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Center for Strategic and International Studies
1800 K Street N.W.
Washington, DC 20006
(202) 775-3270
Fax: (202) 466-4740

Peace and War: Israel versus Syria

Anthony H. Cordesman
Arleigh A. Burke Chair in Strategy
Center for Strategic and International Studies

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Introduction

This report is a rough draft of a chapter prepared for a book on the Arab-Israeli Balance to be published by Praeger in early 2000. The readers should be aware that this text will be extensively revised in the final publication.

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The risks of a new Israeli-Syrian conflict are mixed. There is a risk that Syria will provoke another proxy war between Israel and the Hezbollah or Palestinians if progress cannot be made towards an Arab-Israeli peace settlement that would give Syria back the Golan. This could lead to Israeli reprisals against targets that Syria values in Lebanon and even targets in Syria Syria. However, the risk of another large-scale Israeli-Syrian conventional conflict of the kind that occurred in 1967, 1973, and 1982 seems limited, in spite of the new tensions that have developed since later September 2000.

Regardless of the Palestinian crisis, military tensions between Syria and Israel remain relatively low. Israeli has withdrawn from Lebanon, and the border is now largely demarcated. The diplomatic language the two states use is at least correct., Prime Minister Barak has repeatedly called for peace with Syria, and once praised former President Hazfez Assad as "a man of his word…of honor, of dignity." Syria has made several offers to resume peace talks since Barak's election, and has continued to talk of peace in spite of the failure of the Syrian-Israel negotiations held in the spring of 2000.

Syria may talk about its sympathy for the Palestinians and Lebanese, but President Hafez Assad's death in June 2000 has created a level of political uncertainty in Syria which makes it seem likely that Syria will prefer peace to military adventures – at least until Syria's new president, Bashar Assad or some other leader can consolidate power.[1] Equally important, Israel has massive military superiority. Syria has made no major progress in finding a new source of military aid or arms since the collapse of the Soviet Union. Its economy has been too weak to fund the modernization of its existing force structure, much less compete with Israel in creating new warfighting capabilities.

Nevertheless, another conventional conflict does pose some risk. Such a conflict might escalate out of risk of a "second Intifada" or a new proxy war in Lebanon. Furthermore, Israel's peace with Egypt and Jordan, and Iraq's defeat in the Gulf War have made the "Arab-Israeli military balance" largely a "Syrian-Israeli Balance."

This balance is summarized in Table 8.1 and Figure 8.1. While it is clear that Syria has built up massive military forces, Syria's force quantity is far more impressive than its force quality. A Israeli-Syrian conflict is also far less threatening to Israel than any conflict that involved Egypt or a large number of the the Arab "ring states."

This Israeli-Syrian balance is even less threatening to Israel when recent trends in military expenditures and arms transfers are considered. Syria's military efforts and modernization have fallen steadily behind Israel since the mid-1980s, and Syria has had only limited military modernization during the 1990s. Figure 8.2 shows that Syrian military expenditures have shrunk from about two-thirds of Israel's in the mid-1980s to only about half the Israeli level. Similarly, Figure 8.3 shows that Syrian arms imports have shrunk from levels much higher than Israel's in the late 1980s to levels that are only a fraction of Israel's. One of the major reasons for this drop has been the end of the Cold War, and Russia's growing financial problems. Russia has cut back on scheduled deliveries and has refused new orders that are not paid in cash since the Syrians defaulted on their loans to Russia.

Corruption and High Command

Another major reason is corruption. Much of the outside military aid Syria received at the time of the Gulf War went directly into the hands of its senior political and military officials. In spite of recent anti-corruption drives, the steady misappropriation of military budgets, coupled to nepotism within the Syrian leadership and high command, has led l to a steady decline in Syria's ability to maintain and improve its warfighting capabilities.

It is still unclear whether Hafez Assad's death will affect this situation. Both the continuity in much of the Syrian command, and the limited number of purges, seem designed more to secure Bashar Assad's succession to the Presidency than to improve Syrian military capabilities. While some changes have been associated with an anti-corruption drive that began in 1998, the key changes in the Syrian high command actually began early 1995, when Ali Haydar, the Special Forces Commander, was fired for "insubordination." [2] Hafez Assad's brother Rifat was finally stripped of the title of vice president in February 1998, when Hafez Assad seems to have become more serious about preparing for a shift in power. Hikmat al-Shihabi was replaced as Chief of Staff in 1998 by Ali Aslan, who had been Deputy Chief of staff and who was not only an Alawite but also a member of the same Kalbiyya tribe as Assad.

General Bashir Najjar, the head of the General Intelligence Department was fired, and eventually sentenced to 11 years for corruption. General Ali Huri replaced him, and General Muhammed Nasif was made Huri's deputy. Nasif had been head of Internal Security and had long been an Assad loyalist. In January 1999, Assad had raised the retirement age for the Chief of Staff from 69 to 70 to keep both Aslan and Minister of Defense Mustafa Tlas in office. Tlas had long been viewed as little more than an Assad stooge.[3]

Hafez Assad seems to have kept other loyalist officers in their positions past their retirement age, while forcing others out. The eventual "exile" of ex-military chief of staff General Hikmat Sehahabi, full retirement of officials like Chief of the Military Security Service chief Ali Dubah; and removal of Air Force Commander, Muhammad Khuli, all seem to have been carried out largely to ensure full support for Bashar's succession, although it scarcely represented a loss of military competence by any standard.[4]

Ironically, Bashar came to full power shortly after an anti-corruption purge led to the "suicide" of ex-Prime Minister Muhammad Zubi – one of the less corrupt officials in the Syrian leadership. Bashar was made commander of the armed forces after his father's death by Abdul Halim Khaddam, the acting president and ex-vice president, and one of the more corrupt officials in Syria. Defense Minister Mustafa Tlas helped bring Basher to power, and remained in office. Tlas's son may also be promoted to a new security position. Intelligence officials like General Bahjat Suleiman also emerged as supporters of Bashar and have remained in power.

Some analysts close to the Syrian regime indicate that it may take more than five years for Bashar to fully consolidate his position and such a consolidation may come at the cost of military effectiveness. Bashar scarcely has the military credibility of his father. He has 29 when he suddenly became Hafez's heir as the result of the death of his elder brother in a car accident in 1994, and he had been trained as an ophthalmologist. While he was being rushed to the top of Syria's power structure even before his father's death, his 10-year apprenticeship still left him only 38 at the time of his father's death and he was so young that the Syrian constitution had to be amended to allow him to become President. He had nothing approaching King Abdullah of Jordan's military experience and credentials.

Bashar faces other problems. Syria has been so much of a strongman state that the meeting of the Syrian Baath Party on June 17, 2000 that gave Bashar official power was the first meeting in 15 years. Bashar is an Alawite, which is part of an 11% minority in a country that is overwhelmingly Sunni, and a sect which Sunni factions like the Moslem Brotherhood have regarded as unfit to rile. Basher may face some challenge from his uncle Rifat Assad, although Rifat is in exile and it is not clear what power base Rifat Assad still retains in Syria, if any. He also will have to deal with his sister; Bushra and he husband Assif Shawkat, the Chief of Military Intelligence for Ground Forces. [5]

While many experts feel that Bashar is far more interested in serious economic reform than his father, money is almost certain to be a continuing problem.Figure 8.4 shows that Syria's new orders have been cut even more than its deliveries, in part because of the delivery of past orders after

1990. As a result, the impact on Syrian war fighting capabilities will increase steadily over time. In contrast, Israel has maintained a relatively constant flow of aid from the US, its major supplier, and the fluctuations in Israeli orders are largely a function of the fact that major orders or deliveries in any given year usually mean a cut in the next.

Table 8.1

The Syrian-Israeli Balance in 2000 - Part One

Category/Weapon	Israel	Syria
Defense Budget		
(In 1999, $Current Billions)	$6.7	$2.9
Arms Imports: 1995-1998 ($M)		
New Orders	2,900	300
Deliveries	2,800	300
Mobilization Base		
Men Ages 13-17	276,000	1,007,000
Men Ages 18-22	269,000	970,000
Manpower		
Total Active	173,500	316,000
(Conscript)	107,500	-
Total Reserve	425,000	396,000
Total	598,500	7120,000
Paramilitary	6,050	8,000+
Land Forces		
Active Manpower	130,000	215,000
(Conscripts)	85,000	-
Reserve Manpower	400,000	300,000
Total Manpower	530,000	515,000
Main Battle Tanks	3,800	3,450
(Fixed & Storage)	0	(1,200)
AIFVs/Armored Cars/Lt. Tanks	400	3,305
APCs/Recce/Scouts	5,900	1,500
WWII Half-Tracks	500(3,500)	0
ATGM Launchers	1,225	3,390+
SP Artillery	1,010	450
Towed Artillery	420	1,480
MRLs	200+	480
Mortars	7,740	4,500+
SSM Launchers	48	62
AA Guns	850	2,060
Lt. SAM Launchers	1,298	4,055

Table 8.1

The Syrian-Israeli Balance in 2000 -Part Two

Category/Weapon	Israel	Syria
Air & Air Defense Forces		
Active Air Force Manpower	37,000	40,000
Active Air Defense Command	0	60,000
Air Force Reserve Manpower	20,000	92,000
Air Defense Command Reserve Manpower	0	-
Aircraft		
Total Fighter/FGA/Recce	459(250)	589
Fighter	0	310
FGA/Fighter	405)	0
FGA	25)	154
Recce	10	14
Airborne Early Warning (AEW)	6	0
Electronic Warfare (EW)	37	10
Fixed Wing	37	0
Helicopter	0	10
Maritime Reconnaissance (MR)	3	0
Combat Capable Trainer	19	111
Tanker	8	0
Transport	36	29
Helicopters		
Attack/Armed	133	72
SAR/ASW	6	-
Transport & Other	160	110
Total	299	182
SAM Forces		
Batteries	28	130
Heavy Launchers	79	728
Medium Launchers	0	60
AA Guns	0	4,000
Naval Forces		
Active Manpower	6,500	6,000
Reserve Manpower	5,000	4,000
Total Manpower	11,500	10,000
Submarines	4	3
Destroyers/Frigates/Corvettes	3	2
Missile	3	2
Other	0	0
Missile Patrol	14	10
Coastal/Inshore Patrol	36	10
Mine	0	5
Amphibious Ships	1	3
Landing Craft/Light Support	4	5
Fixed-wing Combat Aircraft	0	0
MR/MPA	0	0
ASW/Combat Helicopter	0	24
Other Helicopters	-	-

(Figures in parenthesis show additional equipment known to be in long-term storage.

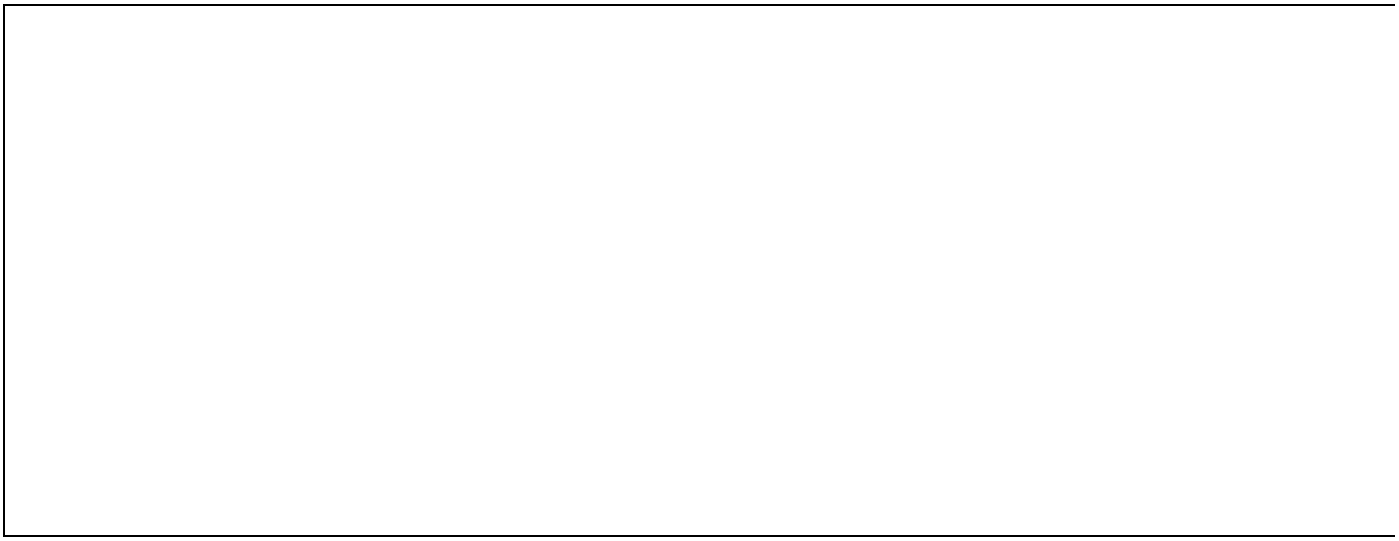
Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, Military Balance

Figure 8.1

Israeli Versus Syrian Operational Force Strength in 2000

Land Weapons

Air Forces



Note: Total Artillery includes towed and self-propelled tube artillery and multiple rocket launchers. Total air forces include only operational fixed wing fighter, fighter-attack, and reconnaissance aircraft in combat units, less aircraft in combat training units.

Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, Military Balance.

Figure 8.2

Trends in Syrian-Israeli Military Spending: 1985-1995
(In Constant $US 1995 Millions)

Source: Adapted by Anthony H. Cordesman from Arms Control and Disarmament Agency, World Military Expenditures and Arms Transfers, Washington, GPO, Table I, various editions.

Figure 8.3

Annual Trends in Syrian Israeli Arms Agreements and Deliveries: 1985-1996
($96 Constant Millions)

Source: Adapted by Anthony H. Cordesman from US Arms Control and Disarmament Agency, World Military Expenditures and Arms Transfers, GPO, Washington,, Table II, various editions.

Figure 8.4

Syrian-Israeli Arms Agreements and Deliveries: 1985-1997
($Current Millions)

Source: Adapted by Anthony H. Cordesman, CSIS, from Richard F. Grimmett, Conventional Arms Transfers to Developing Nations, , Washington, Congressional Research Service, various editions.

Syrian Capabilities in Warfighting

The trends in Syrian military forces are shown in more detail in the tables and figures which follow, which also help explain the previous comparisons of Syrian force numbers and force quality with those of other regional states. Table 8.2 shows the changes in the size of Syria's forces from a period shortly after the October War to the present. Figure 8.5 provides a graphic summary of Syria's current force strength.

The trends in Figures 8.6 and 8.7 are particularly striking since it is brutally clear that Syria has not gotten anything like the arms deliveries necessary to maintain and modernize its current force structure. [6] The impact of such cuts in arms imports are even more severe because Syria's force structure and procurement planning still suffer from many of the problems chronic to Soviet bloc-supplied forces during the Cold War, and which led to many of Iraq's problems during the Gulf War. While some Syrian forces fought well in 1973 and 1982, and Syria has managed to improve some aspects of its air and land force equipment in recent years, it simply has not been able to compete with Israel's military modernization efforts.

Syrian Modernization, Military Spending, and Arms Imports

Syrian economic liberalization may someday give it added resources to spend on its military forces and arms, but its economic reform under Hafez Assad was corrupt, ineffective and faltering. Syria has yet to make any of the major increases it must make in its expenditures to improve the quality of its existing forces. Although Syrian reporting on military and security expenditures sharply understates the true scale of its expenditures, it does provide a rough indication of the trend in spending. According to the U.S. Arms Control and Disarmament Agency, Syrian military spending totaled about 14% of its GNP in the early 1990s, but dropped to 7% by 1995. The most recent Syrian reports indicate that military and security expenditures were lower than $3.6 billion out of a total GNP of $49.5 billion in 1995. Once inflation is considered, these expenditures were lower than in 1995 and significantly lower than in the early 1990s -- when Syria had the benefit of concessional sales and aid from the former Soviet Union.[7]

Figure 8.9 shows the decline in arms deliveries to Syria since 1985, through the end of the Cold War, and the most recent slight rise due to steadily increasing arms agreements with Russia.

- Syrian arms deliveries reached their peak in 1987 with a total of almost $2.6 billion.

- The lowest point in Syrian arms deliveries occurred in 1994 with a total of only $41 million.
- Some experts then put Syria's arms debt to Russia at $11 billion, although Syrian sources claim it was much lower – although they refuse to cite a more accurate figure. [8]
- Since 1994, Syrian deliveries have been estimated to be growing slightly. In 1995 deliveries equaled $70 million.
- Deliveries averaged $400 million a year during 1991-1994, but only $75 million a year during 1995-1998.

While deliveries have increased slightly since that time, Syrian military spending has plateaued. Figure 8.2 shows the trend in military spending over the period from 1985-1995. This figure clearly shows the current gap in spending between Israel and Syria. It is unclear that Syria can hope for significant Russian aid at any point in the foreseeable future, and without such aid, Syria is likely to experience continued spending and arms import problems.

- In 1984, both Syrian and Israeli military spending was estimated to be around $12 billion.
- Between 1984 and 1989, Israeli and Syrian military spending both declined but remained relatively equal.
- After the Cold War ended in 1989, Syrian military spending declined at a greater pace while Israeli spending increased.
- By 1995, Israeli military spending was estimated at $8.7 billion while Syrian spending was estimated to be around $3.5 billion.
- These trends have continued ever since.

These financial pressures have forced Syria to abandon its search for conventional parity and make four shifts in its strategy and procurement effort that reflect a new focus on "asymmetric warfare":

- Emphasize the procurement of long-range ballistic missiles and weapons of mass destruction as a relatively low cost offset to Israel's conventional superiority while giving Syria a limited counterweight to Israel's nuclear strike capability.
- Give priority to elite commando and special forces units that can be used to defend key approaches to Syria and spearhead infiltrations and attacks. Many of these forces are equipped with modern anti-tank guided weapons and other modern crew and manportable weapons that allow them to disperse without relying on armored weapons and other systems Israel can target more easily. They are supported by attack helicopters.

- Maintain a large tank force both as a deterrent to any Israeli attempt to penetrate Syria and to maintain a constant threat to the Golan, even if Syria has no hope of achieving overall parity.

- Use the Hizbollah and Amal as proxies to attack Israel and the SLA in Southern Lebanon.

Syria has attempted to remedy some of its growing modernization problems by procuring upgrades and technology from Russia and the West, but Syria has not done well in obtaining such help. Its only major conventional force improvements during the mid and late-1990s were some Ukrainian modifications for part of the T-55 tank fleet and AT-14 Kornet anti-tank guided missiles. Syria has not yet succeeded in negotiating major new arms agreements with Russia and other suppliers. Western firms want firm cash guarantees and are reluctant to sell to Syria. China and North Korea cannot supply the quality of conventional arms Syria needs, and any purchase of equipment that does not come from Russia will create interoperability problems that will compound Syrian weaknesses in sustainability and combined arms.

Russia is Syria's most logical source of new conventional arms, and there were reports during the early 1990s that indicated that Syria would be able to spend some $1.4 billion on military modernization between 1992 and 1994. Russia failed to fill a major arms deal in 1992 for some 24 MiG-29s. 12 Su-27s, 3 T-72s and T-74s, and an unknown number of S-300 and SA-16 missiles because of Syria's lack of finances.[9] There were new reports that Syria negotiated with Russia in 1994 to buy 30 Su-24s, 50 MiG-29s, 14 Su-17s, 300 T-72s and T-74s, S-300 multiple rocket launchers (a Russian system similar to the MLRS) and S-300 missiles.[10]

Syria found, however, that post-Communist Russia did not make concessionary arms sales that approached the level of gifts, or show the past tolerance for unpaid loans. This was a major stumbling block throughout the 1990s. Syria had plied up a massive debt over the years. It owed Russia roughly $7.0-11 billion for past arms purchases, and a total of $20 billion for both its military and civil debt. Russia was well aware that there was is little prospect that it would ever be paid and this had a chilling impact on Syria's ability to obtain arms. [11]

Russia and Syria have claimed on several occasions to have resolved the issue. Syria signed a new cooperation agreement with Russia in April 1994, for "defensive weapons and spare parts." Syria held extensive new arms purchasing talks with Russia in 1997 and 1998. In February 1999, Syria announced plans to spend as much as $2 billion on a range of Russian armaments,

including more anti-tank systems – which seem to have included deliveries of more AT-14 Kornets.[12]

Syria and Russia held talks in May 1999 to discuss expanding military cooperation, and in particular to arrange the sale of Russian advanced weapons systems to Syria.[13] According to some reports, Russia now seemed willing to put repayments of its debt on hold.[14] A five-year, $2 billion contract was under discussion.[15] According to one report, Syria apparently requested Su-27 fighters and the S-300 air defense system, but was offered the cheaper MiG-29 fighters and Tor-M1 air defense systems.[16] Syrian President Hafez Assad visited Moscow in July 1999, and Syria and Russia held new highly level talks on military cooperation in September 1999. These talks seem to have again involved a $2-2.5 billion deal over five years, and the possible purchase of the S-300 surface-to-air missile defense system, the Sukhoi Su-27 multirole fighter, MiG-29SMT fighters, T-80 tanks, and more anti-tank weapons. Once again, however, the contractual status of such agreements, the weapons involved, and delivery schedules remained unclear.[17]

Even if the reports of major new Russian arms sales eventually prove true, any foreseeable new agreements will still leave Syria with far fewer funds than it needs to recapitalize its current force structure and compete with Israel in modernization. It is hard to see how Syria can finance even half the funds and projected deliveries necessary to replace its older land force equipment and aircraft in the near to mid-term. Furthermore, if Syria could order all of the arms it wants, it would still take some three to five years to fully absorb all of the new technology it needs, integrate it into effective combat systems, and retrain its forces -- assuming it recognizes the need to do so. Barring massive outside aid, Syrian forces are almost certain to continue to go “hollow” for the foreseeable future, although moderate deliveries of advanced modern aircraft, tanks, and surface-to-air missile systems like the S-300 could still help correct key Syrian weaknesses.

Syria’s limitations will be further compounded by its problems in absorbing new equipment. These include the endemic corruption discussed earlier. They also include its politicized and compartmented command structure, inadequate military pay, poor manpower management, poor technical training, and poor overall training - particularly in realistic combat exercises and aggressor training. Syrian forces have inadequate combat and service support, equipment for night and poor weather warfare, long-range sensors and targeting systems, and mobile rapidly maneuverable logistics, recording, and combat repair capability. While individual Syrian officers have shown a keen understanding of many of these problems, Syria has never taken effective action to deal with them.

These trends have not gone unnoticed by Israeli analysts, including the experts of the Jaffee Center for Strategic Studies. Its latest assessment of the balance, the Middle East Military Balance, 1999-2000 notes that Syria has failed to modernize its conventional land forces, has not purchased any new planes since the mid-1980s, and its submarines are unusable and its surface ships are aging.[18]

It should be noted, however, that the IDF does not see this situation as fixed, and that senior officers, like Israeli Air Force Commander, Major General Eitan Ben-Eliahu, have warned that the military stability affecting a settlement on the Golan could be upset by the transfer of a modern air defense system like the Russian Almaz S-300 surface-to-air missile system. Major General Amos Malka, the chief of Israeli military intelligence has warned that the Syrian army continues to improve its readiness (although US military intelligence analysts seem to sharply disagree), that Syria has improved its anti-armor capability and electronic countermeasures (although US military intelligence analysts agree), and that the Syrian army could improve sharply in readiness over one-two years (US military intelligence analysts agree).[19]

Syrian Land Forces

Syria has put an increasingly emphasis on asymmetric warfare, on creating high quality commando and special forces, and on training and equipping small infantry formations with modern anti-tank and other crew-served weapons to make its units harder for Israel to attack with precision weapons and artillery. Nevertheless, Syria's greatest strength remains its armored forces.

The previous analysis has shown why Syria has had to emphasize quantity over quality. Although Syria now has a total of some 4,650 tanks, at least 1,200 of these tanks are in static positions or in storage. Roughly half are relatively low-grade T-54s and T-55s, and only 1,500 are relatively modern T-72s. Even the T-72s lack the advanced thermal sights, fire control systems, and armor to engage the Israeli Merkavas and M-60s on anything like a 1:1 basis. The T-72 also performed surprisingly poorly in Iraqi hands during the Gulf War. Its armor did not prove to be as effective against modern Western anti-tank rounds as was previously expected, and its sensors and fire control systems proved inadequate for night and poor visibility combat and could not keep up with Western thermal sights in range and target acquisition capability.[20]

Syria has some 2,400 BMPs. These armored fighting vehicles can supplement and support Syria's tanks in combined arms combat, and increase its potential ability to overwhelm unmobilized Israeli forces with sheer mass. Only about 100 of these BMPs are the more modern BMP-2s, plus a limited number of BMP-3s. Nearly half of Syria's other armor consists of low-grade BRDM-2 and BTR-40, 50, 60, and 152 reconnaissance vehicles and APCs. Even the BMP-2 has relatively light armor, and retains many of the ergonomic problems in fighting from the vehicle and using its guns and anti-tank guided missile launchers as with the BMP-1. The BMP has only moderate ability to escort tanks in a combat environment where the opponent has modern sensors and anti-tank guided weapons.

US experts believe Syria has made relatively limited progress in improving its combined arms and armored warfighting capabilities since 1982, although it does have more advanced anti-tank guided weapons like the Milan, AT-10, and AT-14. They believe that Syrian exercise and command post training is weak above the battalion or regimental level, that Syrian tactics are rigid, and that Syrian reaction times are slow.

Syria can mass large numbers of towed artillery weapons and multiple rocket launchers. This could have a major impact in an area like the Golan where ranges are relatively short and where Syria normally deploys much of its artillery. At the same time, massed artillery fire has only limited lethality against well dug in defenses and armor, and Syria lacks the sensors and battle management systems to concentrate its artillery fire with great precision and to rapidly switch fires. Syria will also have problems in maneuvering its artillery. Only about 28% of Syria's artillery consist of modern self-propelled weapons.

Syria does have good physical defenses of its own positions on the Golan. Syria has spent decades in improving its terrain barriers and creating anti-tank barriers and ditches, and many of its units in the area between Damascus and the Golan have considerable readiness and effectiveness. However, Syria has not come close to Israel in developing the kind of capabilities for combined operations that the IDF takes virtually for granted. For example, Syria's only modern third-generation anti-tank guided missile launchers consist of 200 Milans, 40 AT-5s, and an unknown number of AT-10s and AT-14s out of total holdings of some 3,390 anti-tank guided missile launchers.[21] Most of its systems are still relatively low-grade anti-tank guided missiles systems can hardly be ignored, but they greatly reduce the effectiveness of Syrian anti-tank forces both in the defensive mode and in providing mechanized infantry support for armored operations.

Syrian Air and Air Defense Forces

The Syrian Air Force and Air Defense Command have more severe problems than Syrian land forces. Syria's 20 Su-24s are its only truly modern attack fighters and they lack the avionics and precision all-weather strike capabilities of first-line Israeli attack aircraft. Similarly, Syria's 20 MiG-29s are its only modern fighters with advanced beyond-visual-range and look-down shoot-down capabilities, and Syria so far has shown little ability to use such aircraft effectively in training and simulated combat or to generate high sortie rates. The bulk of Syria's air defense fighters have poor look-down, shoot-down capabilities and beyond visual range combat capability, and still operate largely using obsolete and electronically vulnerable ground controlled intercept (GCI) techniques.

Syria has also been slow to modernize its attack helicopter tactics. While Syria's attack helicopter tactics were successful in the 1982 war, they were successful largely because the IDF did not expect them and was often trying to rush its advances without adequate coordination. The IDF has now greatly improved its counter-attack helicopter training and tactics, arms its helicopters to attack other helicopters, and its anti-aircraft systems and light air defense weaponry.

Syria has no airborne early warning and electronic intelligence and warfare aircraft that approach Israel's capabilities. Syria has vast holdings of land-based air defenses, but these consist largely of obsolescent SA-2, SA-3, SA-5, and SA-6 surface-to-air missile systems and shorter-range systems. Israel was able to defeat all of these systems in 1982, except for the SA-5, which was only deployed late in 1982, after the fighting.

Syria has not modernized its C^4I/BM system to anything approaching a high capability automated system, and virtually all of its systems require active radar to operate -- which makes them very vulnerable to Israeli anti-radiation missiles, target location and identification systems, and electronic warfare capabilities. While such land-based air defenses can scarcely be disregarded, and are certain to both force Israel to conduct a massive air defense suppression campaign and fly attack missions that avoid or minimize exposure to surviving defenses, Syrian air defenses do not have the quality necessary to match their quantity.

Table 8.2

Force Trends in Syria - Part One

Category/Weapon	1975	1980	1985	1990	1995	2000
Manpower						
Total Active	177,500	247,500	402,500	404,000	423,000	320,000
(Conscript)	-	-	-	-	-	-
Total Reserve	102,500	-	273,500	400,000	650,000	500,000
Total	280,000	-	676,000	804,000	1,073,000	820,000
Paramilitary	9,500	9,500	6,300	10,800	8,000+	8,000+
Land Forces						
Active Regular Manpower	150,000	200,000	270,000	300,000	315,000	215,000
(Conscripts)	-	(140,000)	(135,000)	(130,000)	(250,000)	-
Republican Guards	-	-	-	10,000	-	
Reserve Manpower	100,000	-	270,000	392,000	550,000	400,000
Total Reserve & Active Manpower	250,000	-	540,000	702,000	865,000	615,000
Main Battle Tanks	1,400	2,920	4,200	2,900	3,200	3,450
(Static & in Storage)		-	-	(1,100)	(1,200)	(1,200)
AIFVs/Armored Cars/Lt. Tanks	70	700	1,400	2,800	3,310	3,010
APCs/Recce/Scouts	1,100	1,600	1,600	1,500	1,500	1,500
WWII Half-Tracks	0	0	0	0	0	0
ATGM Launchers	-	-	-	1,100	3,390	3,390
SP Artillery	75	800*	-	186	450	450
Towed Artillery	700	*	-	2,000	1,630	1,630
MRLs	57	-	-	250	480	480
Mortars	-	-	-	-	658+	4,500+
SSM Launchers	-	54	54	61	62	
AA Guns	-	-	1,000	1,700	2,060	2,060
Lt. SAM Launchers	-	-	-	-	4,055	4,055
Air & Air Defense Forces						
Active Air Force Manpower	25,000	45,000	70,000	40,000	40,000	40,000
Air Force Reserve Manpower	-	-	-	-	92,000	92,000
Active Air Defense Command	-	(15,000)	60,000	60,000	60,000	60,000
Air Defense Command Reserve	-	-	-	-	-	-

* Includes all types of towed and self-propelled artillery, but not multiple rocket launchers.

Table 8.2

Force Trends in Syria - Part Two

Category/Weapon	1975	1980	1985	1990	1995	2000
Air & Air Defense Forces (Continued)						
Aircraft						
Total Fighter/FGA/Recce	400	395	500	558	579	589
Bombers	4	0	0	0	0	0
Fighter	250	225	280	312	300	310
FGA/Fighter	0	60	0	0	9	0
FGA	140	110	193	170	154	154
Recce	0	0	10	6	14	14
Airborne Early Warning (AEW)	0	0	0	0	0	0
Electronic Warfare (EW)	0	0	-	8	10	10
(Fixed Wing)						
(Helicopter)						
Maritime Reconnaissance (MR)	0	0	0	0	0	0
Combat Capable Trainer	-	20	10-60	76-96	111	111
Tanker	0	0	0	0	0	0
Transport	9	17	23	28	34	49
Helicopters						
Attack/Armed	0	0	100	100	100	72
ASW/SAR	0	35	23	25	0	0
Transport & Other	60	82	160	155	118	110
Total	60	117	283	280	218	182
SAM Forces						
Batteries	-	75	126	126	130	130
Heavy Launchers	-	-	658	640	728	728
Medium Launchers	-	-	-	60	60	60
AA Guns	-	-	-	-	-	-
Naval Forces						
Active Manpower	2,500	2,500	2,500	6,000	8,000	6,000
Reserve Manpower	2,500	-	2,500	8,000	8,000	4,000
Total Manpower	5,000	-	5,000	14,000	16,000	10,000
Submarines	0	0	0	3	3(2)	(3)
Destroyers/Frigates/Corvettes	0	0	0	2	2	2
Missile	0	2	2	2	2	2
Other	0	0	0	0	0	0
Missile Patrol	6	18	22	12	18	10
Coastal/Inshore Patrol	12	9	7	8	11	10
Mine	1	3	4	9	7	5
Amphibious Ships	-	-	2	3	3	3
Landing Craft/Light Support	-	-	-	-	-	5
Fixed Wing Combat Aircraft	0	0	0	0	0	0
MR/MPA	0	0	0	0	0	0
ASW/Combat Helicopter	-	-	-	17	29	24
Other Helicopters	-	-	-	-	-	-

Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, Military Balance

Figure 8.5

Syrian Major Military Equipment in 2000

Land Forces

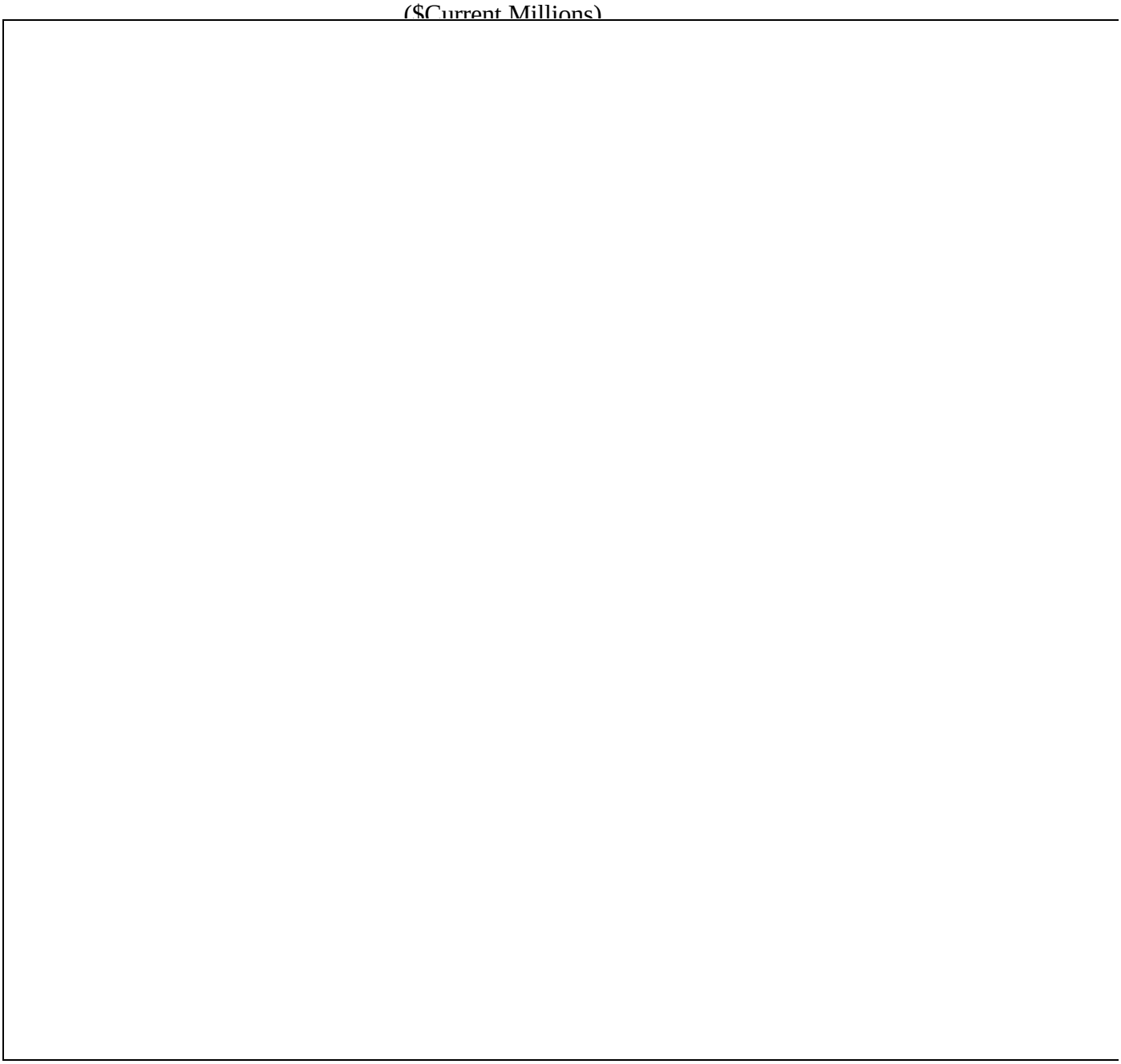
Air Forces

Naval Forces

Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, Military Balance

Figure 8.6

Syrian Arms Agreements and Deliveries By Major Supplier: 1987-1998
($Current Millions)



Total	5,600	900	300	5,200	1,400	300

Includes Gulf states, Arab-Israeli states, North Africa, and Yemen
0 = less than $50 million or nil, and all data rounded to the nearest $100 million.
Source: Richard F. Grimmett, Conventional Arms Transfers to the Developing Nations, Congressional Research Service, various editions.

Figure 8.7

The Syrian Recapitalization Crisis: Arms Deliveries During 1985-1996
($96 Constant Millions)

Source: Adapted by Anthony H. Cordesman from US Arms Control and Disarmament Agency, World Military Expenditures and Arms Transfers, GPO, Washington,, Table II, various editions.

The Strategic and Tactical Impact of the Golan

The Golan has significant strategic importance to both Syria and Israel. It was Syrian territory until Israel conquered it during the Arab-Israel war of June 1967, and it provides strategic depth in defending the approaches to Damascus. The Golan once had some 147,000 Syrian residents, although this number dropped to around 17,000 in the portion Syria retained after the 1967 and 1973 wars. Israel has now occupied most of the Golan since 1967, and the Israel Knesset annexed it on December 14, 1981.

There are now some 18,000 Jews settled on the Golan in 33 Jewish communities (27 kibbutzim and moshavim, 5 communal towns, and 1 city), and some 15,000 Druze and four Druze villages.[22] The largest Israeli town is Katzrin, with some 7,500 residents. According to Israeli sources, this town alone claims some $2.5 billion in civilian assets. The Golan gives Israel de facto control over the headwaters of the Jordan and Sea of Galilee and access to the critical water resources in the region. Control of the Golan also affects control of the waters of the Hatzbani River and any diversion of the Banias River. As a result, any peace settlement must deal with both settlement and water issues in the area.

Israeli control of the Golan confronts Syria with the fact that Israel has a springboard to launch an attack into Syria, a platform for artillery and rocket attacks, and the ability to target movement and military positions from the Golan to Damascus. The Golan also provides Israel with an excellent platform for artillery and missile fire, and for launching UAVs and other sensor systems that can help direct attacks on Syria's land-based air defenses and air force.

There are still good prospects for a peace between Israel and Syria that might transfer virtually all of the Golan to Syria.[23] Even if such a peace does not occur, or is deferred while Syria deals with problems like the succession to President Hafez Assad, war does not seem highly likely. Syria is ill-prepared for any kind of large-scale conventional war with Israel, and its problems are compounded by geography. Syria can at least consider striking at Israel through Lebanon and Jordan, but any strike through Lebanon would require a massive redeployment and restructuring of Syria’s support structure and force it to fight through rough terrain and high defendable territory. Jordan has never shown any interest in permitting Syrian forces to move through its territory, and most potential lines of advance would require Syrian forces to move down narrow valleys and routes that are almost perfect killing grounds for the IAF. [24]

In practice, any major Syrian advance would now have to come through the Golan Heights, one of the most critical strategic areas in the Middle East. It is a high plateau that rises between the Galilee and Damascus of about 1,150 square kilometers.[25] It is situated to the extreme south west of Syria and northeast of Israel. It overlooks the lower branch of the Yarmuk River on the South, and Mount Hermon that draws the Syrian Lebanese boundaries, on the North, and reaching Lake Tabaraya to the south -- forming a border with Israel. To the East lies Al Raquad valley, in Syria. It is roughly 67 kilometers long from north to south, and a maximum of 25 kilometers wide from the buffer zone between Syrian and Israeli-occupied territory on the Golan to Israel and the Galilee. Prior to the 1967 war, the Syrian-Israeli border along the Golan was 72-76 kilometers long – depending on various views of the border.[26]

The topography of the Golan is a natural extension of the convex slope of Mount Harmon, and an area of volcanic eruptions.

- The Golan area is formed by a number of hills that are originally volcanic cones. Some of these hills form a mountain chain (Al-Qunaitra-Al-Rafeed), the highest of which is Bir-Ajam (1158 meters).

- The highest point, which offers an excellent surveillance area for sensor coverage of Syria, is Mount Hermon that reaches a height or 2,814 meters. Damascus is only 60 kilometers to the East, and Israel established surveillance facilities in 1967 that have been steadily upgraded in sensor coverage and which now provide signals intelligence, radar coverage, and electronic intelligence. [27]

- There are other hill ranges, such as: Al-Sheika (1211 meters), Sidral-Arous (1198 meters), A'ram (1171 meters), Aboul-Nada (1204 meters), Al-Khanzeer (1977 meters) and Al-Azas (927 meters).

- From an Israeli perspective, key tactical points include Hermonit (1200 meters) in the north and Tel Fares in the south (1,250 meters). Israel has electronic observation points in these areas.

- From a Syrian viewpoint, the Golan offers Israel the shortest attack route into the Damascus Basin, although Damascus can be defended along the Awaj River to the West, and can also be attacked through Jordan. This helps explain why some estimates indicate

that Syria deploys 70% of its forces to defend the Golan and Damascus Basin, which make up only 3% of its territory. [28]

- There are several valleys, such as the valley of Halawa, Ainel-Teeneh, Daboora, Hawa, Al-Samak and Jalbina.

- There are several plains such as: Al-Mansoura, Ain Ziwan, Al-Aul, Kafar Alma, Faik and Kafer Harib.

The Golan is situated between a subtropical arid zone in the south and east and the tropical wet zone prevailing from the Mediterranean near by coast in the north. There are sharp climatic contrasts which can affect combat depending on the time of year. The average annual temperatures in Al-Qunietra is 20^{o} centigrade, but it snows in the winter and cloud, rain, and fog are common from fall to spring. The annual rain and snow fall in the Golan is estimated at around 105 Billion cubic meters. Rain falls between October and May and snow between January and March. Most rain water evaporates due to the nature of land, the volcanic rocks and the little permeability of its clay composition. This affects both terrain trafficability and visibility for air and land combat.

Terrain is a far more serious issue than the impact of weather on trafficability. Movement through the Golan area is limited by Mount Hermon in the North, and by the Ruqqad and Yarmuk River wadis in the far south. In the south, it rises from below sea level at the Jordan River to 929 meters at Mount (Tel) Fares and 780 meters at the plateau at Aniam, although the southern end sometimes slopes down to heights of 350-450 meters. The central Golan has a relatively gentle slope down toward Damascus, but it rises sharply above the Sea of Galilee, Jordan River, and the surrounding land below Mount Hermon. In the space of less than 20 kilometers, it rises to 780 meters at Shaal and 1,204 meters at Mount Avital. In the north, it rises from 100 meters in Israel to peaks as high as 2,814 meters at Mount Hermon (“Mitzpe Shlagim” to Israel and “Jabal Ash-shayk” to Syria), and 890 to 950 meters on the Golan plateau at Khan Arnabah. The Golan descends sharply to the Jordan River and the Huleh Valley, and is difficult to approach through Jordan.

Movement through the Golan can occur through two main high-speed highways and a total of five main east-west routes, but each route presents problems. The terrain on the Golan is

relatively smooth at the top, and armor can move through many areas in the north, but the center and south are broken up with small volcanic cones that make natural sites for defensive positions and strong points.

Syria has created a formidable series of fortified positions, fire points, mine fields, and anti-tank ditches and barriers on its side of the Golan. This would place serious limits on Israel's ability to advance down the slope of the Golan towards Damascus, but it is a Syrian attack to recover the Golan that represent a far more likely contingency.

In this contingency, Israel can also exploit terrain. It occupies the key line of volcanic peaks to the west of Quneitra, and in wartime Israeli ground forces could be deployed on the high ground on the Golan to the east of the line of volcanic mounds that defines the Golan watershed. This is the most favorable line of defense on the Golan, and Israel has created an extensive network of fire points, anti-tank obstacles, and mine fields.

Israel can exploit both defenses and terrain. In the south, the Yarmuk and Ruqqad riverbeds constitute a natural obstacle for armored combat vehicles, and even for the movement of infantry forces. Observation posts and light forces are sufficient for the defense of this sector. In the eastern Golan, a chain of hills extending from Tel Saki near Ramat Magshimim to Mt. Hermon in the north forms a reasonable defense line. The IDF positions on these hills - - Tel Faris, Bashanit ridge, Mt. Shipon, Mts. Avital, Bental, and Hermonit, Mt. Odem and Mt. Hermon - - make it easy to detect any Syrian military effort and to respond to it rapidly. The topography permits a Syrian breakthrough at only two points: the Tel Faris area and the Quneitra area, and the Golan gives Israel strategic depth to defend the Huleh and Jordan Valleys.

The Golan provides the IDF with excellent high ground positions for radars and observation points to observe both Israel and Syria. Israel has observation points on Mount Hermon (1,121 meters) in the northwest, on the volcanic mound at Tel Avital (1,024 meters) in the central Golan, and on Tel Faris (929 meters) in the southern Golan. These posts not only provide a relatively clear picture of Syrian military activity near Israel, the post on Mount Hermon provides surveillance of part of Lebanon.[29] The Golan is only 50 kilometers from Damascus, and Israeli sensors have a direct line of sight to downtown Damascus, as well as direct line of sight and line of sensor observation of threatening movements from Lebanon and Syria.[30] The Israeli signals and electronic intelligence sensors on the Golan are an integral part of Israel's early

warning system, and provide good intelligence coverage of much of Syria and some of Western Iraq.

The Golan and Israel's Overall Supply of Water

The Golan is also strategically important because of its influence on Israel's water supply. Syrian sources estimate that 1.5 Billion cubic meters of relatively heavy rain falls annually through the Golan. Evaporated water constitutes about 81% of the annual fall, whereas about 10% is absorbed into the land and about 9% flows on the surface and forms rivers or lakes. The water absorbed into the Golan land, feeds the underground aquatic reservoir existing among the land strata and forms thereby important reserves of water. The surface water, estimated at about 135 million cubic meters, eventually flows into the lakes and river beds. Most of the Golan springs are adjacent to the Harmon which is known to be a huge aquatic reservoir.[31]

In spite of the fact, that most rain and snow fall evaporates, the Golan has significant springs and water sources, the head waters of the Jordan River are in the Golan and tributaries such as Al-Wazan River and Banias River. The largest lake in the area is the Masada Lake that holds about 3 million cubic meters of water, and has a depth of 8 - 9 meters. There are 80 springs in the Golan area, with a total flow of hundreds of liters per second, but most rivers don't pass through the Golan area; they pass along the borders because of the Golan's rocky nature of the terrain and impermeable basalt stone. As a result, the water runs on the surface to the surrounding valleys. The better agricultural land lies in the south. The stony foot hills of Mount. Hermon (north) with patches of woodland shrub, are a stock-raising area. About 280 square kilometers of the Golan are wood-covered land, making up for almost 15% of the Golan district. The trees in Golan are short, slow growing and highly resistant to the great climatic contrasts of the area

Control of the Golan potentially affects a critical aspect of Israel's water supplies. Israel depends on three sources of water: The Sea of Galilee (Lake Kinneret) catchment basin, which is fed by sources in the Golan area and which is the only surface source of water, and two underground reservoirs - The Mountain Aquifer and the Coastal Aquifer.[32]

The basin of the Sea of Galilee is around is around 2,700 square kilometers, about 25% of which is located in Lebanon. The basin's average annual output is 610 million cubic meters, with 500 million cubic meters coming from the Jordan River and its sources, 300 cubic meters coming from the Hatsbani, Dan and Banias rivers, and 100 cubic meters coming from streams and wadis, mostly from the Golan Heights) which drain into the Jordan and the Kinneret. Rain falling directly on the Kinneret, and additional minor sources. This provides a total of 900 cubic meters. Even though over 250 million cubic meters a year evaporate in Lake Galilee, its the basin supplies Israel's with about one-third of its total annual supply. It is also high quality water, usable for both drinking and agriculture.

The sources of the Jordan and the water in Lake Galilee are in or near the Golan. The Banias and the Dan Rivers now flow through Israeli territory. Syria formerly controlled the sources of the Banias, however, and the sources of the Dan were right on the Israeli-Syrian border. Most of the tributary streams flowing into the Jordan and Lake Galilee originate on the Golan slopes, including the Zachi, Yehudiya, Daliot and Meshushim. The Hatsbani River rises in Lebanon, which is now under Syrian control.

All of these issues also affect any Syrian-Israeli agreement on a new boundary, and the past history of border disputes leaves both sides with a case to argue. The original 1923 boundary was designed to ensure that Palestine had control over the Jordan River, although it made no effort to consider defensive issues. It gave all of Lake Tiberius and a 10-meter strip along its Eastern Shore to Palestine, and the border was 50-400 meters east of the Jordan from Lake Tiberius North to Lake Hula. .[33]

The July 20, 1949 armistice line was a compromise based on the location of forces rather than the international boundary. It called for Syrian forces to withdraw east of the international boundary, and for Israeli forces not to enter the areas Syria withdrew from, which were to become a demilitarized zone. It create three separate enclaves. The first in the far northeast between Banias and Dan, on the west bank of the Jordan near Lake Hula, and along the eastern-southeastern shores of Lake Tiberius extending to Al Hamma. The 1923 border only applied in the two places between these three sectors, which took up a total of 66.5 square kilometers.

This created a climate in which Israeli-Syrian clashes were almost inevitable. There were major clashes in 1951,and efforts to reach a new secret agreement in 1952-1953 failed. Israel began an active effort to win back the territory to the 1923 boundary in 1953 that continued until it recaptured the Golan on June 4 1967. By 1966, the two countries had made a total of some 66,000 official complaints about each other to the UN. Syria still held roughly 18 of the 65.5 kilometers that differed from the international boundary when the June 1967 war began. As a result, Syria's insistence on Israeli withdrawal to the line of June 4, 1967 would mean Syria would occupy the northeastern shore of Lake Tiberius and along the eastern bank of the Jordan River from Lake Tiberius to the now drained area of Lake Hula.

It is also scarcely surprising that both Israel and Syria have long sought to control these sources of water. While Israel has dominated the area since 1967, Syria made an effort in the 1960s to divert the three river beds to a new water carrier, to divert the Banias to the Golan Heights and from there to the Yarmuk basin. Israel now uses virtually all of the water it has available, and does not have enough in drought years. It reduced the flow to Jordan in 1999, in spite of the peace treaty. Israel also faces problems with its other supplies of water.

The mountain aquifer is an underground reservoir, composed mainly of limestone, at the central mountain backbone of Judea and Samaria. The water produced by it is of very high quality, and is utilized for domestic consumption. However, full utilization of the mountain aquifer water has not been expanded for household use, in order not to create a dependency on it as the exclusive future water source for the population of the coastal region. Israel may have to allocate more of this water to Jordan or to the Palestinians.

The coastal aquifer is an underground reservoir extending from Mount Carmel in the north to the Gaza Strip in the south, from the shoreline in the west to the foothills in the east. There are 1,700 wells scattered throughout the coastal strip, pump water from depths ranging from 50 to 150 meters, and they provide about 450 million cubic meters per year. The quality of this ground water is deteriorating because there are many sources of pollution. There are nearly two million residents in this region, mostly in urban centers, and many industrial zones and agricultural land cultivated intensively by modern methods. Most Israeli sewage is produced in the coastal plain,

and most of the farmland irrigated with treated waste water is located there as well. Over pumping during the past twenty-five years has caused a drop in ground water levels and penetration of seawater from the west. Thus the aquifer's western edge became salinated to a distance of up to four kilometers from the shoreline, and many wells had to be shut down.

The Impact of Giving up the Golan

Israel will have to give up its settlements, military advantages, and some aspects of the security of its water supplies if it withdraws from the Golan. It will also have to accept an increase in the vulnerability of Northern Israel. The Golan is within 20 kilometers of Israeli cites like Tiberias, and 60 kilometers of less difficult terrain from Haifa and Acre. The Golan would be a good observation platform for Syria, which could locate visual and signals intelligence observation posts at Mount Hermon, Tel al-Hara, Tel al-Sha'ar, and Tel al-Jalbiya. Syria could also use the Golan for artillery and missile attacks on northern Israel. Syria never repopulated its former provincial capital of Quneitra after the 1974 disengagement, but would not have to worry about Israeli fire on Syrian towns in the Golan.

This is why many Israeli military experts have opposed returning the entire Golan, and have suggested compromises such a border that leaves Israel in possession of the cliffs over the Jordan rift valley and overlooking the Sea of Galilee, and in control of the sources of the Jordan River at Banias. Syria, in contrast, has insisted on returning to the international border of 1967, including the control of the eastern shore of the Sea of Galilee.[34]

Even if a peace agreement restricted Syrian deployments and created a demilitarized zone, the terrain might give Syrian ground forces an advantage in a "race for the Golan." Syrian armor could exploit the fact that the Syrian side of the Golan consists of relatively flat or smooth undulating terrain while the western "edge" of the Golan plateau rises in steep increments of hundreds of feet in something approaching a vertical "wall". This allows Syrian armor to descend the western edge relatively quickly, but makes it difficult for the IDF to use armor and infantry to fight its way up the "wall" to the heights.

Further, if Syria were able to achieve a breakthrough, advance into the Galilee and then dig in, Syrian forces could prove costly to dislodge despite the fact that there are only a limited number of routes Syria could take, and any advance along these routes and into the Huleh Valley would make Syrian forces vulnerable to Israeli air attacks. Already, during the period from 1996-

1997 Syria has threatened Israel at least seven times by using aggressive tactics throughout the area as shown on Table 8.3. Control of the Golan could also give Syrian radar improved sensor coverage of Israel, while complicating the IAF's problems in air operations, in suppressing Syrian surface-to-air missiles, and in deploying radars to improve its air warning and control of Syrian fighter intercepts.

These complex issues affecting strategic vulnerability and relative advantage help explain why it is so difficult to reach a peace settlement, and why Israel has previously insisted on maintaining Israeli-manned observation posts on the Golan. It also explains why any contingency analysis of a conflict on the Golan is highly dependent on whether a Syrian attack takes place before a peace settlement, or after Syrian recovery of the Golan.

Table 8.3

Syrian Moves Affecting War with Israel over the Golan: 1996-1997

- In September 1996, the 51st Brigade of the 10th division deployed from base on the outskirts of Beirut to a staging area south of Zahle in the Beka'a Valley.
- This move tightened control of the Beirut-Damascus road and places the unit under the cover of Syrian land-based air defense missiles.
- Some 10,000 men in 14th Special Forces Division moved from the Beirut area into the Golan area.
- Unit is now near the foothills of Mt. Hermon.
- Three-four Syrian divisions in forward positions near Golan improved in readiness in late 1996 and 1997
- In May 1997, Syria moved tanks and BMPs out of the Beka'a back into Syria through the Masna border crossing.
- Forces are believed to have gone to strengthen positions along Syria's border with Turkey.
- Maneuvers in June 1997 in the area enhanced Syrian capability for a sudden or surprise attack capability.
- On June 2, 1997, Syria opens border with Iraq for the first time since 1982.
- Lt. General Amnon Shahak warns that Syria is "talking about a surprise attack" in July 1997.

Warfighting on the Golan

Israel and Syria fought major wars over the Golan in 1967 and 1973. The October War, in particular, showed that the balance of forces that each side could bring to bear in the critical 24 hour periods before the attack began and after it commenced is a critical factor in assessing the Israeli-Syrian balance. Israel miscalculated the compromises it could make in reducing the size and readiness of its reserve forces between 1970 and 1973. As a result, Syria successfully launched a surprise attacked with 1,400 tanks and 28,000 other weapons and vehicles against unprepared Israel forces on the Golan, and thrust 15 kilometers into Israeli territory

It has been over 20 years since the IDF faced the kind of challenge that forced it to fully mobilize under true wartime conditions and test its system *in extremis* -- a "learning experience" that military history shows is inevitably more demanding than even the best peacetime exercises and training. Much has changed since 1973, however, and any new war would have a very different character.

Mobilization, Surprise and Mass

Israel's main challenge in defending the Golan is providing sufficient mobility and killing capability over the entire battlefield. Israel must be able to commit the IDF and Israeli Air Force in ways which react to initial warning indicators on a near "hair trigger" basis to prevent significant initial Syrian gains. Much of the Syrian Army is forward deployed and could rapidly mobilize and attack across the Golan with roughly six armored division equivalents. This attack could potentially be supported by a thrust through Jordan and/or Lebanon, although such a thrust is now politically unlikely.

Israel has greatly improved its defenses and fortifications on the Golan, and Syria can not prevent Israel from retaliating with powerful air strike capabilities. Even so, the IDF can only halt an all-out Syrian surprise attack with minimal casualties if it has time to redeploy its active forces and mobilize its reserves. The IDF needs at least 24 hours of strategic warning of a Syrian attack to mobilize and man its forward defenses. It needs 36 to 48 hours of reaction time to complete its plans.

This makes the success of any Syrian attack highly dependent upon whether Syria can attack with enough surprise or speed to prevent Israel from mobilizing before Syria creates new facts on the ground, such as seizing back the Golan or even penetrating into the Galilee and then

using diplomatic pressure to reach a cease-fire. If Syria could attack before Israel fully mobilized and deployed, such an attack might make serious initial gains, and Syria might then be able to hold the territory it seized, dig-in, and try to obtain a political settlement.

As Table 8.5 shows, Syria has large forces near the Golan area, with an active strength of nearly 40,000 men. Although Syria would need sustained training and exercise activity to properly prepare its forces for a massive all-out attack, and some 48 to 72 hours of intensive mobilization and redeployment activity to properly support and sustain such an attack, it might still take the risk of attacking with the forces on hand and supporting them with follow-on echelons. Under these conditions, Syria could use its existing forces to attack with minimal warning and mass large amounts of artillery to support its armored advance.

The Syrian I Corps, which is headquartered in Damascus, has the 5th and 7th Mechanized Divisions in the Golan area, the 9th Armored Division in support, the 1st Armored Division northeast of Qatana, and the 569th Armored Division and a Republican Guards Division near Damascus. Three more armored divisions -- the 11th, 17th, and 18th -- are located in the general area between Homs and Hama.[35]

Syria could put simultaneous pressure on Israel by attacking across the Lebanese border with the 30,000 men it stations in the Beka'a, or using the men in the Hizbollah.[36] Syria does have at least two high quality heavy divisions and three Special Forces regiments that performed well in 1982, and could bring two other heavy divisions to bear in support. It could reinforce such units relatively rapidly, although the readiness and training of many of these Syrian reinforcements would be limited. Virtually all heavy units in the Syrian army now suffer from a sustained lack of spare parts and outside support, a result of Syria's lack of funds and the break-up of the Soviet Union.

Syria would face other mobilization, deployment, and sustainability problems. The Israeli-Syrian disengagement agreement signed on May 31, 1974 limits the forces Israel and Syria can deploy in the Golan area. There is a 3-6 kilometer-wide disengagement zone where no forces are permitted, except for a UN disengagement observer force (UNDOF) of about 1,000 men assisted by some 80 military observers of the United Nations Truce Supervision Organization (UNTSO) Observer Group Golan. This force has been in place since May 31m 1974, and has manning from Austria, Canada, Japan, Poland, and the Slovak Republic, and has a budget of roughly $33.7 million a year.[37]

Israeli and Syrian forces are then separated by a 10 kilometer-wide force limitation zone where each side can deploy a maximum of 6,000 soldiers, 75 tanks, and 36 short-range howitzers (122 mm equivalent. There is a third 10 kilometer-wide force limitation zone where both sides are limited to 450 tanks and 162 artillery weapons with a range not exceeding 20 kilometers. Finally, each side is forbidden to deploy surface-to-air missiles closer than 25 kilometers from the disengagement zone.

Expanding the Depth of the Golan Battlefield

A 'race for the Golan' would still be a high-risk strategy for Syria even if it could achieve a substantial degree of surprise. The IDF completely reorganized its defenses on the Golan after 1973, and it has progressively improved these defenses ever since. Although the May 31, 1974 separation of forces agreement between Israel and Syria cost Israel about 600 square kilometers of territory on the Golan, particularly control over the dominant Bahta ridge line in the south and Rafid junction, Israel is also aided by the fact it no longer is forced to split its forces to defend against both Egypt and Syria.

It is also unclear how much surprise Syria could achieve, even if it practiced substantial deception and attacked during a supposed training exercise. The IDF has deployed a wide range of all-weather sensors, and can detect virtually any major Syrian movement in time to mobilize and react -- although such indicators can never assure that the IDF makes the right assessment of Syrian moves, or whether its political leaders choose to react. Israeli coverage of Syria includes advanced airborne radar reconnaissance that extends north of Damascus from positions in Israeli air space, coverage from advanced UAVs which include electronic intelligence (ELINT) as well as imagery systems, airborne ELINT coverage capable of characterizing and precisely locating any Syrian electronic emitter including radars, and land based sensors in the Golan and on Mount Hermon.

The IDF has built-up major strong points in the Golan, specially tailored heavy armored brigades designed to blunt any initial attack, and improved its mining and artillery capabilities in the Golan. It has significantly improved its ability to rapidly reinforce its forward-deployed forces, and to provide artillery and rocket support. It has developed much stronger attack helicopter forces, and fixed wing air attack capabilities that can attack Syrian armor with considerable precision and lethality even at night or in relatively poor weather. Israel has also improved its real and near real time long-range surveillance and battle management capabilities.

The IDF now shows much less interest in meeting engagements between massed armored forces, and preserving the option to drive forward into Syrian territory. Armored wars of maneuver and the counteroffense are still an option, but defense in depth offers higher attrition of Syrian forces with fewer Israeli casualties. Defense in depth also allows Israel to decide whether to counterattack, rather than rely on such attacks and to vary its mix of armor, artillery, close air support, and air interdiction to strike deep into Syria while defending forward.

The IAF has learned from its mistakes and successes in the 1973 and 1982 wars, and from the Gulf War. It has steadily improved its coordination with the land forces in combined operations. It can do a much better job of when coordinating the air-land battle in both tactical operations and at the strategic level. Its C^4I and battle management systems may lack all the sophisticated technology and techniques used by US forces, but they are tailored to a unique area and set of missions and allows given assets to be used with great effectiveness. At least some Israeli planners have argued since 1973 -- reinforced by Israel's experience in 1982 -- that Israel must either fight very limited military actions or strategically decisive ones.

The approaches to the Golan force Syria to channel its armor in any major offensive and it has little ability to provide effective air defense or even prevent the IAF from making intensive air-to-ground strikes deep into the battlefield without waiting to win an air battle for air supremacy. Israel not only has advanced anti-tank weapons and attack helicopters, it can now use rockets and submunitions to kill advancing armor in large numbers at ranges well over 60-80 kilometers. Night and poor weather would no longer be Syria’s friend. Israel has superior night warfare capability, and warning and intelligence assets that can function in virtually any weather. The confusion factor Syria would face in operating under such conditions would, on the other hand, slow Syrian movement and allow Israel to inflict more attrition during an advance.

The IAF does, however, face certain basic operational constraints in using such a defense. The IAF alone cannot destroy all of the land forces of a major enemy like Syria within a short period, although it might be decisive in cooperation with the IDF in an air-land offensive. It can contribute to the land battle, but Syria's forces near the Golan are too close to the border and too large for any combination of interdiction bombing and close air support to act as a substitute for effective defensive action by the IDF's land forces.

There also are limits to Israel’s ability to exploit some of its technical capabilities at lower thresholds of conflict. If the IAF is to minimize IAF losses and inflict maximum damage on Syria,

it must achieve a high degree of technological surprise in air defense suppression -- either through preemption or deception. As Israel learned in 1982, it does not make sense to reveal its air defense suppression capabilities in limited attacks with limited objectives, and give an enemy time to improve its own defense and develop counter-measures..

Israeli “Soft Strike” Capabilities in Strategic Bombing

Israel also could escalate to targets outside the Golan. Any major Syrian success in an attack on the Golan would involve the risk of Israeli strategic retaliation using conventional forces. Israel currently has so large a qualitative “edge” in air, precision attack, and electronic warfare capabilities that it could probably win air superiority in a matter of hours and break through part of Syria's land-based air defenses in a day. Israel could then strike high value targets in Syria with relative impunity in a conventional war -- and Syria would only be able to launch limited numbers of air and missile attacks in retaliation.

Since 1973, the IDF has organized its targeting, battle management, and strike plans for both conventional and nuclear strategic strikes on key potential enemies. Israel gives high priority to destroying and suppressing the enemy's air and land-based air defense capability during the initial stages of the battle. The potential scale of Israel's success in suppressing Syrian air defenses in a future battle over the Golan is indicated by the fact that during the 1982 war, Israel essentially broke the back of the Syrian surface-to-air missile network in the Beka'a Valley in one day, on June 9. Israel shot down over 80 Syrian fighters, and only lost one A-4 in flying a total of over 1,000 combat sorties -- including the sorties delivered against Syrian ground based air defenses in the Beka'a. Israel also was able to devote an extraordinary percentage of its total sorties to the attack mission, although it should be noted that even in the 1973 war, some 75% of all IAF sorties were attack sorties.[38]

Israel has sufficient long-range precision munitions, land based missile and rocket systems, and UAVs to then use conventional weapons to cripple the power, water, refining, key communications and command centers, and critical industrial facilities of either or both confrontation states before the US or outside powers could intervene. If Israel was to launch such attacks on a surprise or preemptive basis, or do so before Syrian air forces were fully alert and dispersed, it would achieve nearly certain success. It would have a very high probability of success even against fully alert Syrian forces.

Such strategic attacks would, however, risk Syrian escalation to biological and chemical weapons. They might require a level of Israeli strategic commitment to achieving rapid strategic success that could force Israel to escalate to weapons of mass destruction if conventional IAF attacks failed. Further, they would involve sudden unilateral Israel military action under conditions where Israel must expect US and outside pressure to limit such military action. On the one hand, the IAF would have to operate under political conditions that deter large-scale action. On the other hand, the IAF would have to operate under military conditions that could lead it towards sudden and massive escalation.

The existence of Israeli nuclear weapons might also succeed in deterring Syrian use of biological and chemical weapons in response to conventional strategic air attacks. Furthermore, Israel might have no other way to achieve a decisive victory over Syria. It is unclear that any land victory over Syria would be sufficient to force Syria to accept a peace or so weaken it that it could not recover as a threat in a few years.

A New Type of War?

The IDF can be counted on to make further improvements to warning and the sensors and battle management capabilities necessary to fight intense "24 hour a day" battles in all-weather conditions.[39] Many of the sensors and other assets that improve Israel's warning and ability to characterize Syrian movements provide all-weather targeting capabilities that make it much more difficult for Syria to take advantage of weather and terrain masking. Israel also plans to steadily improve its air, missile, and rocket assets in ways that allow Israel to strike far deeper into the Golan battlefield, and even near Damascus. In contrast, Syria lacks matching intelligence, warning, battle management and strike capabilities. It is half-blind compared to Israel.

The use of UAVs, other sensors, smart precision munitions, and more lethal area munitions, will increasingly allow the IDF to simultaneously engage a Syrian advance at virtually every point from the forward edge of the battle to the limits of its rear areas. Long before such attacks defeated Syria through attrition, they would seriously degrade or break up the coherence of its military advance. In a number of simulations, they would create movement problems that froze substantial Syrian forces of armor and vehicles in place in the open, allowing Israeli forces to destroy them in detail without directly engaging Syrian forces in a war of maneuver.

Syrian Risk Taking

Given this background, a Syrian attack on the Golan is not a particularly attractive option for either side, particularly if there is hope for serious peace negotiations. Nevertheless, Syria might still risk war --if it felt it could achieve strategic surprise and hold a significant amount of the Golan long enough for world opinion to bring a halt to fighting and use such "shock therapy" to achieve its goals in the peace process. Syria might be reluctant take such a risk without a superpower patron to support it diplomatically, but it might try to use the threat of escalation to chemical warfare as a substitute for outside diplomatic and military support.

Even though Syria cannot hope to penetrate much beyond the Golan, it might still launch such an attack in an effort to create new facts on the ground and at least shallow defenses and emergency fortifications. Syria might also attempt to use such an attack to alter the outcome of peace negotiations, to respond to a failure of the peace negotiations, or to try exploit a peace agreement that disrupted or weakened the IDF presence on the Golan without placing compensating limitations on Syria.

These two options are scarcely particularly desirable, and do not seem to present a high near-term risk of war. At the same time, few wars have begun because of careful rational calculations about risk and possible outcomes.

An Attack Through the Golan After A Syrian-Israeli Peace Settlement

Any change in the military deployments on the Golan resulting from the peace process could shift the balance between Israel and Syria. It is one thing to fight from prepared positions on the Golan, and another thing to fight up the Golan Heights against well-positioned Syrian forces which would have time in which to create limited defensive barriers. The entire Golan is only 20-24 kilometers wide -- and the terrain limits the potential combat area to about 240 square kilometers.[40]

These risks take on considerable importance because Israeli military intelligence warned the Israeli cabinet in January 2000 that Israeli cannot count on a warm or stable peace with Israel, and Israeli military planners claim that any withdrawal would require a substantial investment in added Israeli military readiness and capability to make up for the loss of the Golan[41]

The Value of the Golan to Syria in an Attack on Israel

Syria would not have to take large amounts territory to increase it's the ability of its artillery to cover Northern Israel. Syria has large numbers of FROGs, and much of Syria's artillery and multiple rocket launchers have effective ranges of 35 kilometers or more.[42] Syria can also target accurately against fixed targets at such ranges using UAVs. As a result, the Golan has potential military significance in allowing Syria to use artillery to attack Israel and increasing the risk of a surprise Syrian attack against the Galilee -- although any such use of the Golan would be targetable by Israeli sensors and vulnerable to massive retaliation by Israeli air and artillery forces.

If Syria could succeed in advancing to the base areas it occupied on the edge of the Heights in 1967, it would have an altitude advantage of about 120 meters over the surface of the Sea of Galilee and about 100 meters over the heights of lower Galilee. Such a terrain advantage has lost some of its meaning in an era of high performance tanks, attack helicopters, attack aircraft, and artillery with beyond-visual-range precision fire capability, but dug in forces would still present problems for Israel and could not be dislodged without casualties.

Israeli and Syrian military planning and peace negotiations must also take account of the fact that a Syrian attack through the Golan might also become more feasible as a result of future weapons transfers to Syria. Syrian armor would be considerably more effective in armored battles if all of the advancing forces were equipped with modern thermal sights, fire control systems, anti-armor rounds, and armor. However, it is far from clear that any of the T-72s in Syria's inventory can currently be adapted to match the capabilities of the Merkava in these areas. A major improvement in target acquisition and fire management systems could also greatly improve the suppressive and direct fire capabilities of Syrian artillery.

Equally important, Syria might blunt some of the IAF's "edge" in the air if it could actually obtain its reported orders of 30-50 additional MiG-29s, 24-37 SU-24s, and the S-300 or S-400 surface-to-air missiles and if Israel did not react by strengthening its own forces. Deployment of an advanced heavy surface-to-air missile like the Russian S-300 or S-400 might reduce the IAF's ability to rapidly suppress Syrian air defense capabilities, and the ability of the Israeli Air Force to use attack aircraft and helicopters to halt Syrian armor -- although Israel's anti-radiation missiles and stand-off precision guided weapons would still have considerable capability in destroying and suppressing land-based air defense weapons.

Giving up the Golan also reduces the strategic threat Israeli land forces can pose to Syria, and increases the strategic risk to Israel. From a Syrian perspective, such a shift in the balance may be essential for a peace agreement or any concessions on arms control. Israel's positions on the Golan not only occupy Syria's territory, they also give Israel a major advantage in using artillery or missiles to attack Syria, in any land or helicopter assault on Syria, in providing intelligence coverage of civil and military developments from the Golan to Damascus, and in targeting Syrian forces and positions.

At the same time, it is important to note that if Israel continues to improve its long-range surveillance, targeting, and strike capabilities, many of the advantages of possessing the Golan will be sharply reduced. Even well dug-in Syrian forces are now vulnerable, in fact they are fixed targets that make it easier to plan some kinds of attacks. Syrian forces moving down the Golan would be channeled into even more concentrated killing grounds as forces moving up the Golan in the previous scenario. It would also be possible to combine direct fire weapons with indirect weapons with smart submunitions and real-time targeting and battle management. The end result could be notably unpleasant for Syria.

Some Israeli officers advocate an approach to the problems raised by withdrawing from the Golan that would turn such a withdrawal into a potential military advantage to Israel. They feel that the "revolution in military affairs" can be exploited to give the IDF relatively long-range artillery rockets filled with "smart" anti-armor submunitions and anti-personnel submunitions. These can be supplemented with hunter-killer UAVs, and a combination of satellites, UAVs, and other sensors that would both provide a reliable picture of Syrian military activities without access to points on the Golan and precision targeting and strike capabilities. In most scenarios, this killing capability could be reinforced by mobilized IDF forces with systems like the MLRS and long-range smart anti-tank killers, attack aircraft, and AH-64s.

The end result would be to turn the Golan into a "killing ground" where Syrian forces would be targeted from above, where Syrian artillery could not survive, and where any descent into the valley below the Golan would expose Syrian armor and forces to massive Israeli stand-off attacks. While such a decisive reversal of the military importance of the Golan depends on sensors and weapons the IDF does not yet have, it is at least technically possible. It also would greatly increase the value of demilitarizing the Golan, since this would force Syria to carry out massive exposed movements to prepare for any kind of attack and potentially attack down the Golan using exposed chokepoints that Israel would be able to exploit as targets.

The IAF would also face far fewer political protests and constraints in conducting an all-out strategic attack on Syria's political structure, economy, and infrastructure if Syria advanced into Israel in violation of a peace agreement than if Syria attempted to reoccupy the Golan. An IAF strategic soft strike option would be far easier to implement. Any major Syrian success would also confront the risk of Israel escalation to the use of nuclear weapons in the tactical role, and/or risk major US intervention. If Israel no longer has anything to gain from pressing forwards toward Damascus, Syria has much to lose by pressing forward into the Galilee.

Can the Golan Stay Partially Divided?

While war is scarcely a certainty, the prospects for peace seem to remain as uncertain as ever. Hafez Assad made it clear that Syria would not accept any peace settlement with Israel that did not involve the return of virtually all of the Golan as long as he was in power. Syria rigidly held onto this position during its peace talks and formal negotiations with Israel in late 1999 and early 2000.

Syria made a return to the line of June 4, 1967 the *sine qua non* for any peace with Israel. It did so although this line only corresponded with the international boundary that France and Great Britain agreed to in 1923 along one 15 kilometer stretch, and did not correspond to the demarcation line that Israel and Syria had agreed to in 1949. Syria also claimed that Prime Minister Rabin had offered the return of virtually all of the Golan – a position that Prime Minister Barak formally confirmed for the first time in January 2000.[43]

Basher Assad has so far made it clear that he will not depart from his father's position, and that any peace must be based on Syria's interpretation of the 1967 boundary. One key argument raised in this regard is that Syria must have full return because Egypt obtained full return of the Sinai at Camp David.

The Israeli public remains deeply divided on the issue, as do Israel politicians, and much depends on perceptions of the prospects for a real and lasting peace. An Israeli poll found in March 1999 that 75% of Israelis would agree to a partial withdrawal from the Golan in order to make a deal with Syria over Lebanon and 59% would support conceding territory to Syria, but it also found that more than 60% opposed handing back all of the Golan.[44] Public opinion polls have since tended to fluctuate with the overall state of Arab-Israeli relations, and the Israeli-Palestinian

clashes that began in late September 2000 have unquestionably made many Israelis shift against peace – at least for the time being.

There are legislative hurdles for Israel as well. The Israeli Knesset passed legislation over Prime Minister Barak's objection in February 2000 that required an absolute majority of Israeli voters to approve a referendum to give up the Golan (which can could require approval by up to 63% of the popular vote including Israeli Arabs). The legislation also required that the Knesset approve giving up the Golan it by a similar "super majority."

The Military Case Against Giving Up the Golan

Those Israelis who do oppose giving up the Golan usually argue that this would impose unacceptable security risks, and that there is no parallel between a peace settlement with Egypt and one with Syria. They argue that the Sinai demilitarization agreement had substantial security significance, with a depth of some 200-300 kilometers. This means that even if Egypt should violate the peace treaty, the IDF could immediately enter into a war of maneuver with air and surface forces and halt the Egyptians while they were still deep inside Sinai.

These Israelis argue that even if the Golan Heights were fully demilitarized when they were handed over to Syria, and Syria agreed to demilitarize an additional 40 kilometer belt within its own territory, such force limitation measures would have little security value. They argue that the Syrian army would be capable of advancing rapidly on level ground and could move at least 2-3 divisions to the front overnight, from their staging points in the Damascus area. Furthermore, they argue that Syria has developed commando units intended to occupy key junctions on the Golan Heights with the objective of delaying Israel's reserve forces, and is capable of using Scud C missiles against Israel's reserve assembly and equipment storage areas and to significantly delay access to the front by reserve forces. This might allow Syria to penetrate into the Galilee and/or fully militarize the Golan, while the IDF would then have to respond by fighting back up the Golan Heights from its bases in the Huleh and Jordan valleys, and do so in spite of decisive topographic inferiority.

They also argue that any agreement which attempts to treat Israel and Syria equally in defining the disengagement and force limitation zones could push the IDF into deploying outside of the Galilee and Samaria, creating major problems for Israel in responding to any Syrian build-up on the Golan. This leads many to argue that Israel must retain significant forces in the northern Galilee and its military camps and equipment and supply storage areas in the Jordan Valley.

The Military Case For Giving Up the Golan

Given such arguments, it is not surprising that Israeli experts argue over how much of the Golan can safely be traded for peace. Some Israelis have argued for a compromise that would only give the four key Druze villages in the Golan, and control of the volcanic peaks of Tel al-aram and Tel Abu al-Nada (which over-look Quneitra) back to Syria. This compromise would allow Israel to keep its settlements and some strategic depth. Others have argued for a staged withdrawal from the Golan that would keep positions on the heights for a matter of years.

Some Israeli and US military experts who have analyzed and modeled such conflicts believe that a rapid withdrawal would be acceptable. They feel that Syria would need at least 12 to 24 hours of very visible movements to move up the necessary engineering equipment into the Golan, redeploy artillery batteries, move ammunition stores, redeploy forward air defense elements, and make armored units ready for combat. More probably, this process could take a matter of days. They believe there is little chance of Syria achieving surprise if there are reasonable limits on the Syrian military presence in the Golan area, and Israel takes prudent warning and surveillance measures.

They also feel that Syria would take so long to mass and move its armored forces in the forward area that it would be very vulnerable to Israeli air attack in the process, as well as attack using long-range artillery weapons with “smart” anti-armor submunitions. They believe that Syrian armor could not descend the Golan quickly in strength, and that the terrain would channel such a Syrian advance into natural killing grounds for the IDF. Further, they feel the Huleh and Jordan River Valleys, and the area above them, would make excellent defensive barriers.

These analysts feel that Israel can give up most or all of the Golan and still preserve most of its sensor and advanced attack capabilities. They also feel that the IAF has the capability to do decisive strategic damage to Syria’s economy using conventional weapons, and that such strategic strikes would have a far greater deterrent effect that any attempt to fight back up the Golan. It is the latter view that seems most likely to be correct, given the acute weaknesses and problems in Syria’s military capabilities.

The experts who have shaped the present Israeli approach to the peace negotiations with Syria have taken this general line. They feel that Israel might be able to withdraw completely in one step if such a withdrawal was coupled with clear limits on Israeli and Syrian deployments in the area, “transparency” in terms of guaranteed warning of major movements and surveillance of

preparations for a build-up in the rear, and confidence building measures like limitations on military exercises and pre-notification of military movements.

At the same time, most of the experts involved in planning the negotiations with Syria, believe that the Golan needs to be demilitarized, and that the area immediately east of the Golan (along the Quneitra-Rafid axis needs to be nearly demilitarized. Force-limitation zones need to be established in the areas east and west of the Golan. One idea is to limit Syria to two armored divisions in the area from the 1974 armistice line to the Damascus, Zanamin-Dera'a line, while Israel would be able to deploy one division in the panhandle of the Galilee. The bulk of the remaining IDF forces in the area would have to be deployed west of the Jordan River to the Safed area. These experts also argue for a US or US-led UN observer force in the Golan, an Israeli-Syrian observer Commission to monitor each side's actions, and for force limitations on the Syrian presence in the Beka'a Valley.[45]

Those feel Israel can remain secure after giving up the Golan also warn that such a conclusion most be based on the condition that Israel attacks on strategic warning and reacts with massive and decisive force the moment Syria carries out any major deployment for attack or violation of any peace accords. The military need for an early and massive Israeli response to any major Syrian violation of a peace agreement is a critical point, and one that needs to be understood by all concerned. Israel's defense after the return of the Golan will have to be based on preemption, and the need for immediate and decisive action grows with each improvement in Syrian readiness and pre-movement preparation. Further, the time-urgent need for decisive action increases in direct proportion to how much of the Golan Israel gives up, and how many concession it makes on warning, demilitarization and/or on force limitations.

Creating A Secure Peace on the Golan

There is no way to predict whether a peace will make these security concerns a ongoing issue. However, it is clear that there are serious military problems that affect any peace negotiations These include the nature of any disengagement and force limitation zone and whether Israel can maintain some kind of de facto observer presence on Mt. Hermon. While much of the debate over the Golan is political and economic, the military risks to Israel increase sharply if Syria is not bound by detailed arms control agreements that:[46]

- Severely limit the number and type of military forces that Syria could deploy in the Golan,

- Allow Israel comparative freedom in building up its defenses and military forces below the Golan,

- Provide for sensor and warning systems that ensure Israel could detect any significant change in Syrian readiness and movement towards the Golan in near real time, and

- Place limits on Syrian exercise activity, mobilization, and large-scale offensive training.

Both sides see the other as a continuing potential threat. Syrian officers and arms control negotiators have not expressed detailed public opinions on Syria's perceptions of its military vulnerabilities and there has been little meaningful dialogue since 1996. It seems likely, however, that Syria feels threatened by the current status quo on the Golan just as the IDF feels threatened by the prospects of withdrawal.

It also seems likely that Syria has drawn its own lessons from the Gulf War, including its vulnerability to precision artillery fire and Israel's precision air attack capabilities and lack of night and poor weather warfare capability. In fact, the Syrian army conducted tactical maneuvers in May 1999 and was told to "remain vigilant" by an army leader.[47] If Israel feels threatened by surprise and mass, Syria may feel equally threatened by surprise and quality, and may well argue that some of the warning data and "transparency" Israel may want from a peace agreement translates into targeting data for an Israeli offensive against Syria.

The Military Aspects of the Israeli and Syrian Positions

The full details of previous Israeli and Syrian negotiations over these issues have not been made public. However, several major issues have surfaced where their relative positions seem clear, at least in terms of the positions they took during their peace talks in Shepherdstown, West Virginia in January 2000.[48]

- Israel is primarily concerned with military security, the normalization of relations with Syria, and water. Syria is primarily concerned with sovereignty and the potential impact of an agreement on Syrian political stability and a stable succession to Assad. Syria has also demanded that any agreement be at least as favorable in terms of territory, timing, and other arrangements as the Israeli accords with Egypt over the Sinai.

- Syria's most important single demand is full Israeli withdrawal and de facto or de jure annulment of the international border demarcated in 1923, and its replacement with the boundary of June 4, 1967.[49] As recently as March 1999, Syria stated that Israel would

not enjoy security unless it withdrew its troops from the Golan Heights and south Lebanon.[50] Former Prime Minister Rabin unofficially indicated before his assassination that Israel was willing to fully withdraw, although he preferred withdrawal to the international boundary, and not the June 4, 1967 boundary -- which would give Syria control of part of the Eastern shore of Lake Tiberius.[51] Peres and Barak were also prepared to withdraw to the international border, although they too did not reject Syria's demand to return to the 1967 border. Although Syria has generally been inflexible in demanding withdrawal to the June 4, 1967 boundary, at least one report indicated that it seemed ready to consider the international border for the first time in exchange for concessions elsewhere.[52]

- Both sides agree in broad terms to a demilitarized zone and force limitation zone that would modify the Agreement on Disengagement Between Israeli and Syrian Forces of May 31, 1973, and a no overflight of the DMZ without notification agreement. Syria argues that all security arrangements on the Golan must be "reciprocal, balanced, and equal." In practice, this meant that any disengagement and forced limitation zones must be the same on both sides. Israel argued that the relative size of the zones should be 9:1 in Israel's favor. In June 1995, Israel announced that Syria seemed to accept the idea that a settlement would have to recognize Israel's need to limit Syria's capability for sudden or surprise attack, and would accept an asymmetry that was 5:3 in Israel's favor. However, Israel and Syria remain divided over the details of any such arrangements and such issues as the presence of Israeli inspection and warning posts on the Golan, other early warning systems, demilitarized areas, troop pullbacks, weapons deployment limits and other security arrangements.

- Both sides agree that there should be no alliances with a third party of a hostile military character, or use of their territory by a hostile third party, but Syria is concerned with Israel's ties to the US and Turkey, while Israel is concerned about Syria's ties to the Arab world.

- Both parties claim to oppose terrorism, but cannot agree in substance on which this means in terms of Lebanon, Palestinian anti-peace groups, or Syria's role in the area. They also agree a peace agreement should preclude organizing, instigating, inciting, assisting, or participating in any acts of violence against the other party, and that both parties should take active measures to prevent any such action by third parties on their soil, but there is no practical agreement on how this should be implemented.

- Syria originally pressed for full Israeli withdrawal in six months while Israel pressed for a period of eight years. Syria has since asked for a complete one stage withdrawal in 18 months, while Israel pressed for a two stage withdrawal over three years and eight months -- the same period Israel took to withdraw from the Sinai.[53]

- Israel pressed for Israeli warning posts on Syrian soil. Syria rejected such proposals and said that only aerial surveillance would be acceptable.

- Israel pressed for full normalization of relations after the first stage of its withdrawal -- as was the case with Israel's peace treaty with Egypt -- while Syria only agreed to full normalization after completed withdrawal. However, Syria seems to have accepted a compromise calling for low-level relations after the first stage of withdrawal.

- Israel is concerned with control of the ten meter strip along the eastern shore of Lake Tiberius that is part of the international boundary, and gives it control over the entire lake. It is also concerned with the control of the eastern bank of the Jordan River and the flow of waters from the Banias River, which have an important impact on Israel's water supplies.

These issues go far beyond the largely ideological issue of a return to the 1967 boundary. It is also clear that they affect any agreement on confidence building measures, disengagement, and post-withdrawal force deployments. An Israeli-Syrian peace will neither be warm nor based on trust. As a result, it must take account of each of these issues.

Force Limitation Measures and Confidence Building Measures

While it is possible to discuss a long list of possible force limitation measures and confidence building measures that Israel and Syria might agree on to secure a peace agreement, such a discussion is moot. Israel has already developed a detailed list of options and negotiating measures, and Syria almost certainly has a list of its own.

What is clear is that such measures are necessary and that they reflect the geographic and strategic differences between the two parties. Further, it is clear that the strength of such measures will play a critical role in determining the extent to which Israel and Syria can cut military spending in the future, in reducing the incentive for preemption or a race for the Golan in a crisis, and in reducing the risk that peace on the Golan may become a political pawn in some unrelated Arab-Israeli crisis or confrontation.

Given Israeli planning to date, the key issues that are likely to emerge from the military disengagement aspects of Israeli-Syrian negotiations over the Golan are the:

- Nature of the observation points, sensors, and transparency measures.

- Character and role of an international peacekeeping or observation force.

- Role of the US in securing or monitoring a Golan agreement.

- Choice of force limitations and their ability to secure against first strikes, preemption, and races to deploy into the area.

- Future disengagement and force separation agreements, and future of the Israeli-Syrian disengagement agreement signed on May 31, 1974, which establishes the present force limitation and disengagement zones.

- Limitations on exercises, redeployments, and other potentially threatening activities and related "transparency" measures.

- Joint military bodies and liaison groups, direct communications, and other measures designed to increase transparency and mutual confidence.

- Changes in military doctrine and technology designed to reduce the risk of attacks across the Golan.

- Security of the eastern shore of Lake Tiberius and the entire lake. Control of the eastern bank of the Jordan River and the flow of waters from the Banias River, which have an important impact on Israel's water supplies.

Observation Points, Sensors, and Transparency

The transparency of any security regime will be critical, particularly to Israel. This has led many Israelis to argue that full withdrawal from the Golan would only be acceptable if Syria accepted Israeli observation posts on the Golan, and/or if the IDF was given major advances in weapons technology and new targeting and surveillance systems like the J-8 JSTARS. They feel that airborne platforms are not an adequate substitute for the permanent, line-of-sight and SIGINT collection centers necessary to analyze Syrian VHF communications, or to ensure reliable all-weather, day and night coverage. They believe that any international monitoring group might be infiltrated, deceived, or pressured to withdraw or limit its activities and that Syria might then wait some time to attack to restore an element of surprise.

There is some justification in these views. Virtually without exception, the proponents of airborne surveillance have made claims about cost, capability, reliability, and endurance that have proved to be untrue. This has been particularly true of claims made for aerostats and long-endurance UAVs. While modern technology can deal with virtually any weather conditions, the Golan does present complex weather problems. Further, full "transparency" in intelligence

collection and warning cannot depend on a narrow range of sensors. It requires a range of different collection assets and considerable human analysis and intervention.[54]

More broadly, it is in both Israel's and Syria's interest that this transparency be as great as possible. The risk of misunderstanding is simply too great -- given the cost of reacting or not reacting on a time urgent basis, and of not reacting with large amounts of force. Prestige and sovereignty make good ideological slogans but avoiding an accidental war or de-stabilizing misunderstandings is far more important.

"Military science" is almost as uncertain an art as political science, and the fact that Israelis with years of military experience differ over such issues is a reflection of valid uncertainty and the immense importance of the technical details of the security agreements that must underpin a Syrian-Israeli peace accord. There is no wrong or right view on such issues, and no perfect agreement will ever be possible.

Some Israeli experts feel that a suitable verification regime should include satellite based systems and a US monitoring unit with tailored sensors similar to the unit in the Sinai, unattended ground sensors, and tight restrictions on exercises. Others have indicated that a small international peacekeeping force would be adequate. Some Israeli experts argue for US aid in providing satellite intelligence systems, UAVs, attack helicopters, long endurance UAVs, aerostats, and other military and sensor assets as compensation for Israeli withdrawal from the Golan. Others have raised the possibility of acquiring an aircraft-mounted long-range ground surveillance radar capability like the US Air Force J-8 (JSTARS).

Syrian views on these issues are less clear, partly because Syria has stressed sovereignty over the Golan, and has not articulated it security views in detail. It does seem likely, however, that Syria is deeply concerned with the risk that some crisis might lead Israel to move its forces to the edge of the Golan, preemptively attack Syria, or overreact to Syrian actions and warning indicators. Transparency is ultimately as important to Syria as it is to Israel.

The Role of a Peacekeeping or Observer Force and the Role of the US

The character and role of a peacekeeping or observer force on the Golan will be another important factor affecting contingency capabilities on the Golan. The United Nations Disengagement Observation Force (UNDOF) has been in the Golan for 25 years.[55] Neither Israel nor Syria has publicly indicated what kind of peacekeeping or observer force it would like to

replace UNDOF, if any. However, on June 24, 1999, Syria asked Canada to keep troops along the border with Israel even if Syria and Israel sign a peace deal.[56] The major options seem to be:

- Replace the UNDOF with a US-French observer force, possibly with the same name, and with a major observation post on Mount Hermon, supported by US intelligence.
- Create a similar observer force with de facto Israeli and possibly Syrian participation.
- Retain the UNDOF.
- Strengthen the UNDOF or some new multinational force to provide a much more capable observer force.
- Strengthen the UNDOF or some new multinational force to provide both a much more capable observer force and a force strong enough to act as a "tripwire" that would make any incursions across the Golan a clear act of international aggression.
- Strengthen the UNDOF or some new multinational force to verification functions that would ensure full inspection of Israeli and Syrian activity within the disengagement and force limitation zones and verification of confidence building measures.
- Strengthen the UNDOF or some new multinational force to add a combat force strong enough to delay or resist any incursions across the Golan.
- Formalize the US-Israeli strategic alliance to provide formal security guarantees and/or deploy US forces to guarantee the border.
- Any of these options could include de jure or de facto Israeli and Syrian elements or liaison teams to strengthen Israeli and Syrian confidence in their effectiveness.
- These options could also be supported by dedicated intelligence assets, the use of high resolution commercial satellites, and/or guaranteed intelligence reporting by the US and Russia, or some other mix of countries.
- They could also be supported by a more formal set of bilateral security guarantees or by an alliance between the US and Israel, designed to give Israel guarantees of US support after it withdraws from the Golan.

US Presence in a Peacekeeping Force

There is no easy way to evaluate the merit or risk of having the US deploy a peace keeping and warning force on the Golan as part of UNDOF or as the core of some French-US replacement force. A US presence has a symbolic value, and access to national technical intelligence systems no other nation can match. To Israel, it offers reassurance the US would intervene in the event of a Syrian violation, something no other power can do with equal authority. To Syria, it offers a reassurance that Israel's strongest ally would pressure it to fully comply.

Syria probably did play a major role in the attack on the US Marine Corps barracks in Beirut. That was fifteen years ago, however, and the fact that such a US force might be at risk is scarcely a reason not to deploy it. In fact, the obsessive concern of some analysts with the risk of American casualties is almost an insult to the Americans who have volunteered to serve in the armed forces or other hazardous duties overseas. The merit of the cause and the capability to perform the mission are more serious issues than the risk of casualties.

The UNDOF force has taken similar risks for more than twenty years, and such missions are typical of the peacekeeping missions other countries have manned for many years. Canada and Japan have already volunteered to send such forces to the Golan. Reaching an Israel-Syrian peace accord, and ensuring that Israel will have adequate warning is a legitimate strategic interest of the US, and one where many members of the US military would volunteer to accept the risk. This is the position endorsed by former Secretary of Defense William Perry and it seems to be correct.

At the same time, much will depend on exactly what type of US force is asked to perform a given function under a given peace agreement. For example, the US could perform missions as diverse as manning observer and sensor posts on the Golan as a substitute for Israeli and Syrian forces, reinforcing UNDOF, providing a US-only observer force, or heading a non-UN multinational force. All of these options might provide Israel with added confidence that such an observer force would remain in a crisis and provide full warning, and might provide Syria with confidence that it would not face the risk of Israel over-reacting or preempting.

One thing is clear, the US should strongly resist making any choices about whether to commit US personnel or forces in reaction to the arguments of hard-line Jewish Americans who attempt to use "scare tactics" in describing the risk to US forces. These arguments do not reflect legitimate concerns with military and political risks; they are simply a means of disguising the fact

that they oppose the peace process and any Israeli withdrawal from the Golan. As experts like former US national security advisor, General Brent Scowcroft, have argued, the US must judge the cost-benefits of a US role in the Golan on the basis of US strategic interests.[57] Similarly, the choice of whether Israel should agree to a given peace is a choice that Israelis should make and not Jewish-Americans.

A US-Israeli Strategic Alliance

Somewhat similar issues apply to an Israeli request for a more formal alliance or set of security guarantees from the US. Such an alliance could do a number of things to underpin the peace process. Such an alliance could formally guarantee Israel:

- US presence in a peace monitoring force
- US aid over a period of time long enough to ensure the IDF could adjust to withdrawal from the Golan
- Rapid US resupply of Israel in the event of a conflict
- US support in developing effective defensive counterproliferation capabilities -- such as anti-tactical ballistic missile defenses and nuclear-chemical-biological defense equipment.
- US intelligence support in key areas related to strategic and tactical warning, and real time tactical intelligence support in the event of an attack on Israel.
- US guarantees to preserve Israel's air and naval lines of communication

As has been noted earlier, there were reports in November 1999 that Israel and the US had agreed on a new strategic relationship. This would involve joint study by a number of working groups to develop a joint memorandum of understanding (MOU) to look a the prepositioning of US forces and supplies in Israel, missile defenses, cooperation on non-conventional weapons, and how to best preserve Israel's strategic edge. It was not clear whether this meant any major changes in the existing Israeli-US Defense Policy Advisory Group and Strategic Policy Planning Group, or older bodies like the Joint Political-Military Planning Group, Joint-Security Assistance Planning Group, and Joint Economic Development Group.[58] Later discussions in February 2000 explored the idea of a US-Israeli defense pact as part of a comprehensive peace settlement.[59]

There is an equally good case for a US aid package to help Israel pay for the costs of peace, although such a package should scarcely be open-ended or offered as a blank check. In early 2000, Israel announced that it would need substantial additional US aid to cover the cost of withdrawing from the Golan and making suitable force improvements. A shopping list formulated by Israeli Chief of Staff, Lt. General Shaul Mofaz for Prime Minister Barak was then leaked to the Israeli press. The items on the list had a potential price tag of $17.4 billion over a period of five years.[60]

According to Israeli sources, this aid request was based on the thesis that Israel would have to continue to be ready to fight a two front war with Egypt and Syria even after a comprehensive peace. The head of the Israeli Air Force, Major General Eitan Ben-Eliahu, also noted that, "The goal is not to be the best air force in the world. The goal is to ensure that our air force is good enough to stop a massive ground and missile offensive even if we are taken by surprise…Being able to work around the clock, with no limitations of darkness or weather, might be an adequate solution, or compensation for withdrawing from the Golan Heights."[61]

As a result, the Israeli included a package of new weapons like the Tomahawk cruise missile, aid in developing Israeli intelligence and reconnaissance satellites, more AH-64s, and a wide range of advanced long-range air-to-ground and land-based US munitions and strike systems. It also included US aid in building new military bases. According to some reports, Israel indicated that the cost of the package could be reduced to $16.9 billion if Israel could keep some kind of monitoring presence on the Golan, even if this was a presence in an international monitoring team on Mount Hermon.[62] Some items on the Israeli list, like the cruise missile, would be a violation of the Missile Technology Control Regime and would send the message that the US was helping Israel add a whole new dimension to the regional race to acquire weapons of mass destruction. Other items represent an almost random collection of items cut out of past IDF budget requests. In broad terms, however, it does seem that Israel will need in excess of $10 billion in incremental aid to make up for withdrawal from the Golan.

On the other hand, neither Israel nor the US should have any illusions about US ability to provide Israel with a substitute for strategic self-reliance. There are severe limits on what US power projection capabilities can do during the first hours and days of an attack on Israel. The US could provide Israel with powerful political-military support during a crisis and could play a major role in limiting any outside reinforcement of Syria. However, it would take major US heavy

combat units in place in Israel for the US to play a significant role in opposing a massive Syrian advance.

There are several problems with a large US military presence in Israel. First of all, it would be expensive for the US and would potentially involve the US directly in every new crisis in the region. Second, it would probably alienate many friendly Arab states. Finally, it would almost inevitably be less efficient than an integrated mix of IDF forces, would create inevitable C^4I/BM problems in coordinating with Israeli forces, and would raise major potential problems in terms of when such a US force should engage in battle.

Token US forces would have great value as a symbol and in providing political leverage, but they could not immediately halt a full-scale war. Even a full US heavy brigade could only delay a Syrian advance, rather than halt one. The bulk of the defensive task would still fall on the IDF, and the IDF might well end in devoting resources to trying to protect the US force. The US could not deploy additional heavy land forces into Israel in less than several weeks. A limited US air presence would compete directly with the IAF for basing space, and present serious C^4I/BM problems. While the US could reinforce Israel relatively rapidly with air units, naval forces, and cruise missiles -- this reinforcement would still not be a substitute for a strong IAF with a decisive technical edge.

There may be a case for a symbolic US combat presence if Israel should feel such symbolism was vital to the peace process, but the warfighting limits of such a US force must be kept carefully in mind. The tyranny of time and space preclude the US from providing security guarantees to Israel based on US reinforcement within the period of hours or days that would be necessary for such a force to have major contingency value. A strong IDF, supported by continued US aid, is a much more realistic alternative.

US “Extended Deterrence”

Similarly, proposals that the US provide Israel with an explicit or tacit guarantee of “extended deterrence” seem to have uncertain credibility and pose major problems in terms of implementation. It is virtually certain that Israel would massively retaliate in the event of any attack using weapons of mass destruction that threatened Israel’s existence. Any such “guarantee” by the US would be less credible and would present the problem that there is little chance the US would ever act preemptively or before it could fully characterize the nature of an attack on Israel.

Such a US guarantee would also present the problems that (a) Israel would probably have to receive massive damage before the US would act, (b) US retaliation would be uncertain in the case of ambiguous attacks on Israel or ones where the use of covert attacks made it difficult to immediately and conclusively identify the attacker, and (c) the US would be confronted with the political problems inherent in retaliating in punishment or revenge without a clear strategic objective which would undermine the credibility of US retaliation.

Including Arab States

There are political and grand strategic dangers in allying the US directly with Israel to the exclusion of Arab participants in the peace process like Egypt and Jordan. The US has spent nearly two decades convincing friendly Arab states that US ties to Israel can be compatible with US ties to friendly Arab states. These efforts have been vital both in allowing the peace process to move forward and in serving US strategic interests outside Israel.

Any US participation in the peace process that formalizes the US-Israeli strategic relationship in ways that favor Israel at the expense of Syrian security, or favor Israel to the exclusion of proven friends like Egypt, will have a significant political and strategic price tag for both the US and Israel. As a result, any US participation in a peacekeeping force must be "neutral" to the extent that it offers Syria guarantees of strategic warning, and that the US will act as a stabilizing presence to help ensure there is no repetition of the Israeli adventurism that took place in 1982.

Similarly, any more formal US-Israeli strategic relationship must be explicitly linked to US military support only in the event of an attack on Israel or an imminent threat of attack. Serious consideration should also be given to providing similar guarantees to Egypt, Jordan, and any other participant in the peace process who demonstrates a full commitment to peace, to providing confidence building measures and regional arms control efforts, and to eliminating terrorism and violent extremism. It is to every nation's interest that a peace agreement be based on a mix of self-reliance and regional security negotiations, and not on over-exclusive strategic relationships or over-dependence on the US.

[1] For typical quotes and exchanges see Reuters, September 9, 1999 0343, September 16, 1999, 1211; September 19, 1999, 1002.
[2] The Estimate, June 16, 2000, pp. 5-8.
[3] The Estimate, February 13, 1998, July 17, 1998, and August 13, 1999.
[4] Washington Post, June 11, 2000, p. A-27, June 13, 2000, p. A-28, June 18, 2000, pp. A-21 and B-2; The Estimate, Volume XII, Number 10, May 19, 2000; Eyal Zisser, "Can Bashar al-Assad Hold on in Syria?," Policywatch, 470, June 12, 2000; Middle East Economic Digest, June 16, 2000; "Bashar's World, The Economist, June 17, 2000, pp. 24-26; New York Times, June 11, 2000, pp. A-1 and A-14; June 13, 2000, p. A-10.
[5] Washington Post, June 18, 2000, p. B-2.
[6] Based on interviews and the relevant country sections of the IISS, Military Balance, 1998-1999 and 1999-2000, and Jane's All the World's Air Forces, various editions, Jane's All the World Armies, various editions, Jane's Fighting Ships, various editions, the Jane's Sentinel series; the CSIS, Military East Military Balance (On-Line editions), and Anthony H. Cordesman, After The Storm: The Changing Military Balance in the Middle East, Boulder, Westview, 1993.
[7] Jane's Defense Weekly, July 1, 1995, p. 13; Syrian Official Gazette, June 6, 1995.
[8] Jane's Defense Weekly, November 2, 1999, p. 20.
[9] UPI, November 5, 1992, BC cycle.
[10] New York Times, April 29, 1994, p. A-7; Middle East Economic Digest MEED), December 9, 1994, NEXIS edition. Defense News, July 4, 1994, p. 15.
[11] Jane's Defense Weekly, November 2, 1999, p. 20.
[12] Syria Plans Russian Arms Purchase. United Press International. February 17, 1999.
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[16] Kemp, Damian, "Russia pushes defense sales as exports hit highest for years," Jane's Defense Weekly, July 14, 1999, p. 17.
[17] Jane's Defense Weekly, November 2, 1999, p. 20.
[18] Jaffee Center for Strategic Studies, The Middle East Military Balance, 1999-2000, Tel Aviv, JCSS, Tel Aviv University, 2000; Haaretz, English edition, December 22, 1999.
[19] Jane's Defense Weekly, January 26, 2000, p. 20; Near East Report, October 4, 1999, pp. 77-80; Reuters, December 23, 1999, 0952.
[20] The strength estimates here are based on interviews, various editions of the IISS, Military Balance, and Jane's World Armies, Issue 2, "Syria."
[21] Based on data in the relevant country section of the IISS, Military Balance, 1998-1999 and 1999-2000. Estimates in other sources differ.
[22] Based on the data in the CIA, World Factbook, 1999; "Syria." For a good summary analysis of the location and population of Israeli settlements, and related security issues, see "Report on Israeli Settlements in the Occupied Territories: A Golan Heights Primer," Washington, Foundation for Middle East Peace, February, 1995. Extensive additional data are available from the Israel government and Golani web servers on the Internet.
[23] For a good discussion of the geography of the peace issue, see Alon Ben-Meir, "Peace with Syria First," Middle East Insight, July-August, 1999, pp. 17-23
[24] For more detail on this contingency, see the author's After the Storm, Boulder, Westview, 1993, and Edward B. Atkeson, "The Syrian-Israeli Military Balance: A Pot That Bears Watching," Arlington, Institute of Land Warfare, Paper No. 10, January, 1992.

[25] Some estimates go as low as 900 square kilometers. See David Eshel, "Compromise on the Golan," Jane's Defense Weekly, November 10, 1999, pp. 36-41.
[26] CIA, Atlas of the Middle East, Washington, GPO, January, 1993, pp. 52-53, 62-63; Shlomo Bron, "The Negotiations With Syria: Quo Vadis? Strategic Assessment, Vol. 2, No. 3, December 1999; Frederic C. Hof, Line of Battle, Border of Peace? Washington, Middle East Insight, 1999; Bashar Tarabieh, "The Reality of Israeli Occupation: A Syrian Golani Perspective, Information Brief, No. 17, Center for Policy Analysis on Palestine, January 3, 2000,
[27] David Eshel, "Compromise on the Golan," Jane's Defense Weekly, November 10, 1999, pp. 36-41.
[28] David Eshel, "Compromise on the Golan," Jane's Defense Weekly, November 10, 1999, pp. 36-41.
[29] Washington Institute, Supporting Peace, Washington, Washington Institute, pp. 1994, pp. 9-12, 79-82; Aryeh Shalev, Israel and Syria, Peace and Security on the Golan, Boulder, Westview, 1994.
[30] Jane's Defense Weekly, April 22, 1995, p. 24; W. Seth Carus and Hirsh Goodman, The Future Battlefield and the Arab-Israeli Conflict, London, Transaction Press, 1990, pp. 64-176.
[31] This discussion is adapted from a US State Department working paper, the Golan Heights Information Server (www.golan.org, and www.golan-syria.org.)
[32] This discussion is adapted from a US State Department working paper and the Golan Heights Information Server (www.golan.org).
[33] Reuters, January 19, 2000, 0933; Mideast Mirror, January 13, 1999, Israel section; Frederick C. Hof, Center for Policy Analysis on Palestine, "The Ongoing Dispute over the Line of 4 June, 1967," Information Brief, Number 30,l March 31, 2000.
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[35] Washington Institute, Supporting Peace, Washington, Washington Institute, pp. 1994, p. 83.
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[39] "The IDF's Security Principles," Office of the IDF Spokesman, April, 1995, and Scotty Fisher, "Country Briefing Israel," Jane's Defense Weekly," February 18, 1995, pp. 29-38.
[40] For more detail on this contingency, see the author's After the Storm, Boulder, Westview, 1993, Perilous Prospects, Boulder, Westview, 1996, and Edward B. Atkeson, "The Syrian-Israeli Military Balance: A Pot That Bears Watching," Arlington, Institute of Land Warfare, Paper No. 10, January, 1992 and The Powder Keg, Falls Church, Nova, 1996.
[41] Reuters, December 23, 1999, 0952; Jane's Defense Weekly, February 2, 2000, p. 5.
[42] Some systems can fire rounds longer range, but not accurately. Syria's S-23 guns are its only long-range weapons with effective ranges beyond 28 kilometers and they have been in storage for several years.
[43] Reuters, January 19, 2000, 0933; Mideast Mirror, January 13, 1999, Israel section; Frederick C. Hof, Center for Policy Analysis on Palestine, "The Ongoing Dispute over the Line of 4 June, 1967," Information Brief, Number 30,l March 31, 2000.
[44] Reuters, March 5, 1999, 0441.
[45] David Eshel, "Compromise on the Golan," Jane's Defense Weekly, November 10, 1999, pp. 36-41.
[46] Interviews, Boston Globe, June 23, 1995, p. 14; Los Angeles Times, May 2, 1994, p. A-4; Washington Post, May 3, 1995, p. A-15, May 16 ,1995, p. A-7, May 25, 1995, p. A-23; New York Times, May 16, 1995, p. A-6, May 25, 1995, p. A-1, May 26, 1995, p. A-2; Reuters, January 19, 2000, 0933; Mideast Mirror, January 13, 1999, Israel section.

[46] The bulk of this discussion is based on the draft US terms of peace and reporting by Akiva Eldar in Haaretz in January 2000. Also see Reuters, March 5, 1999, 0441; David Eshel, "Compromise on the Golan," Jane's Defense Weekly, November 10, 1999, pp. 36-41; The Estimate, January 14, 2000, p. 4.
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[48] The bulk of this discussion is based on the draft US terms of peace and reporting by Akiva Eldar in Haaretz in January 2000. Also see Reuters, March 5, 1999, 0441; David Eshel, "Compromise on the Golan," Jane's Defense Weekly, November 10, 1999, pp. 36-41; The Estimate, January 14, 2000, p. 4. For historical background see The Washington Institute, Policywatch, Number 117, October 27, 1995; Christian Science Monitor, September 28 ,1995, p. 6; Executive News, October 11, 1995, 0604, October 15, 1995, 0629; Armed forces Journal, October, 1995, p. 15.
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[50] Reuters, March 4, 1999.
[51] Executive News Service, November 28, 1995, 0859, 1614.
[52] "Syria's nods and winks," The Economist, July 24, 1999, p. 41.
[53] New York Times, May 16, 1995, p. A-6, May 25, 1995, p. A-1; Washington Post, May 25, 1995, p. A-23.
[54] A comprehensive discussion of the technical issues involved require a detailed knowledge of Israeli intelligence sources and methods that is not available to the author. For another view, see Aryeh Shalev, Israel and Syria, Peace and Security on the Golan, Boulder, Westview, 1994, pp. 128-139.
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[59] Jane's Defense Weekly, February 23, 2000, p. 4.
[60] Jane's Defense Weekly, December 22, 1999, p. 2; The Estimate, January 14, 2000, p. 4.
[61] The Estimate, January 28, 2000, p. 4; Jane's Defense Weekly, February 23, 2000, p. 4.
[62] The Estimate, January 28, 2000, p. 4; Jane's Defense Weekly, February 23, 2000, p. 4.