CHAPTER 3
DEFENCE COOPERATION BETWEEN RUSSIA AND INDIA

Introduction

Defence cooperation constitutes a critical element in Indo-Russian strategic partnership. It is growing successfully under the long term Defence Cooperation Programme extending up to the year 2010. In fact this dimension has sustained the relationship to large extent. India is one of Russia’s most privileged partners in military-technical cooperation and Russia will remain India’s largest and most secured source of defence hardware. In the past, Soviet Union had been the main source of India’s arms supplies, indo-Soviet cooperation provided the former with an alternative and helped it in building its own defense infrastructure. But the end of the Soviet era posed difficulties for India, particularly in the military realm given its huge dependency on Soviet arms, spare parts and equipment. In the past India had relied upon Soviet Union as it has been the most reliable weapon supplier. However, the changes that occurred in international politics as a result of the end of the Cold War had its effects on the defence cooperation also. Indo-Russian defence cooperation in the post-cold war had shifted from India’s needs and Soviet opportunism to Russian economic needs and Indian military needs.

Indo-Russian defence cooperation over the past decade has acquired qualitatively new features. Russia not only supplied arms, military equipment but has also actively engaged with India in the Joint
production. Transfer of technology in certain areas of sophisticated weapons is given to India. This chapter analyses whether the dissolution of Soviet Union had affected Indo-Russian defence cooperation, and the factors that have compelled both the countries to continue and strengthen their relation in defence field. This chapter also examines Russian-Indian relationship in the sphere of military-technical and nuclear cooperation. A brief understanding of the past cooperation though mentioned in chapter one, would be in order.

**Soviet-Indian Defence Co-operation**

The Soviet-Indian relationship rested on the compatibility of their vital interests which is primarily to reduce the Western influence and later Chinese in South Asia. Pakistan's acceptance of U.S. military assistance in 1954 made Soviet Union to approach Indian leaders in the hope that they as a major player in Non-Aligned Movement would facilitate Soviet access to other members in the third world. India is concerned very much about US and China's military assistance to Pakistan. The Soviet compulsion is as mentioned is to strengthen the country's independence and thereby, prevent it from coming under western influence Economic and Military aid to counter possible American and Chinese influence in South Asia. From India's point of view, Soviet assistance is important for modernization as it needed a credible defence forces in view of its troubled relations with the neighbours.
At the time of independence in 1947, India's armed forces are almost British equipped. This relationship continued for some more years. Therefore, India's principal arms suppliers until 1960 are Britain and France. Weapon imports from USSR are on a very small scale till then. The Sino-India 1962 War with China becomes a turning point in the history of the Indo-Soviet military relationship. After 1962, war with China and India's loss of credibility as a military power led Indian leaders to apt for a larger and a better military establishment, both operational and industrial. When India initiated the modernization of its armed forces following its 1962, its initial objective is to continue and expand upon its western supply-line. After failing to secure arms transfer agreement with West, India turned to Soviet Union. India's defeat starkly highlighted the need to have a modern defense establishment. Defence allocations are doubled in 1963. In 1965, India and Pakistan again fought to war over Kashmir. The U.S. 'embargoed' arms to the subcontinent, but Soviet Union did not stop arms supply to India during the fighting. In fact, Soviet Union enhanced its cooperation and agreed to give India submarines, destroyer escorts, and patrolling aircraft. From then onwards, Soviet Union is able to have a voice in South Asia. When it successfully mediated between India and Pakistan at Tashkent consequently Soviet Union also turned India's reliable long term defence supplier (Ramesh Thakur and Carlyle A. Thayer, 1992). It also implied that Soviet Union is gaining a foothold, although a small one, in Pakistan.
By 1970s, Soviet Union's threat perception vis-à-vis the U.S is reduced but new vulnerability faced it in Asia, namely China. Both Nikita Khrushchev and Leonid Brezhnev regarded arms transfer as a primary technique for pursuing the aim of strengthening India's non-aligned and independent posture and then, of possible to enhance its own influence in recipient countries and region.

In this strategy of strengthening independence Soviet Union also sought to strengthen the economic dimension by helping India to conserve its valuable foreign exchange reserves. In this context it is importing consumer goods and commodities from India and promoting Indian industrial and political development within a Soviet-Indian economic planning structure. Thus, Soviet military assistance and economic assistance sought to strengthen India's government both domestically and internationally as a major regional power. For Soviet Union, India is an excellent show case for its weaponry as well as economic assistance.

The first Soviet military deliveries to India began in 1960-61 with ten MI-4 helicopters, twenty-four Ilyushin and eight larger AN-12 transport aircraft. In January 1962, India ordered sixteen more helicopters and eight more transports, as well as six MiG-19 engine for testing as prototypes for new Indian HE-24 aircraft. In 1962, in contrast to the normal pattern of exporting only obsolete weaponry produced in Soviet Union, it agreed to give a license to produce the new MiG-24 fighter in India to counter the U.S. agreement to provide two squadrons of F-104
fighter to Pakistan (William H. Mott IV, 2001). India is the first foreign country to be offered MiG-21, thus receiving preferential treatment even in comparison to Warsha Pact allies of USSR. By late 1964, Moscow had established its position in India through deliveries worth more than $130 million. India also attracted towards Soviet arms due to credit sales at better than market terms and 2% interest payable only after ten years. Besides, Soviet Union accepted payment in rupees, essentially for the export of Indian goods.

In 1964, Defence Minister Y B Chavan visited US to get the F-104 Star fighters but to no avail. On a Visit to Moscow, however, another major deal is signed for more MiG aircraft to be paid for in rupees generated through the export of Indian goods over a period of ten years with 2% interest. Since then, the MiG complex has been producing improved versions of the MiG-21 in a long series of upgradations. Apart from the fighter component of air Defence, Soviet Union has strengthened a transport fleet. Soviet equipment plays a crucial part in providing the Indian army a massive mobility. Since, the sixties the T-54, the T-55 and the amphibious PT-76 tanks have been in service with the frontline troops, bolstered by the indigenous ‘Vijayant’. Soviet Union also improved Indian naval design capabilities. In fact, the entire Soviet military supplies programme has helped immensely the competence-building process through, which Indian scientists, engineers and technicians can launch programmes for indigenous design and development of weapons platform ranging from aircraft, to ship and
submarines, to tanks and other infantry weapons. The supply of latest technology in weapons systems has been facilitated and enhanced by the treaty of peace, friendship and cooperation signed in 1971 (Cecil Victor, 1986).

In 1977 the Janata Government tried to diversify India’s sources of weapons supply by ordering 116 Jaguar bombers and sea Harrier fighters from Britain, 4 submarine from West Germany, and 40 Mirage-2000 aircraft from France. In response to this Soviet Union is ready to give with additional incentives in the latest weapons and technology, sometime deployed in India before there use in Soviet armed forces. Soviet Union’s readiness to permit Indian licensed production of some newer Soviet system at concessional prices and its willingness to accept rupees in payment left India heavily dependent on Soviet Union. At the same time it is clear that India could not have procured such preferential terms from the West. Towards the last years of Soviet Union, India had started paying partially in hard currency for arms purchase. In May 1980, Soviet Union signed a new agreement with India providing for transfer and licensed production of the MiG-23 fighter and the T-72 main battle tank under a loan granted at 2.5% to be repaid only after two years and over a period of fifteen years. Under Mikhail Gorbachev and Perestroika, these basic lines of the Soviet-Indian relationship remained concessionary arms import and expanding economic cooperation with new form of trade. Except for a brief period, India has been short of foreign currency, and there is obvious attraction in paying for arms in rupees. Although Soviet
arms are often assumed not as sophisticated as their western equivalents, they are according to experts easy to maintain and there is reliability of spare parts.

**Initial Difficulties in Indo-Russian Defence Co-operation after the Soviet Dissolution**

After the break-up of Soviet Union, military cooperation between India and Russia is affected. Given India's independence on Soviet Union and its uneasy relations with neighbours, India is concerned about defence cooperation with the new dispensation that had come up in Russia. Russia became a market oriented economy. The initial difficulty arose between Russia and India with regard to pricing of equipment and terms and conditions. Earlier Soviet equipments are available at political prices with low interest rates with differed repayment schedules. Now the era of friendship prices is over. With this altered political and economic conditions in Russia, the supply of military equipment became erratic. It created serious bottlenecks and problems for India's Armed Forces. After three decades of reliance on Soviet-produced hardware, India's position in 1991 is that seventy per cent of Army armaments, Eighty percent of Air force armaments, and eight-five percent of Navy armaments are of Soviet origin. Moreover, India does not have the indigenous capability to produce spare parts and supplies for these systems; therefore, India's military faced an immediate crisis. The break-up of Soviet Union had caused a lot of dislocation as Russian military industrial complex is spread all over. This resulted in disruption of military supply-lines as the
administrative control and actual location of the Soviet defence industries are scattered throughout the newly formed independent states. This is a matter of serious concern to the Indian government and the military brass (V.P. Dutt, 2001). It took considerable amount of time for both the countries to overcome these problems.

India’s domestic arms production and defence preparedness are badly affected by the disruption in military supplies from the ex-Soviet states. It became difficult task for the Indian officials to identity and locate the estimated 3500 weapons equipment suppliers scattered all around in the new independent countries who manufactured the military hardware that India required. As a result India is forced to cutback production of some weapons systems. Absence of mutually agreed exchange rate mechanism for supply of weapons system is another problem between the two countries (Biplob Gogoi, 2002). During the Soviet period military equipment’s are available at political prices with low-interest rates and on barter terms. But the change over to a system and the economic and political problems in Russia had an impact on earlier exchange rate mechanism. The barter exchange of Russian military spares for Indian consumer goods is no longer in existence Russia sought to establish the contract with India on hard currency. The change over in the system and its consequences for India became apparent when the issue of cryogenic engine deal had to be dealt with
Cryogenic Engine Deal

In April 1992, the Russian government dealt yet another blow to Indo-Russian relations by unilaterally deciding to cancel the 250 million US$ worth bilateral deal for supplying two cryogenic rocket engines along with related technology to India. This agreement is signed between Russian Space Directorate Glakosmos and the government of India in 1991. India intended to gain knowledge of the liquid propulsion system of Russian cryogenic engines in order to advance its Geo-Synchronous Launch Vehicle (GSLV) programme. But Russia made some changes in the original agreement under pressure from United States. According to many analysts United States protested against transfer of missiles and technology to India on the ground that the sales would violate the 1987 Missile Technology Control Regime (MTCR). MTCR seeks to curb the spread of technology that could lead to the proliferation of military weapons. From the Indian and Russian perspectives, the cryogenic engine deal is legal under the MTCR on the ground that the treaty did not block the support of peaceful space ventures (Jerome M. Conley, 2001).

President Boris Yeltsin promised India's leadership that Russia would stick to the cryogenic deal agreed between India and Soviet Union. However, a few months later he succumbed to US pressure and the agreement is revised to exclude the transfer of dual use of technology. In response to this, Washington agreed not to impose promised sanctions against Russia and Indian space-rocket agencies and enterprises.
American law requires US government to impose sanctions on countries that violate the missile and nuclear non-proliferation regime. This is the first time when Russia cancelled a major bilateral deal, raising serious doubts about its reliability and credibility as a long term strategic partner. The controversy over the cryogenic engine deal emerged as the first major irritant in bilateral relations between the two countries.

Another thorny issue the rouble-rupee exchange rate also threatened to cast its shadow over Russian-Indian relations. At the crux is the repayment of nearly ten billion debts to Russia. The resolution of this issue subsequently had a salutary impact on the relationship and their bilateral relations also improved. Infact, there are other factors that have compelled both countries to resolve all their bilateral problems. With 60 to 70 percent of Indian weapons system being Soviet origin, India is in particular needed to ensure smooth flow of defence spares. In the context of Indian security environment, any discontinuance in the supply of spare parts will handicap the military security.

Russia’s commercial imperatives in the defence sector are understandable, having inherited a huge military – industrial complex comprising 1600 defence enterprises with nearly one million personnel. Russia is equally keen to retain India as one of the biggest buyers of its military hardware for the very survival of its cash starved defence industry. Another factor that compelled Russia to preserve its defence ties with India is that this is the only sector that is fetching money. All hopes
of western assistance had been clashed. Indian imports are serving as a lifeline for the Russian defence industry. It is estimated that Indian defence contract and requirements are keeping about 800 Russian defence production facilities in operation (Rizwan Zeb, 2004). Thus any disruption in this relationship will have severe implication on Russian defence industry.

The reality of this situation is recognized at the highest political circles, Iya Klebanov, Russia’s Deputy Prime Minister declaring that arms sales are the life buoy for our defence industries now that the defence budget is so small and military state orders are so few. Klebanov has promised that big contracts, joint work and joint production of arms are waiting for us (India and Russia) in the future (Baidya Bikash Basu, 2000). Large Russian firms such as MIG, MAPO have given the right to engage in arms transactions directly. From India’s point of view, this type of openness is extremely attractive given, its persisting commitment to improve indigenous capability towards achieving greater strategic autonomy.

**Revival of Defence cooperation**

Russian cooperation with India in the first few years is minimal due to above mentioned reasons. In its foreign policy also Russia neglected Asia and gave more importance to the west. But Russia’s disappointment with the West in the initial years and NATO’s decision in the mid nineties for eastward expansion led to Russia to support the idea of a multi-polar world order. By the end of 1992, Russia had begun to assess and reverse its declining role in the global arms market in order to
earn hard currency. Besides, Russia needed friends to meet the challenge of an expanding NATO. Geopolitical compulsions forced Russia to look to Asia. Russia decided to forge closer ties with the major Asian countries, including India and China. In this context, building up defence ties could provide a durable basis for relationship.

The first official contact between Russia and India at the highest level after the Soviet dissolution took place when Russian President Borish Yeltsin met Indian Prime Minister P.V. Narasimha Rao at New York in February 1992 on the sidelines of UN general assembly. The two leaders had agreed to remove all obstacles from the path of development of mutually beneficial relations. Indo-Russian defence cooperation improved very quickly and surpassed the level of 1980s. India emerged as one of major arms importing country from Russia. Moreover, India is the only country with which Russia currently engaged in the joint development and production of high-tech and complex weapons system. Joint production means sharing finance, joint research development and exports. This offer from Russia yielded considerable maneuverability to the Indian producers because till then India could produce only that equipment for which it had the licence from the former Soviet government.

Indian Defence Minister Sharad Pawar paid an official visit to Moscow in September 1992. He became the first high-ranking Indian cabinet minister to visit Russian Federation. The visit is prompted mainly
to seek a solution to Indian army's acute problem arising out of Russian failure to supply the much needed spare parts to India. The Russian authorities promised revival of defence cooperation and to ensure supplies of spares for Indian army without any delay. Russian Defence Minister Pavel Grachev handed over a draft of comprehensive military defence cooperation agreement outlining the main principles of military interaction between the two countries. It pointed out that Russian desire to produce military equipment that suit Indian requirements.

In the meantime Sharad Pawar visited Ukraine in October 1992, in an apparent effort to convey the message to the Russians that there are other sources to fulfill India's defence requirements. Ukraine had been lobbying to sell weapons to India since January 1992. It is a major weapon manufacturing centre in the former USSR and supplier to India under the Indo-Soviet defence contracts. Sharad Pawar held discussion with the President and Defence Minister of Ukraine and they agreed to supply armament and spare parts in return for medicine, cloth and partial payment in hard currency. In response to the Ukraine's readiness, Russia quickly offered to sell an aircraft carrier to India on attractive terms. As a result, Indo-Ukrainian military ties could not be established firmly.

By this time Russia was also facing financial difficulties. Its economy is not growing in right direction. Due to this there are different problem like unemployment. Therefore, arms sales are become very essential for Russia to create employment opportunities and to increase the defence budget which is coming down drastically. These difficulties are manifested in the basic provision of
the Russian Federation's Foreign Policy Concept states that the main threat to our security in the economic sphere is the possibility that the economy's technological and industrial potential could be degraded and our economy could become a raw-material source for the developed countries (Pressing the case for Increased Arms export, Rossiiskaya Gageta, July 6 in Current Digest of Post-Soviet Press (1993), vol. (XLV), no.28, p 20). If Russia wants to deflect economic threat to their national security, they need to save the defence industries, many of which are on the verge of economic collapse. Purchases of defence equipment are reduced by an average of almost 70% in 1992 (Pressing the case for Increased Arms export, Rossiiskaya Gageta, July 6 in Current Digest of Post-Soviet Press (1993), vol. (XLV), no.28, p 20).

If this trend continues, not only the enterprises themselves go bankrupt, triggering a wave of unemployment, but in addition, the part of urban infrastructure maintained at their expense will collapse. And that would lead straight to massive social unrest in industrial region. Therefore, the solution for this problem is to increase arms exports. This shows how Russian economy is dependent on arms exports.

President Yeltsin paid his first visit to India in January 1993. By then Russia is self-consciously attempting to harmonize its foreign policy directions. During the visit all together 13 documents are signed. Defence cooperation took new turn after this visit. Russia offered joint production and joint development of its frontline MIG and Sukhoi combat aircraft in India. This is certainly a major milestone in the history of world arms
Industry. India moved from the traditional buyer and seller relations to become a joint partner. President Yeltsin said that the military–technical cooperation is not directed against any third country and its thrust is to assist India in protecting its sovereignty, its independence and territorial integrity (Arun Mohanty, 2001).

Prime Minister Narasimha Rao’s Moscow visit in June 1994 is an important landmark in Indo-Russian relations. During the visit both the countries agreed at their highest level to increase their military cooperation. The two countries reiterated that their defence cooperation is not directed against any third countries. The issue of disruption in supply of spare parts from Russia to India is at the focus of attention. The two countries agreed to updating of the MiG-21 aircraft, the workforce of the Indian air force to keep them combat worthy into the 21st century. The two countries also agreed to set up a joint venture in military aviation in India. It is to service all types of Russia military aircraft in operation in the third world (Jyotsna Bakshi, 2001). The outcome of Narasimha Rao’s visit is aptly summed by Russian Deputy Prime Minister. He said that “India and Russia have completed the stage of learning how to work in new conditions (Biplob Gogoi, 2002).

The Indo-Russian military relations received a degree of stabilization after the defence agreements are signed between the two countries during the then Indian Prime Minister’s Moscow visit in July 1994. Russia and India showed mutual interest in continuing their
successful interaction in the military field. The principles and the framework of which are set by the 1993 agreement on the military cooperation. In 1994 Russian Prime Minister Victor Chernomyrdin made an official visit to India. The most outstanding result of the visit is signing of long-term military technical cooperation agreement up to the year 2000. This provided a boost to the defence cooperation. Military –

Technical Cooperation (MTC) is an important aspect of this particular defence cooperation. It is an integral component of Russian-India strategic partnership. Indo –Russian military relations are not exclusively continued to transfer of military equipment from Russia to India. But it encompasses broad-based cooperation in defence production and R & D, service to service exchanges, training, and naval ship visits, etc. By signing this agreement the two countries put forth their defence cooperation on a long term footing. The military – technical sphere is one of the most dynamically developing areas between India and Russia. In 1994, India and Russia reached an agreement on long-term bilateral military – technical cooperation till the year 2000. This is extended by a decade in October 1997. India is the only country with which Russia has a MTC for 10 years ahead. Under this agreement Indo-Russian defence cooperation is started growing successfully. Both the countries have worked out two – pronged strategy covering the sale of sophisticated weapon system and upgradation of defense hardware supplied by Russia, for the development of military cooperation for the next decade. Unlike the earlier buyer and seller relationship, where Soviet Union kept India on a tight leash regarding spares and product support, never parted with state of the art weapon systems, and discouraged equipment trails before selling them,
but the military technical cooperation (MTC) is a different ball-game. The Russian Defence Minister Sergey Ivanov has said that, "we are prepared to transfer high technology to India in strategic tie-up based on a new pattern of defense cooperation (Pravin Sawhney and Ghazala Wahab, 2005). The basis for military technical cooperation with foreign countries is provided in the Military Doctrine of 1993. Military-Technical Cooperation has included the following objectives: (1) Supplies to foreign countries and the export and import of weapons and military hardware, military technologies, and the result of scientific and technical activity in the military sphere; (2) Sending military adviser and specialist on official trips; (3) Conducting commissioned and joint scientific-research and experimental design work to create new modes of weapons and military hardware; (4) Giving technical assistance in the creation of military facilities and defence industry enterprises and carrying out other work and services of military-technical nature (The Basic Provision of the Military Doctrine of the Russian Federation, http://www.fas.org/nuke/guide/Russia/doctrine/Russia-mil doc.html).

The aims of military-technical cooperation are:

- Strengthening the Russian Federation's military-political positions in various regions in the world;
- Earning foreign currency for the state requirements are; the development of conversion, military production, the dismantling of weapons, and the structural restructuring in the defence sectors of industry;
- Maintaining the country's export potential in the sphere of conventional weapons and military hardware at the necessary level;
- Developing the scientific, technical, and experimental base of the defence sector of industry and their scientific-research and experimental design work institutions and organizations and
• Providing social protection for the personnel of enterprises, institutions, and organizations developing and producing weapons, military and special hardware, and other equipment.

The ongoing defence cooperation is planned on a long term basis, instead of just buy and sell. Importantly, in the long-term plans, the focus would be on transfer of technology and modernization of the existing equipment of Russian origin. The decision on transfer of technology reflects a political maturity on the both sides. In order to promote defence ties, the two countries have set up a Joint Working Group (JWG) to look into the specific requirements of the Indian armed forces. With its improved relations at the bilateral and multilateral level, Russia has expressed its desire to promote joint production and development of new weapon system in India. This is very important given the India’s large reservoir of scientific and technical skill, Russia could benefit from joint production and development. India is finally revived in the Russian strategic focus in January 1996, when Yevgeny Primakov replaced the pro-western Andrei Kozyrev as a Russian Foreign Minister. An agreement is signed to build two Russian Light Water Reactor (LWR) in India in defiance of a nuclear suppliers group ban (Jerome Conley, 2001). While this decision is propelled by economic factors but the announcement carried considerable weight in New Delhi. This paved the way for meaningful defence cooperation. The then Defence Minister Mulayam Singh’s visit to Russia in 1996 is a milestone in Indo-Russian defence cooperation. From then onwards defence cooperation is put on a sound footing. In March 1996 India signed a contract for upgrading MIG-21 fighter aircraft for Rs. 1200 crores. India and Russia agreed that future cooperation in the field of defence should be on transfer of technology and the modernization of existing equipment of Russian
origin. The two countries signed an accord paving the way for the constriction of two 1000 MW light water reactor at Kudankulam in Tamil Nadu. India signed a contract to buy 40 Su-30MKI fighters from Russia at an estimated cost of $2 billion in November 1996 (Current Digest of Post-Soviet Press (Ohio), Vol 52, No. 52, 2000, p. 12).

However, Russian overall exports quite suddenly began suffering setbacks one after another in 1997. There is no problem with India but there are other reasons. In late 1996, Belarus grabbed a $385-million contract to deliver 16 MiG-29 fighter to Peru. The heaviest blow to Russian exports is inflicted by the financial collapse in the countries of Southeast Asia in 1997. That had been the most promising region for Russia. One by one, the region’s countries began to renege on their intentions to buy Russian weapons. Indonesia dropped its plan to buy Sukhoi planes and MI-17 transport helicopter. Thailand no longer wants Kilo-class submarines and armoured personnel carriers. The Philippine is no longer considered the possibility of importing planes. Russian exports also affected by the transformation of the presidential model of managing the military-technical cooperation system into a governmental model. That transformation began the elimination of the state Committee on Military-Technical Policy and ended in August 1997, when the Prime Minister assumed the role of Military-Technical Cooperation. Due to these setbacks, Russia had to find other avenues to earn hard currency for its defence industry.
During Defence Minister Mulayam Sigh's visit to Russia in December 1998, the two countries signed the long-term agreement on military technical cooperation up to the year 2010. The cost of this defence cooperation programme between the two countries is estimated around $20 billion. Another important aspect of this agreement is its focus on joint project related to aviation, naval and other military production. The signing of monumental ten-years, $10 billion, Indo-Russian agreement on military technical cooperation in December 1998, in the aftermath of the sanction-triggering Pokhran-II nuclear test marked the resurgence and resilience of major Indo-Russian military cooperation (Jerome Conley, 2001). The December 1998 agreement on military and technical cooperation highlighted the importance of the Indian arms market for Russia's military industrial complex. It is around this period that the focus of international politics is shifting to Asia. The energy issue, religious extremism and terrorism are coming to the fore.

In March 1999, Russian Defence Minister Igor Sergeyev visited India. This visit is an important land mark in the growing Indo-Russian defence cooperation. During this visit both countries signed an agreement to train Indian defence personnel in key Russian defence establishment for maintaining the advanced military equipment. India will be supplied with all up-to-date type of armaments including such weapons that are just being adopted in the Russian army (Baidya Bikash Basu, 1999). Additionally, an agreement to commence Joint Indo-Russian military exercises in 2000 is signed. In 1999 India bought more hardware from the Russian defence industry than Russia's own military forces. In 1999, Russian
exports to China and India amounted to about 41 per cent of the total revenue brought in by Russian defence industry. Importantly during the Kargil conflict Russia sent on an urgent basis badly required spare parts. The coming of Vladimir Putin to power is widely regarded as symbolizing the move towards resurgence of Russia. The new foreign policy concept, approved by him in July 2000, set new guidelines and emphasized priority to Asian countries like India, China in its external relations. President Vladimir Putin continued the military policy of enhancing sales. He said that the defense industry and sales will become a priority field of the country's economic policy. Further he said that "We have lived on oil and natural gas sales long enough. If our country is to avoid committing genocide against its own people, it needs to offer machines and technology products in world market" (Arms Trade, Rossiiskaya Gazeta, in Current Digest of Post-Soviet Press, vol. 51, no. 45, 1999, pp 20). This emphasis is due to problems in arms industry. The Russian arms industry had a substantial dependence on export business. In 1999 military exports represented 34% of its total output and civilian exports a further 11%, whereas military production for domestic procurement is only 20%. For almost 10 years the Russian arms industry has been able to export weapons for the basic development of which took place in Soviet times (Sipri Year Book, 2001). Very limited resources have been available for the development of new generation weapons. The difficulties are exemplified by the halting progress of Sukhoi and MiG in effort to develop new generation aircraft. Domestic source of finance are meager and progress is almost entirely dependent on export earnings, but these are vulnerable if an adequate rate of technical
change is not achieved. Export earnings have been used to finance programmes for upgrading these systems.

The Russian Defence Industry also faced other severe problems. Companies owed billions of roubles (about 32 billion roubles in early December 2000) to the Ministry of Defense (Summary of World Broadcasts, SUW/0669 WA/12, 8 December 2000), which has failed to pay in full for weapons procured during recent years. Settlement of this debt remains a high priority for the government and, if achieved, would substantially improve the financial position of many arms producers. Many plants have virtually had no investment for almost 10 years and facing difficulties in meeting present-day quality standards. To make matters worse, there has been little recruitment of new, younger personnel, leading to a marked ageing of the labour force: it has been reported that the average age of defence industry employees has risen from 39 years in 1990 to 58 in 2000 (Sipri Year Book, 2001). Low pay remains a serious obstacle to the recruitment of new personnel, although in 2000, after several years for the first time there are some improvements. In this context weapons remained the valuable commodity that could be sold to India. Indo-Russian defence cooperation is extensive and involves joint design, funding and development. During the Putin’s visit to India in October 2000, India signed an agreement to buy defence equipment valued at $3 billion (R.G. Gidadhabli, 2001). They included Su-30MKI fighter aircraft, T-90 tank and aircraft carrier Admiral Gorshkov. Both the countries also
signed an agreement on establishing the Inter-Governmental Commission on Military and Technical Cooperation.

With the signing of Inter-Governmental Commission for Military – Technical Cooperation (IGC-MTC) in October 2000, the bilateral defence cooperation received an additional boost, moving from merely procurement of earlier years to joint research and development and service-to-service cooperation (R.G. Gidadhabli, 2001). As a result of the first meeting of the joint commission on defence cooperation, both sides have agreed to jointly develop a civilian and military – transport aircraft and also a fifth generation jet fighter. According to the agreement the IGC-MTC will have two working groups and would meet annually. One group will be headed by defence secretary of India and will deal with military–technical cooperation. The second one would be headed by the secretary, defence production and would be involved in the production areas of ship building, aviation and land system. The Commission would exercise coordination and control of bilateral military-technical cooperation, facilitate its development, resolve problems emerging in the course of implementation of military-technical cooperation.

The first meeting of Russian-Indian Inter-Governmental Commission on Military-Technical Cooperation (IGC-MTC) took place in June 2001. The Russian Deputy Prime Minister said that the participants are able to resolve all issues between two countries. Both the sides discussed about aircraft and air defence system. In this meeting Russia
gave assurance that it would design for India an integrated air defence system covering the entire country. The head of the Indian delegation, Indian External Affairs Minister and Defence Minister Jaswant Singh, added: “The main thing is that the period of time between the adoption of decision and their implementation be as short as possible. And we have every possibility of achieving this goal” (Ministry of External Affairs Report, Government of India, 2001-02, p 52) The two sides signed an agreement on the joint development, production and certification of multifunctional IL-214 military transport plane is the one of the most advanced planes in the world. Neither Russia nor India has ever had such a joint project of this scale with any other country.

After the establishment of IGCMTC the focus is shifted towards joint license production, transfer of technologies, R&D, with moves for joint promotion of product range of Russian and Indian defence industry in foreign market. The first success story in this area is the “Brahmos” supersonic cruise missile which has been successfully tested in the navel and land version. The air version to be employed with SU-30MKI aircraft is expected to be achieved by end of 2006.

In the sub committee of the Military Technical Cooperation transfer of technology in relation to aircraft equipment is the first priority. The most illustrative event in the present practice of Indo-Russian interaction in aero-space sector is the ongoing implementation of SU-30 MKI fighter aircraft contracts both on supply and licence production. The Inter-Governmental agreement is signed for the transfer of technology and licensed production of 140 SU-30 MKI fighter
aircraft, the engines and airborne equipment with Hindustan Aeronautics limited (HAL). The terms of the deal gave India the right to produce 140 fighters for its own air force over a 17-year period. Russia provided the Indian aircraft manufacturer with the technology to produce the fighter's basic system and components (Arms Trade Big Game of Sukhoi, in The Current Digest of Post-Soviet Press, vol.52, no.52, 2000, pp 22.).

The special feature of this agreement is that it also sets up the possibility of joint production, joint marketing and buy-back of equipment manufactured by the HAL by the Russian production, agencies. In addition, it would provide for the possibility of engineers and designers of both sides to work jointly to effect generation improvements in the aircraft, engines and system. The SU-30 MKI multi role fighter is the most advanced aircraft in the world with unique performance characteristics. It is equipped with modern air-to-air missiles and air-to-surface missile system. It is also equipped with state-of-the art avionics and phased-array radar. Al-31FP engine, featuring thrust-vector control capability provided the fighter with unbeatable maneuverability, which increases substantially its combat efficiency.

Implementation of SU-30 MKI project heralds a new phase in the current history of Indo-Russia military technical cooperation. Designers and specialist from both countries have been working as a united team to develop technology for very sophisticated project. Experience obtained in this kind of joint project has allowed the two countries to proceed to the more advanced state-of-the art
enterprise-license production of 140-SU-30MKI fighters on the production lines of HAC Corporation.

The supersonic Brahmos Multi Role Cruise Missile (MRCM) jointly developed by Brahmos Aerospace—comprising India’s state-owned Defence Research and Development organization (DRDO) and Russia’s NPO Mashino Stroyenia (NPOM) is another example of friendship and trust between two countries. The joint venture company called “Brahmos” is set up as a result of an inter-governmental agreement signed between Russia and India on February 12, 1998 (Izvestia, June 7, 2001, in Current Digest of Post-Soviet Press, vol.53, no.23, p. 20). The DRDO and NPOM have come together to design, develop, produce and market a multi-role supersonic cruise missile named Brahmos. The design and development of the MRCM is aimed at manufacturing it for both the countries and selling it to other countries. The first operational inductions of the Brahmos MRCM are took place with the Indian Navy in 2005, in both the warship — launched and road-mobile ground launch version. Recently Indian air force and Army also inducted different version.

Anti-ship version of Brahmos has been developed on priority and has gone through extensive program of tests and launches from shore as well as sea. The primary role of the missile being anti-ship, the Indian navy is in the process of deployment of the missile system in the Antiship configuration. The Russian navy is also equipping one of the ships with the prototype. Brahmos flies at a cruising speed of Mach 2.8 and can take out mobile or stationary targets on land and in the
high seas 290 km away. It is 9 meter tall, weights three metric tonnes and carries a conventional 300 kg warhead. It has two stages a solid propellant booster stage and a *ramjet* poared second stage using liquid propellant. Compared to existing subsonic cruise missiles the Brahmos is superior by a factor of 3 in terms of velocity; 3 times better in flight range 4 times better in terms of seeker range and 9 times superior in terms of kilo energy.

In January 2001, the then Russian Deputy Prime Minister, Ilya Klebanov expressed his country’s interest in the joint production of light combat aircraft (LCA). It is reported that Russia and India are planning to design and develop a 100 seater multiple aircraft by the year 2007. The project is to cost 650 million US$ ("*Fresh Impetus to Indo-Russian Military Cooperation*", India Defence year book, Nataraj Publications: Dehradun, (2002), pp 256-262).

The plan is expected to be in the market by 2007. Union Defence and External Affairs Minister Jaswant Sigh visited Moscow on June 2001 to participate in the first ministerial level meeting of the Joint Commission Military Technical Cooperation. Both countries signed a joint protocol to augment and define in greater detail, the long-term programme of defence cooperation. Till the year 2010, Russia will deliver a total of $ 10 billion worth of arms and other military hardware technology to India. The protocol shifts the focus of the 2001-2010 programmes from straight forward sale of arms to joint development and production of military hardware

On December 28, 2001, India and Russia signed their largest defence deal for production of all components of Su-30 MKI in India by Hindustan Aeronautics
Limited (Arms Trade Big Game, no 28, p. 22). Under this deal 150 SU-30 MKI could be manufactured in India including indigenous production of all components over a period of the next two decades. This deal also envisaged that the SU-30 MKI, will have on board avionics and other support system developed by India and also equipment from countries like France, South Africa and UK. The two countries have also agreed to open a spare parts and services centre in India to provide spares, overhaul and maintenance for fighter jets.

The visit of President Putin to India in December 2002 cemented the friendship strongly in between the two countries. Referring to Indo-Russian defence collaboration, he stated that the defence cooperation has transcended from a buyer-seller relationship to a long term basis and encompasses joint research, design development and cooperation. Russia has expressed willingness to include India in the development of fifth generation fighter aircraft as part of 10 year military technical cooperation. The year 2003 introduced joint exercise, an essentially new element into Russian Indian collaboration in the field of defence. Both countries have signed an agreement in this regard. According to this joint exercise and cooperative activities on the part of various branches of their armed forces should be conducted on the regular basis. In early June, the first ever large-scale naval exercise code-named Indra-2003 is held in the Indian Ocean. The Russian side is represented by the ground missile cruiser Moskva, two large antisubmarine ships of the Pacific fleet marshal Shaposhukov and Admiral Panteleyev the tanker Ivan Bubnov and
Vladimir Kolechitersky's four Ka-21 anti-submarine warfare helicopter and a maritime surveillance helicopter. The Indian Navy is represented by the destroyers Ranjit, Rajput and Ranvijay, the submarines Sinduvir and Vela Sea Harrier and Sea King 42 B aircraft, and Chetak helicopters. The ships performed mission in joint maneuvering, communications target detection, classification and destruction, and mission in fighting simulated enemy submarines and in providing assistance to ships in distress. They also held exercise in antiaircraft defence, artillery and missile fire at katarborne and aerial targets. The voyage by Russian ships to the shores of India is practical evidence of the implementation of Russia's naval doctrine and confirmed its status as a great naval power, proving that it has a combat ready and ocean-going navy. The joint exercise are very productive in fostering understanding between two country's servicemen as well as testing new type of combat technique that has particular significance.

All these developments shows that in the Post-Cold war era, the revival of Indo-Russian partnership and their growing military ties seems to be driven more by Indian military needs and political opportunism and Russian's compelling economic needs and its traditional friendship with India.

**Air Force**

Though Indian air-force continued to fly a mix of Russian, British and French aircraft but the large numbers of MiG and Sukhoi aircrafts are
from Russia. Therefore continued Indo-Russian cooperation in this field is likely to continue as strengthened relation. In 1996, India signed Rs. 1200 crore contract with Russia to upgrade the MiG-25. 125 MiG-21B Multirole aircraft are to be upgraded with Russian assistance with the option of upgrading 50 more aircraft. The upgraded MiGs are expected to serve the IAF for another 10-15 years. Indian Air Force (IAF) plans to replace the 250 MGS with LCA developed within the country. However, Light Combat Aircraft programme being delayed; the upgraded MiGs would continue to serve the IAF (Syed Adnan Ali Shah (2001). The MiG-21 retrofit package is called MiG-21-93. It involves installing new navigations and target-acquition systems and new radar for long range air-to-air missiles.

But Indo-Russian contract to upgrade 125-MIG-21B came under heavy criticism in 1998. A report by the Comptroller and Auditor General states that between 1991 and 1997 the Indian air force lost 197 aircraft and 63 pilots in 187 accidents and that 62 percent of all fighter accident involved MiG-21s (Jerome M. Conley, 2001). In April 1999 the Parliamentary Committee on Defence issued a report requesting a review of the 1996 contract (Jerome M. Conley, 2001). Due to this, the contract experienced an immediate set back.

In November 1996, India and Russia signed $ 1.8 billion contract for the purchase of 40 SU-30 MKI multi-role aircraft. This is the largest ever between the two countries and made India the first foreign recipient
of this highly regarded jet. It is a unique contract as the twin-sector fighter aircraft only existed as an advanced version of SU-27. The contract also envisages transfer of technology and joint developmental of aircraft system by the DRDO and the Russian firm (Syed Adnan Ali Shah (2001)).

In 1997, India received 8 Su-30k aircraft which are to be subsequently modified to SU-MKI level Su-30 are exceptionally maneuverable and can carry weapons load of 8000 kg nearly double that of other strike aircraft of the IAF (Syed Adnan Ali Shah (2001)). In September 1998, India ordered for 10 more Su-30s which have to be brought to Su-30MKI level subsequently. However, this deal is criticized due to delay in delivery of products and some short coming in the system. In September 2000, at the time of his visit Air chief marshal A.Y.Tipnis admitted that the SU-30 MKI programme had hit delays and that 2004 is its new deadline for receiving and fully upgrading the entire 50 SU-30MKI fighter contracted by India. Following President Vladimir Putin's visit it is reported in November 2000, that India would take the delivery of 10 Su-30 MKI in the late 2001. The remaining aircraft would be delivered to India before 2003. In 2004 the licenced production of hundred aircraft would begin at HAL, Nasik (Syed Adnan Ali Shah (2001)).

Russia and India signed an agreement during the President Vladimir Putin's visit in December 2001, relating to transfer of technology of SU-30 MKI. This agreement granted a deep licence, which
provided for the indigenous production of all the components of aircraft over a period of 20 years including AL-31FP the thrust vectoring engines (Arun Mohanty, 2001). India could use the Technological spin-off of the MKI project for developing its Light combat aircraft (LCA). It is reported that Russia has not issued the ‘deep licence’ to China, which is tied to Russian engine supplies. Russia cannot sell the Su-30 MKI aircraft to any third country without India’s written consent as it has been developed with Indian money and has a share in technology rights (Jyotshna Bakshi, 2001).

Air to air missiles: IN 1996 India ordered 360 AA-10c/d Alamo R-27E air to air missiles and 720 AA-11 archer/R-73 air-to-air missiles for Su-30MK/MKI. During 1997-99 it received 180 of former and in 1997 it received 144 of latter type (Jyotshna Bakshi, 2001). IL-78 tanker aircraft: in 1997 India ordered two IL-78 tanker aircraft built at Tashkent by Illyshin design bureau. India intended to buy a total of six IL-78 aircraft, which could also be used as a platform for the airborne warning and control system (AWACS). IL-78 acquisition is regarded as force-multiplier with air-to-air refueling IAF could keep its aircraft much longer in the air (Jyotshna Bakshi, 2001). The acquisition of SU-30s with air refueling capacity necessitated the acquisition of tanker aircraft. Also it became a pressing necessity to acquire Jet trainers to train the pilots to fly the new aircraft.
Approximately, after 12 months following India's 1998 nuclear test, India actively pursued the purchase of long-range strike bombers and airborne warning and control aircraft to its nuclear strike capability. In October 1999, Russia offered to lease, and eventually sell, Russian A-50 AWACS and TU-22 M3 strategic bomber to India (Jerome M. Conley, 2001). This unique offer would not only allow India to overcome its budgetary constraints, but more importantly from the Russian perspective it would allow its Tagaarog aviation firm to “outbid” a less expensive Israeli AWACS contract being reviewed by India (Jerome M. Conley, 2001).

**Naval Cooperation**

Indian navy has been vigorously pursuing indigenous development of naval vessels. The country’s largest indigenously developed warship INS Delhi is commissioned on September 15, 1997. But some systems for the various naval projects are acquired from Russia. By the end of 1999, the strength of Indo-Russian military cooperation had returned to a cold war level with all three branches of the India military involved in major procurement programme with Russia. The Indian Navy with almost 85 per cent of its vessels of Soviet / Russia origin is quick to rejuvenate the sagging Indo-Russian bond.

The main concern for many naval planners is the desire to acquire a new Air Defence Ship (ADS), to replace the INS Vikrant, one of two former British high aircraft carrier owned by India that is decommissioned in 1997 (Jerome M. Conley, 2001). With only remaining
India aircraft carrier, INS Viraat, Slated for decommissioning in 2004-05, and an inability to build an indigenous air defence ship by this date, India is about being left without an aircraft carrier for the first time since 1961.

In 1996, India ordered for shshm system for Khukri class corvettes. Some of them received in 1998, India ordered for naval guns, fire control radar and Sham system for the Krivak class fighters from Russia (Jyotshna Bakshi, 2001). It is reported in November 2000 that the three freighters under construction in Russia for the Indian Navy shall be commissioned several months ahead of time.

India had ordered for 2 kilo class / type – 877E submarines in 1997. The cost of one submarine is $ 80 million. The first of the two types 877E into class submarine Sindurakshak is commissioned into India Navy on December 1997. The Sindurakshak is armed with Novator Alfa club anti ship missiles with a range of 300 km, which could also be optimized for land attack roles. In addition, the Navy also ordered for 3 krivak-class frigates. The frigates deal is worth Rs. 35.4 billion. The frigates are designed primarily for anti-submarines warfare (ASW) and air defence of warship task force. They will have speed of 30-32 knots and range of 400nm. These vessels are fitted with SSM-Novator Alpa club missiles with a range of 300 km.

During Russian Defence Minster Igor Sergey’s visit to India, the two sides also held detailed discussion of the prospects of equipping the Indian navy with Arms and kilo class submarines. A Memorandum of Undertaking (MOU) is signed for the transfer of the aircraft carrier
"Admiral Gorshkov", the navy has already undertaken delivery of the 2nd kilo class submarines built by Russia, INS Sindhurashtra worth $200 million. According to the Russian defence ministry official news paper, Krasnya Zvezdze Russia is assisting India in building a nuclear submarine. The vessel is a copy of the new Russian Severodvinsk class attack submarines currently under consumption in Severodvinsk. The nuclear submarine is an impetus to the indigenous submarine programme designated as Advanced Technology Vessel (ATV) which has been underway for almost two decades (Biplob Gogoi, 2002).

The most important deal in the naval sphere is the one regarding aircraft carrier Admiral Gorshkov. The Russian offer of giving old Soviet aircraft carries admiral Gorshkov free to India is in the news for a long time. But the deal is finally agreed during President Putin's visit for $750 million for refitting it in October 2003. Refitting the carrier is likely to take 3-4 years. The carrier will be equipped with MIG-29K aircraft, Kamov Ka-28 and Ka-31 helicopters. The Indian crew will be sent to Russia to handle the aircraft carrier. The purchase of the Admiral Gorshkov appears to be the only "gap filler" available for India to maintain its four decade – old carrier presence in the Indian Ocean.

India planned to equip the ship with foreign, non-Russian air defence system. It has reportedly warned Russia that if performance remains problem, India will purchase equipment including spare parts for ships previously acquired Soviet Union elsewhere (SIPRI Year Book, 2004). The admiral Gorshkhov deal is likely to facilitated by two
additional Indo-Russian novel contracts that provided for the sale of ten Kamov-31 radar picket helicopter for 45 million and twenty MIG-29K interceptor jets for use. The decision to purchase the MIG-29K over the sukhoi-33 is reportedly made due to the larger size of the SU-33 and the potential difficulty in operating it off of the carrier. These Mig-29K will be armed with air-to-air, air-to-surface and television guided missiles as well as in flight refuelers to increase the frigates striking range to around 600 nm. These submarines, frigates and aircraft carrier would add to the Indian Navy’s decreasing number of principal combatants. The Navy’s maritime surveillance aircraft Tu-24M and reconnaissance aircraft 11-38 also require upgradation and engine overhaul with Russian help.

Apart from Admiral Gorshkov, there are other contracts. These include the construction of 3 additional Krivak-class destroyers and the production of Russian Kilo-class and Amur-class submarines in India (SIPRI Year Book, 2004). The Russian submarine would replace aging foxtrot submarine and complement the ten Russian kilo-class submarines already purchased by India. Additionally, India is interested in purchasing tank-carrying aircraft from Russia for rapid defence of the Andaman and Nicobar and Lakhsheddweep islands.

Taken together the large number of Indo-Russian naval contracts currently under negotiation and India’s inability to meet the construction timelines necessary to replace aging Soviet supplied ships; dictate a continued resilience in the Indo-Russian naval bond for several more decades.
Issue of Intellectual Property Rights

Judging by the current scope of military and technical cooperation between Russia and India, this sphere of interaction is undoubtedly one of the most important pillars of our bilateral relations. In the long-term outlook these ties will further be strengthened through the share of joint projects that envisaged accumulation of financial, economic and intellectual resources in creating new type armaments and military equipment. The joint Russian-Indian project BrahMos serves as an example of successful implantation of such plans. Thus, signing the Agreement on Reciprocal Protection of Rights to the Results of Intellectual Activities as the outcome of Bilateral Military Engineering Cooperation is but requisite as we are reaching a qualitatively new level of cooperation implying exchange of cutting-edge, state-of-the art technologies.

Russia wants India to sign an intellectual property rights (IPR) agreement that will protect its sensitive defence and high-tech information. Delay in signing the IPR agreement has postponed an ambitions programme to upgrade the Indian navy’s eight T4-142 M mod 4 (Bear-F) long-range maritime reconnaissance / ASW aircraft. Russia fears that in the absence of India’s accession to such an agreement, prime contractors, especially from Israel, could monopolise the lucrative Indian market for upgrading weapons of Russian origin. The Russian argue that as the original equipment manufacturers, they are the only ones ethically entitled to carry out the structural modification for the platforms, and
consequently, would like to charge IPR-related royalties for such Indian contracts. Russia’s view that an inter-governmental agreement on IPR would be necessary in the perspective of future research and development cooperation in high and sensitive technologies has merit.

Russia had submitted the draft of the IPR agreement to India two years ago, but the Indian side has not given its suggestions or proposal on it so far, although Prime Minister Dr Manmohan Singh following official talks with Russian President Vladimir Putin in New Delhi in January 2005, promised that India would think such an agreement by April this year (Prasun K Sengupta, 2005). India’s position on these matters is that it has always given full protection to intellectual property rights through specific clauses in our contracts with Russia. There has been no case of India violating its secrecy and IPR obligation in dealing with Russia. Russian grievances on IPRs issue are essentially related to east and central European Countries. Russia feels that the countries continue to produce and market Russian defence equipment without valid licenses. But the Indian government says that the cases of up gradation involving third countries are covered by specific agreements between Indian and Russia. If India requires spare parts from these countries it is only because either parts are not available from Russia or in some cases the price quoted are exorbitant (Kanwal Sibal, 2005).

In December 2004, India and Russia signed an agreement to protect intellectual property associated with Russian military technology being transferred to India. Indian Defence Minister Sharad Pawar stated that
efforts to draft a formal agreement are to commence in January 2005 and by the middle of the parties will sign a bilateral agreement on joint intellectual property possession. This means that the countries will abandon the seller-consumer relationships in their defence cooperation.

The Post Soviet Russia is motivated in its military cooperation with India largely by the financial compulsions for exporting military equipment. From India's point of view, Russia remains a valuable source of defence equipment and technology not easily available from other sources and also at comparable rates, terms and conditions. Moreover, there are existed certain broad commonality of geopolitical interest between India and Russia.

With the success of the joint venture both the countries have now risen to an equal partner relationship leaving behind the buyer-sellers attitude. India got the technology that would have taken the country decades to develop Russia got a partners who made further development of the missile possible of contributing through a number of sub-system, on board avionics and the most advanced fire control system, it is a win-win partnership making both the countries real strategic partners.