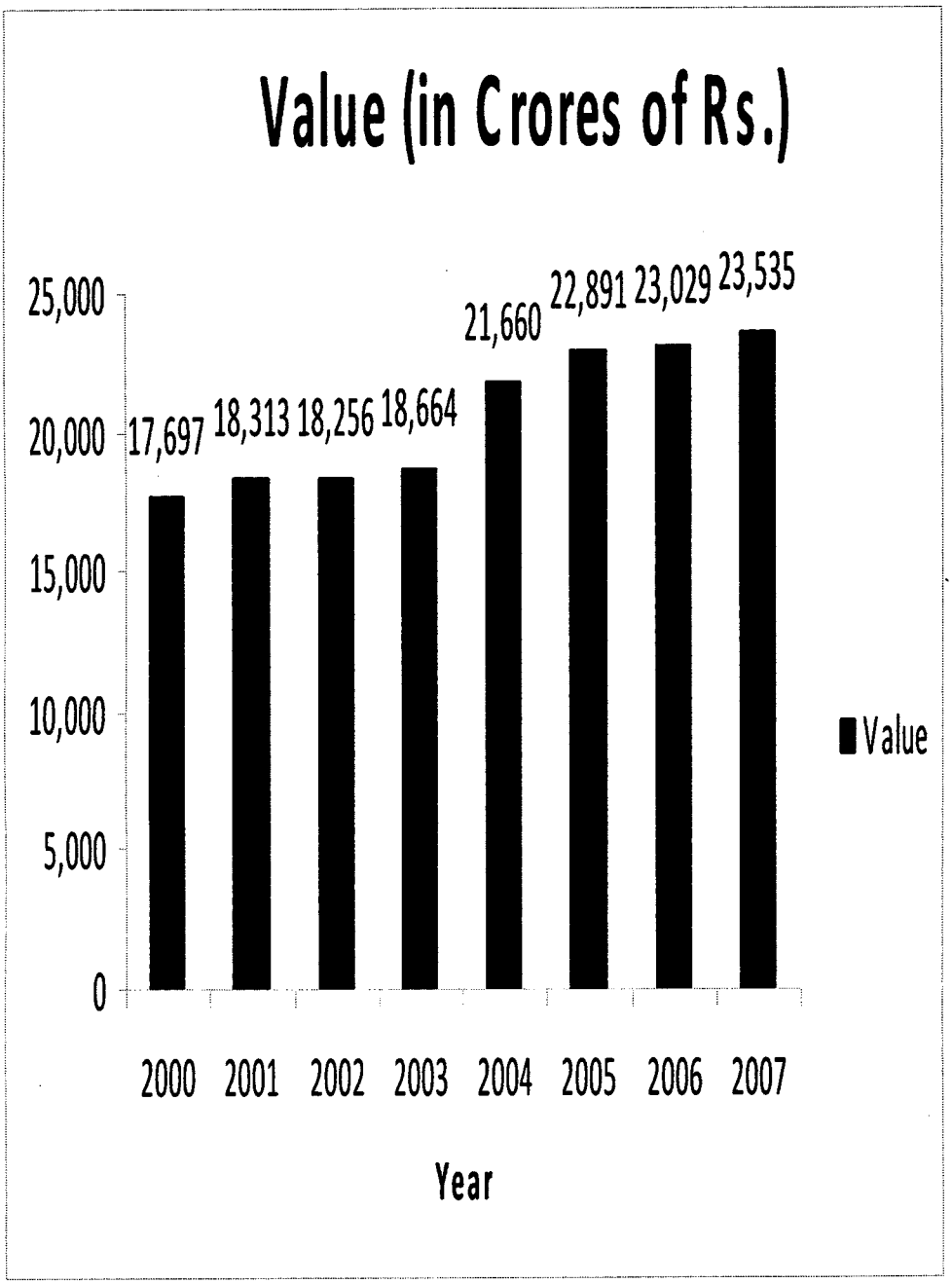
industry realizing the synergy and linkage effects that an enhanced domestic production could bring to the industry.

Table 4.1. Defence Expenditure in India

Year	Value (in Crores of Rs.)	% of GDP
2000	17,697	3.1
2001	18,313	3
2002	18,256	2.9
2003	18,664	2.8
2004	21,660	2.9
2005	22,891	2.8
2006	23,029	2.6
2007	23,535	2.5

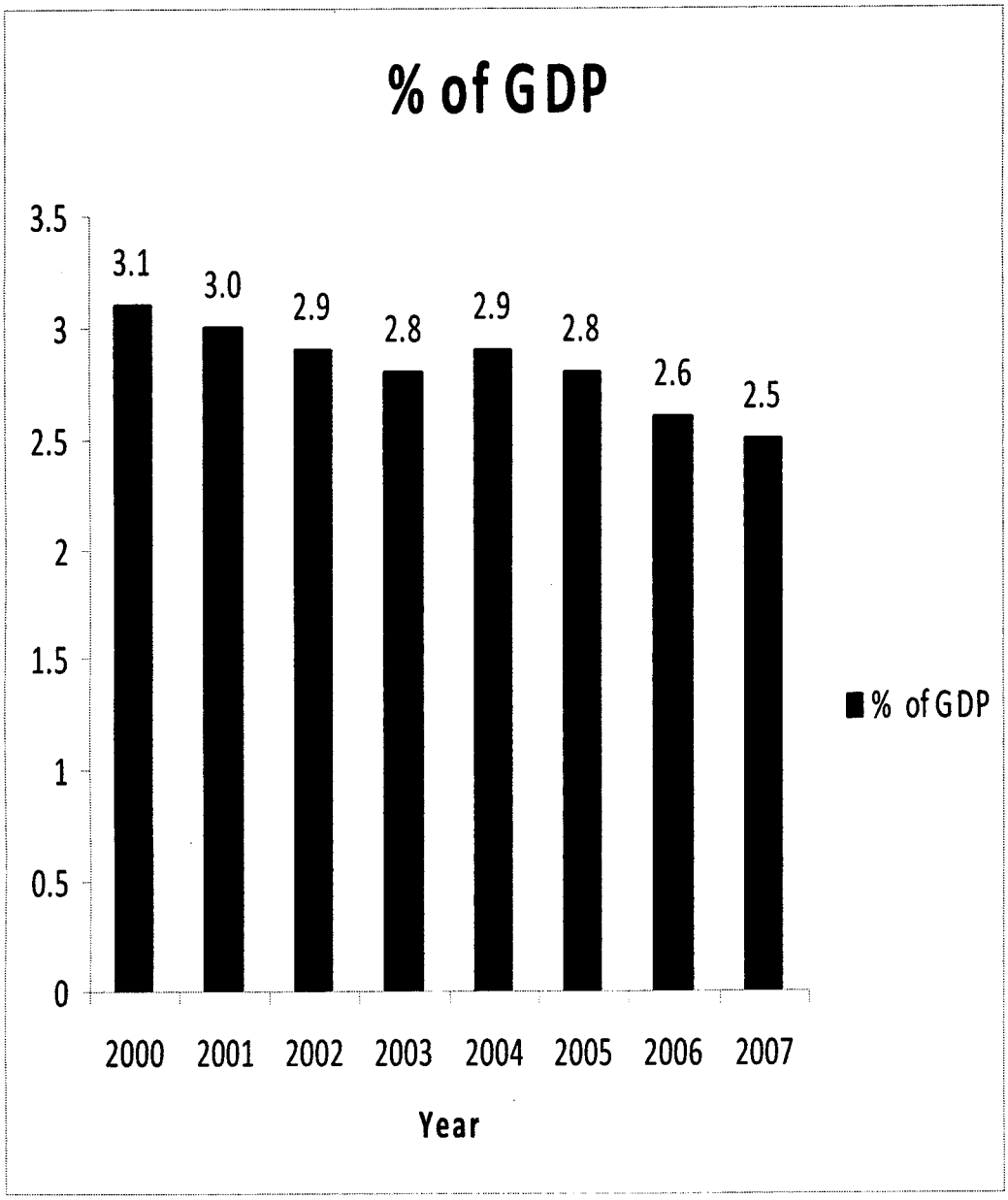
Sources: Compiled from Military Spending and Armaments, Military expenditure, SIPRI 2008, available at http://milexdata.sipri.org/result.php4.

Graph 4.1. Defence expenditure of India



Sources: Adopted from the sources of Table no. 4.1.

Graph 4.2. Defence expenditure of India



Sources: Adopted from the sources of Table 4.1

Key areas of growth identified within the industry are expected to arise from the up gradation of the production capacity, technology transfer, and modernization of defence infrastructure. The Government of India has been investing heavily into its defence industry due to strained relations with its neighbouring countries and growth in international terrorism. Is the above Table 4.1 and the graph shows the allocations on defence in 2007 stands at 3.1 percent in Gross domestic Product. Considering the changed security scenario in view of the Mumbai terror attacks, the government in 2009 interim budget allocated Rs 1,41,703 crore (Rs 1,417.03 billion) for defence sector, almost a 35 per cent increase from the 2008 budget provisions. In 2008 allocation for Defence stood at Rs 1,05,600 crore (Rs 1,056 billion) and the 2009 increase amounted to Rs 36,103 crore (Rs 361.03 billion) (Behra 2009:2). In the defence allocations, whopping amount is spent on defence modernization, which is good sign for the defence industry in the long run. In addition to it, the recently designed offset policy will help to hasten the process of defence production and exports in the long run.

The offset policy for defence goods has been designed to leverage the country's position as a large buyer and exporter. India's offset policy for the defence industry states that "any purchase from a foreign supplier in excess of $70.0 million will require a reinvestment of 30.0 percent of the total purchase amount in terms of components and services from India" (Mathew 1989: 420). The offset policy applies to imports by defence PSU's, ordinance factories, and private participants of the industry. The offset policy is also expected to act as a driver to create market-entry opportunities for mid-rung companies, which are looking at investing in research and development and manufacturing of defence goods. The proposed offset policy is conducive for the private companies to have a larger presence.

Information Technology

India is quickly becoming a major player in the field of information technology (IT). For example, there are currently 340,000 software professionals employed in the country - in 1996 there were only 180000 - while India's technology schools are producing 100,000 software professionals a year (Press Trust of India 2000: 1). The country has also

developed its own super-computing capability, the Param, which it has exported to Russia (Ibid). India's strength in IT having a major impact on India's economy: total exports of IT related products amounted to about $9 billion in 1999 (Ibid).This sector of the economy has also managed to attract significant amounts of foreign investment.

Dominated as it is by private sector companies it has also proven to be rather more innovative and flexible than other industries. Additionally, "information technology has been India's bridge with outside world: its technicians and programmers are at the forefront of the IT is revolution in the U.S. and are being courted by Japan, Germany and the United States"[5] (Ibid: 33). Attracted by the loosening of government control over the economy, moreover, many of these people are now returning to India, thereby breathing new energy into Indian economy.

According to the Multi Tech Contracts Limited (MTCL), India's capabilities in areas such as super-computing and software development are very strong indeed. Hence, in recent times, it is understandable that a number of senior military figures made clear their desire to upgrade the Armed Force's communication and IT capabilities through private sector involvement. According to defence analysts "the private sector, which had not previously participated in defence production, had expanded in size and reach and now has the capability to produce non-lethal items such as communications and IT related products" (Kapila 2003: 130). It was stated that 'the army would be requiring radios of all types, ATM switches, optical fibre cable, satellite systems, power sources of all types and micro and macro cellular systems' and that the Army was looking at buying these technologies off the shelf from private companies. (Ibid: 140)

Research and Development

There is enough evidence to suggest that private companies will be encouraged to participate in defence R&D. Participation in this area received a significant boost following the May 1998 nuclear tests, when the imposition of sanctions on India prompted the

[5]During Northrope's bid to sell India the F-20 under licence it was suggested at one point that the US team could be drawn exclusively from the expatriate India's, such is the number of south Asia workers in the US defence industry. (Smith, Chris 1994: 178).

Defence Research and Development Agency (DRDO) to open up eight labs in non-strategic areas to private participation. In addition to this, the DRDO now claims to have 'various levels of partnership' with 250 industries (Ibid: 107). India's hopes probably that it will be able to use the revenue from sales to reduce its own unit purchase costs as well as provide an extra flow of money into defence R&D. In 2009 defence minister Pranab Mukherjee stated in the seminar organised by Confederation of Indian Industry clearly that India emerged as "the largest arms importer" among developing nations in 2004 and said the country was keen on forging "collaborations for export of Indian products" (Thakurta & Gupta 1989: 4). It was stated that better export performance would increase defence Industries competitive ability and bring in additional resources, especially in hard currency.

Economic and Political Factors

When a third world country like India invests in domestic arms production, it essentially "reflects ambitions on a greater scale than those reflected in its arms import policies. The predominant rationale is political one: the reduction of dependence on out side, unpredictable and often unreliable suppliers" (Wulf 1987: 359). This motive for instance was clearly evident behind the "Indian decision to increase domestic arms production all these years and this will continue to shape Indian defence production" (Gupta 1997: 47). Even in countries where economic motives, such as export earnings, seem to prevail today –for example the political aim of acquiring an independent arms technology base and increasing self sufficiency originally prompted the establishment of their arms industries only in a very few cases are political motives absent or secondary (Ibid: 48) . These projects are commercially viable without government support; as such they are fundamentally exceptions in the third world. Such projects are found in countries that adhere to development strategies and industrialization based on export.

Due to the perceived political benefit, arms production can thus be allowed to remain uneconomical. However, "economic arguments are often used to justify production and commercial considerations taken into account once production has started" (Ibid: 50). Even when the political motives are stronger, economic arguments may be put forward

more forcefully. Once a decision to embark on domestic arms production has been taken, it becomes natural to stress the economic benefits that will occur; foreign exchange savings, export earnings, improved balance of payment, recouped production costs, and so on. In times of economic crises, such arguments however unrealistic they may be – become especially powerful. The Indian defence minister made it clear in Federation of Indian Chambers of Commerce and Industry (FICCI) meeting that "Today, India is going through an epochal transformation and is emerging as a formidable economic and political power. We are confident in facing the global challenges in the new economic milieu and are moving forward to scale greater heights. While India progresses on economic front it needs to become self reliant in defence production to effectively meet the rapidly changing ground realities of defence operations".[6]

The expanding scope for International market

With a growing number of suppliers available, India has diversified defence sources of supply. The suppliers (governments as well as companies) have agreed that rather than losing a customer to a competitor, to export production technology for various reasons like maintaining political influence to expand their markets (Baek 1989: 76). India on the other hand has tried to "assimilate these multiple technologies and was able to come out with some finished good" (Kapila 2003: 82). For India it is reasonably easy to access the newer technology and that is in fact "leading to the cost reductions for components which can be produced with cheap labour" (Ibid: 93). Such components are sometimes produced on a sub-contracting basis also and then exported to the licenser and others. India is yet to do the same but for sure this is one emerging reason that can in future shape India's defence production.

Another significant factor shaping defence production in India is the "military to civilian products" (Krause 1999: 39). While a weapon is distinguishable from a civilian commodity, components for weapon systems and components for civilian goods are often similar or identical. An engine for a tank can also be used in a heavy truck, electronics in

[6]The defence Minister's speech transcription is available on Press information bureau website. See http://pib.nic.in/release/release.asp?relid=9637.

warplanes can be used for business jets, and military radar systems can be identical to civilian ones, and so on. Some producers have even made it a point to incorporate components with civilian applications. "The production machinery is not always specific for arms production: presses, welding machines, jigs and precision instruments are often of a dual- use nature" (Ibid: 44). India clearly emerged as one of the largest innovators and producers of civilian type goods and spare parts. The next stage, in all means is to apply this technological know- how to defence products which will in turn triggers the defence production.

A Broad Industrial Defence set up

Significant investments have been made in the build-up of the Indian arms production capacity. The number of factories, employment and the volume of arms production are continuously rising. No official information on the level of self-sufficiency and the- share of domestic production in total procurement is available. Analysing the available facts on the production of major arms in India leads to a fairly clear picture of the extent to which the stated purpose of building up the arms industry has been fulfilled.

During the 1950s ambitious plans were formulated to develop and produce the whole range of weapons demanded by the armed forces. "The government of India tried to follow the ideal pattern of development: after the first stage of repair, maintenance and overhaul, the assembly of imported arms was to follow in a second step. During third phase, some components were to be produced locally; during the fourth stage a major portion of a particular weapon system was to be licence-produced and finally the capacity for indigenous design and production of weapon systems was to be acquired" (Gupta 1997: 219). The result of this strategy has been rather disappointing from the perspective of defence modernization in India. The first policy—outright purchase of equipment from abroad and repairs, overhaul and maintenance in India—was implemented until the second half of the 1950s. The drawback of this policy was a heavy drain on foreign exchange reserves as well as dependence on external supplies of spare parts. India then simultaneously started to produce arms and components both under

licence and indigenously.

Apart from the broad industrial defence set up India has domestic demand for its defence production. The global financial crisis might have cast dark clouds over many industries but not the defence sector in India. This is because India's armed forces have a demand for new equipment and technology for the next 20-25 years and liberalisation of India's defence procurement policy offers a unique opportunity for Indian companies to provide services for the armed forces. Turn in this direction has been already initiated, which is a "paradigm shift in Indian approach to defence" (Khurana 2008: 241).

By 2013, India is expected to spend "nearly $35 billion on defence only. An amount of Rs 3,000 crore has been earmarked for defence forces modernisation in the next three years, Rs 2,000 crore to build naval shipyards and Rs 2,000 crore earmarked for defence PSUs (Ibid). All this money would be spent on developing defence equipment which would help Indian defence forces. To facilitate financial sources demands have been made to increase the foreign direct investment (FDI) cap in India's defence industry from existing 26 percent to 49 percent. This will be an interesting development to observe which is expected to take much of the pressure off the state exchequer.

Service Contracts and Outsourcing

By focusing on exports, the Indian aerospace and defence industry has developed the capacity to provide outsourcing opportunities to established companies in the United States and Europe. There is a growing interest in outsourcing to the private sector within the defence circles as well (Bedi 2002: 12).The IAF, for example, is exploring the possibility of privatising its base-repair depots, accounts, and areas of administrative work (Ibid). According to the Chief of the Air Staff, there is also scope to "involve the private sector in the maintenance and operation of fighter aircraft, air-launched guided missiles and ground to air missiles as well as support equipment such as radars, communications networks, and specialist vehicles" (Paranjpe: 1). Outsourcing is also an option for the PSUs; indeed they are increasingly shedding the production of low

technology items to the private sector. For example, both Bharat Electronics and Garden Reach Shipbuilders have developed a network of small-scale industries and ancillary units around them (Ibid: 3).

Likewise, the ordnance factories have been sourcing various raw materials and small parts from a range of indigenous industries (Shuckle 2009:1). Some effort has also been made to involve the private sector in the production of middle level technologies: for example, at one stage Kirloskars was involved in the development of an indigenous engine for the Arjun tank (Ibid). India has invited the world's largest armaments firms to forge collaborations to develop hi-tech, cost-effective weapons that could be marketed around the world. The invitation came from Defence Minister Pranab Mukherjee at the Defexpo 2006 as he outlined India's ambitious plans to purchase combat jets and artillery guns to modernize its armed forces[7]. However, with increased globalization making information security critical, countries are also likely to be apprehensive about outsourcing production fearing knowledge diffusion.

In addition to the outsourcing, there is mounting evidence to suggest that the India's Public sector Undertakings (PSU's), which are concerned with the defence production, will be allowed to enter into 'strategic alliances' and partnerships with foreign defence manufacturers. Defence minister in 1999 stated that "India provides an excellent opportunity for the developed and developing world to source cost-effective goods and services from our defence production industry". He also talked of the "opportunities that India offers for joint-ventures, technology transfers, and co-production facilities for export to other markets" (Chakravarty 1999: 2). Currently the amount of foreign investment in the Indian defence sector is small. But a number of foreign manufacturers have already taken him up on the offer. During the visit of the Russian President Vladimir Putin to India in 2008 for example, the two sides signed a new military and technical co-operation agreement to establish joint ventures for the production of a variety of armaments and military hardware and establishing joint sales and marketing

[7]The full scheme of things expressed by defence minister of India can be accessed at http://www.business-standard.com/india/news/kelkar-for-private-role-in-weapons-sector/206757/

structures for the products (Ibid). Looking at the future it is possible that Indian companies will invite their Russian (and other) counterparts to participate in the development of next generation weapons systems (Shukla 2009: 1) India is not the only country assessing this option. "Somewhere in the region of 20 partnership agreements covering a range of co-operative arrangements, including co-production of aircraft equipment, joint development of communications equipment, and co-operation in software and electronic design, are believed to have been signed between British companies and the eight PSUs" (Ibid). Similar discussions have also been held with France, Poland and others.

Growth Opportunities in the Indian Defence Industry

India has the fourth largest scientific group and is growing like anything. At political levels, the Government of India has shown keenness in allowing international collaboration for the production of weapon systems, which are purely used for non-lethal purposes. The above mentioned factors taken together will definitely accelerate the defence production pace in India. Seeing India initiatives closely, the productions of the following weapon systems are expected to be promoted in the future:

- Technologies/equipment for counter terrorism
- Surveillance, communication equipment, and sensors for border management
- Cyber security - synergies in the field of information technology
- Devices to neutralize Improvised Explosive Devices (IEDs)

Kelkar Committee report mentions that private sector participation in defence would bring down the degree of dependence on imports of weaponry, "from one-fourth to three-fourths in five to ten years". The thrust of the report was on "self-reliance and measures to stimulate defence exports". It has also called for preparing a "15-year plan" to form the basis of all weapons acquisition and putting in place a system of sharing information on the requirements of the armed forces with the industry. If that happens, suppliers and manufacturers of the above-mentioned weapon systems are expected to be some of the

chief beneficiaries of the increased indigenization of the production process in the Indian defence industry. Key areas of growth identified within the industry are expected to arise from the upgradation of the production capacity expansion, technology transfer, and modernization of defence infrastructure. This is bound to give a push to India's defence export opportunities.

Chapter-V

Compulsions, Capabilities and Constrains of India's Defence Export Policy

> *We are reviewing how we can export Indian defence items,* ***without compromising the basic principles....we don't want to add to local conflicts and so on.*** *At the same time, Industry, public and private sector can benefit from exports. But I don't think we will ever achieve the kind of aggressive marketing practices which some other countries have achieved (Emphasis added).*[1]

World over, companies exporting Arms are found in about 34 countries. The majority of the major Arms producers in the world are also active in the international arms market, "even for the superpowers, the motivation is primarily economic and industrial" (Smith 1994:139). But in any country, the cost of military technology limits domestic demand. So various countries follow various ways to balance the losses and increase the profits in defence sectors. One common way is to export to other countries. The benefits of defence exports, particularly when sales are made to countries with no export policy of their own, are "economies of scale, foreign exchange earnings, longer production runs and the phased introduction of new weaponry" (Ibid).

Indian is not among the major arms exporting countries and there is no exact data or figure to specify Indian defence exports. India maintains its defence policy objective to substitute imported equipment with indigenous production in the hope of attaining self reliance. However, two new developments in 1982 made the shifts in Indian defence policies towards exports. First, a government decision was made in the fall of 1982 to "stimulate exports as one way to decrease the under- utilisation of capacity in the sector" (Ibid: 143). Second as an incentive for India to purchase Russian military technology, the "Russia had proposed allowing India to produce MIG-21 parts which could then be sold back to Russia and to Eastern Europe" (Ibid: 211). In subsequent weeks defence ministry announced the

[1] In 1989, defence secretary T.N.seshan explained so, when asked about India's defence policy and its stand on exports.

creation of a task force and mooted several defence markets such as Iran, Iraq, Libya, Malaysia and Vietnam. (Shukla 2009: 1). India even contracted to help Tanzania establish its first military college in fort Ikoma. Zambia had also agreed to become the "serious customer with India" (Ibid: 2). A military advisor post was set up in the Indian High Commission in Lusaka and products like Armoured Personnel Carriers (APCs), artillery, rifles, semi-automatic weapons and Mig-21 aircrafts were transferred. India was invited to tender for a requirement from Mauritius for a single medium-size offshore patrol vessel. In 1992 the ministry of defence announced that it was "considering selling off 1500 pieces of artillery, worth about Rs.8 billion, together with scrap and ammunition worth another Rs.2 billion" (Sen 1999: 5). But no subsequent briefing was made on the later developments.

Indian defence exports got the momentum again since 1999 when India hosted its first international land and naval systems exhibition, Defexpo India'99. In fact, from then on Indian exports are steadily growing but they are limited to a few isolated areas, including MiG-21 spare parts to Egypt and Vietnam, communications equipment to African companies, brake parachutes for MiG fighters to Algeria, and small arms to Thailand and Cyprus. In 2002, India announced its intentions to "procure orders worth $20 million for export of Arms and ammunition by showcasing in the international market indigenous, upgraded versions of 130mm and 105mm artillery guns, mine-protecting vehicles and assault rifles" (Basu 2002: 67). Outlining the agenda and the principles, Chairman and managing director of the Ordnance Factories Board (OFB), DK Dutta, said that the Arms exports would be to what he called 'friendly countries' in Africa and south east Asia, with new queries coming in from some Latin American countries (Ibid:73). Stating clearly that they had a road map for Arms export promotion Dutta announced that in 2003 fiscal itself, the OFB had achieved a big boost with "Arms exports jumping from Rs 35.3 crore in 2001-2002 to over Rs 60 crore in 2002-2003 and put the target for 2004-2005 at Rs 100 crore" (Ibid: 75). By 2006-07, the ordnance factories formed the bulk of the Arms exported from the country, but there are signs that with the government proposing to sell some missiles not falling in the missile technology control regime. Among the other products produced by the factories "Akash and Nag missiles started getting enquiries for exports from several countries" (Rai 2000: 33). With "more than 20 countries evincing interest in the indigenous

missiles", which would cost a lot less compared to competitors, the ordinance factories are waiting to capture the market once they are done with the final touches . In 2005, even the Kelkar Committee recommended grater measures to increase defence exports.[2]

The main Defence exporters include State-run electronic equipment major Bharat Electronics Ltd (BEL), Bharat Earth Movers Ltd and Ordnance Factories Board, besides HAL. The export turnover also shot-up to Rs. 185 crores registering a growth of 23%, compared to the year 2006. The Company's thrust on exports received a boost with booking of export orders worth Rs. 249.33 crores. BEL is targeting exports worth $15 million this year compared to past year's exports of $9 million and the exports would be across military communication equipment and radars.

In 2000, BEL announced that it had "signed Rs 10 crore deals to export solar modules to Sudan and would also supply 10 radars to Sudan" (Jayaraman 2000: 44). BEL, which "bagged Rs 551 crore orders to supply 1,176 units of short range BFSR for the Indian army, had already supplied two BFSR units" and counting on its experience in this regard (Ibid: 4). The company has also "bagged a $1.8 million contract to supply solar traffic signals to Surinam" (Bedi 2000: 3717). The order would be executed over a couple of years. BEL chairman also announced that there was also "interest from Nepal for procuring night vision equipment from India" (Ibid: 3719). Countries like Nepal and Mauritius had already evoked interest on home grown Advanced Light Helicopter (Dhruv), Lancer attack helicopter and Dornier transport planes, which were accepted by India and if delivered, will become a huge source of income generation.

India, the world's third largest importer of arms in recent years, had declared its entry into export market by producing aircraft and helicopters. Dhruv, a twin-engine helicopter in the 5.5-tonne class, which can carry 13 passengers has already become a hit and poised to be the single largest exporting Item in the defence industries armory. In the Helicopter sales,

[2]Advocating the need for a quantum jump in weapons exports, the report has recommended that all requests for proposals include an offset clause for contracts valued at Rs 300 crore and above, a re-look at the concept of negative list for defence exports and setting up of an export marketing organisation.

"Ecuador became the first country to sign a contract for purchasing the indigenously made Dhruv helicopters" of which one will be for use by its President. In June 2008, HAL won the $51 million (Rs.250 crore now) deal from the Latin American nation after at least four years of marketing efforts in the region to hawk an India-grown aerospace product. That was the "single largest Indian defence export deal ever made" (Raghu 2009: 1). The India Embassy in Ecuador expanded its setup with the appointment of a Military Attache and prospects appear bright for more defence exports as "Ecuador has agreed to be the servicing hub in South America for Indian defence equipment" (Ibid). If the demand continues, HAL is all set to make history with largest export income to Indian defence industries. In 2008, India's exports were less than Rs500 crore, a majority of which were from HAL's shop floors. "Our products are being accepted, you will see more such deals coming to us," announced the chairman of HAL. Apart from the above deal, "HAL is supplying three Dhruvs to Turkey" as well (Pant 1999: 3).

Other exports include radars, bombs, electronic warfare systems and ground handling equipment for aeroplanes made by public sector defence firms such as Bhart Earth Movers Limited (BEML), Bharat Electronics Ltd (BEL) and the Ordnance Factories Board, for supply to countries such as Sri Lanka, Nepal, and South-East Asian and African nations. Contrast that with India's imports of multi-role jets, artillery guns, helicopters and missiles that could reach $30 billion by 2012, according to a study by the Associated Chambers of Commerce and Industry of India, a lobby of trade associations (Ajay 2009: 1). This import-export mismatch is expected to change under a new policy that mandates foreign arms and aviation equipment sellers to source from India components and services to the tune of at least 30% of the value of contracts worth at least Rs.300 crore.

The above developments have happened gradually and they took time to unfold. But the shift is visible and it is getting momentum towards exports as well. With the increasing sophistication in defence output and the entry of private players into the defence production, exports will surely sour. So focusing on the above changes it is important to look at the consequences on the overall defence postures of India. This chapter does the same. It looks into the compelling factors behind India's shift. The second part of the

chapter tries to briefly review the capability of the defence industries and its products to export and the final part critically reviews constrains associated with the policy and the ways ahead.

Compulsions: Defence exports in the third world in general and Indian in particular is embedded in the complex network of international relations. The "arms production in the third world countries has implications for relation both with neighbouring countries and with the industrialized countries. And it influences the internal policies and the economic of the producing countries themselves" (Krause 1992: 282). India, with its emerging image in international politics, ever rising economy did make an effort to increasing domestic production and in the process faced some compulsions.

It was evident in the recent what was billed as the biggest biennial event in South Asia. The five-day seventh edition of Aero India 2009 at Yelahanka, near Bangalore which marked by a flypast and breathtaking manoeuvres from IAF's assorted aircraft — Sukhoi-30MKI, Mirage 2000, Jaguar, MiG-21, supersonic jet trainer Hawk and subsonic trainer Kiran and a slew of helicopters. For the first time, India displayed export version of Advanced Light Helicopter (ALH) Dhruv. A total of 592 firms, including 303 from overseas and 289 from the Indian subcontinent showcased their products and technologies spanning military and civilian sectors to woo the country's three armed services and the burgeoning aviation industry. India also paraded its niche products and expressed willingness to export. With the Indian Space Research Organisation (ISRO) riding high on the successful launch of India's maiden lunar mission Chandrayaan-1 to the moon, a space pavilion was also put up to flag the country's prowess in space technology and space applications.

India entered arms production and exports for the same "politico-military and economic reasons that have spurred other developing countries. These include a desire to express national sovereignty, the need to maintain secure supplies in the event of a conflict, increased manoeuvrability in foreign policy, the need to spur industrialization within the

country, and reduction of the financial cost, especially hard currency outlays, of weapons procurement" (Smith 1985: 240).

In India case compulsions are often looked from two points of view. First, "prevailing international political climate in the region and the posing threats from across the borders" which seemed to have stimulated new pressures for more resources to be put at the disposal of the military sector which also has an effect on the exports; and secondly, the "under-utilisation of industrial capacity in the Indian economy also supports arguments for increased defence exports" (Ball 2000: 337). India's defence cooperation with the military government in Myanmar, which took power after nullifying 1990 elections won by the opposition National League for Democracy is one interesting case which explains India's compulsion in defence cooperation. While cooperating in military sphere, New Delhi "hoped that the regime would help to contain antigovernment insurgents that operate from bases in Burma's Chin State and Sagaing Division into North East India along the shared 1,664-kilometer border" (Ibid). As part of the plan, in 2006 year India sold Burma two BN-2 Islander maritime surveillance aircraft that it had brought from the United Kingdom in the 1980s. The aircraft were delivered in August despite the British government's objections that they were being supplied to a country under an EU arms embargo. Later in 2007, India sold T-55 tanks and 105mm artillery pieces to the (State Peace and Development Council (SPDC). India's offer of assistance, however, "consists of counterinsurgency aircraft and tactics, including the Dhruv and Lancer light-attack helicopters manufactured by Hindustan Aeronautical Limited (HAL)" (Ibid: 342). Helicopters such as these are designed to attack targets on the ground, and civilians often suffer as a result. This would augment the Burmese army's ability to attack insurgents in difficult terrain, out of view of international observers. On the overall defence exports deal with Myanmar India may not get an immediate economic benefit but surely will have the influence in the India's North eastern region and in the long turn may lead to economic benefits as well.

India's military cooperation with the Nepal government is another case which also explains compulsion rather than the income generation. "India's concern was not earnings for its

defence industry, as arms transfers to Nepal are on highly concessional terms" (Bedi 2002: 2). Rather these exports to Nepal have a "crucial national security dimension" (Ibid). India in 2002 assured Nepal of all military help, including imparting training in counter insurgency and supply of specialised equipment the aim was to combat the growing Maoist insurgency in the Himalayan kingdom. Under the military cooperation agreement concluded in 2001, New Delhi even agreed to open the doors of its prestigious counter insurgency school in Mizoram to train more Nepalese army personnel in anti-militancy operations and also accepted the Nepal's plea for supply of specialised equipment like helicopters, utility vehicles and mine proof combat vehicles at cost price or even reduced price. So this case can best be explained from compulsion point of view rather than income generation or economic benefits point of view. As Nepal occupies a vital space in India's overall security, especially "after China removed a centuries-old buffer by occupying and militarising Tibet, it is normal for India to expect Nepal to be a friendly country that respects its legitimate concerns" (Ibid).

India extended the same cooperation to Sri Lankan by training its army personnel at Mizoram counter insurgency school and transferring some arms and Sukanya Class offshore patrol vessel which was later stopped. India till date continues to train soldiers from several countries, ranging from the Maldives, Mauritius and Mongolia to Botswana, Uzbekistan and Tajikistan. So it seems that the Indian thinkers are of the view that "when it comes to the immediate neighbourhood they are looking at the strategic concerns rather than income generation as their priority" (Finnegan 1999: 33). Though there were instances where "Indian produced weapons were recovered outside the country like Nepal, Bangladesh, Burma, Sri Lanka etc, it was not clear whether they come under the Arms transfers or exports" (Ibid). India being one of the largest contributor to the United nations peace keeping operations, it is quite possible to send some small Arms light weapons to personnel deployed abroad but to strengthen any such claims there is no data available in this regard.

On the economic benefit or income generation point of view, there exists evidence which suggest that India is not a stranger in international defence exports market. In 1980

government tried to export centurian space spare parts to Israel, via Canada, and was also in discussion with same deals who sold on centurions to South Africa. There were "minor low key sales of patrol boats to Bangladesh and Mauritius, helicopters to Bangladesh, Ethiopia, Liberia, Nepal and Seychelles" (Pant 1999: 2). Also on the sale were the second hand 105-mm guns to Bangladesh and ammunition, small Arms and transport vehicles to Jordan, lebonon and Malyasia, Nigeria and Oman. Defence export promotion council was set up in 1984. In 1983-84, there were many items on board to sell but what category they fall into was not mentioned then. During the same year HAL stated its intention to commence exports in the form of Kiran jet trainer and Marut but did not motioned the orders.

Capabilities: India today has one of the world's largest military forces: a million men in arms, an air force of more than 800 combat aircraft, a navy with 60 combat vessels, and an inventory of 3,100 tanks. With more than 90 defence production and research units (More than 40 ordnance factories, 8 defence public sector undertakings, and 40 defence research laboratories), India also has one of the largest arms industries in the non- Western world and, at the same time, is among the five largest importers of armaments in the world today. (Defence report 2008: 18). Yet, quantum of India's defence exports has all along been negligible;[3] much less than that of Israel, South Korea or even of Singapore[4], though some of their exports could be technically called 'trading' (Neishal 2008:1). But keeping in view India's defence production set up and the recent changes in the defence sector there is a scope that may increase the trend in India's defence exports. The main products exported are from the country's ordnance factories and includes all arms ammunition, explosives, rockets, spares for rifles and guns, clothing items, parachutes, aeronautical stores, communications equipment, and components and sub-systems (Smith 1994: 230). India for long maintained closed group of preferable nations when it comes to defence exports:

[3]As one rare source, SIPRI Yearbook 2005 recorded that India's total defence exports from 2001 to 2004 were $44 millions, against the total corresponding import of $8.526 billions.

[4]From 2001 to 2004, the defence import and export figures in US Dollars for Israel were: imports 1675, Exports 1290; for S. Korea: imports 2755 and exports 313; and for Singapore: export 1441, exports 73.

friendly, non controversial and mostly developing states. Hence, the main export markets have been Asia and Africa although some equipment had gone to Europe.

In order to fully utilize the existing markets, after the year 2001 "old export markets were also being expanded and new ones sought out". To felicitate this process and to increase the scope for defence exports the long maintained block list countries were put into the favoured countries. India removed the blacklisted countries like South Africa, Israel and expressed the willingness to engage in defence exports. (Ibid: 245). Now, the target countries list include not only the old friends like Burma, Israel, Chile, Kyrgyzstan, Kazakhstan, Uzbekistan, Tajikistan, Singapore, Indonesia, Maldives, Malaysia, Thailand, Mauritius, Namibia, Botswana, and Sudan but also the entire south American and African continent.

India now has emerged as the third largest producer of arms among developing nations with arms transfer agreements worth 8 billion US dollars during 1999-2002.[5] Amongst the Indian defence products, the light combat aircraft Dhruv has become the first major Indian weapons system to have secured large foreign sales. HAL exuberated the confidence that 'it can sell 120 Dhruvs over the next eight years" (Huma, 2008: 1). India had been displaying the Dhruv at air shows, including Farnborough and Paris in order to market the Dhruv. With a unit price at least 15% less than its rivals, Dhruv elicited interest in many countries, mostly from Latin America, Africa, West Asia, South East Asia and the Pacific Rim nations. Air forces from around 35 countries have sent in their inquiries, along with requests for demonstrations. (Ibid). The first foreign orders for the Dhruv were placed by Nepal in early 2004, for 2 Dhruvs. Another Dhruv, a civilian version, was leased to the Israeli Defence Ministry in 2004. In June 2008, the government of Peru ordered two air ambulance Dhruvs for use by the Peruvian health services. (Singh 2009: 1). Peru has also shown interest in the military version of Dhruv.

[5]According to "Conventional Arms Transfers to Developing Nations" report prepared by the Congressional research service China and the United Arab Emirates were the top two procurers of arms worth 11.3 and nine billion dollars respectively over the last four years followed by India.

HAL also secured an order from the Ecuadorian Air Force for seven Dhruvs and it became the first country to receive as well. "HAL has gained this order amidst strong competition from Elbit, Eurocopter and Kazan. HAL's offer of $ 50.7 million for seven helicopters was about 32% lower than the second lowest bid from Elbit" (Raghu 2009: 1). With growing export orders pouring in, HAL Secretary (defence production) announced that "India's Defence exports will touch over $ 130 million topping with sales of helicopters and aircraft built by Hindustan Aeronautics Ltd to friendly nations". The process has just started and poised to take off; if it happens India can clearly make the market in the international defence exports.

At a minimum, India's defence production sector so far earned foreign exchange through the sale of non lethal equipment. Additional exports of railroad coaches (such as the sale of fifty coaches to Bangladesh in 1975), continued repair of foreign ships and electronic sales has been the source for the income, "with the expanding markets they will probably remain important foreign exchange earners for the future". If the Ajeet trainer technical problems are solved its "low cost compared to similar jet trainer may make it an appealing prospect for other developing countries" (Terhal 1982: 254). If sales of this airplane were combined with technology training, India could enter the international aircraft market in the 2020 (Ibid). However, before it can do this it will have to establish a reputation for dependability. With Indian air force expressing its willingness to utilize HAL produced planes; it will be even easy to create a strong marketing reputation outside.

In the past, apart from exports of uniforms, helmets, small arms, and ammunition and so on, only a few exports of major arms have been reported. The official export figures, given in the annual reports of the Ministry of Defence, confirm this observation: for the fiscal year 1981/82 about Rs 260 million ($25 million) have been reported. The recent available sources put Indian exports near about 500 millions. Some of these exports, however, are accounted for by exports of civilian goods and services of public sector undertakings, in particular ship repairs at Mazagon Dock. As part of military assistance provided to neighbouring countries (Nepal and Bangladesh) India has supplied patrol boats and helicopters on non-commercial terms. Similarly, single pieces of equipment have been

given to other countries (trainers to Burma, Thailand, Cambodia and Malaysia and helicopter to the Seychelles), without resulting in any additional orders (Ibid). Eight Chetak helicopters (the Indian version of the French Alouette 3 built by HAL) along with associated equipment and spares were supplied in 1983 to the Soviet Union, and it was pointed out by the government of India that efforts were made to sell them to Third World nations as well. Several countries have been supplied with Indian-made small arms, ammunition, non-armed vehicles, and so on: for example, Jordan, Lebanon, Malaysia, Nigeria and Oman.

Plethora of suppliers increased the competition for India's Arms market. "As the process of globalisation and consolidation in the defence industry continues to gather pace and the price of designing, developing and producing modern defence equipment increases frequently, the trends in defence production, exports, imports and transfers will rapidly alter in the years to come" (Bitencourt 1995: 169). In the period of 2000-2004, India spent $ 8.5 billion on arms imports, next only to China ($ 11.5 billion). India's purchases have driven global arms sales, revitalizing the Russian and Israeli defence industries. However, not only is valuable foreign exchange being lost, but also jobs in the domestic market sphere. Technological vulnerability is an additional risk.

India has a strong civilian manufacturing base and a mature private sector. There is enormous scope for aligning the manufacturing capabilities of the public and private sectors to "boost defence production and reverse the one-way traffic in defence trade" (Terhal 1982: 255). It would also be a step towards consolidation and enlargement of the domestic defence production capacity. Technology spill over, capital investment, joint ventures, and creation of jobs are additional benefits. In the long term, private sector has the capacity to ensure competitive prices for ammunitions and put lateral pressure on ordnance factories and defence PSUs to pull up their socks.

The huge set up of ordnance factories, which are International Organization for Standardization (ISO) certified, have the capacity to compete in the export market. Initially, the Nair Committee had recommended corporatisation and privatization of ordnance

factories to increase the share of Indian defence exports. Now that the Kelkar Committee has also recommended their corporatisation and giving equal opportunities to the private sector, and its "recommendations are being seriously considered" (Neihsial 2009: 2). If implemented, India will be on a right path to create a vibrant and proactive defence industrial base.

Indian defence industry is different from those of other developing nations because a unique set of factors determined its evolution. These factors, which emerge both from India's internal politics and its external relations, modified or changed the reasons for which the country had entered into arms production. These factors are: (a) "the role of the nationalist leadership; (b) the decision taken shortly after independence to adopt a dual path toward producing arms; (c) the attitude of India's military and politicians; (d) the impact of the Soviet connection; and (e) the structural and ideological constraints that have restricted arms exports" (Krause 1992: 141). Indian government could try to ensure that a larger portion of armed services' purchases are from the country's own ordnance factories and the private sector thus encouraging the domestic players for the better and defence equipment which in long run help to boost the exports. In part, this is already being carried out. "The defence industry has developed more than 1,100 items of weapon systems and equipment with a production value of over Rs 6,000 crore" (Ibid). Most of its programmes, like Prithvi (sea borne version), Trishul (short-range surface to air missile), Akash (medium-range surface to air missile), Nag (anti-tank missile), Light Combat Aircraft with Kaveri engine, Pinaka (multiple-barrel rocket system), MBT Arjun, Electronic Warfare equipment, new radio sets for the Army, Sonar system for Navy, and many other items, are the potential products India can hope to export. It is the high time defence industry delivers on its promise by making a serious bid to export defence equipment.

Aircraft, helicopters, vehicles, night vision devices and communications equipment have long been tipped as the best products India can sell (Navlakha 1999: 1087). If it comes out well, India can hope to have a huge market for its own an probably that it will be able to use the revenue from sales to reduce its own unit purchase costs as well as provide an extra flow of money into defence R&D. The Indian government is set to invest a whopping

Rs.1.4 trillion ($30 billion) over the next five years to modernise and upgrade its defence services. This promises to change the face of India's defence production.

Constrains: Despite possessing a considerable defence production base, India has not been a very active exporter. Firstly, India had experienced too many problems with the production of indigenous equipment to consider defence exports. If a system is not totally indigenous, as is often the case with the Indian defence industries, exports can only proceed with the permission of licenser. Secondly, Domestic demands has been relatively high and thirdly, India's stance on various issues like peace, human rights and the policies like Non-aligned movement and with the representative democratic set up, India would be forced to conduct a considerable debate over the right and wrongs of selling Arms for commercial ends (Sarkar 1972: 99). However, the posture adopted by India in the late 1980s over the question whether or not the country should enter the Arms market as exporter belies the fact that India can not export weapons in April 1982 as early as the government of India announced that henceforth it would enter the Arms export market with a view to become a major actor. Even after thirty year of such announcements in the gigantic International Arms bazaar India stands though nowhere. "The fiercely competitive Arms market is dominated by four giants --- the United States, Russia, France, and Britain but some of the other countries like China, Brazil, Israel, South Africa, Poland, and Singapore are also eating into the pie" (Krause 1992: 261). They have succeeded in carving out small niches for themselves. Not only has India not been able to export much, it has been one of the top importers of Arms for many years. [6]

But there is need to examine various issues little deeply to know the real constrains. India, to begin with unlike some other third world countries (Brazil, South Africa etc), "did not design the defence plans with exports in mind" (Graham 1984: 157). Even now, India's main target of defence production has so far been to "substitute imports rather than promote exports" (Ibid). The primary policy goal has been to produce for India's own

[6]Krause, Keith. "Arms Imports, Arms Production, and the Quest for Security in the Third World", in Brian L. Job (eds.). *The Insecurity Dilemma: National Security of Third World States.* Boulder, CO: Lynne Rienner Publ., 1992.

needs. With the increasing quantum of defence imports from year to year, the country's inability to upgrade the imported equipment held for significant period under license production and other related issues remaine the main concern to grapple with. Hence the exporting side of the indigenous production is rarely taken seriously. Even in the domestic production account the targets are far from achievement. According to The Associated Chambers of Commerce and Industry of India (ASSOCHAM) 2004 study, despite the defence ministry's targets of achieving 70 percent self-reliance in defence production 10 years ago, it has fallen short by 40 percent. Even after spending huge amounts on defence (Rs.960 billion for fiscal 2007-08) only 30 percent of total defence production has become self-reliant.[7] Arguably, the room for companies focused solely on their home markets and expecting to provide their militaries with defence equipment, "not only in the developing world but also in the West, is shrinking rapidly, due to the rising cost and sophistication of the systems involved" (Jasjit 2000: 111).

India defence exports, which include "sale of small arms and miscellaneous items and various defence equipment, have never been greater than 2 percent" of the total defence output (Raju 1989: 199). Some authors suggest that the "lack of export is related to India's Non alignment foreign policy", but other constrains like "lack of good price to sell, less competitively priced and lack of advertisement and the inferior quality of products" are also important (Ibid). Even when India able to offer a saleable product, the "time and cost overruns associated with Indian manufacturing units renders the product non-competitive" (Ibid: 202). When the Ministry of Defence set up an export organisation, Saudi Arabia floated a tender for the supply of uniforms for their armed forces. While India has ordnance factory that specifically makes uniforms, "India bid was $20 per uniform set, while the Chinese walked away with the order at a quotation of $9" (Wulf 1986: 141).

India has three shipyards under the MoD. They have built some fine ships in the past for the Indian Navy. Unfortunately, assured orders from the Indian Navy, "their esoteric relationship with the MoD", and a reputation for time and cost overruns have made them

[7]ASSCHAM, Private industrial lobby published a study report *'Avenues for Private Sector Participation in Defence'*, (New Delhi: 2004)

"non-competitive in the warship-building market"(Ibid:145). Not a single shipyard has secured a single order from abroad for many years. In 1990s Malaysia was in the market for 26 offshore patrol vessels. Goa Shipyard made a bid with an Indian-designed OPV. Despite much canvassing at the political level, India did not make it even to the shortlist. Advertising is another area where India has to improve standards. In the defence exhibitions, the Indian pavilion, if there is one, will be the "drabbest and most poorly presented among the exhibitors" (Graham 1984: 159). At the time when an international defence market is fiercely competed this kind of strategy will not help Indian case. It is the equivalent of one of those ads by the income tax or other government agencies you see in the newspapers, made by the government's Department of Audio Visual Publicity.

Another constrain on export in recent years has been the saturation of defence market. The international "defence market is in a considerable slump", which ironically dates from around the time when the Indian government decided upon making a funadamental shift in policy. Particularly hard hit have been sales of major weapon systems, which is precisely what India wants and needs to sell to make the necessary gains in foreign exchange. Moreover, the market is now much more geared towards technology, which Indian would find difficult to supply.

To make the case even difficult, "India has not found many buyers, even in the region" (Ibid: 200). Though India provided petrol boats and helicopters as gift to Bangladesh and Nepal, these countries have purchased this type equipment from other countries. India tried to sell its HT-2 trainer to Burma, Thailand, Cambodia, and Malaysia but did not receive any orders (Ibid). India also lacks the experience of its competitors and necessary staying power. By definition both the sales pitch and the decision-making process are bureaucratised and might lack the flair and innovation of competitors from the private sector. And more importantly it is difficult to imagine the foreign country buying equipment which the Indian armed forces are so patently reluctant to absorb themselves. Finally, equipment- by global standards- is not of the highest quality and if a market niche does exist it is among the poor countries of, say, Africa and Central Asia and central America where there is stiff completion from Brazil and China and counter-pressure from

the world Bank and IMF. That explains why after exporting fifty Vijayanta tanks to Kuwait, India did not get any additional sale requests from Kuwait.

Another constraint has been "restrictive provisions in licensing agreements" (Wulf 1986: 140). India sent fewer tank parts to Jordan than were requested because of provisions in the licensing agreement with Vickers. Soviet Union did not allow India to sell MIG-21 parts to Egypt and other countries. India's attempts to increase its defence exports profile partly as a way to fund its indigenous R&D programme is also limited to the sale of low and middle level technologies to cash-strapped and politically isolated regimes, such as Algeria and Vietnam. The perceived need to modernise its armed forces quickly, which has taken root in the wake of the Kargil crisis and the impending obsolescence of many of its existing platform, however, means that "India will continue to look abroad to full-fill the majority of its top-end defence needs"(Ibid: 365). This will be reflected in the division of resources within the defence budget, which is also likely to continue to grow over this period.

Whatever the pronouncements made by any defence minister, India stands little chance of improving on its arms export performance until all its present shortcomings are removed. The defence industries chronic ills, which prevent India from exporting, call for drastic remedies. The defence ministry needs to undertake a form of divestment on its assets (Singh 2001:93) To start with, a major shake-up is required. Forget about exports, India failed to stop imports. The DRDO developed an MBT, but we still import tanks. The DRDO developed guns, but still orders for the same from outside. Despite the media hype, the costs have been heavy. MBT Arjun, when it goes into production mode, will have more than 60 per cent imported components, including several crucial components like the engine and gun control system. It is expected to cost over Rs 25 crore a piece whereas the cost of a T-90 tank, which is as superior (if not more), is less than Rs. 10 crore along with technology transfer (Ibid). Matters have come to such a pass that the "Armed Forces have stopped believing media reports about the so-called 'successful trials' of weapons and equipment". Because of the failure to deliver the required weapons and equipment, defence planning and Force structuring by the Services has suffered continuously. The DRDO's inability to deliver in time has caused a crisis of confidence and constant dissatisfaction in

the Services. In order to ensure smooth progress towards self-reliance in defence technology, the Government must undertake a periodic performance audit of DRDO projects to reinforce efforts in areas of success and weed out projects that are unproductive. So it the time for the greater privatisation which India has allowed after long time. Privatisation of all defence PSUs and ordnance factories should be the second objective. In the name of strategic security the government should not be reluctant to hand over the production of lethal equipment to the private corporate sector.

Given a chance "Indian companies will be able to deliver what the DRDO and the PSUs of the defence ministry have failed to produce so far" (Shukla 2009: 2). Its good sign that government disbanded its defence empire or at least relaxed its monopoly and stranglehold on this vital sector, but it has to actively promote by engaging with them. The age old argument that keeping away the private players from defence related production to ensure strategic security will not wash anymore. Not "if India wants to increase our pathetic defence exports in the future" (Kumar 2008: 289). Increasingly in the world, close relationships are growing between governments and major multinational corporations, to the advantage of the former. Boeing, Lockheed, Philips, Marconi and Thomson-CSF today produce some of the most sophisticated, and thus the most exportable, defence items. India should quickly adapt to such strategy so that defence industries will not be left behind by these companies.

As mentioned above, privatisation alone may not be the solution to all the problems. Organisational problems within the MOD are also likely to hinder any advantages to be gained by through the greater involvement of the private sector. The isolation of defence production from defence R&D, for example, is seen by many in India as inhibiting sensible planning and management of India's defence programme (Krause 1992: 45). Several other factors like diversification of the industrial base, the size of the skilled manpower base and the level of research and development (R&D) facilities all have to be taken up on urgent basis. Arms production on a large scale is impossible without an integrated industrial base. One principle is particularly important here: that the arms industry is dependent on the state of technological know-how in the civilian industry. India fortunately have been building up

a world class civilian Industrial base and it has to integrate with the defence sector as well neglecting this base rule can be fatal.

One more important factor is the "availability of money and the willingness to subsidize production" (Smith 1994: 239). While there is a lack of sufficient information on the economic aspects of arms production, the evidence collected in the case of third world defence developments supports the proposition that in India production of major weapons—especially in cases where new and sophisticated technology is incorporated—is considerably more expensive than production in the industrialized countries. This is a result of the high costs of acquiring and adapting foreign technology, of initiating and integrating a wide range of manufacturing activities and often also of small production runs. For simpler weapon systems, however, low labour costs for producing components domestically rather than importing them can shift the balance.

Budgetary allocations, technological upgradation, private participation all were added within the possible limits of the "developing India". A low degree of industrial diversification; shortage of tools, machinery and raw materials; a chronic lack of foreign exchange, and so on are the other factors that can severely constrain Indian efforts to the accelerated defence exports (Ibid). These drawbacks are not easily overcome. This necessitates the "import of technology and know-how from the industrialized countries: the military-industrial structure of a more integrated economy is thus superimposed" (Ibid). This in turn results in capital-intensive production, requiring large state subsidies, thus generating financial and technological constraints on India's defence production and exports.

But, India today stands in a much better position than it has been in the past to acquire international cooperation to upgrade its defence production out put, provided India engages pro actively not allowing the ideological barriers to dominate. For example: one constraint on exports has been the restrictive provisions of the licensing agreements. It is reported that one consideration—albeit not the most important one—in favour of entering co-operation agreements with west European firms, instead of exclusively expanding co-operation with

Russia, is the limited export potential of Soviet weapons. Indo-Soviet licence agreements apparently contain a clause that forbids the sale of Indian-made MiGs or parts to other countries which have deployed this type of aircraft such as Egypt, Syria or Iraq. In contrast, British and French firms are said to have emphasized re-export possibilities as a means for India to reduce the burden of arms imports. India should grab such offers to improvise the capacity to export the defence equipment.

While the above may be the likely positive impact, it is "unlikely that Western technology will be able to easily challenge the existing market structure through the private sector" (Krause 1992: 92). This is due to the peculiarity of defence technology and its market structure. First, "given that control of technology is the essence of the growth and expansion of MNCs, the global Western defence giants may not easily part with high-end technology", whereas the Indian establishment would be looking for sophisticated weapons and equipment to supplement what has already been acquired from existing sources (Ibid). The private sector's ability to enter the market will depend on its capability to supply the components, parts and sub-systems of the new equipment in the initial period.

Secondly, "Opportunities for the private sector would largely depend on the government decision to opt for higher and complete major systems of Western origin technologies" (Ibid: 93). If such a decision goes in favour of any of the fighter aircraft of western origin, the private sector would definitely have significant scope to capture the market through the offset channel or through normal business dealings.

Thirdly, "the ability and willingness of Western technology to supplement the defence technology requirements of the armed forces would be the decisive factor" (Ibid). As of now, the armed forces are already in possession of a certain level of defence technology. What they are looking for is conceptually a higher level, which would be supplementary in nature to bridge perceived security gaps. Will the western powers through their MNCs be willing to part with this higher level of technology to fill the gap, which, though may be lower than the high-end state-of art strategic technology that they possess? If the answer is in the affirmative, the prospects of their capturing the Indian market are very bright. So is

also the market potential for the myriad Indian private domestic defence companies in the next decade.

However, the challenge for Indian industry as a whole would be the will and ability to integrate the two major technology streams in the coming years. This demands the need for "dedicated and focused research leading to the capability to integrate existing systems with incoming systems" (Gupta 1990: 849). While the major platforms may continue to be of Russian/Soviet origin, "the genius of Indian industry would be tested in its capability to build armaments and other sub-systems and integrating them at higher levels" (Ibid). This is the core challenge and the capability to do it would eventually make the defence industry genuinely vibrant and comepetitive. This will usher in the 'Indian brand of defence technology' even for export purposes free from possible objections on accounts of violations of intellectual property rights. The role of the Government of India as patron and principal customer shall be very crucial for success in achieving the above objective.

In many developing nations like India, "the political aims have to be set higher in order to justify continued spending on arms production and to win over those that favour procurement of more advanced weapons" (Ball 1999: 334). But Indian public by and large approves what ever the policy makers decide. This is partly because of the continuous wars India fought and the volatile neighbourhood. India also has so far by virtue of its huge domestic market partially avoided becoming entrapped in to the "dilemma generally faced by the third world countries. i.e. what can be produced efficiently is not in demand, and products in demand cannot be produced" (Ibid: 342). But in spite of that, many new designs for sophisticated weapons presented by Indian designers are not considered good enough. Licensed productions from designs from the industrialized countries are then chosen instead. India has to quickly change this dismal picture and carefully choose the best options available to make a mark in international defence export market.

Chapter-VI

Conclusion

Having under taken a study of the Indian defence export policy compulsions, capabilities and constrains in the previous chapters, it would now be useful to look at the issue more closely, in terms of coming to some tentative conclusions. This would also involve validation or falsification of the hypothesis proposed initially, as to whether it is the issues of economic viability of India's defence establishment that have been the reason behind the evolution of India's defence export policy, Secondly, whether India's defence exports have helped India subsidise its defence procurements and also obtain influence with recipient countries.

Production of defence equipment has been under the purview of Government of India right from its inception. The Industrial Policy of the country had kept defence production in the public sector since First Industrial Policy outlined in the Industry Policy Resolution of 1948. The Industries (Development & Regulation) Act, 1951 gave statutory base to this Industrial Policy. Under this policy, the Defence Industry, which required heavy investments, strong R&D backing and on which there could be total reliance because of its criticality, remained under Government Control at all times. The control over defence industry was exercised under the Industries (Development & Regulation) Act, 1951, which made licensing compulsory.

As a consequence of the then industrial policy, a large infrastructure for Defence production consisting of Ordnance Factories, Defence PSUs and Research & Development laboratories was created in India. Immediately after Independence, security calculations of traditional India changed and wars with Pakistan and China posed a grave threat to Indian security, forcing India to engage with erstwhile Soviet Union for the defence production under licence. But after the end of the cold war, India had to diversify its import sources with the countries like United States, France and Israel etc. At the domestic turf, India initiated economic reforms in 1991. The economic liberalization resulted in the high degree of deregulation and allowed the private industry

to progress more rapidly. After considering the "capital intensive nature" of defence industry sector as also the need to infuse foreign technology and additional capital including FDI, Government of India decided in May, 2001 to open Defence industry for private sector participation up to 100% with FDI permissible up to 26% - both subject to licensing. Now with this policy change "all defence related items have been removed from Reserved Category and transferred to the licensed category, as a result of which private sector can manufacture all types of defence equipment after getting a licence" (Shukla 2009: 1).

Consequent to the Government's announcement about the policy change, Department of Industrial Policy & Promotion (DIPP) in consultation with Ministry of Defence, issued detailed guidelines regarding the modalities for consideration of applications for grant of Industrial Licence. After the announcement of policy changes, "there has been a paradigm shift in the role of private sector in the field of indigenisation, i.e., from the role of supplier of raw materials, components, sub-systems, they have now become partners in the manufacture of complete advanced equipment/system" (Ibid).

The basic "objective of allowing private sector participation is to harness available expertise in the private sector towards the total defence efforts and search for self-reliance" (Kumar 2008:20). In-built advantages of the private sector are its reservoir of management, scientific and technological skills coupled with its ability to raise resources. The involvement of private sector with its world-class expertise and high technology not only expected to augment India's indigenous defence production capability but also lead to creation of employment and infrastructure in the country, giving a strong impetus to defence exports and in turn to Indian economy.

It must be acknowledged that the policy change of May 2001 for allowing private industry to produce any defence item under licence was a "logical outcome of the liberalization initiated in 1991". Thus the first hypothesis is found to be true.

From the exports point of view, in the gigantic Arms bazaar India stands nowhere. The fiercely competitive Arms market is dominated by four giants --- the United States,

Russia, France, and Britain. But some of the other countries like China, Brazil, Israel, South Africa, Poland, and Singapore have also make their presence either in trading or other niche areas. The DefExpo India was the pioneering initiation that was conceptualised in the year 1998. It was developed by the Department of Defence Production, Ministry of Defence Government of India in partnership with the Confederation of Indian Industry with an objective "to promote defence exports from India at the same time exhibit the capabilities of Indian Defence R&D and production" (Ibid: 21). The DefExpo India exhibition which began in 1999 with 197 exhibitors, had by its 4th edition grown to one of the internationally recognised defence exhibitions in the world. DefExpo India has witnessed an unprecedented growth over the years.

Confederation of Indian Industry (CII), the MoD partner for organisation of DefExpo India Exhibitions, facilitated the platform of DefExpo India to involve Indian industry and foreign defence manufacturers to establish technological tie-ups and joint ventures. Indian government has taken bold steps toward gaining share in some export market for itself by wooing and winning new markets that are generally in the enclave of Western competitors. As part of that, the Indian government has made a bold change and dispensed with its archaic policy of blacklisting some nations for defence exports. Announcing plans to sell sophisticated armaments like warships, helicopters, aircraft, small arms and specialised ammunition, Government in 1990's started a drive to find export markets to achieve economies of scale for its indigenous armament industry. Under the old policy, countries like South Africa and Israel were debarred for arms sales and strangely the two nations are currently India's major joint venture partners even in strategic armaments.

Inspite of all the efforts India still remains a piddling player in the global arms trade no doubt its sales have increased but economic slowdown has also sharpened completion. In 2002, India's arms exports were 20 million and by 2005 it reached $130 million. But defence exports are subject to substantial annual fluctuation in light of single purchase large deals that throw off an individual year. The primary factor for this is simply because "India is mostly uncompetitive in the high, medium, and low tech segments of the defence industry excepting a few certain core competencies where India has tie-ins with

foreign arms manufacturers" (Smith 1994: 144). This is compounded by lack of R&D funding, low technology etc.

So far Indian defence exports remain limited to a few isolated areas, including MiG-21 spare parts to Egypt and Vietnam, communications equipment to African countries, brake parachutes for MiG fighters to Algeria, and small arms to Thailand and Cyprus. As of 2008, "India's defence exports languish at about Rs 300-400 crore per year, barely 1 per cent of the Rs 30,000 crore spent annually on importing weaponry" (Shukla 2009:1). It is positive sign that after a woeful decade of unprecedented poor performance, the local industrial-defence complex is gradually picking up steam again.

In the first half of the year 2009, India exported five Dhruvs helicopters, each worth Rs 44 crore, to a Latin American Nation called Ecuador. Indian pilots are training the Ecuadorian Air Force; they have posted 15 HAL maintenance personnel in Ecuador for backup support, along with a substantial inventory of spares. India is also "steadily gaining experience in supporting the operations of Dhruv ALHs in South America" (Ibid). This is bound to pay off in the long run. With the Dhruv providing a state-of-the-art alternative at a price 25 per cent cheaper than its alternatives, developing countries remains a potential buyers. But just after this deal, the prospects for this India's most promising defence export — the Dhruv Advanced Light Helicopter (ALH) — have been dealt an unexpected blow. India's Ministry of External Affairs (MEA) has turned down a Bolivian request to buy seven Dhruvs from Bangalore-based manufacturer Hindustan Aeronautics Limited (HAL). The reasons are yet to be announced but had it been accepted, India would have easily crossed 500 crore target in the year 2009 it self.

Apart from HAL, Bharat Electronics Limited (BEL) in 2007 announced that it "eyes $ 100 million defence exports in 2 years"[1]. BEL is a one billion dollar turnover company under the defence ministry and had participated in Dubai Air Show, 2007 for the first time as "it would give an opportunity to introduce the company to other international

[1]Bharat Electronics Limited (BEL), ranked 58th among the top defence majors worldwide is kicking off initiatives to boost defence exports up from the current annual value of 15 million dollars to 100 million in the next two years.

players like Raytheon, BAE Systems, Northrop Grumman, Goodrich" which have also attended the Dubai Air Show. Main items of exports are in Defence Communication equipment and spare parts, radars and subsystems, contract manufacturing and telecom and satellite communication systems. BEL has the record of exporting to countries like Botswana, Egypt, South Africa, Turkey, Israel, Hong Kong and UAE already.

When it comes to defence exports to its neighbours, "India seem to have weighed the strategic calculus" and to that extent influenced them in their actions. Defence cooperation with Mauritius, Nepal, Myanmar and Sri Lanka etc are the few countries coming under this category (Bedi 2002: 2). Thus the second hypotheses of India's defence exports helping India to subsidise its defence procurements and also obtain influence with recipient countries found to be at least partially true as well. Partially because India's exports have often failed to come up to these neighbours high expectations as also occasionally other competitors have been more enthusiastic and efficient suppliers to India's neighbours.

With efficiency and profitability being the primary goals, the Indian defence industry would have to hasten the process of defence production first, which can be used domestically and also can be exported. The Indian armed forces, which have traditionally favored imported weaponry, are now less reluctant to accept weapons systems produced indigenously.[2] So it's the right moment for Indian defence production sector to go and prove at home the effectiveness of their defence production then to go for exporting.

The Indian defence industry could also try to integrate itself with those of the West as well as the Russian defence sector. Western companies are transferring production lines to the developing world to keep them open. The British, for example, have transferred the technology of the Rapier SAM to Singapore. The Indian aircraft industry could follow this example and supply spare parts around the world for both the MiG-21 and the F-5. This would earn foreign currency for India as well as give it needed experience in

[2]For Vice Chief of Army Staff opinion see http://www.ciidefence.com/pressreleases_037.asp?id=3

producing for the export market. India's attempts to increase its defence exports profile partly as a way to fund its indigenous R&D programme will also be limited to the sale of low and middle level technologies to cash-strapped and politically isolated regimes.

Despite all the problems and challenges, India is unlikely to abandon the dream of establishing and expanding its own defence production sector. However, it is becoming increasingly apparent to all concerned that the only way that the country will be able to fulfill (even partially) its ambition of designing and manufacturing its own top-end defence equipment is not to follow the old way of licensing and importing for the short term needs while ignoring the long tern necessities. It is especially important at the time when a plethora of suppliers have increased the competition for India's Arms market. At the export level as well, the process of globalisation and consolidation in the defence industry continues to gather pace and the price of designing, developing and producing modern defence equipment increases frequently. The trends in defence production, exports, imports and transfers will also rapidly alter in the years to come.

India's position in defence production and exports in the end, will depend upon how efficiently it garners the much needed technology and the pace in the defence modernization. Retaining its skilled manpower to make its mark in the 21st century remains it's another major problem. For now all seem to be moving in positive direction. But it also seem to be certain that in 20 years time, India will likely still remain a marginal player in the international defence market.

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*United Nations General Assembly (UNGA) Resolution 61/89 "Towards an arms trade treaty: establishing common international standards for the import, export and Transfer of conventional arms", [Online web] Accessed 12 April 2009, URL: http://www.un.org/millennium/declaration/ares552e.pdf

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General Assembly

Distr.: General
18 December 2006

Sixty-first session
Agenda item 90

Resolution adopted by the General Assembly

[*on the report of the First Committee (A/61/394)*]

61/89. Towards an arms trade treaty: establishing common international standards for the import, export and transfer of conventional arms

The General Assembly,

Guided by the purposes and principles enshrined in the Charter of the United Nations, and reaffirming its respect for and commitment to international law,

Recalling its resolutions 46/36 L of 9 December 1991, 51/45 N of 10 December 1996, 51/47 B of 10 December 1996, 56/24 V of 24 December 2001 and 60/69 and 60/82 of 8 December 2005,

Recognizing that arms control, disarmament and non-proliferation are essential for the maintenance of international peace and security,

Reaffirming the inherent right of all States to individual or collective self-defence in accordance with Article 51 of the Charter,

Acknowledging the right of all States to manufacture, import, export, transfer and retain conventional arms for self-defence and security needs, and in order to participate in peace support operations,

Recalling the obligations of all States to fully comply with arms embargoes decided by the Security Council in accordance with the Charter,

Reaffirming its respect for international law, including international human rights law and international humanitarian law, and the Charter,

Taking note of and encouraging relevant initiatives, undertaken at the international, regional and subregional levels between States, including those of the United Nations, and of the role played by non-governmental organizations and civil society, to enhance cooperation, improve information exchange and transparency and implement confidence-building measures in the field of responsible arms trade,

Recognizing that the absence of common international standards on the import, export and transfer of conventional arms is a contributory factor to conflict, the displacement of people, crime and terrorism, thereby undermining peace, reconciliation, safety, security, stability and sustainable development,

Acknowledging the growing support across all regions for concluding a legally binding instrument negotiated on a non-discriminatory, transparent and multilateral basis, to establish common international standards for the import, export and transfer of conventional arms,

1. *Requests* the Secretary-General to seek the views of Member States on the feasibility, scope and draft parameters for a comprehensive, legally binding instrument establishing common international standards for the import, export and transfer of conventional arms, and to submit a report on the subject to the General Assembly at its sixty-second session;

2. *Also requests* the Secretary-General to establish a group of governmental experts, on the basis of equitable geographical distribution, informed by the report of the Secretary-General submitted to the General Assembly at its sixty-second session, to examine, commencing in 2008, the feasibility, scope and draft parameters for a comprehensive, legally binding instrument establishing common international standards for the import, export and transfer of conventional arms, and to transmit the report of the group of experts to the Assembly for consideration at its sixty-third session;

3. *Further requests* the Secretary-General to provide the group of governmental experts with any assistance and services that may be required for the discharge of its tasks;

4. *Decides* to include in the provisional agenda of its sixty-second session an item entitled "Towards an arms trade treaty: establishing common international standards for the import, export and transfer of conventional arms".

67th plenary meeting
6 December 2006