CHAPTER -VI

ECONOMIC, SCIENTIFIC AND DEFENCE COLLABORATIONS

As the Reagan administration assumed office in the 80s, the US and India differed on several economic and security issues. There was an outstanding dispute over the imposition by the US of counter veiling duties on Indian imports. Moreover, both the countries differed on the question of American support for India's claim for assistance from international financial institutions. Washington also disliked India's demand for a New International Economic order (NIEO). However, once India moved towards liberalization, certain understanding developed between the two countries on political and strategic issues and both moved towards co-operation. The bilateral economic co-operation between the two countries in turn contributed to their co-operation in the fields of science, technology and defence. We propose to examine in this chapter these aspects of US-India collaboration during the Reagan administration.

ECONOMIC FACTORS

Indo-U.S. economic and commercial relations have deep roots. The U.S. presence has been in evidence in many facets of the Indian economy, beginning with the flow of U.S. assistance to India in the fifties to the emergence of the US as India's largest trading partner as well as a major collaborator in joint ventures and technology transfer agreements. Until the late
1970s economic and commercial relations grew rather slowly. In addition to geographical distance, the Indian environment of a mixed economy, and restrictions on the private corporate sector, made India a difficult investment destination for most U.S. companies. Yet, even under such circumstances, India's market size, its stable and democratic polity, the variety and sophistication of its human resources base, and the growing capabilities of its vast and diverse industrial sector have been seen by the United States as major advantages that make India a potentially attractive economic partner.

The relationship evolved from one in the 1950s and 1960s characterized by infusions of U.S. aid to India to a less unequal relationship of 1980s, with the two countries undertaking joint research projects in several advanced areas of scientific endeavour. The composition and pattern of bilateral trade also underwent a definite change. With the development of India's technology absorption capacity, India's U.S. imports came to be dominated by high technology products while its exports to the United States began to diversify into new areas, such as computer software.

Inevitably, there were strains in this relationship. The United States is a highly industrialized economic and technological superpower. India is a rapidly modernizing developing country. In recent years, the differences arose from the divergent economic philosophies of the two nations which have crystallized in the naming of India under section 301 of the Omnibus U.S. Trade Act of 1988. The United States complained of lack of market access to foreign firms in

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the services sectors of the Indian economy, particularly banking and insurance, and expressed some concern at the environment for intellectual property rights protection in India. India asked for U.S. appreciation of its developmental priorities and socio economic objectives that the vast government-owned financial and insurance sector is designed to subserve. India advanced similar considerations in support of its patent protection and other intellectual property protection laws and policies.

Despite these differences, US and India moved towards co-operation in economic, scientific and defence fields. This shift was facilitated due to several factors.

Motives for Improved Economic Ties

There can be no doubt that U.S. perceptions, concerning India's economic policy underwent a positive change during the 1980s. Though the turning point came in the wake of Prime Minister Indira Gandhi's visit to Washington in July 1982, signs of revised U.S. perceptions were visible even earlier. U.S. Ambassador to India Harry Barnes was a leading exponent of greater economic cooperation based on what he saw as new context of opportunities:

My own conviction is that we share a common interest in each other's success as prospering democratic societies and to sustain this we need to seek the sort of collaboration which is lasting. The form of course may change, as the needs of each countries changes, but the goal ought to be to build and sustain a long-term varied network of constructive interrelationship.
The nationalization of earlier years, perceived soviet influence, the withdrawal of IBM and Coca Cola, and an enormous bureaucracy weigh heavily in these impression. Their (U.S. investors) information about investment policies and practices tends to be outdated and distorted. As a rule they are not aware of the market opportunities and success stories or the recent steps in India towards a more pragmatic approach including a growing interest in business collaboration with foreign firms.

Such altered perceptions were increasingly shared in the U.S. private sector too, largely as a result of Indian efforts. In mid-1981, for example, the Indian side of the U.S. India. Business Council submitted a study highlighting India's investment policy changes and favorable returns for U.S. firms operating in India. This study was in the nature of a riposte to a 1976 study presenting some what different conclusion by the U.S. side on the Indian investment environment in comparison with Taiwan, South Korea, Singapore, Malaysia and Indonesia.

But mere significant perceptual changes occurred during Mrs. Gandhi's visit. She went out of her way to attract U.S. interest in economic relations with India. At one point she enjoined Americans to come and see for themselves what was going on in India in terms of opportunities for investment and technology transfer. The responses from the U.S. side to the overtures were highly positive. It was not coincidental that in February 1983, only seven month after Mrs. Gandhi's visit, Business America, a magazine on international economic opportunities for U.S. firms published by the Department of Commerce, devoted itself to describing changing Indian economic policies and consequent opportunities for U.S. business. The issue was prefaced by a letter from Ambassador Barnes entitled "A New Chapter in
Indo-U.S. Relations" in which he stressed the ability of growing economic ties to strengthen overall bilateral relations.

Even more important, America’s changing perceptions regarding the prospects for greater economic cooperation with India and India’s efforts to attract American support for its economic development were part of the broader attempt by both countries to increase cooperation in areas of mutual benefits in spite of continuing strains on regional and international issues. The accommodative approach to the bilateral relationship was elucidated explicitly by Deputy Assistant Secretary of State of Near East and South Asian Affairs, Howard Schaffer thus:

These efforts (to expand economic cooperation) reflect a conscious U.S. policy (emphasis added) of seeking fresh avenues to develop a constructive relationship with India despite differences on important international and regional issues."

While the Reagan administration also had hopes of using economic cooperation to influence India’s political views over the long-term (by loosening India’s ties with the USSR), it did not require such a return as a preliminary quid pro quo for greater economic cooperation. Schaffer admitted that U.S.-Indian differences were "likely to persist; (and) given the vastly differing perspectives and experiences of the two countries, it would be unrealistic to expect otherwise". In effect, the goal of ameliorating economic ties was accepted by the U.S. and India and separated from their still uneasy political relationship. It remained open to question, however, whether the Reagan administration’s perceptual changes and verbal commitments would be translated into actions accommodating Indian requests and needs. Here it must
be remembered that the ability of the U.S. or for that matter India, to affect economic cooperation between the two countries was constrained by the relatively free market orientation of both economics: The governments could, at best, play facilitating (or at worst obstructive) roles. In the same vein, it must be noted that accommodation of India by the U.S. is not always as easy to pinpoint in the economic sphere as in other areas of bilateral relations. It is necessary to analyze U.S. actions not only in terms of India, but also in the context of its overall economic policies. This in turn requires careful attention to the various centers of influence on U.S. economic decisions.

While changing U.S. perceptions about India's economy and the larger political benefits which might be derived from greater engagement with it clearly motivated improved economic relations, the possible commercial benefits to be had were also important. The slack American economy, especially in the early 1980s, led to increased interest in opportunities abroad, even in previously less attractive countries such as India. Indeed, given the pro-business philosophy of the Reagan administration, it was committed to assisting U.S. enterprises gain business abroad. Many U.S. companies were pressing the Reagan administration for assistance in entering the Indian market through the granting of export licenses or extension of credits or loans through the export-import bank. Similarly, Indian businessmen also realized that some commercial gains could be made through greater dealings with the U.S. This was particularly true in low and mid-range technology collaborations and joint-ventures. However, while business in both countries perceived commercial benefits in expanded economic ties, there were limits to
just how much and what kind of cooperation in which they wished to engage. Certain industries in both countries inevitably balked at the competition, which a more open bilateral trading, investment and technology collaboration relationship would bring.

As a result of the above mentioned factors both the countries moved towards economic and commercial co-operation, though their differences continued to plague the cooperation. This manifested in several areas, namely, (i) aid (ii) trade (iii) investment.

Economic Aid

India was anxious to cultivate economic relations with the U.S. since it was faced with balance-of-payments and foreign exchange problems. These could be substantially controlled if the U.S. India economic ties were furthered. Secondly, closer ties with the U.S. would assist India in securing loans from international institution like the World Bank. However, in the first term of the Reagan administration the Indian objective could not be fulfilled, since India and the U.S. did not share “a sense of similar urgency” to further their relations and security factors also prevailed over the economic ones. Another obstruction in the path of U.S.-India relations was the U.S. stand that India should seek “loans from the market place”, private investors and commercial banks rather than from governmental and intergovernmental agencies. In pursuance of this objective, the U.S. encouraged private investors and initiative. The administration, in its bid to promote “private capitalism” and “deregulate, denationalize, decentralize” the economy of India, obstructed the loans to India from international organisations.
India had applied for a loan to the International Monetary Fund (IMF) to solve its trade-deficit and balance-of-payment problems and to meet the heavy expenditure on imported energy. It had also hoped to prevent a reduction of imports with the help of the aid\(^\text{13}\). In its first year of office, the administration strongly opposed the loan. In spite of the opposition, however, the \$5.8 billion SdR was sanctioned by the IMF on 10th Nov, 1981. The obstruction, strained Indo-U.S. relations. Another U.S. action which added to the tension was the use of veto by the U.S. Senate on 22nd October 1981, on the bill proposing the termination of aid to India or Pakistan, if any of them detonated a nuclear device\(^\text{14}\).

**Change in U.S. Policies**

The visit of Mrs. Indira Gandhi to Washington in July 1982 was significant with respect to economic considerations. The talks between Mr. Reagan and Mrs. Gandhi covered a wide range of economic issues. They discussed ways of developing international cooperation and of solving international economic problems faced by both developed and developing countries. The U.S. was informed about the attempts being made by India to further development. In response, the Reagan administration reiterated its commitment to support India in its economic development\(^\text{15}\). In accordance with it, on 21st August 1982, the U.S. granted Rs. 78.2 corres as development assistance to India for three projects. A textile agreement was signed between India and the U.S. in December 1982\(^\text{16}\), in the same spirit of cooperation. A similar trend was witnessed in 1983. During Mrs. Gandhi’s visit to the U.S., a programme was initiated on 29th July 1982 for cooperation between American and Indian scientists and engineers. It covered
four areas of research—health, agriculture, monsoon and decentralized electrical power resources. Its working was coordinated by the U.S. National Science Foundation17 and it worked successfully since 1983. In June 1983, an agreement for an agricultural research project was signed between India and the U.S. They were represented, at the time of signing, by Mr. S. Sundar, Indian Joint Secretary, Department of Economic Affairs and Mrs Priscilla M. Boughton, Director, U.S. Agency for International Development Mission in India. It provided $6.5 million (approximately Rs. 6.6 crores) grant for expanding the capabilities of Indian institutions to carry out "research on soyabean processing and utilization of post-harvest technologies for fruits and vegetables. Resources were also arranged for the scientists’ training, technologically advanced equipment, conferences, workshops and technical exchanges between Indian American Scientists. Thus, the entire project aimed at increasing agricultural production in India. The USAID also sanctioned in June 1983, $10 million, second tranche of a $30 million Housing Guarantee Loan programme to the housing Development Finance Corporation (HFDC) of India". It was to assist the HFDC in this pioneering attempts to develop a private sector for low-income housing finance system in India18.

The Aid India Consortium, in its Paris Conference in 1984, described the Indian economy’s performance as "excellent". As a result, the World Bank promised $4 billion in concessional aid to India. The amount exceeded that of 1983 by one billion dollars. The biggest share was provided by the World Bank, worth $2.5 billion. Among the other countries, Germany pledged the largest amount of $214.3 million. The American contribution
of $ 192 million was the second largest and remained the same as 1983°.

In spite of these aid programme the relations were disturbed due to a much larger amount reaching Pakistan and the U.S. acceptance to postpone the payments of debts by Pakistan; a similar request by India was refused. Secondly, the US was accused of adopting an "anti-India stance" in the international economic institutions like the IMF, the Asian Development Bank, the International Bank for Reconstruction and Development, etc. The U.S is a major contributor in various institutions. It allegedly utilized the resulting influence to have tough terms imposed on India and "to demand from India the reconstruction of its economy for long term, in particular to promote private investment°°." 

A significant reversal was witnessed in the second term of the Reagan administration and the Prime Ministership of Mr. Rajiv Gandhi. Due to the changed global perspective, the U.S. attitude became more "supportive" of India. It acknowledged the Indian requirement of loans on softer terms from the world Bank and gave up the previous position that India should depend on "loans form the marketplace°°." 

In 1985, India was the second largest recipient of aid, after Pakistan in South Asia. It received $ 180.1 million as compared to $ 212.3 million provided to Pakistan. Mr. Howard B. Schaffer, Deputy Assistant Secretary of State for Near Eastern and South Asian Affairs, had stated before the House Subcommittee that the U.S. intended to assist India in meeting its "humanitarian and development needs" as well as promoting cooperation
in the fields of science and technology, trade and investment education and culture\textsuperscript{22}. This elevation of bilateral aid beyond "the early donor recipient relationship" was because the US. realized the significance of India, and made attempts to utilize Indian technological expertise. In 1986, as a consequence, the Programme for the Advancement of Commercial Technology (PACT) was initiated. It was a major change from the previous "pattern of AID-financed Indian purchases of American technology". It led to the use of AID financial assistance in furthering Indian research to the commercial stage, through collaboration with the U.S. firms. This method also allowed India to benefit from the technological resources of the U.S.\textsuperscript{23}

However, the U.S. direct aid to India was gradually reduced. Consequently, the U.S. which had been India's largest donor, by April 1988 became the ninth largest donor, among the non-Communist countries. The U.S. explained the cuts as resulting from the "pressure to reduce the Federal Budget\textsuperscript{24} However, the Indians did not accept such excuses, specially when aid to Pakistan continued.

The U.S. also tried to justify itself saying that it was the major contributor to agencies like the World Bank and IMF from which India received aid. Thus, if the US. contributions to these agencies were added to the direct aid, it would still be 'the pre-eminent economic power in India". On the contrary, some U.S. officials criticized the reductions as a way of ending the direct role of the U.S. in Indian development\textsuperscript{25}. These economic cuts did not find favour with the Indian public and government.
However, the U.S. aid for joint projects continued till the end of the Reagan term. On 5th October 1988, the Indian Council of Agricultural Research (ICAR) and the U.S. Agency for International Development (USAID) jointly initiated a $21.66 million seven-year project for the development of the system for preserving and utilizing plant genetic Resources in India. Under this programme the USAID provided a $13 million (Rs 17 crores) grant to the National Bureau of Plant Genetic Resources (NBPGR). The NBPGR, along with ICAR research institutes and some agricultural universities was to utilize the funds to form a nation-wide system to explore, evaluate, demonstrate, conserve and utilize the plant genetic resources in India and for a new building for the gene bank in New Delhi, having a capacity for long-term storage of 600.00 accessions of plant genetic material.

In November 1988, the U.S. Department of Agriculture gave a grant of Rs. 7.7 lakhs to the National Center for Insect Pest Management in Bangalore. It would finance a research project on leafhopper pest which would lead to the development of a programme to control these pests. Thus the U.S. continuously played an important part in the economic development of India, though the direct aid showed a reduction.

Trade

In the early Eighties the trade relations between India and the U.S. improved due to the economic reforms which moved India away from its “socialist and restrictive trade practices”. The import policy was liberalized (a process initiated in 1978) and the export of certain U.S. goods and services was
encouraged. These changes increased the two-way trade between India and the U.S.\textsuperscript{29}. As compared to 1980, the U.S. exports between January and November 1981, showed a marginal 2.5\% increase (total of $1.6$ billion) and U.S imports about 9.5\% ($1.2$ billion); making the bilateral trade approximately $3$ billion\textsuperscript{30}. By 1983, the Indo-U.S. trade had reached the $4$ million mark but the ‘trade-balance’ continued to be in the favour of the U.S\textsuperscript{31}.

India faced severe competition from Taiwan, Singapore, China, South Korea and Mexico in all major categories of items exported to the U.S—gems, crude oil, footwear, textile manufactures and garments. Secondly, the presence of certain restrictions also obstructed an improvement in trade relations. For instance, in the export of cotton garments, India has completed its quota. Therefore, growth in export can only be in respect of fibres not included in the Multi-fibre Arrangement, like silk, a good in which China is a chief competitor. Even the handloom garments, not included in the quota, were put under restrictions\textsuperscript{32}. Indian market also did not easily open up to the U.S. products and investors. The U.S., on its part, retained the suspicion that technology leak to the Soviet Union could take place through India. Thus, the trade relations, during the term of Mr. Rajiv Gandhi, were not as good as had been anticipated. The Indian exports to the U.S. showed only a slow growth while the Indian imports showed a decline between 1984 and 1986\textsuperscript{33}.

A major breakthrough in U.S.- India relations resulted due to a change in the U.S. tax laws in 1986. It led to negotiations
over an agreement related to the avoidance of double taxation. This tax agreement would encourage increased US investments in India. Similar agreement had been worked out in 1959 but the Senate had rejected it. It was reasoned that India offered tax and other incentives to a foreign company, many U.S. firms might be lured away to create jobs in foreign countries instead of in the United States. Thus, the U.S. wanted the insertion of a "tax sparing clause" which was unacceptable to India. After the alteration in tax laws in 1986, this difference was removed. However, difference on the issue of royalties and fees for technical services continued to come in the way of the agreement in January 1989. Though the Reagan administration contributed greatly towards the agreement, it was not finalized till the end of its tenure.

Investments

The liberalization of Indian economy by the Congress government encouraged U.S. investment in India. Mrs Gandhi's government simplified the rules and procedures for investment. Along with the 40% equity participation allowed for foreign investment, a 50-75% equity participation was allowed in spheres of high technology and upto 100% equity shares in exports oriented industries. These reforms led to the U.S perception of India as "a promising area for U.S. private investment". The Indo-U.S. joint ventures, investment and the collaboration agreements also increased. Since the joint industrial enterprises were encouraged the U.S. exceeded the British, French and Germans in establishing joint projects.
Though the investment environment had improved to a certain extent, the U.S. businessmen were unaware of the progress made in India. The Indian Investment Centre reported that U.S. firms were not conscious of the developing engineering and electronic industry in India and the presence of skilled staff, which could be profitably used in joint projects. Difficulties in telecommunication and transport caused anxiousness among the foreign investors. The industrial tragedy in Bhopal, in December 1984 "put an additional damper on the enthusiasm" of investors. In spite of the reforms, the bureaucratic procedures were still viewed as "restrictive and the investment climate as uncertain".

To rectify these impressions, the Indo-American Chamber of Commerce sent a twelve member delegation to eleven U.S. cities in May 1982. The delegation met several executives from small and medium-sized firms to discuss investment or licensing agreements. It also presented a report entitled 'Indo-U.S. Joint Ventures-Partners in Progress' reporting that a study of their U.S. companies showed that American companies "by any standard had fared very well in India". The U.S. administration also encouraged U.S. firms "to take advantage of new opportunities in India which are the result of improved business climate there. American companies can thereby contribute their unique talents and technology to assisting India's development efforts through private sector to private sector collaboration."

New Investment Environment

The investment environment improved further after Mr. Rajiv Gandhi introduced fundamental reforms in governmental
regulations and reduction in bureaucratic red-tapism. He was anxious to apply the example of free-market economy of South Korea, the republic of China on Taiwan and Sri Lanka, to effectively use the natural resources and manpower for economic development. As a consequence, his five-year economic plan (March 1985) licensing restrictions on the industrial sector, including oil exploration, telecommunications, electronics, industrial machinery and petrochemicals were relaxed. Before the plan, industries with asset of $15 million were required to obtain approval for expansion. The limit was raised to $75 million. Heavy import duties on computers were abolished and foreign investment was permitted in computer and electronics industry. Consequently, U.S. direct investment in India increased from $7.5 million in 1984 to $33.2 million in a year, reaching a total of $500 million by 1986.

The Festival of India also provided for the arrangement of discussion on the economic policy. In October 1986, sixty U.S. and Indian economic specialists met at a Boston University Conference on Indian Economy. Papers were presented by various government advisers, economists, bankers and academicians to facilitate an understanding of the economic policies. These developments led to an enthusiasm among the U.S. firms "to make a long-term commitment to the Indian economy" and increased "their confidence in India's economic prospects". With this rise in the U.S. investment in India, a similar increase was witnessed in the Indian investment in the U.S., especially in banking, hotels and computer manufacturing. Indian firms were able to repatriate foreign exchange to India and provide "benefits of their particular expertise" to U.S.A. Thus, the US – India
economic ties were strengthened due to the changed investment environment.

SCIENCE AND TECHNOLOGY COLLABORATION

The United States has been India's one of the largest foreign collaborator in the fields of science and technology. This tie between the two democracies deepened during the Reagan era.

Technology collaboration with India, 1980-1989

Table : 1

<table>
<thead>
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<th>Country</th>
<th>Technical</th>
<th>technical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>941</td>
<td>259</td>
<td>1,332</td>
</tr>
<tr>
<td>Federal Republic of Germany</td>
<td>951</td>
<td>259</td>
<td>1,210</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>816</td>
<td>187</td>
<td>1,003</td>
</tr>
<tr>
<td>Japan</td>
<td>545</td>
<td>88</td>
<td>633</td>
</tr>
<tr>
<td>Italy</td>
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<td>355</td>
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<tr>
<td>France</td>
<td>270</td>
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<td>330</td>
</tr>
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<td>Switzerland</td>
<td>238</td>
<td>60</td>
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</tr>
<tr>
<td>Sweden</td>
<td>123</td>
<td>31</td>
<td>154</td>
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<tr>
<td>Netherlands</td>
<td>105</td>
<td>28</td>
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<td>Total including others</td>
<td>4,965</td>
<td>554</td>
<td>6,519</td>
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As evident from the above Table, the United States accounted for 20% of the total collaboration agreements approved in 1980-89 period. Majority of these, by far, 941 out of a total of 1,332, were purely technical in nature; the remaining involved both equity investment and technology transfer. In the recent past, most of the collaboration agreements during the period under review
were in sectors such as electronics, petro-chemicals, instrumentation engineering and chemicals.

Collaboration in High Technology

India displayed a very keen interest in collaboration with the United States in high technology areas. The Science and Technology Initiatives (STI) & Memorandum of Understanding (MOU) immensely contributed to the cordiality in US-India relations. The STI was initiated in 1982 during the visit of Mrs. Indira Gandhi to the US, for a period of three years. It was aimed at the promotion of scientific co-operation between the two countries. It was renewed by Mr. Rajiv Gandhi for another three years in 1985. The second term of the STI was more successful than the first due to the economic reforms in India and the signing of MOU in November 1984. The MOU facilitated the transfer of high technology by reducing restrictions and initiated a new area of US-India co-operation.

The new accommodative attitude of the Reagan administration stemmed from slowly and subtly changing views of India's trustworthiness, importance and needs. Specifically, the emphasis on greater scientific and technological relations were part of a broader mutual effort to pursue amicable relations despite divergences on political and strategic issues. As President Reagan himself stated, "India and the United States have reached a point where we can pursue a mature and constructive relationship based on the values and interests we share, rather that on points of difference". 
Such sentiments were repeatedly echoed by Mrs. Gandhi during her Washington trip. For India, moreover, the desire for better technology relations was not simply a matter of rebuilding political ties to the U.S., but a real necessity given in its plans for the domestic economy. Indeed, India’s emphasis on isolating political differences from cooperation in science and technology was primarily a function of pragmatic economic considerations.

The U.S., for its part, also had non-political motivations for building science and technology ties to India; namely, possible commercial benefits. It was clear that the economic changes taking place in India afforded new opportunities for U.S. business; many of which (such as IBM) were already lobbying the government to alter its adhoc, and largely restrictive, approach to high technology exports to India. For example, while the U.S. supplied about 90 percent of India’s relatively small demand for computers in the mid-1970s, this had been fallen in the early 1980s to 60 percent at a time when Indian market was growing rapidly.

The commercial motivations underlying the Reagan Administration’s accommodative approach to technology transfer to India should not be over-emphasized. They had long been present in both economic and military areas, and yet the U.S., under successive administrations, had been loathe to liberalize transfers to India. In essence, while commercial motivations were not unimportant for a more substantial high technology relationship, they must be seen in conjunction with more important political/perceptual changes and goals on the part of the Reagan administration vis-à-vis India.
It was this mix of motives, on the part of India and the U.S., that pushed the high technology relationship forward. The groundwork was laid during Mrs. Gandhi’s visit with the signing of a Science and Technology Initiative (STI). Though this agreement proceeded the main arrangement for technology transfers and the Memorandum of Understanding (MoU), it also had significant value in its own right and made possible the advance to the more important agreement.

The STI marked a distinct and positive shift in the U.S.-Indian scientific and technology co-operation, both procedurally and substantively. For the first time ever scientific cooperation between the two countries was placed under the aegis of the White House’s Office of Science and Technology. The agreement was one of only few such presidential agreements. The substantive change in the nature of scientific cooperation was also remarkable. As an Indian Embassy in Washington D.C. noted:

Indo-US collaboration in science and technology has undergone important transformation in recent years. The focus in the initial years was on training and fundamental development of Indian technology. India’s scientific stature today has international recognition. It was only imperative that the Indo-U.S. collaboration should get extended to new frontiers in the areas of energy sources, health, biotechnology, meteorology, solid state science and computer application. Indo-American scientific research has many success stories-most dramatic being in the field of agriculture and Satellite Instruction Television Experiment. The Indo-US Science and Technology Initiative launched by President Reagan and Prime Minister Indira Gandhi in 1982 was an important milestone. The program received further boost when it was extended by three years during the visit of Prime Minister Rajiv Gandhi in 1985. Today nearly 275
cooperative research projects have been promoted with the involvement of premier U.S. scientific organizations and also their counterparts in India.

Though it is true that advances in Indian scientific and technological capabilities required a change in the nature of any U.S.-Indian cooperation, the fact that it occurred was largely a result of U.S. willingness to cooperate. Aside from changes in the workings and nature of scientific cooperation, it appeared that U.S. attitudes against allowing India to purchase such high technology items like super computers were softening. This was a direct result of STI. It was not coincidental or insignificant that Dr. Keyworth, President Reagan's Science Advisor, told a group of Indian physicists just months after the STI was signed that a super computer would eventually be forthcoming. Though its release came after protracted and less than amicable negotiations, it did occur and this was itself significant.

The success of STI spawned a number of other joint initiatives to consolidate and increase science and technology cooperation. These deserve special mention. In 1986 India and the US signed the program for the Advancement of Commercial Technology (PACT). This initiative was aimed at expanding co-operation in areas such as “food processing, management information systems, and software development”.

The importance of this initiative was not confined to its newness, but the positive impact it had vis-à-vis other aspect of economic relations; in this case, bilateral aid and joint collaboration and investment. Ambassador Dean identified PACT's advantages thus:
This innovative program moves us away from the one standard pattern of USAID-financed Indian purchases of American technology. It has launched an exciting new approach in which USAID financial assistant will shop bring Indian research to the commercial stage through collaborative ventures with American firms. This procedure also allows India to tap into the vast technological resources of my country.

In effect, initiatives such as PACT had benefits for India which compensated for low U.S. bilateral development assistance of the traditional kind, and spilled over into growing areas of mutual cooperation such as investment (including technical collaboration). Similarly, in 1987 India and the U.S. signed the Program for the Acceleration of commercial Energy Research (PACER) As the Indian Economic News explained:

U.S. will make available funds worth $20 million of energy research and technology in trenches commencing with the first installment of $500 million (sic) during current year. Under the program special consideration will be given to proposals relating to technologies that can mitigate power shortages in the country.

Again the importance of this program was not its size or its opening up of sensitive technology to India. Rather, it represented a new direction in the use of bilateral aid to accommodate Indian needs, in this case the building up and modernization of its energy sector. No less significant was the U.S. willingness to support India's public sector, under which energy development largely fell. As already discussed, one facet of U.S.-Indian economic differences involved competing conceptions of the importance for private sector. The U.S. had long been opposed to India's heavy reliance on public sector.
Perhaps the most significant effort in this regard was the expansion of scientific and technology cooperation that came to fruition with the signing of the United States-India Fund (USIF). Indian repayments of previous US aid loans had outpaced actual US bilateral assistance to India for several years. These funds had begun to accumulate in the American account in India. It was decided by the U.S. that rather than use the funds for embassy and consular operations the $110 million would be used for mutually agreed programs enhancing scientific, technological, education and cultural projects.

Clearly, then, Reagan administration’s efforts to accommodate Indian needs vis-à-vis its evolving economic priorities were notable and largely successful. Moreover, they marked a difference from its less forthcoming attitude in other areas of economic relations, such as multilateral assistance. But these advances were not problem-free. Even in seemingly “innocuous” areas such as health cooperation, and specifically the Indo-U.S Vaccine Project, initiated under STI, differences remained. In this case, the problem stemmed not from U.S willingness to cooperate with and aid India, but from Indian suspicion of U.S. motives. These were, in turn, a reflection of the still fragile state of political relations and the anti American attitudes of a small but vocal nationalist contingent within India.

In July 1987 the Indo-U.S Vaccine Program was signed. Under the arrangement, the U.S would not share its research on vaccines critical to Indian needs, but would grant 7.5 million to support Indian scientists who suspected that the U.S goal was to use Indian citizen as guinea pigs to test biological warfare weapons, and the project was immediately put into jeopardy. The episode
revealed the still fragile sensitivities of some Indian regarding the United States.

Notwithstanding these occasional disputes, the governments of the two countries pressed ahead with high technology co-operation. The most important agreement being the Memorandum of Understanding on Technology Transfers formally signed in 1985. As for its relevance to economic relations, the Memorandum of understanding opened up Indian access to technology which had been previously denied in return for assurances regarding its protection. Aside from permitting significant growth in the sale of specific items the agreement ushered in a new era in indigenous high technology industries, such as computers. While a great many of these efforts were successful, some of them could not bear fruit.

In the early 1980s, for example India sought to purchase polysilicon-producing technology from the U.S. to underpin its effort to build a domestic computer industry. The transfer of this technology required US government's approval because of its sensitive nature and possible use in restricted defence fields. After complex negotiations, the deal was finally approved and India was to begin manufacturing 200 tons of polysilicon a year (plus crystals and wafers) in collaboration with the U.S. firm Hemlock. Despite the great efforts taken by the two government to conclude the deal, and the bitter battle within the US governments to approve the transfer, domestic interests in India essentially killed the sale. They argued that the technology could be better and less expensively created in India. Whether this was true or not is less important than the detrimental impact the episode
had on creating a sense of continuity and trust in this area of bilateral relations. Many opponents of such transfers within U.S cited such decisions on the part of India as evidence that India's commitment to a high technology relationship was problematic and therefore not worth the trouble. While this objection was often a cover for political objections to sales to India, it gave opponents credibility in their attempts to paint India as unreliable to those within the U.S. government who labored tirelessly to develop technology relations favourable to India.

Overall, then, despite the Reagan administration's constraints in approving certain technologies to India, complicating objections from the Indians themselves and challenges from within the U.S. government, the science and high technology relationship was of paramount importance to the pursuit of accommodation in the bilateral relationship. It underlined specifically the U.S. commitment to India's economic development and modernization and testified to the largely successful attempt of both countries to pursue amicable relations despite continuing differences on other issues.

The US-Indian economic ties during 1980s thus reflected pursuit and limits of accommodation, which marked overall bilateral relations between the two countries. While there was not fundamental resolution of the roots of US-India economic disagreements, there were relatively successful efforts within those limits to expand existing and developed new areas of collaboration. This was a pattern that also manifested in an even more historically acrimonious area of US-Indian relations namely, defence co-operation.
DEFENCE CO-OPERATION

As explained in chapter first, hardly any defence cooperation existed between Washington and New Delhi before 1980s. This was evident in all areas of defence relationship including weapons and spare parts sales technology transfers, co-production agreements or personal and naval exchanges. While one may debate as to whether this lack of cooperation was caused by the Cold War or by America's unhappiness over India's pursuit of independent and active foreign policy through the pursuit of nonalignment, the fact remains that both the countries could not cooperate on defence matter except during the Chinese aggression of 1962. This lack of understanding worsened with the beginning of the second Cold War in 1980s. The Carter administration repealing its own policy, offered Pakistan a military and economic assistance package that predictably upset India.

However, contrary to expectations and in the midst of these manifold differences, the US showed more willingness to sell India arms than it had been in nearly twenty years. In January 1980, clark Clifford, president Carter’s special envoy to New Delhi, tried to please India by offering military equipments. India also seemed willing to consummate the purchase. Though this did not materialise immediately, but gradually both the countries moved towards collaboration in defence field.

Motives for US-India Defence Cooperation

The expansion of US-Indian defence cooperation did not occur in a vacuum. It reflected the positive trend in bilateral relations generally and was especially influenced by certain perceptual, policy and personnel dynamics.
At the broadest level, the mutual effort to downplay regional and global differences, and mitigate outstanding bilateral disputes and build new areas of cooperation provided the context in which a sensitive issue such as defence links could be broached. As the US Deputy Assistant Secretary of Defence for Near East and South Asian affairs put it: We think we can play a reliable, mutually advantageous role in aiding India to modernize its forces and should do this as part of a more comprehensive, cooperative, bilateral relationship.

In particular, agreement to pursue constructive ties in the framework of continuing differences on Pakistan, India's effort to downplay the Soviet connection and the US's desire to encourage this trend further, the reduction of shrill denunciations of each other policies, compromises on bilateral disputes (i.e. Tarapur) and substantive changes in Washington's perception of India's military capabilities and strategic importance augured a significant step towards mitigating, though not resolving, the recurrent obstacles to U.S. Indian defence cooperation.

Moreover, if the Reagan administrations' relaxed strictures on arms exports were applicable only to countries meeting certain criteria (i.e., sharing common security perspectives, being members of major alliances or having cooperative relationships with the U.S), India began moving closer to meeting these criteria. To be sure, India was still not a member of a U.S.alliance and was not likely to nor did it share common security perspectives the U.S. clearly felt defence cooperation might in the long term at least mitigate existing divergences, but India and the U.S. were working towards and succeeding in developing a cooperative
bilateral relationship. In this sense, the broad transformation in relations made it possible for India to benefit from the new arms transfer policy. And, India's continuing efforts at defence modernization and diversification efforts no longer had to be confined to Europe since the U.S was willing to be more forthcoming about sales.

Underlying these trends was the compelling fact that the US and India now possessed the political will to explore defence cooperation. Speaking in 1987 about why defence cooperation had expanded Ambassador John Gunther Dean asked and answered: How did this change come about? I think it happened in the same way progress occurred in other areas. There was enough interest at all levels in both governments to start a dialogue and enough political will to make things happen\(^5\).

In addition to the broad positive transformation in bilateral relations particular dynamics were especially influential in increasing defence ties. Most important were signs that India sought to move away from its heavy reliance on Soviet weaponry in favor of Western sources. In 1982, the Soviets were reportedly furious because Mrs. Gandhi did not host an official luncheon for Defence Minister Ustinov, giving the impression that New Delhi was embraced by the High-level delegations visit\(^6\). Nor did India jump at arms offered by the Ustinov team,. In fact, just after its departure, India linked an agreement with France for the purchase of mirage fighter planes\(^7\). Other major Indian purchase orders went to Sweden (for the sale and co-production of more than a thousand pieces 3 of 155 mm howitzers)) and West Germany (for a tank engine and fire control equipment).
Several factors underlay India’s efforts to diversify its arms sources. They were best summed up in an article which U.S. Ambassador to India John Dean, in a cable to Secretary of Defence Casper Weinberger, described as excellent:

It is a consequence of shrewd policy shift that then Prime minister Indira Gandhi initiated about five years ago but which got a real thrust only after Rajiv Gandhi took over as Prime Minister in 1984. Despite the chill in India’s relationship with the West during Mrs.Gandhi’s administration several things facilitated this shift. First, the resumption of the U.S. arms aid to Pakistan after the Soviet invasion of Afghanistan brought technologies to the sub continent such as the F-16 fighting Falcon and the Harpoon missile. The counter to these, as that time, was to be found only in the West. Second, the Government felt it was becoming too dependent on the soviet Union for armaments. Weapon supply is the favored lubricant in modern diplomacy and gives the supplier a policy influence that India wanted to avoid giving the Soviet Union. And so it decided to diversify its sources of supply. The objective of the new policy is not an ideological or geopolitical break from the Soviet Union. Instead, it is a pragmatic search for other, and possibly letter, options and ways to reduce the Soviet influence. As a bonus it also gives the Soviet a feeling of competition (emphasis added). The decision was backed by an improving foreign exchange situation thanks to increasing production from the Arabian Sea oil fields off Bombay. Also, with Mr.Gandhi’s arrival in power tensions with the west lessened considerably, a fact now underlined by Mr.Weinberger’s visit.

Aside from these reasons, there were reports that the highly favorable terms which Moscow had previously offered to New Delhi were no longer as readily available and that India was not altogether satisfied with the extent and nature of its military dealing with Moscow. According to a report prepared for Congress prior to the visit of Rajiv Gandhi in 1985:
Even the military services and the state-owned arms industries are less than satisfied with the soviet connections. Soviet weapons are durable and serviceable, but are usually not as sophisticated and often not as effective as western arms. Moreover, India's production under license of systems such as the MiG-21 and MiG-27 aircraft and T-72 tanks has not, as had been hoped, provided the technology base for an indigenous arms development capability.

However, such facts must be kept in perspective. Even though India definitely indicated its interest in diversifying its weapons procurement sources, there was no fundamental change in the nature of the Indo-soviet military relationship. What was significant, however, was the nature of the American response to these signs. Washington saw relatively minor signs of Indian defence diversification and modernization efforts as an opportunity to increase its own sales to India and thereby reduce Indo-Soviet ties in this crucial area and perhaps garner, over the long-term, greater security and strategic understanding with India. As one State Department official put it:

The Indians have been diversifying their sources of supply somewhat in recent years, though they still secure about 80 percent of their military equipment of the Soviet Union. But we have an interest in encouraging that diversification process and increasing Indian independence through their capacity to produce indigenously defence equipment.

In other words, the Reagan administration understood the compulsions underlying Indo-soviet military ties and the limits to any fundamental change in their nature, but the nonetheless willing to work within these limits to increase U.S-Indian ties in the sphere. This was certainly a more realistic and sophisticated approach to dealing with India than might have been expected.
when the Reagan administration first took office. As one administration official explained: We have become more sophisticated in our appraisal of Indo-Soviet relations, we are not seeking to squeeze the Russians out.8

Similarly, the altering perceptions of Indian foreign policy in Washington facilitated the movement towards defence cooperation. No longer was India regarded as a Soviet puppet or unimportant to preventing further Soviet encroachment in the region. And the growing power potential of the Indian armed forces was being recognized as a factor with which the U.S. would eventually have to deal. Such perceptual dynamics also provided impetus to Washington's interest in improving defence cooperation with India.

Real movement towards defence cooperation occurred with the arrival to power in India of Rajiv Gandhi. As U.S. Ambassador John Gunther Dean explained:

Before 1985 if I had raised the subject of defence and security cooperation, there would have been very little to talk about.... But today, the subject sustains long articles in the press and more importantly, long discussions in government buildings in New Delhi and Washington.

While Mrs. Gandhi had re-established marginal military links before her assassination on October 31, 1984, it was her son and successor Rajiv who augmented these embryonic efforts. Initially, Rajiv was not publicly sanguine about defence cooperation. He played down press speculations about military sales and complained about U.S. arms transfer condition, particularly regarding reliability of supply. He also equivocated about the newly-singed MOU and pointedly stressed the importance of Indo-Soviet ties.
thus: "We welcome it (the MOU). But how much we are going to go into the use it is a question that still must be decided. You must remember that the Soviet Union has been very consistent in its support of India."65.

The cautionary nuances were misleading. Within days of taking office Rajiv moved to finalize the MOU. It was also not coincidental that his entourage for the U.S visit was altered to include his Defence Minister or that he met privately with U.S. Secretary of Defence, Caspar Weinberger. Both actions marked departures from his mother’s visit. Indeed, in Washington Rajiv made explicit, though quiet, overtures for defence cooperation.

The reasons for Rajiv’s public hesitation were two fold. First, in India there remained considerable distrust of the U.S., and therefore there was little to gain, and perhaps much to lose, by moving too close to the U.S. in the defence sphere. Second, Rajiv probably “was not ready to declare his intentions in public until he was sure of the responses that Washington would make.”66 If Rajiv had doubts on this score they were soon allayed by U.S. statement and actions.

The Reagan administration had few compunctions about publicly declaring its hope for greater defence cooperation.66 Major General Kenneth D. Burns told Congress in February 1985 that “I wish to stress that we are prepared to give serious consideration to requests which India may wish to make for U.S. military and dual-use equipments.”67 And in May two high ranking American officials, Under Secretary of State for Political Affairs, Michael Armacost and Under Secretary of Defence for policy, Fred Ikle, brought back favorable impressions of India. The latter spoke
specifically about the need for "longer term thinking in Washington" about the security interests of the United States in relation to India. The administration went beyond words too. In response to criticisms about past American unreliability as a supplier71. It "assured India that it will not suddenly change its policy and halt the flow of supplies72. This was an important, if ultimately constrained, promise. Given the Arms Export Control Act, all any administration could pledge was "best effort" and "good faith" guarantees on supplies; which the Reagan administration, significantly did. In effect, by mid-1985 it was clear that both India and the U.S. were interested in closer defence cooperation.

It was in this context of gradually improving bilateral relations and emerging dynamics that in late 1984 the Reagan administration issued Nationality Security Decision Directive 147 (NSDD 147). The document's relevance to increasing defence cooperation was profound. For President Reagan personally signed off on one initiative, incorporated in NSDD 147, which the U.S. hoped would facilitate defence ties with India. This initiative was the Memorandum of Understanding on Technology Transfers (MOU). The connection between the new context of U.S.-Indian relations, the MOU and the Reagan administration's interest in increasing defence cooperation was explained by Deputy Assistant Secretary of Defence for Near Eastern and South Asian Affairs Major General Kenneth D. Burns thus:

We think we can play a realizable, mutually advantageous role in aiding India to modernize its forces and should do this as part of a more comprehensive, cooperative bilateral relationship. Consequently, we are heartened by the new
Indo-U.S Memorandum of Understanding on technology transfer and hope that it is a harbinger of increased dialogue and interaction with Indian defence establishment.

Since the MOU was the vehicle by which the Reagan administration sought to increase defense cooperation with India, it deserves additional scrutiny.

A New Phase in Defence Ties

The signing of MOU between the two countries really heralded a new era in US-India defense cooperation. It indicated US willingness to support India's weapons procurement strategies through which certain conditions to protect American technology from being transferred to Soviet Union. In essence, the MOU was designed to reconcile India's weapons procurement policies with American technology transfer condition and thereby explained military links.

The MOU had three distinct parts. The main text, signed on November 29th, 1984, contained general security assurance for transfers of sophisticated technology. India agreed:

- To import the item into India and not to redirect it or any part of it to another destination before its arrival in India
- To provide, if asked, verification that possession of the item was taken.
- Not to re-export the item without the written approval of the ICIA (Import Certificate Issuing Authorities, in India)...(and)
Not transfer within India the item(s) specified in this certificate without the written approval of the ICIA.

In addition, it was agreed that certain items India might wish to purchase would require "extra assurances" which could be negotiated as needed. India could not in effect, assume that all technology would be released on the basis of the MOU's general assurances. This obviously meant that complications and delays could arise from negotiations concerning extra assurances. Despite these problems, US-Indian defence cooperation during the Reagan era underwent a quantitative and qualitative expansion. This was clear from technology transfers, co-production agreements, naval and personnel exchanges, as well as certain intangible but not insignificant factors.

Most notably, transfers to India of dual use items (From the Commerce Department's Commodity Control list, CCL) and strictly military technology (from the State Department Monition control List MCL) grew remarkably. Several aspects of these figures are important. First, the initial rises reflected resolution of cases pending prior to the MOU. This provides the clearest indication that the MOU was indeed instrumental in expediting and increasing the number of transfers. Second, the value) of transfers rose. Third, and less amenable to measurement, an elevated degree of predictability was introduced into the technology transfer relationship. No longer were the bulk of Indian requests subjected to case by case scrutiny and interminable delays.

To be sure, sensitive items continued to be the subject of drawn out battles between India and the U.S. But the most significant achievement of the MOU was its contribution to the release of purely
military technology of India inspite of the fact that it said nothing directly about such items. And this advance was critical given India's emphasis on indigenous weapons production and previous U.S reluctance to aid this effort in effect it was not completely successful in curtailing such transfers due to the support for the defense applicability concept among senior Reagan administration officials and policy-makers at the pentagon.

Numbers, of course, tell only part of the story. More revealing about the character of defense cooperation were the types and handling of transfers. One significant dual use item sold was the LM2500 gas turbine engine used by the U.S. Navy and wanted by India to upgrade its naval vessels.77 An interesting aspect of this transfer was that the PRC received permission to buy five such engines in 1985, “but only after protracted argument against objections raised by the Taiwan lobby.” Whether Pakistan raised similar objections vis-à-vis the India sale is not known, but it likely did. If so, then the fact that India eventually got the engines was even more impressive. For in the past American sympathy for Pakistani sensitivities had inhibited certain sales to India. Another important aspect of the engine sale was that General Electric, the manufacturer, was given clearance to enter into a co-production agreement with the India; a departure from previous American hesitations to confer such rights. Thus, the U.S decision to release the engines as well approve co-production represented a qualitative improvement in defence cooperation.

A significant and strictly military technology released was tank night-vision devices. The Pentagon's unwillingness to provide them in 1980 was one reason that India terminated
negotiations for the purchase of howitzers and anti tank missiles. However, by the mid-1980's not only was night-vision technology released, but permission was granted to India and coproduce the devices.\textsuperscript{90} One Indian writer remarked that in the case of the night vision devices "surprisingly the Pentagon did not dig in its heels. A political decision was made at the highest level to accommodate India by drawing up an agreement covering just that specific technology"\textsuperscript{91}. The need for negotiation of case-by-case security assurances and senior-level political support on behalf of the transfer highlighted the technical and political problems of the MOU. India's refusal to sign a General Security of Military Information Agreement (GSOMIA) theoretically made it ineligible to receive classified information relating to the tank night vision technology. However, since the MOU incorporated the option to draw up extra assurances and since the Reagan administration was willing to consider the MOU as applicable to military technology, the night vision devises deal was able to be consummated.

The LM2500 engine and night-vision devices transfers give some liking of the improvement in defence relationship. While it is not possible to discuss each and every defence-related technology transfer between the two countries three other transactions are particularly worth examining. For, they highlight the overall character of defence and technology transfer relations.

The most important collaboration involved India's Light Combat Aircraft (LCA). In 1981 India sought to purchase Northrop's F-5G aircraft because some of its components especially the GEF - 404 engine were needed for the LCA project. But the Indian request was denied because of Pentagon reluctance to release classified information relating to the engine.
The Indian Government again approached the US with respect to the project during Rajiv's June 1985 Washington visit. Soon after his departure, a high powered Indian delegation led by Dr. V.S. Arnachalam, the Scientific Advisor to the Indian Defence Minister, descended upon the US. The visit was telling in number of respects. As one of the top three civil servants in Indian Defence Ministry, Arunachalam's presence in the U.S was itself notable; a fact borne out by the red carpet treatment he was accorded. This included meetings with both secretary of Defence Caspar Weinberger and National Security Advisor Robert McFarlane. The Washington Post reported that Arunachalam was "shown a level of U.S. technology never before seen by an Indian defence specialist". He toured a number of aircraft and electronic industry establishments throughout the USA and was given "a special security clearance to visit the GE factory in Lynn, Massachusetts, (where he) was provided with classified data on F-404 engine. It was no accident that Arunachalam specifically examined the engine the same one previously denied and the electronics needed for the aircraft the collaboration just as the Gandhi visit had prepared the political basis.

The American attitude was clearly encouraging, as evident by the treatment of Arunachalam, but not immediately forthcoming. To assess the Indian program and determine where the U.S could contribute to it, Deputy Director to the Defence Technology Security Administration Talbot Lindstrom was sent to New Delhi in February 1986. The ensuring of Lindstrom report became the single most important evaluation by the US India's defence programs, their needs and the role the U.S could play in them.
It was after the Lindstrom mission that collaboration on the LCA program really began. The first step was release of the GE F-404 engine. This did not come easily. A DTSA official confirmed that the engine was released only after a fierce internal battle which culminated in president Reagan himself signing the release authorization. Though delayed and fraught with debate and dissension, the release of the engine illustrated how far defense cooperation had come since 1981 and the continuing struggle within the U.S. government to execute presidential policy.

Given this struggle, it was not surprising that the LCA collaboration effort consistently required high-level intersession from Reagan administration officials. It was partly for this reason that U.S Secretary of Defence Caspar Weinberger traveled to India only nine month after the issuance of the Lindstrom report. The visit appeared designed to garner impression of India's needs while at the same time checking its defence establishment security measures. His visit was also noteworthy given that is was the first by a U.S defence secretary to India. Not even during the heyday of defence cooperation during the 1962 Sino Indian War had a U.S. defence secretary ventured to India. Aside from the visit itself, it was symbolically significant that Weinberger's tete-a-tete with Prime Minister Gandhi, scheduled to last 45 minutes, extended to 90 minutes, a meeting which Mr. Weinberger hailed as "happy and productive". Indeed, Ambassador Dean's report on the visit was literally gushing.

The real significance of the Weinberger trip was that it facilitated further progress in the light of the Light Combat Aircraft
collaboration, through the release of advance electronic requested by India, and gave a virtual policy blessing, at the highest level of the Pentagon, for expansion of defence cooperation in general. As the Hindu pointed out:

What is really significant in this context is that the kind of wide-ranging defence relationship which Mr. Weinberger is envisaging encompasses a much wider area than contemplated earlier in the form of limited technology transfer in specific areas of development and production of sophisticated weapon systems.

Mr. Weinberger described his tour to India as "a wonderful visit". The U.S. State Department as well as some Indian newspapers termed it a new phase in Indo-U.S. defence ties. However, the Indian officials commented that, "The atmospherics were very good" but it was merely clearing of the cobwebs. The visit was a disappointment since no concrete decisions were taken on military cooperation between India and the U.S. the Supply of GE 404 engines or light combat aircraft (LCA) project and the supercomputer had also reportedly been shelved. The cordially generated and the good "atmospherics" were dissipated when on 16th October, Mr. Weinberger announced that Pakistan would be provided an "airborne early warning platform" to counteract the air space violations by Afghanistan. The reaffirmation of the U.S. Secretary of Defence of the U.S readiness to provide "complete support to build Pakistan defiance capability, aroused Indian suspicion about the sincerity of the proposal presented during his visit to India.

The next U.S. Defence Secretary, Mr. Frank Carlucci, visited India in the first week of April 1988. During his visit, a request
was made by India for U.S assistance and technical designs for the development of its third aircraft carrier, which was to be nuclear powered and expected to be launched in 1995\. Though no concrete results emerged, the visit was significant. It was the second time during the Reagan Presidency that a Secretary of Defence had visited India. It indicated that the U.S was anxious to work out a compromise in its 'global perceptions' and India's 'regional aspirations'. The various visits may not have all succeeded in creating cordial relations, but the continuous process of high level contacts indicated the desire for better relations on the part of both the nations.

Aside from the more dramatic areas of defence cooperation (technology transfer, coproduction agreements, and possible military sales) there were a number of other positive incremental steps in the nascent defence relationship. One such step involved the renewal of naval ship exchanges. India had a standing policy that foreign naval vessels would be required to provide information regarding their embarkation and destination points as well as disclose whether or not they carried nuclear weapons before seeking approval to dock at Indian ports. The U.S was unwilling to meet these conditions saying that its laws did not permit the disclosure of the movements of American warships or the nature of their armament. Due to these differences naval exchanges had not occurred for thirteen years. However, after Mrs. Gandhi's 1982 visit to Washington, both sides accepted a compromise solution so as to renew these exchanges. The Hindu described the mutual accommodation thus:

It was only after India Gandhi's visit to the U.S in 1982 that an effort was made to find a way our of this
tangle (regarding naval exchanges) as part of a general endeavor to improve Indo-American relations. The U.S. agreed in principle to comply with the Indian requirements and Indian in turn decided to accept whatever information was provided by the U.S. embassy without seeking any embarrassing clarifications.

Subsequently, Indian and American ships began paying port calls by 1984. Indeed, in 1987 more U.S. naval vessels than Soviet called on Indian ports. Even this minor, though significant, increase in defence ties was resented by certain elements in India, reflecting once again the domestic obstacles to unfettered U.S-Indian defence cooperation. At the very least, the increase in naval visits was a reflection of the more public nature of defence ties.

Similarly, the Indian decision to once again take up IMET funds offered by U.S. led not only to a quantitative increase in the number of Indian officers receiving military education. The U.S., but a qualitative change in the type of training and access they were offered. For the first time ever Indian officers were welcomed into the Nation Defence University course in Washington. Such exchanges were by no means unilateral. India, for its part, welcomed, also for the first time, U.S. officers to the National Defence College in New Delhi. Educational exchanges of military personnel may seem but a slight reflection of a defence relationship and this view would not be wholly inaccurate. But, given the historical nature of defence relations they were extremely important. This is true not only because they began again (after the 1981 stoppage), or because there were more of them and of better quality, but because they have the potential of paving the way for a more substantial understanding of each others concerns. In particular, given that the U.S Pentagon has
long distrusted India's Soviet military connection, the chance to talk and see what their Indian counterparts are actually doing may lead to a more balanced, and arguably more realistic, vision of India's military needs and proclivities. Similarly, the increase of officer exchanges allowed by India indicated a relative softening in that country's historical hesitation to permit its military officers to maintain close ties with their American counterparts.

Buttressing the educational exchanges were mutual high-level visits of senior defence officials. The U.S sent, among others, Defence Secretaries Weinberger and Carlucci, Undersecretary of Defence for Policy Fred IILle, Assistant Secretary of Defence for International security Affairs Richard Armitage, Airforce Secretary Aldridge, and Chief of Naval Operations Admiral Watkins. India sent officers and officials of corresponding rank to the U.S. Again, visits in and of themselves do not make defence cooperation. But they do make political statement which in turn affects specific efforts at defence cooperation. Even one Defence Technology Security Administration official admitted that the success of the light combat aircraft collaboration was the result of these high-level exchanges of defence officials and military officers.

In essence, U.S-Indian defence cooperation in 1980s underwent a significant qualitative and quantitative expansion. Its character was shaped by a number of factors not least of which the features of the Memorandum of Understanding on Technology Transfers and the bitter debates within the U.S. government about the advisability of increasing defence ties.
To sum up, several obstacles of course, persisted in US-India collaboration during the Reagan era in the field of economy, science and technology and defence. Firstly, India was not interested in purchasing off the rack weapons system. Secondly, since there was still considerable hesitation in both countries about trumpeting their new found defence links given domestic political considerations, India avoided giving an impression that it shared strategic and defence perspectives with United States. For its part the United States did not press the General Security of Military Information Agreement (GSOMIA) on India because the Reagan administration decided to interpret the MOU in a way so as to cover both dual use and military technology.

These problems notwithstanding, US-Indian economic and defence relations, under the Reagan administration reflected a largely successful pursuit of accommodation. The significance of this accommodation lies in the fact that they pursued the path of cooperation despite the existence of obstacles in this regard.
END NOTES


6 Ibid., p 35.


8 Dilip Mukerjee, “U.S. Weaponry for India”, Asian Survey, ( Berkeley, California) vol 27, no. 6, June 1987, pp. 95-614


10 Mukerjee, n.8, p. 609.


13 Johnson, n.7, p.42.

14 Dunbar, n. 11,p.90.

18 Ibid., n.17.
21 Mukerjee, n.8, p.609.
25 Ibid.
30 Johnson, n.7, p.42.
31 Leonidov, n.20 p. 114.
32 Chadda, n.9, p. 1134.


36 Narayanan, n.29, p. 20.

37 Chadda, n.9, p.1134.

38 Johnson, n.7, p.16


40 Asian Studies Backgrounder no.49, 4th August 1986, pp.5-7.


42 Dean, n.23, p.5.

43 Cited in Bose, n.3, p.178.


45 Ibid.

46 Cited in Mukerjee n.10, pp 602-603.


48 See The Hindu, November 12, 1982.

49 The super computer deal is discussed in detail in the later portion of this Chapter.


51 Indian Economic News, October 1987, p.3.


Dean n.23, p.5.

"The Soviet Snub," Far Eastern Economic Review, April 23, 1982. According to an Indian defence journal: "The shift in Government policy in 1982, to liberalize trade and import western technology, along with Mrs Gandhi's proposed visit to the US, brought to India Marshal Ustinov with a big delegation which protested India's interest in the Mirage-2000, but had to be content with an Indian order for MiG-25s. Subsequently, the Soviets have made every effort to smoothen relationships by offering the latest in defence equipment including the MiG-31 (in the development stage.) See IDR Research Team, "The Afghan Problem and South Asian, Perceptions," Indian Defence Review, vol. 21, January 1982. pp.112-115

According to one press report: "Officials here believe that, with the Mirage deal, Mrs. Gandhi seeking in part to strengthen her country's growing dependence on Soviet equipment, particularly after India's recent decision to buy MiG-23's as replacements for its MiG-21's. According to recent press reports, the Soviet Union has tried to wrest the sale away from France by offering India equally advanced fighters of its own at lower prices." See Paul Lewis, "Paris Seeking to Close Indian Jet Deal," New York Times, November 13, 1981.


As Cronin correctly cautioned: "Notwithstanding these limitations, forces for change are currently weak. To date, India's purchases of western military hardware such as the British Jaguar deep-strike aircraft (80), the French Mirage 2000 (40), and a West German submarine (to be
manufactured under license in India) have been motivated primarily by a desire to obtain specific capabilities or technology not available from Moscow, not to reduce significantly or end the Soviet connection." Richard P. Cronin, "Policy Alert: The Rajiv Gandhi Visit Issues in U.S.-India Relations," Congressional Research Service, no.85-838F, June 7, 1985, CRS-6.


63 Dean, n.51.


67 These are discussed below.

68 Mukerjee , n.10,p.607.

69 There appears to have been support outside the administration for this initiative too. Speaking on behalf of "an informal group of conservative senators called Steering Committee," Senator Orrin Hatch stated : "This is why I encourage President Reagan to approve any reasonable request of the Indian government to purchase American equipment, weapons, and military training that the Government of India dares to request from our government or our commercial firms in defiance of Soviet warnings to India not to purchase this course... Of course, the most advanced, highest technology American weapons should not be sold to India without appropriate safeguards." The comment was significant in three ways. First, it was "orchestrated." That is, it was "written" by officials, who were pressing the defence issue and who realized that the backing of a known anti Soviet conservative would help convince skeptics about this course. Second, it reflected the Reagan administration's goal of using the defence overture as a way to wean India away from the USSR. Finally, it noted the limits of weapons and technology transfer...
contemplated due to lingering suspicions about India. Orrin Hatch, "Reagan and Our Strategy for India" Washington Times, November 6, 1984, 2D.

70 Chakrapani, n.54.


73 Chakrapani, n.54.


75 Ibid.

76 Assistant Secretary of Defence for International Security Affairs Richard Armitage has explained : "But I think I could say very clearly that because of that Memorandum of Understanding, our own export procedures are being expedited. We are finding it somewhat easier and more timely on processing in a more timely fashion Indian requests for various bits and pieces of technology. So, the MOU, I would say... has been a great boom to our developing relations." USIA, "Secretary of Defence Winberger's Upcoming Overseas Trip." 7 Obtained under FOIA. Cited in Satu P.Limaye. U.S. – India relations : The pursuit of Accommodation (Boulder, 1993), p 210.


78 Mukerjee, n.10. p. 602.

79 ed to play down Pakistani reactions to developing U.S : Indian defense ties. Assistant Secretary of Defense for International Security Affairs Richard Armitage said: " I would say that in terms of corporation with the United States, I would suppose that Pakistan would see this in their interest to have a congenial relationship with a regional supervisor [emphasis added], and I must say that I have not seen any indications of concern on the part of our Pakistani friends for this developing relationship between the United States and our friends in India. " USIA,


Mukerjee, n.10, p.607.

Arunachalam was no stranger to the U.S. He was educated at Cal Tech. His U.S. "counterpart", Under Secretary of Defense for Research and Engineering, Richard De Lauer (1981 - 1987), had been a student there at the same time. This coincidence facilitated contacts during the exploratory stages of the LCA project.


Ibid.

The head of the Indian Gas Turbine Project, Arun Prasad, had studied at MIT and spend a year's internship at General Electric's Lynn, Massachusetts plant.


Even China had not been granted access to this sub-systems. See Nayan Chanda, "A New Indian Summer," Far Eastern Economic Review, February 25, 1988, p.34.

A U.S. official acknowledged "There is considerable debate within the administration over how much to offer India. Ultimately the president will have to clinch the deal. See Chanda, n.86, p.36.

Cited in Limaye, n.76, p.213.


95 Ibid., p.9.

96 "U.S. Help Sought For Aircraft Carrier", Times of India. 26 August 1988


99 Discussions about renewing ship exchanges may have occurred ever prior to Mrs Gandhi's visit to Washington. "Background Briefing on the Visit of Indira Gandhi," Cited in Limaye, n.76. p 218
