



Strategic Partnership Between Israel and India

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Indian Prime Minister P.V. Narasimha Rao's January 1992 decision to establish full diplomatic relations with Israel was partly influenced by potential security cooperation. The threats facing India and Israel are different but the rationales behind their arms modernization, buildup, or exports are similar.

Without outside help India's key defense projects would incur cost and time overruns and, even if completed, would likely be quickly obsolete. Likewise, without exporting its expertise or procuring external funding for its research, Israel's long-term plans are in jeopardy. U.S. aid has peaked and may well decline in the future.

The study argues that India and Israel could develop a strong, mutually beneficial security cooperation in which joint research, development, and production could be more attractive and profitable than arms sales alone.

BACKGROUND: INDO-ISRAELI POLITICAL RELATIONS

In September 1950 Prime Minister Jawaharlal Nehru (1947-64) granted de jure recognition to Israel. (1) A few months later Israel opened a trade office in Bombay which gradually became a consular mission and the first Israeli consul took over in June 1953. (2) Largely due to financial constraints and scarcity of personnel, India was reluctant to open a mission in Israel though when Israel's Foreign Ministry

Director-General Walter Eytan visited India in early 1952, Nehru expressed his willingness to establish diplomatic relations.

But gradually a host of regional and international developments prevented any meaningful interaction and understanding between India and Israel. The 1956 Suez crisis and Nehru's new friendship with Egyptian President Gamal Abdul Nasser inhibited progress. Indian leaders began to argue that "time is not ripe" for normalization. Its initial willingness and subsequent reluctance to establish relations remain one of the most controversial aspects of India's foreign policy.

Following his 1984 electoral victory, Rajiv Gandhi (1984-89) initiated a few contacts.(3) This process became an integral part of the pragmatic, non-ideological approach to foreign policy pursued by Narasimha Rao (1991-96). The Cold War's end, relaxation of international tension, willingness of Arab countries to negotiate peace with the Jewish state, and the Madrid peace process enabled Narasimha Rao to pursue a new policy toward Israel. The opening of embassies in late 1992 was followed by a steady flow of political and commercial visits.

One cannot ignore security inputs into Rao's decision. The absence of diplomatic relations had not inhibited India from seeking Israeli assistance and obtaining limited quantities of small arms and ammunition during crises such as the Sino-Indian conflict in 1962 and the Indo-

Pakistani wars in 1965 and 1971. (4) These weapons' military impact was marginal but signaled a certain shared security.

There was also prolonged cooperation between Research and Analysis Wing (RAW) and its Israeli counterpart, Mossad. Such cooperation existed even when Indira Gandhi, generally considered unfriendly toward Israel, was Prime Minister (1966-77 and 1980-84). According to one account:

"RAW sent its personnel to Israel for specialized training and in late 1984, in the wake of Indira Gandhi's assassination, it also invited a senior Israeli security specialist to advise on the Prime Minister's security systems. RAW probably also buys electronic intelligence equipment from Israel."(5) Even when the political leadership was adopting a less than friendly policy toward Israel, a different trend prevailed in the Indian military/security establishment's professional appreciation of Israel's military expertise. Israel's military adventures and successes such as bombing the Osiraq nuclear reactor near Baghdad in 1981 and destruction of Syrian MiGs over Lebanon the following year were closely followed by the Indian security establishment. For instance, with MiGs constituting the backbone of the Indian air force, the decimation of Syrian MiGs in dog fights with no Israeli casualty, raised alarm bells. Tension in the air headquarters was further heightened by the U.S. decision around that time to supply F-16 fighters (proved successful in the Bekaa Valley operation) to Pakistan.

MUTUAL SECURITY CONCERNS

Presently any Indo-Israeli security cooperation does not revolve around a common enemy. India is unlikely to share Israeli concerns over Iran and Islamic radicalism, nor Israel of India's concerns over China. Due to traditional political

relations, geographic proximity, dependence on petroleum supplies and labor migration to the Middle East, India is unlikely to abandon its close ties with the Arab world. Indian Muslims have been sympathetic toward the Islamic countries and their perceived opposition significantly contributed to the prolonged absence of political relations between India and Israel.

The violence in Kashmir and periodic bomb blasts in various places throughout the country indicate India is not immune to Islamic radicalism. However at least in the foreseeable future, Islamic fundamentalism is likely to be a less salient international issue for India than for Israel. On the contrary for domestic as well as regional considerations, India would continue and consolidate cooperation with Iran, as a principal ally in countering Pakistan's anti-India campaign in the Islamic world. It also looks to Iran as a major transit route for economic relations with Central Asian republics.(6)

For its part, Israel is unlikely to abandon its two-decades'- old military ties with China to ameliorate Indian concerns.(7) Contrary to public expression of Israeli concerns over India's suspected nuclear cooperation with Iran, there are no indications to suggest that India has raised the Chinese issue during bilateral discussions.(8) This silence should not be taken as a sign of India's acquiescence or endorsement. Israel's involvement and participation in projects such as the F-10 fighter are bound to undermine India's long-term security interests. India is bound to view security-related dealings with apprehensions. Both India and Israel need to dilute their external security dependency.

Their dependence on Russia and the United States for weapons, technology and financial assistance, substantially undermines their political and diplomatic maneuverability. (9) Even commercial decisions such as purchase of civilian

aircraft are subject to political pressures. For example, India's granting the MiG-21 upgrading contract to Russia. If technology is an impediment for India, limited domestic market is a major hurdle for Israel. While prevailing economic conditions prevent complete technological independence, a well-designed cooperation would significantly reduce their defense-related dependency upon Russia and the United States respectively.

It is essential to remember that military relations between India and Israel are unlikely to be a cash-and-carry affair. There is no cash in India and Israel does not have too many complete systems that India requires. Normalization came at a time when the Soviet Union's disintegration and the multiplicity of suppliers made India extremely vulnerable and any military confrontation at that period would have been disastrous.(10)

The position of the Israeli military industries is not encouraging either. The recession following cancellation of the Lavi fighter in 1987 continues and the dismissal of a third of the work force has not improved the situation.(11) Even after nearly \$2 billion worth of sales (mostly exports) in 1997, Israel Aircraft Industries (IAI) had to depend on government assistance to pay its work forces' salaries. As the IDF orders dwindle, Israel's ability to economize production, develop special weapons, or continue research and development, are in jeopardy.

In short, neither side can generate enough internal sources to continue some of the sensitive and vital projects, nor do they enjoy a generous benefactor's largesse. This precarious situation ironically presents the best scope for a strategic partnership. It is essential for both countries to look for unconventional solutions to challenges and opportunities such as, the vast domestic Indian market, difficulties facing Defense Research and Development Organization

(DRDO, the prime force behind India's defense projects), India's great power aspirations, Israel's lead time in a number of areas and its need to reduce the unit cost of production through exports or external assistance.

AREAS OF COOPERATION

From visits and high level contacts reported in the media but rarely discussed by either governments, one can identify certain broad areas of security-related cooperation. They revolve around India's ambitious attempts to design, develop and produce major platforms. India is pursuing a number of special projects and has made significant progress in some of them. Western concerns over and determination to prevent exports of dual-use technologies and the Soviet Union's disintegration have exacerbated the importance of indigenous technological progress. India shares the view that Western concerns over non-proliferation is often a camouflage for sound commercial considerations.(12)

Defense-related research in India is conducted by the DRDO, which comprises of 50 laboratories and establishments spread across the country.(13) The approximate Indian equivalent of Israel's Rafael, it is involved in design and development activities "in a variety of disciplines such as aeronautics, armaments, combat vehicles, naval technology, rockets and missiles, computer sciences, electronics and instrumentation (including communication, radars and electronic warfare), artificial intelligence, robotics, engineering, terrain research, explosives safety, materials (metallic, non-metallic and composite), life sciences (including high altitude agriculture, high altitude and desert physiology, and food), nuclear medicine, psychology, camouflage, avalanche forecast and control, work study, systems analysis, training and information systems" (14) As a result the

DRDO would be in the forefront of any security partnership between India and Israel.

A. Light Combat Aircraft

Developing a light combat aircraft (LCA) remains the most ambitious military program currently undertaken by the DRDO. The need for a new fighter aircraft cannot be overstated. As a middle-sized air power, the desire to keep its defense requirements free from external pressures encouraged India to pursue the LCA option. With sufficient domestic market it need not depend on exports to economize the cost of production. For instance India currently has over 300 MiG-21s (including the 125 slated for upgrading) which would have to be replaced within a decade. In the post-Cold War era the cost of replacing these and other aging fleets with imports without generously low prices, has become prohibitive.(15)

With the declared intention of replacing the license-built Ajeet (British Gnat Mark I) and MiG-21 fighters by 1991, the DRDO launched the LCA program in 1983.(16) The launching coincided with India's eagerness to seek non-Soviet options for its military needs and to gradually reduce its dependence on Moscow for military supplies. Though not as acute as Israel's, India's dependence on a single supplier has been enormous and in certain key areas almost total. (17) The LCA has been projected as the most cost-effective and relatively inexpensive alternative for the air force in the early part of the next century. (18) The first technology demonstrator rolled out on 17 November 1995 and the first flight test is re-scheduled for late 1998 with steps having been taken "to accelerate pace of development, fabrication, flight testing and flight clearance leading to induction of LCA into the Indian Air Force by the year 2003."(19)

From the beginning, like many other projects, the LCA program has been plagued

by technological and financial constraints. Having opted for technological independence, the DRDO found itself to be dependent on foreign technology for the LCA. According to some estimates as much as 70 percent of the LCA components are imported.(20) Delays in production schedule not only escalate costs but also add to the technological obsolescence of the finished product. If the present time table of 2005 is maintained there would be a time gap of 23 years since the project was conceived. The air force's preference for a modern aircraft over a local product modeled on earlier versions, partly contributed to the slow progress. India's decision to purchase multi-role combat aircraft from Russia in the wake of the Hank Brown amendment that enabled Pakistan acquire advanced weapons and platforms from the US, has put further pressures on the resources available for LCA. (21)

In numerous ways the difficulties confronting the LCA are not different from the hurdles that Israel endured in pursuing and eventually abandoning the Lavi project.(22) Doubts have been raised both inside and outside India over the wisdom of developing a complete system as important as a fighter aircraft. The government's inability to find regular and continuous funding has slowed down the project and even before the first test flight, the LCA project has cost about \$600 million and has come under severe criticisms from the parliamentarians.(23)

Israeli experience would be particularly useful in areas such as avionics, airframes and incorporating engine and weapons into the airframe. A substantial portion of technologies developed during the Lavi phase is owned by Israel and can be easily exported to or shared with India.

B. Aircraft Upgrading

Upgrading the aging air force is linked to the LCA as India still would have

to wait for nearly a decade before acquiring the first batch of LCA. Acquiring new aircraft would be costlier and such a move would further reduce the budget for LCA. As a result India signed a \$400 million contract with Moscow for upgrading 125 MiG-21s and prolonging their life-span by 15 years. Although Israel lost the main MiG-21 BIS contract to the Russians, the upgrading market in India is still large and would involve at least over 100 later versions of the MiGs before the arrival of first LCA.

C. Missiles and Satellites

Launched in 1983, the Integrated Guided Missile Development Program is another ambitious yet relatively successful defense program currently being undertaken by the Indian defense establishment.(24) The program involves designing, development and production of five missile systems: Intermediate Range Ballistic Missile (IRBM) Agni, battlefield support surface-to-surface missile Prithvi, short range surface-to-air missile Trishul, medium-range surface-to-air missile Akash and anti-tank missile Nag. (25)

The first stage of Agni is based on India's successes in satellite launching and the second stage is "a shortened Prithvi stage, modified for high-altitude operations." (26) Since its inaugural launch in May 1989, Agni had completed three successful test flights and following pressures from the United States the Indian government appeared to have quietly stopped the program. No Agni tests have been conducted since 1994. Adopting a missile-in-the-basement posture, Indian leaders noted that if a political decision were to be taken, Agni could be made operational within two years.

For its part, Israel has an impressive arsenal of indigenous missiles, including the ship-to-ship Gabriel, air-to-air Python, air-to-surface Popeye, and the surface-to-

surface Jericho-I and IRBM Jericho-11. (27) They were developed and some even deployed before India began its guided missile development program in the early 1980s and hence they are more advanced and battle-tested.

For quite some time there were suggestions in Israel's media that foreign countries have expressed interest in purchasing Arrow missile technologies, and countries such as Japan, Taiwan, Turkey, South Korea and even UK were mentioned as potential clients. As a project substantially funded by the United States, such a move would not be easy and, in May 1996, Head of the Arrow Project in the Ministry of Defense Uzi Rubin disclosed that Israel and the United States had signed an agreement arranging "division of rights" on Arrow project.

This move is aimed at avoiding controversies that Israel had illegally and without authorization sold or transferred American technology to third parties such as China. In February 1997 the Indian media suggested that India was negotiating with Israel to purchase components and technology of Arrow and the issue was believed to have been discussed during the visit of a senior Ministry of Defense official earlier in the month.

The issue of UAVs and RPVs is closely related to the missile program. The DRDO began work on a pilotless target vehicle, Lakshya. Following launch trials in 1983, it is currently undergoing limited series production. Another aeronautical venture, Nishant RPV, made its first test flight in 1995 and was scheduled to be inducted into the army by late 1996/97.(28) However, production delays and technical snags led the army to look to Israeli-built Searchers to compensate for the delays. It is essential to remember that while Israel has been using and exporting UAVs/RPVs since 1982, India is a late entrant in the field.

If Israel has more experience and expertise in missiles and RPVS, India enjoys lead-time in space technology.(29) Established in the early 1950s, the Indian Space Research Organization has been primarily concerned with the civilian space program. The use of space technology for military purposes has been a recent phenomenon and the Agni missile is based on a successful civilian satellite launch vehicles.

D. Main Battle Tank (MBT)

For over two decades the DRDO has sought to design, develop and produce the Arjun battle tank. The design phase, completed in 1996, was 11 years behind schedule..(30) Finally, though, in June 1997 the army opted for 100 Arjun and the first tank is due in 2002. Besides Arjun, which would eventually replace 1,700 Vijayanta tanks, India is planning to upgrade a similar number of T-52 tanks. (31)

In all these four areas--LCA, aircraft upgrading, missiles and MBT--India is pursuing some of the most ambitious, expensive and technology-oriented programs ever undertaken by a developing country. If one adds the plan to launch a satellite by the year 2000 capable of placing a two-ton satellite in orbit, the ambitions of the DRDO are astronomical.(32)

Unlike the Lavi there is no foreign option for the Indian military establishment and it cannot argue that imports are possible and would be cheaper than indigenous endeavors. Even those not satisfied with the DRDO's projects, progress and achievements are unable to offer a cost-effective alternative. As such, these endeavors enjoy widespread political support inside the country and from the Communists on the Left to the Nationalists on the Right various political parties view them vital to national security.

The ambitions DRDO provide a real, meaningful long-term challenge and

opportunity for Israel. But instead of looking India as a market for exports to subsidize its defense research and weapon development, Israel can exploit the opportunities provided by India's unprecedented quest for technology and modernization.

PRECONDITIONS FOR STRATEGIC PARTNERSHIP

Any attempt to establish a strategic partnership between India and Israel, would have to address and meet at least some of the following preconditions.

A. Overcoming past blinkers

It is essential for both countries to adopt a realistic attitude towards security cooperation. Since the early 1920s India viewed Israel primarily through an Arab and Islamic prism. In so doing it failed to perceive the value of normalization with Israel in promoting its own interest in the Middle East. Though everyone is not happy with it, normalization ceased to be a contentious issue in India and even those parties such as Janata Dal which opposed the move in 1992 came to terms with the reality to endorse and encourage bilateral cooperation.

It is impossible for India to be immune to the vagaries of the peace process and its impact upon security cooperation. Even the most pro-Israeli government in New Delhi cannot remain indifferent to India's historical ties with the Arab world, its growing economic relations with the Middle East and domestic pressures to support the Arabs. Succumbing to the temptation of linking it to the peace process would however, severely undermine any strategic partnership with Israel. Furthermore, most of the joint cooperation in areas suggested in this study would materialize only in the early part of next century, long after the mid-1999 deadline set by the Oslo process.

For its part Israel still remains indifferent toward India and the latter draws media attention only in times natural calamities and disasters. Security cooperation with India hence requires, an Israeli ability to understand contemporary India and its willingness to recognize India's military potential and progress in defense research. Past stereotypes and romanticized understanding are great impediments to a better appreciation of each other's expertise and potential.

B. Joint Research and Production

The Indian market is not small. In the early 1990s its annual defense budget hovered around 2.5 percent of GDP and in 1996-97 the budget was close to \$10 billion, of which five percent went to defense research. India is committed to increasing the indigenous content of defense equipment from 30 percent at present to 70 percent by 2005. India however does not have the financial resources for its enormous military needs and modernization programs. Its indecisive stand on acquiring Advanced Jet Trainer (AJT) for over a decade and the time overruns faced by a number key projects such as LCA, MBT or MiG upgrading, are partly contributed by the military's inability to find sufficient and uninterrupted financial resources. Even the decision concerning MiG-21 upgrading was taken only after the air force resorted to cannibalization. As a result, in spite of the number of visits and regular contacts, Israeli exports to India are unlikely to be massive. Soviet/Russian inventories constitute a vast segment of the Indian inventories. Even it is able to find a willing supplier, India's financial ability to replace this dependency with non-Russian weapons is rather bleak. The indirect costs such as spare parts, training, repairs, overhauling and organizational coordination would be gigantic.

Likewise the nature of Indian demands rules out Israel as a prime supplier

in certain areas such as LCA where it is primarily concerned with designing and developing a platform. Another major arena that draws attention and funding is the development of Kaveri engines for the LCA. Israel's capabilities in exporting finished products are limited to Merkava, RPVs and missiles such as Gabriel, Python AAM, Jericho-I and 2, and Popeye. Among them Gabriel, Python and Popeye are attractive because India does not appear to be developing these types of missiles. Even if Israel is willing export, both Jericho missiles are an advanced version of the Prithvi and Agni missiles and hence are unlikely to be included in India's shopping list. The RPV is somewhat different. Pressing demands from the services coupled with production delays brighten prospects of importing a limited number of Israeli RPVs and UAVs, but substantial imports would be opposed by the DRDO as well by the parliamentarians.

Moreover, India's prolonged dependence upon Moscow for military supplies was largely influenced by attractive financial terms such as 'friendly prices', long payment schedule and barter and credit arrangements. Given the financial difficulties faced by Israeli military industries, such attractive financial terms are unrealistic.

A number of defense projects currently underway in India began in early 1980s when there was no serious threat to supplies. Coming after the Soviet invasion of Afghanistan that it refused to condemn, India was assured of continuous supply of advanced Soviet weapons, systems and platforms. Yet Mrs. Indira Gandhi consciously opted to produce main battle tanks, light combat aircraft and a series of guided missiles. If modernization and reduction of dependency on Moscow were the prime considerations she would have opted for imports and even dove-tailed some of her policies to suit Washington. These financially exorbitant, some might view

prohibitive, projects are aimed at acquiring substantial technological experience and independence.

As such, in spite of time and cost overruns and technological impediments, India is unlikely to abandon its high profile programs. Though undertaken without any external financial support, successful and early completion of a number of these projects would require an influx of foreign technology and expertise, an ideal condition for Israel. Technology and improvisation are not only in the realm of Israeli expertise, they also are available for export.

These three considerations -- Indian drive for technological expertise and independence, its financial constraints and Israel's operational deficiencies -- make joint research and development an attractive proposition. Facing similar challenges in a number of fields, both countries can coordinate and compliment their experience, expertise and demands. A number of on-going programs in India are not radically different from their Israeli counterparts including LCA (Lavi), Arjun (Merkava), Prithvi (Jericho-1) and Agni (Jericho-11). The same can be said about a number of other Indian programs such as UAV/RPV, airborne early-warning system, anti-ballistic missile system or cruise missile technology.

Irrespective of the ability of the DRDO to deliver the LCA by 2005, India would not be able to replace its entire fleet overnight and would have to upgrade the existing MiG fleet including MiG-21 as well as MiG-27 and MiG-29. One cannot be sure that Russia would again be chosen for such an endeavor. Instead of competing for the contract, it would be worthwhile for Elbit and IAI to explore the possibility of collaborating with the Hindustan Aeronautics Limited (HAL) and jointly bid for the upgrading contract. Upgrading Soviet fighter aircraft is not alien to India. HAL has been a licensee producing, repairing, overhauling, refurbishing and upgrading MiGs

and, like Elbit and IAI, it unsuccessfully sought the MiG-21 contract. Given the high labor cost in Israel, a joint venture with the HAL would significantly reduce cost thereby making the offer financially attractive and competitive. Such joint ventures can also be extended to third-party contracts.

Factors such as access to more advanced Western technology, a pressing security situation and early commencement of research have given Israel technological superiority over India. A number of Israeli inventories have undergone substantial improvements and modernization based on the battlefield experiences of earlier models. For instance, Jericho-I was introduced in the early 1970s, nearly two decades before India's Prithvi. Merkava tank introduced in the late 1970s and since then had seen two additional models and likewise the fourth generation of Popeye is currently being used by Israel. Collaboration with Israel would thus significantly reduce time and cost overruns for India and enable it overcome some of the technical bottlenecks. Arjun could benefit from the battlefield experiences and competence of three generations of Merkava tanks.

Israel's success in maintaining a technological edge amidst growing Arab conventional and non-conventional power depends entirely on its ability to fund special projects. For a variety of reasons, commercialization of technology appears the only realistic alternative. With a shrinking defense budget, exploring collaborative ventures with India makes economic as well as strategic sense. Even if third-party exports are ruled out, India presents a large market for Israel. For instance, within the next decade India has to replace most of its over 2,000 MBTs and to upgrade and replace around 400 MiGs. When more advanced Western countries are pursuing joint ventures, it would be difficult for India or Israel to solely pursue vital programs.

C. The U.S. component

Even though it was consistently pressing India to move closer toward the Jewish State since 1948, one cannot be sure that Washington would completely endorse and encourage Indo-Israeli security cooperation. For strategic as well as commercial reasons, the United States is apprehensive of some of India's ambitious plans and at regular intervals sought to impose economic and political sanctions to slow down and even throttle some projects.

A strong security cooperation in areas underlined in this study especially in anti-missile, cruise missile or Lavi technology is bound to bring the United States into the picture. Some of them are transferred or funded by the United States and hence would be subject to end-user conditions. Having vehemently opposed the testing of Agni or the deployment of Prithvi, United States is unlikely to be indifferent over Israeli willingness to transfer its Jericho expertise. American criticisms of Israeli export of Lavi technology to China become hollow if it is indifferent toward similar ventures with India. The American ability to override sensitive Israeli commitments to India would be much larger than those exhibited over Russia's attempts to sell cryogenic engines in 1993. Political proximity has not immunized Israel from American displeasure and threats of sanctions.

Hence, Indo-Israeli security relations would have to be coordinated with the United States. Prior understanding and transparency with Washington becomes essential. Direct or indirect involvement of American companies in Indo-Israeli joint ventures might partially ease the situation.

D. Institutional Framework

As democracies, the political leadership in both countries confronts a host of pressing domestic and regional concerns

which limit their attention in promoting bilateral security cooperation. The picture is further complicated by frequent political changes in India, which had as many as four prime ministers during 1996-97. In the words of one Indian commentator, "At the political level, India remains tentative in seeking deeper cooperation with Israel. At the administrative level, the wheels of Government grind far too slowly for New Delhi to get its act together and generate a policy momentum in any direction." (33) For its part, Israel is primarily concerned about its relations with the United States and its immediate neighbors.

Establishing a non-political professional arrangement responsible for security partnership is essential for the elimination of some of the difficulties such as political instability, procrastination in decisionmaking, absence of continuity, bureaucratic entanglement and lack of professional input. Though the appointment of Defense Attache is a significant move, he would be confined to providing professional inputs and would have very little say in decisionmaking.

Hence it would be appropriate that both countries establish a permanent body headed by the Scientific Adviser to the Defense Ministry (India) and the Director-General of the Defense Ministry (Israel). (34)

From the very beginning it is essential that the Indian parties are informed of weapons requiring third-party clearance. Otherwise Israel would be raising false and unrealizable expectations. For instance during President Weizman's visit Israel offered to sell Kfir fighters to India and it was not clear whether Israel sought and obtained American permission before making this offer. If denied permission, Israel would have to sell less powerful version than the original offer.

Likewise any weapons or systems not used by the IDF are unlikely to find

favors in India. For example, it would be difficult for IAI to sell Phalcon radar as the state-of-art system, when the IDF is reluctant to use it. In the long run overselling would be a bad strategy.

For its part, it is essential that India expedites the decision making process. Frequent personnel change and the web of bureaucracy greatly undermine the trust and confidence.

E. Greater circumspection

Premature disclosures have become a major operational impediment to Israeli arms exports, leading to controversies and even cancellation of certain deals. Likewise official or non-official portrayal of Indo-Israeli security cooperation being directed at third countries such as China, Iran, Iraq, Pakistan or Syria would put severe pressures on bilateral relations. If the cooperation between the two non-Islamic countries is portrayed as a conspiracy against the Islamic world, even the most pro-Israeli government in New Delhi would find it difficult to endure domestic pressures to abandon securities ties with Israel.(35) While total blackout is not possible, military/security cooperation has to be handled with greater care. Though normalization ceased to be controversial, a sizable section of the population is not totally reconciled to the idea and vehemently opposes military cooperation.

CONCLUSION

The intense and diverse nature of contacts since 1992 indicate that prolonged absence of political relations has not inhibited India and Israel from seeking security cooperation. Largely revolving around the air force, they cover areas such as intelligence cooperation, naval patrol and anti-terrorism. They however share the common objective of seeking technological independence and qualitative superiority.

The success of numerous strategic programs currently undertaken by both countries provide the best possible framework for strategic partnership.

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NOTES

1. P. R. Kumaraswamy, "India's recognition of Israel, September 1950", Middle Eastern Studies, (London), vol. 3 1, No. 1, January 1995, pp. 124-13 8.
2. In spite of the junior position and non-diplomatic status, the Israeli Consul often had direct access to the Indian prime ministers, a privilege normally not accorded even to accredited ambassadors resident in New Delhi. On other occasions however, his activities were confined to the State of Maharashtra of which Bombay is the capital.
3. P.R.Kumaraswamy, "India and Israel: Prelude to normalization", Journal of South Asian and Middle Eastern Studies, (Villanova, PA) vol. 19, No.2, Winter 1995, pp.5 8-70.
4. A detailed and provocative discussion can be found in Subramaniam Swamy, "The secret friendship between India and Israel", Sunday,(Calcutta), 28 November 1982, pp. 18-24.
5. Manoj Joshi, "Changing equations: The coming together of India and Israel", Frontline, (Madras), 4 June 1993, p. 1 13. For a first-person account of Dayan's visit in August 1977 see, Moshe Dayan, Break-through, A Personal Account of the Egypt-Israel Peace Negotiations,(London: Weidenfeld & Nicolson, 198 1), pp.26-32.
6. P. R. Kumaraswamy, "The Strange Couple", Haaretz (Tel Aviv), 26 July 1995.

7. P.R.Kumaraswamy, "The star and the dragon: An overview of Israeli-PRC military relations", *Issues and Studies (Taipei)*, vol. 30, No. 4, April 1994, pp.36-55; and "The military dimension of Israel-China relations", *China Report (New Delhi)*, Vol. 31, No. 2, April-June 1995, pp. 235-42; and Bates Gill and Taeho Kim, *China's Arms Acquisitions from Abroad. A Quest for 'Superb and Secret Weapons'*, (London: Oxford University Press, 1995), pp.81-86.

8. P. R. Kumaraswamy, "Israel-China military relations: India's red lines", *Strategic Analysis*, (New Delhi), vol. 1 8, No.6, September 1995, pp.781-792.

9. For an interesting discussion of Israel's dependency see, Klieman and Pedatzur, *Rearming Israel.- Defense Procurement Through 1990s*, (Jerusalem: The Jerusalem Post, 1991), pp. 139-202. For a background discussion on India's dependency see P.R.Chari, "Indo-Soviet military cooperation: A review", *Asian Survey* (Berkeley, CA), vol.19, No.3, March 1979, pp. 230-244; Jyotirmoy Banerjee, "Moscow's strategic link with New Delhi: An interim assessment", *China Report*, Vol. 19, No. 1, January 1983, pp.7-20; and J. Mohan Malik, "India copes with the Kremlin fall", *Orbis*, (Philadelphia, PA), vol.37, No. 1, Winter 1993, pp. 69-87.

10. For a narration of India's woes see, Shekhar Gupta, et al, "A middle-aged military machine", *India Today*, (New Delhi, international edition), 30 April 1993, pp. 22-31.

11. P.R.Kumaraswamy, "Israel's defense industries and recession: The economic cost of self-sufficiency", *Strategic Analysis*, Vol. 18, No. I 1, February 1996, pp. 1 523-43.

12. In a blatant use of non-proliferation concern for commercial consideration, the United States successfully blocked Russia's sale of cryogenic rocket technology to India. Initially General Dynamics offered to sell the engines but due to more attractive financial terms India opted for Russia.

Shahid Alain, "Some implications of the aborted sale of Russian cryogenic rocket engines to India", *Comparative Strategy*, vol. 13, No.3, July-September 1994, pp.287-300; and P.R.Chari, *Indo-Pak Nuclear Standoff. The Role of the United States*, (New Delhi: Manohar, 1995), pp.63-67.

13. A comprehensive discussion can be found in Roy-Chaudhury, "Defense research and development in India", *Asian Strategic Review*, 1994-95, pp.223-55. See also Rahul Roy-Chaudhury, "Defense industries in India", *Asian Strategic Review*, 1993-94, (New Delhi: IDSA, 1994), pp.232-273,

14. Roy-Chaudhury, "Defense research and development in India", p.233.

15. It is estimated that the Su-30 that India is obtaining from Moscow "costs around \$35 million as against the \$1.1 million worth of MiG-21 that it will replace." Jasjit Singh and Swaran Singh, "Trends in defense expenditure", *Asian Strategic Review*, 1996-97, (New Delhi), p.55.

16. Eric Arnett, "Military Technology: The case of India", *SIPRI Yearbook 1994*, (London: Oxford University Press, 1994), pp.349-50; and Chris Smith, *India's Ad hoc Arsenal. Direction or Drift in Defense Policy*, (London: Oxford University Press, 1994), pp. 169-77.

17. For instance at the time of its disintegration the Soviet Union's share in the India's arsenal was extremely high and especially in air defense missiles (96 percent), submarines (85 percent), fighter and ground-attack aircraft (60 percent), fighters AD (85 percent) and Transport aircraft (70 percent). Sandy Gordon, "Australia's perspective on Indian Ocean", in Jasjit Singh, ed., *Maritime Security*, (New Delhi: IDSA, 1993), p.68. For *Eastern Economic Review*, 15 October 1992, p. 16.

18. Roy-Chaudhury, "Defense research and development in India", p.233. For technical details about the LCA see, Muhammed Ali Malik, "LCA: India's answer for a cost effective fighter", *Defense Journal*,

reproduced in Strategic Digest, vol.26, No.10, October 1996, pp. 1500-6.

19. Fourth Report of the Standing Committee on Defense (1996-97) of the Ministry of Defense, (New Delhi: Lok Sabha Secretariat, 1997), p. 10

20. Arnett, "Military technology", p.349.

21. In November 1996 India has signed a \$1.7 billion deal with Moscow to supply 40 SU-30 MK multi-role fighter aircraft. Rajiv Nayan, "India purchases Sukhoi-30", Strategic Analysis, vol. 19, No. 12, March 1997, pp. 1759-1761.

22. For a first person account of the American attempts to the Lavi see, Dov S. Zakheim, Flight of the Lavi: Inside a U.S.-Israeli Crisis, (Washington: Brassey's, 1996). See also, Duncan L. Clarke and Alan S. Cohen, "The United States, Israel and the Lavi fighter", Middle East Journal, vol. 40, No. 1, Winter 1986, pp. 16-32.

23. Fifth Report of the Standing Committee on Defense (1995-96), Ministry of Defense, (New Delhi: Lok Sabha Secretariat, 1995), pp. 19-22.

24. For serious and details discussion see, Timothy V. McCarthy, "India: Emerging missile power", in William C. Potter and Harlan W. Jencks, The International Missile Bazaar: The New Suppliers' Network, (Boulder, Colorado: Westview, 1994), pp.201-33; and Raj Chengappa, "The missile man", India Today, (International edition), 15 April 1994, pp.38-45.

25. Strategic Comments, January 1997; and Jane's Defense Weekly, 15 October 1997, p. 15.

26. McCarthy, "India", p.208.

27. Steinberg, "Israel: Case Study for International Missile Trade and Non-Proliferation", in. Potter and W. Jencks, The International Missile Bazaar, pp.235-53.

28. Roy-Chaudhury, "Defense research and development in India", p.235.

29. Gerald M. Steinberg, Dual Use Aspects of Commercial High-Resolution Imaging Satellites, (Ramat Gan: BESA Security and

Policy Studies No.37, 1998), pp. 16-18. A detailed discussion on India's endeavors in space can be found in Mohan Sundara Rajan, India In Orbit, (New Delhi: Publications Division of Government of India, 1997).

30. Fifth Report of the Standing Committee on Defense (1995-96), Ministry of Defense, (New Delhi: Lok Sabha Secretariat, 1995), pp.24-26.

31. Ibid. Because of the cost factor the army is more inclined towards T-72 which costs a third of Arjun. The Hindustan Times, 16 August 1996. Roy-Chaudhury, "Defense research and development in India", pp.237-8; and The Hindustan Times, 16 August 1996.

32. Ian Anthony, "The 'third tier' countries: Production of major weapons", in Herbert Wulf, Arms Industry Limited, (London: Oxford University Press, 1993), p.376. Furthermore in 1989 the DRDO found itself saddled with as many as 989 projects and out of them 618 were shelved following an intense review. This astronomical number of projects came under severe criticisms from the parliamentary committee on Defense. Fifth Report of the Standing Committee on Defense (1995-96), p. 10

33. C. Raja Mohan, "A source of high technology", The Hindu (Chennai), 22 July 1997.

34. David Ivry who held the post for a decade is presently a special adviser to the Defense Minister and likewise the Indian government still utilizes the services of Abdul Kalam's predecessor V. S. Arunachlam.

35. One such portrayal of conspiracy can be found in Muhammad Hamid, Tize Unholy Alliance: Indo-Israeli Collaboration Against the Muslim World, (Lahore: Islamic Book Center, 1978).

