

CSIS

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Military Balance in the Middle East - VI

Arab-Israeli Balance - Overview

**Military Expenditures and Arms Transfers, Major Arms by
Country and Zone, and Qualitative Trends**

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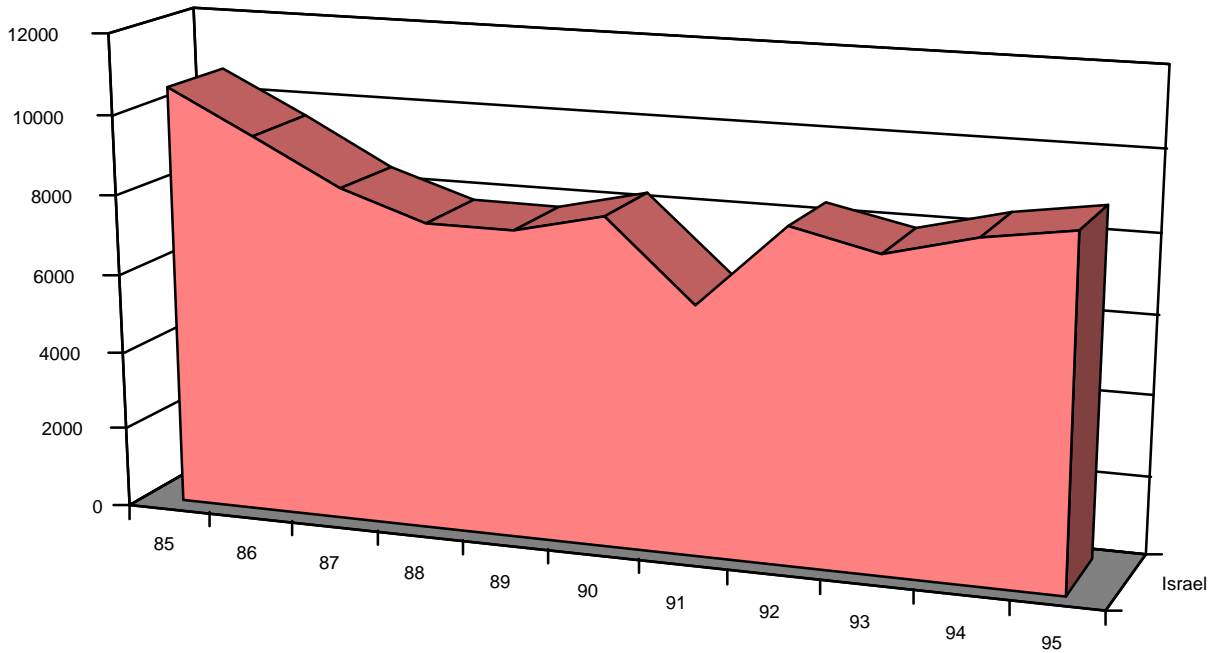
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Part One

Israeli Force Developments and the Uncertainties in Israel's Qualitative Edge

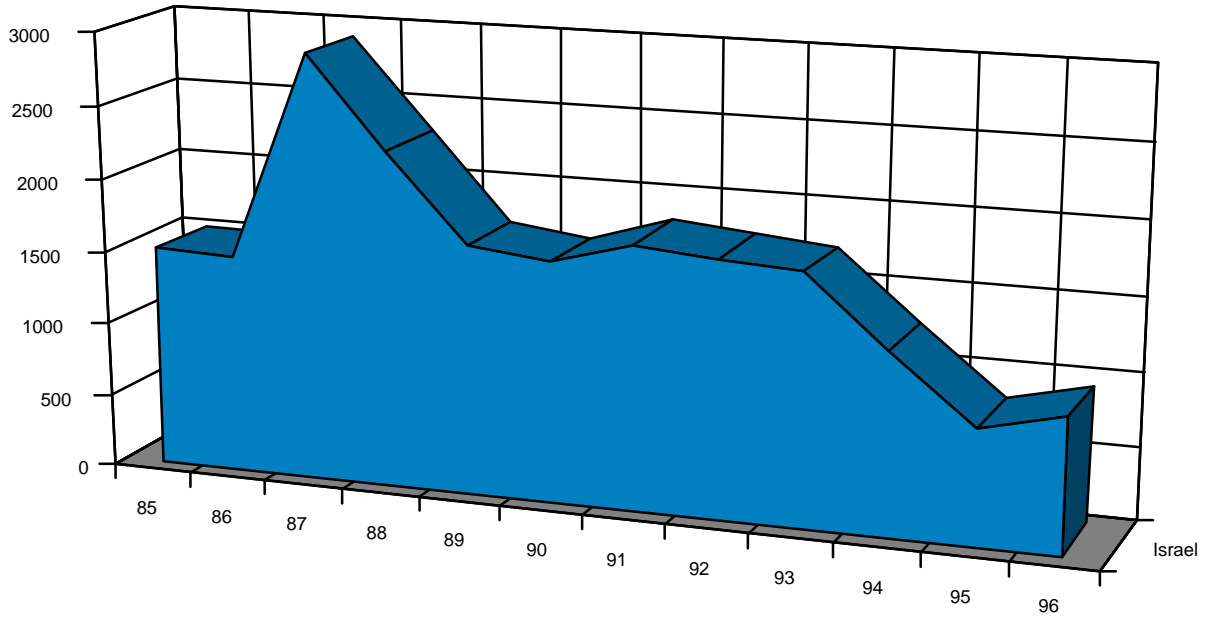
Trends in Israeli Military Spending: 1984-1995 (In Constant \$95 Millions)



	85	86	87	88	89	90	91	92	93	94	95
Israel	10650	9554	8421	7740	7693	8237	6233	8320	7812	8376	8734

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

Israeli Arms Deliveries: 1985-1996 (\$96 Constant Millions)

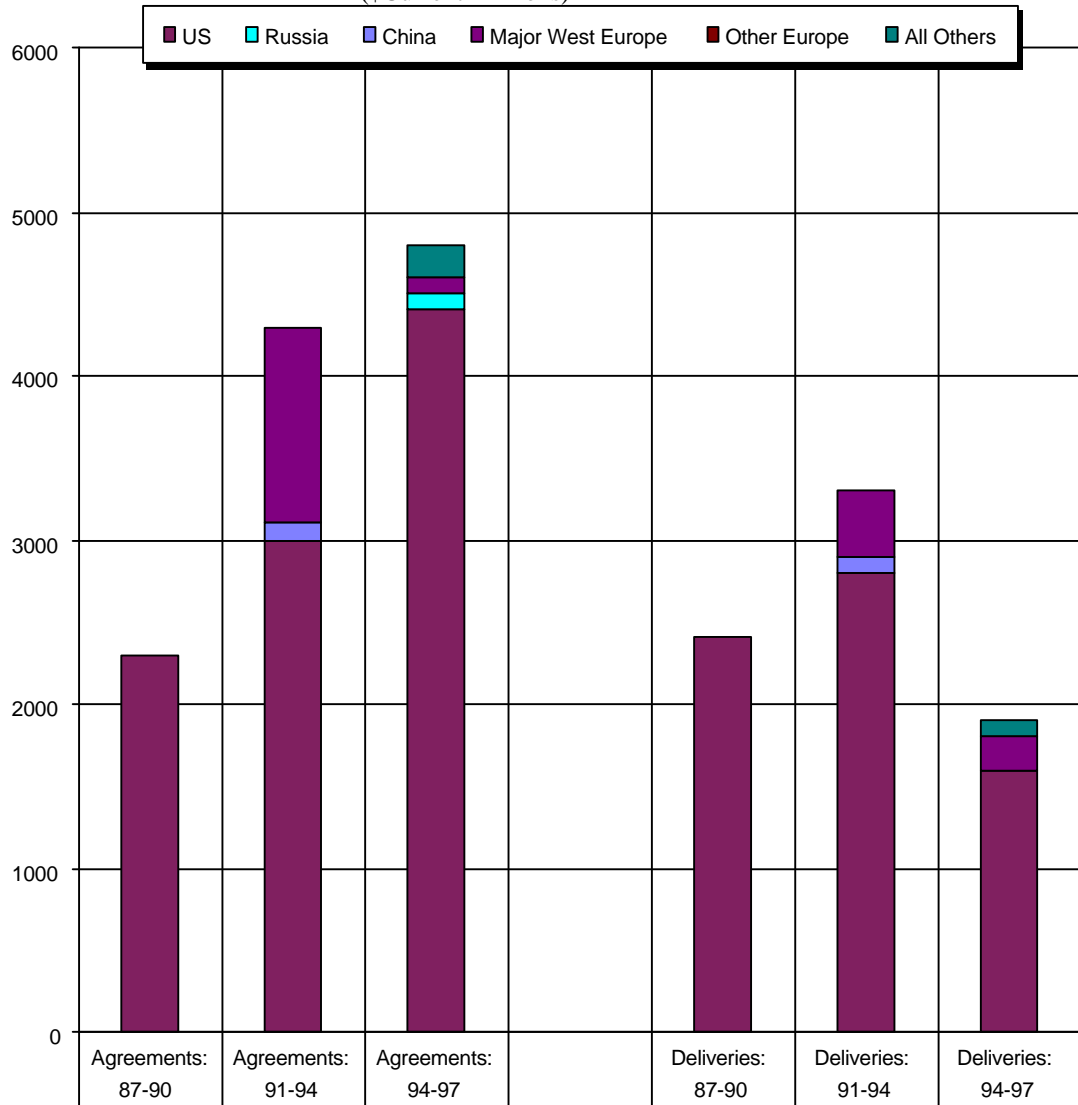


	85	86	87	88	89	90	91	92	93	94	95	96
■ Israel	1508	1495	2899	2288	1708	1637	1800	1752	1707	1250	789	925

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

Israeli Arms Agreements and Deliveries By Major Supplier: 1987-1997

(\$Current Millions)



All Others	0	0	200	0	0	100
Other Europe	0	0	0	0	0	0
Major West Europe	0	1200	100	0	400	200
China	0	100	0	0	100	0
Russia	0	0	100	0	0	0
US	2300	3000	4400	2400	2800	1600

Total 2300 4300 4800 2400 3300 1900

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.

Force Trends in Israel - Part One

<u>Category/Weapon</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>1999</u>
<u>Manpower</u>						
Total Active	156,000	169,600	142,000	141,000	172,000	175,000
(Conscript)	(125,000)	(125,300)	-	(110,000)	(138,500)	(138,500)
Total Reserve	275,000	-	370,000	504,000	430,000	430,000
Total Actives & Reserves	400,000	400,000	512,000	645,000	602,000	605,000
Paramilitary	9,000	9,500	4,500	6,000	6,050	6,050
<u>Land Forces</u>						
Active Manpower	135,000	135,000	104,000	104,000	134,000	134,000
(Conscripts)	(120,000)	(120,000)	(88,000)	(88,000)	(114,700)	(114,700)
Reserve Manpower	240,000	-	310,000	494,000	365,000	365,000
Total Reserve & Active Manpower	375,000	375,000	414,000	598,000	499,000	499,000
Main Battle Tanks (Static & In Storage)	2,700 -	3,050 -	3,600 -	4,288 -	4,095 -	4,300 -
AIFVs/Armored Cars/Lt. Tanks	365	80+	300	400	400	400
APCs/Recce/Scouts	3,000*	4,000*	4,000	5,980	5,980	5,980
WWII Half-Tracks	*	*	4,000	4,400	3,500	3,500
ATGM Launchers	-	-	-	-	1,005	1,005
SP Artillery	660**	228	488	816	1,150	1,150
Towed Artillery	**	950	570	579	400	400
MRLs	**	-	180	175	160	160
Mortars		900+	900+	-	2,740	2,740
SSM Launchers	-	-	-	112	100+	48-96
AA Guns		900+	900+	850+	850	850+
Lt. SAM Launchers		-	-	-	945+	945+

* Includes all types of other armed vehicles except tanks and self-propelled artillery

* Includes all medium and heavy self-propelled and towed weapons.

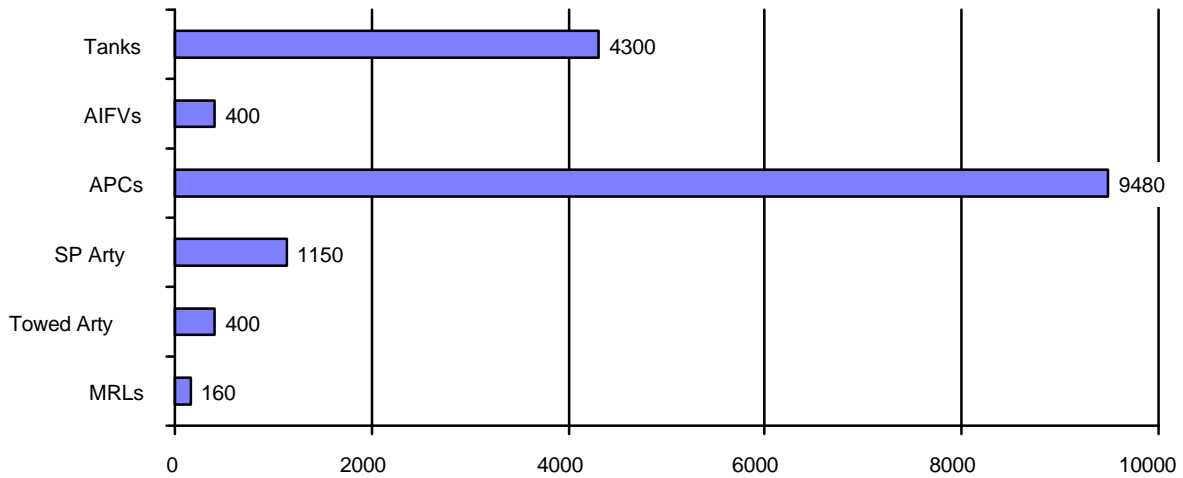
Force Trends in Israel - Part Two

<u>Category/Weapon</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>1999</u>
<u>Air & Air Defense Forces</u>						
Active Air Force Manpower	16,000	38,000	28,000	28,000	32,000	32,000
Active Air Defense	-	-	-	-	-	-
Reserve Manpower	4,000	9,000	9,000	9,000	55,000	55,000
Air Defense Command Reserve	-	-	-	-	-	-
Aircraft						
Total Fighter/FGA/Recce	481	535	684 (90)	553	449	474
Fighter	0	0	0	0	0	0
FGA/Fighter	275	265	402	393(+83)	373(+120)	352+(120)
FGA	200	200	130	121(+14)	50(+150)	50+(130)
Recce	6	14	15	14	22	22
Airborne Early Warning (AEW)		4	4	4	4	2
Electronic Warfare (EW)		-	10	26	36	36
Fixed Wing						36
Helicopter						0
Maritime Reconnaissance (MR)		0	0	5	3	3
Combat Capable Trainer	25	74	123	48	14-24	23
Tanker	2	2	2	7	8	8
Transport	54-98	58-70	45	58	47	48
Helicopters						
Attack/Armed/ASW/SAR	-	6	58	74	116	129
Transport & Other	97	145	92	143	145	158
Total	97	151	187	219	263	296
SAM Forces						
Batteries	15	15	15	17	17	20
Heavy Launchers	90	60	60	68	68	79
Medium Launchers	-	-	-	-	-	-
<u>Naval Forces</u>						
Active Manpower	5,000	6,600	10,000	9,000	6,000-7,000	9,000
Reserve Manpower	1,000	3,400	10,000	1,000	10,000	1,000-3,000
Total Manpower	6,000	10,000	20,000	10,000	16,000-17,000	10,000-12,000
Submarines	2	3	3	3	2	3
Destroyers/Frigates/Corvettes						
Missile	0	0	6	0	3	3
Other	0	0	0	0	0	0
Missile Patrol	18	22	24	26	23	18
Coastal/Inshore Patrol	36	38	45	37	40	30
Mine	0	0	0	0	0	0
Amphibious Ships	0	3	3	0	1	1
Landing Craft/Light Support	10	6	9	9	4	4
Fixed Wing Combat Aircraft	0	0	0	0	0	0
MR/MPA	0	3	0	0	0	0
ASW/Combat Helicopter	0	0	0	0	0	0
Other Helicopters	-	-	-	-	-	-

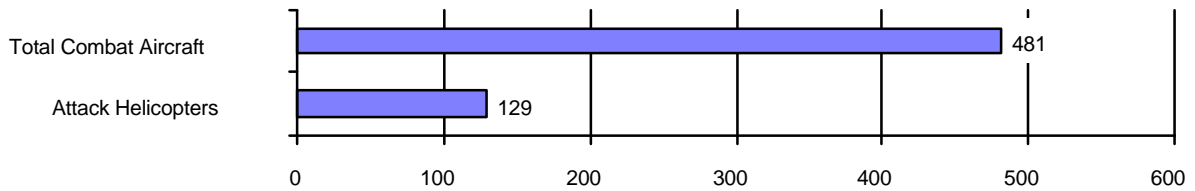
Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, Military Balance

Israeli Major Military Equipment in 1999

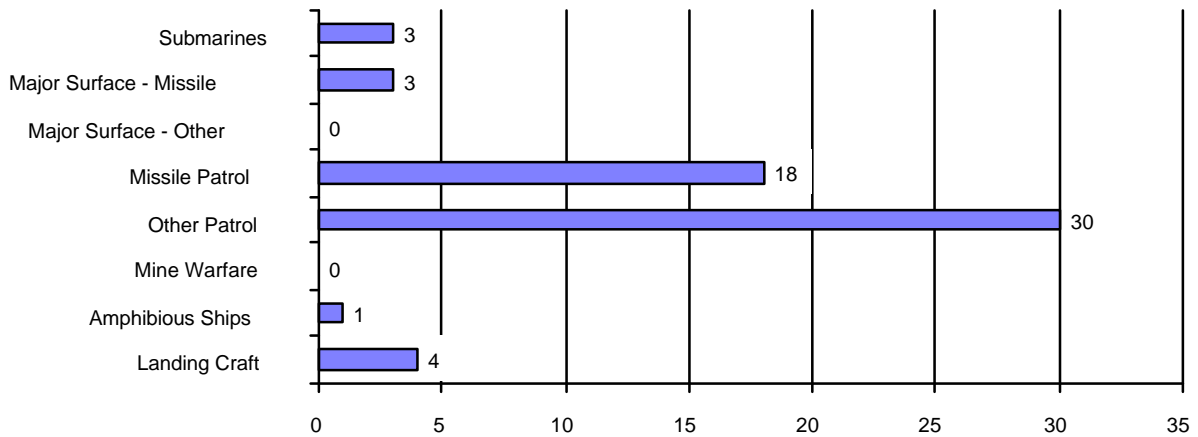
Land Forces



Air Forces



Naval Forces



Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, [Military Balance](#)

Equipment Strengths and Weaknesses in Israeli Forces

Strengths

- *1,200 upgraded M-60s, 1,000+ Merkavas*
- *5,900 relatively modern APCs/OAFVs, although no advanced types*
- *Relatively modern artillery, good strength of MRLs.*
- *Good anti-tank weapons.*
- *Relatively modern missile frigates.*
- *63+ F-15s, 205+ F-16s, 50+ F-4E 200s, 4 E-2Cs, refueling tanks, electronic warfare capability.*
- *BVR and stand-off attack capability.*
- *42 AH-64As, 39 AH-1s, 35 500D attack helicopters.*
- *3 Patriot and 17 I-Hawk batteries.*
- *Arrow program*

Weaknesses

- *1,080 Centurions, 370 Soviet conversions, 500 M-48A5s*
- *3,500+ obsolete, worn half-tracks and old APCs.*
- *Helicopter strength at about 60% of goal.*
- *20 Kfir C-7, 25 F-4Es, %0 A-4N with 150 in storage, 14 RF-4Es and 2 Kfir Rs*
- *Poor SHORAD strength and equipment types.*
- *Arrow program*
- *Small Navy, limited ASW/mine warfare capability.*

Israel: Weapons Acquisitions, Military Overview

General

- US pledged last October to give Israel \$50 million in excess military equipment. This included a platoon command post for the Hawk air defense system, about 500 Chaparral guided missiles and about 36 M48A3 Chaparral missile launchers.
- Under a military cooperation agreement with Turkey, the IAF is allowed to fly four training missions in Turkish air space every year. Gives pilots the opportunity to fly over terrain unknown to them.
- Last year the IDF decided to integrate Women's Corps officers and non-commissioned officers into the military infrastructure below the regional command and some divisional levels. Seven women are believed to be enrolled in the IAF's pilot course.

Land Forces

- Israel's latest production of the Merkava Mk 3 main battle tank shows a number of improvements in its armor, fire control system, and tracking system.
- The IDF has acquired 37 M-1000 heavy equipment transports (HETs) as part of an \$11.2 million contract. The M-1000 semi-trailer carries up to 80 tons and is towed by the MAN tractor.
- Scheduled to receive from Loral Vought Systems 42 MLRS launchers by May 1998 and 1500 tactical rockets by September 1998.
- Israel has reportedly developed an advanced new generation anti-armor weapon, believed to be codenamed Spike. It has fire-and-forget capability and can be fire non-line of sight using a fiber optic data link.
- The IDF has awarded El-Op a contract to develop a battle-management system known as the Combat Vehicle Integration System (CVIS) to improve the situational awareness of its field operations.

Air Forces

- The IAF is interested in acquiring the US F-22 prospective joint strike fighter and RAH-66 Comanche attack helicopter as future replacements for its F-15, F-16, and AH-1S combat aircraft. Tendency will be to upgrade with new radar (latest version of the EL/M-2032 radar), computer navigation systems, and other avionics before acquiring new aircraft.
- The IAF has received eighteen F-15I long range strike aircraft from McDonnell Douglas, with seven more due by the end of 1998 as part of a \$2 billion deal signed in 1994. Awaiting the delivery of fifteen Sikorsky UH-60 Black Hawk helicopters and 34 helicopter engines.
- IAF is considering purchase of F-16, F/A-18, F-15s to continue modernization and possible phase out of remaining 50 A-4s. Needs new trainers after 2000.
- The IDF has begun the process of renewing its UAV systems with the purchase of the Silver Arrow Hermes 450S. It has an endurance of about 20 hours and a ceiling of about 20,000 feet.
- Recent US aircraft donations have included 24 AH-64A Apaches; 10 UH-60 Black Hawk helicopters; and 25 ex-US Army AH-1E Cobra Attack helicopters.
- Intends to purchase another 60 AIM-120 AMRAAMs later this year for delivery by mid-1998. Finalized in April an order of 11 AMRAAMs.
- IAF will upgrade 30 Sikorsky CH-53D helicopters to the CH-53 Yasur 2000 standard. Upgrade program gives the CH-53s improved flight and navigation systems.
- IAF interested in acquiring the latest AH-64D Longbow radar equipped version of the Apache.
- Reportedly has equipped some or all of its 24C-130E/H Hercules aircraft with a defensive aid system comprising elements from the Elisra SPS-65 combined radar/laser warning equipment plus an active radar jammer.
- In September 1998 the U.S. Defense Department approved a five billion dollar deal whereby Israel is expected to purchase 60 F-16 C/Ds and 30 F-15Is. All of the F-15Is and 30 of the F-16s will be equipped with LANTIRN (Low Altitude Navigation and Targeting Infrared for Night) systems.

Naval Forces

- Four AS 656SA Panther helicopters will begin replacing Dolphin helicopters this year. There will be an increased number of sea-based landing pads due to the acquisition of three US built Eilat-class Sa'ar-5 Corvette class missile boats. Up to 11 of upgraded Sa'ar 4.5 type mini-corvettes are being introduced into service.
- Three Dolphin class diesel-electric submarines are being built for Israel in Germany. All three are to be delivered by the end of 1999. These will replace the Gal class submarines.
- The Barak sea-based antimissile missile system is scheduled this year for deployment, depending on available funding, on all Sa'ar-5 missile boats.
- Israel has started sea trials of a submarine that can launch commando swimmers while still submerged.

Source: Various media reports.

Israel: Missile and Anti Missile Developments

- The Arrow anti-tactical ballistic missile project, largely supported with US funding, continues into its fourth development phase. Intercept testing for the Arrow 2 missile was successfully completed in September 1998.
- The Rafael Moab missile forms part of the Israeli Boost-phase Intercept System. This is intended to engage TBMs soon after launch, using weapons fired from a UAV. Moab would be placed on the Rafael Python 4 air-to-air missile. Range is stated as 80-100km depending on altitude of release.
- In 1995 work began on an updated version of the Jericho 2 that would stretch its range to 2,000 km. Israel is also seeking technology to improve its accuracy, particularly with gyroscopes for the inertial guidance system and associated systems software.
- In a joint project with the USA, Israel designed the Nautilus laser system, initially for rocket defense. The Nautilus was supposed to eventually be deployed in the north to counter Hezbollah rocket attacks. In February 1996 it destroyed a 122 mm Katyusha rocket in-flight during a test at White Sands. Because of the success of the prototype, it has developed into the Theater High Energy Laser (THEL) program. Currently the project is on hold because of lack of funds to move the project forward. If funds become available, THEL could be ready for service as soon as 1998.

Source: Various media reports

Potential Qualitative Weaknesses in Israeli Forces

- *Cost of sustaining large military effort, maintaining forces and presence*
- *Small size and lack of strategic depth.*
- *Uncertain future of dependence on conscription and mass mobilization*
- *Steadily rising real cost of weapons and technology*
- *Difficulty in responding to sudden massive transfers of advanced weapons and technology to Arab opponent.*
- *Lack of force size to respond to multi-front war.*
- *Rising demands for training and professionalism inherent in advanced weapons and technology*
- *Many qualitative advantages do not apply to low intensity warfare:*
 - *Proxy war in Lebanon,*
 - *Intifada II/Northern Ireland,*
 - *Mass Palestinian support of terrorism/unconventional warfare*
- *Lack of comparative advantage in urban and built-up area warfare*
- *Loss of some of comparative advantage in mountain warfare.*
- *Vulnerability to hostage taking/suicide bombing*
- *Vulnerability to massive Syrian surprise/sudden attack*
- *Inability to use force to respond to some “battles of intimidation”*
- *Possible vulnerability to water/ecological and environmental warfare*
- *Weapons of mass destruction and inherent vulnerability of Israel*
- *Uncertain value of missile defenses; vulnerability to unconventional means of delivery*
- *High risk investment in Arrow/ATBM defense*

Political/ Strategic Weaknesses in Israeli Forces

- *Dependence on world opinion/media image for much of national status and depth of US support.*
- *Israeli extremism and internal divisions*
- *Uncertain future of Israeli-Palestinian-Jordanian peace process.*
- *Limited ability to take Israeli casualties*
- *Inflicting casualties in terms of media and Israeli popular reaction*
- *Limited ability to inflict collateral damage*
- *Proxy war in Lebanon*
- *Syrian/Iraqi/Iranian efforts to proliferate*
- *Egypt's commitment to peace process, sudden recreation of "second front."*
- *Political inability to apply decisive force in political battles of intimidation*
- *Lack of allies other than US in cooperative/Coalition warfare*
- *Problems in exploiting Israel's nuclear capabilities*
- *Dependence on US aid which is diminishing in real terms because of inflation and rising real cost of advanced military technology*
- *Waste and inefficiency because of politisation and over-subsidy of military industries.*

Israeli Concerns About the Military Budget

- Over the past year Israel's Defense Ministry has sought a multibillion dollar increase in its budget to improve preparedness for war. Concern has increased due to the breakdown in peace negotiations with Syria as well as Syrian troop movement in Lebanon and near the Golan. Recent reports say that Syria has moved some of its elite units closer to the border. Although Syria has categorized the moves as defensive, Israeli military officials have not ruled out the possibility of a Syrian attack. Fighting with the Palestinians has also aroused concern over the need for an increase in the budget.
- In December 1996, the government slashed the \$9.5 billion military budget by \$150 million to help deal with the country's economic problems. The cuts were aimed mostly at career officer retirement and benefit programs. The army protested and indicated that it needed an increase of a billion dollars.
- The government responded in January, 1997, by approving an additional \$91 million. The \$90 million increase was criticized as inadequate by the Ministry of Defense. The military is requesting money for new military equipment, including UH-60 Black Hawk utility helicopters, advanced Multiple Launch Rocket System artillery launchers, smart munitions, Sa'ar-5 missile boats and electronic warfare systems.
- In July 1997, the defense budget was cut \$57 million, to a total of \$7.2 billion. The new total represents 12.2% of the total Israeli budget.
- Yitzhak Mordechai, the Minister of Defense, boycotted the Cabinet meeting cutting the budget, to protest the cuts. He indicated that the IDF needed at least another \$600 million to improve readiness for the possible renewable of conflict with the Arabs -- particularly Syria.
- Defense Minister Yitzhak Mordechai previously estimated that that the IDF needed as much as \$667 million a year to return it to acceptable levels of readiness.
- Lt. General Amnon Shahak, the Chief of Staff, warned in the spring of 1997 that Israel lacked the means to fight a war at this time because of the steady erosion of funding, insufficient training and maintenance, and other factors. In July, he stated that, "Preparedness for the possibility of war in the budgetary reality as I know it is intolerable...Because of the lack of budgetary resources, the readiness of the army for war has been eroded in a very serious fashion. I stress: budgetary lack, not complacency."
- Sources close to Mordechai and Shahak indicated they had hoped for a 1.5 billion shekel (**\$5 billion**) increase in next year's budget.

Source: Various media reports.

Israeli Concerns About Readiness and Force Quality

- This year Israel has doubled its presence in Southern Lebanon to 2,000 men. The reinforcement came as a response to the increasingly effective campaign by the Hezbollah. They have forced the Israelis to restrict their movements for fear of ambush. Hezbollah has narrowed the gap to one Israeli killed for as few as 2.7 of their own.
- In February **1997** two US-built Sikorsky helicopters transporting troops to Lebanon, slammed together killing 73 soldiers and air crewman. It was the worst air disaster in Israel's history.
- Due to the rapid proliferation of ballistic missiles in the region, Israel has sought US cooperation in the development of missile defense systems. Projects include the Nautilus laser system, the Arrow anti-tactical ballistic missile project, and boost phase interceptors.
- An Israeli government report by the State Controller's office in the spring of 1997 stated there were serious deficiencies in the combat readiness of the IDF. Report said that training has deteriorated; many AFVs are not battle-ready; many air force helicopters have malfunctions; and that emergency stockpiles of weapons and ammunition have been depleted.
- Major General Matan Vilnai expressed concern in 1997 that most IDF combat troops spend less time preparing for war and more time occupied with anti-terrorist and other duties. Officers who have risen to field commands have only been involved in Lebanon and the Intifada. While this experience has exercised their basic skills, it has no relevance to their efficiency in modern war.
- Growing concern that the IDF air force fighter fleet faces major fatigue problems. Geography and IDF operational philosophy involves more high-G loading than USAF fighters. Israeli-made 600 gallon jettisonable fuel tanks have increased stress of wing root sections. Israeli-designed weapon pylons and engine modifications also contribute to fighter fatigue. Due to fatigue there is a constant need within the IDF air force for new fighters and service life extension programs.
- Some officers complained that the IDF involvement in the peace negotiations put it in an awkward and controversial position. This has embroiled the IDF in controversial issues such as withdrawal from the West Bank and the Golan Heights.
- Lt. General Amnon Shahak, the Chief of Staff, warned in July, 1997, that training days had been cut by two-thirds in recent years, and that civil defense against a chemical and biological attack by Syria was inadequate.

Source: Various media reports.

Israeli Concerns Over Israel's Military Edge: Views Expressed in Interviews with General Itzhak Mordechai (MOD), Lt. General Amnon Lipkin-Shahak (COS) and Rear Admiral Micha Ram (Former Commander of the Navy) - Part One

Egypt

- “Peace with contingency plans:” Can never ignore Egyptian “front,” but can never discuss it or publicly plan for it.
- Risk of break down of peace process; radicalization of Egypt.
- Parity in many aspects of equipment, particularly tanks, AFVs, and aircraft.
- Growing understanding of C4I/BM, erosion of Israeli edge.
- Potential problem of Patriot/SA-10 upgrade of air defenses.
- E-2C, electronic warfare, F-16, BVR missile air defenses.
- Knowledge of US methods and tactics, experience gained in training with US forces.
- Lessons of Gulf War.
- Ability to use commercial satellite technology.

Hezbollah/Proxy War in Lebanon

- Improved ordnance and technology. ATGMs, SHORADs, long-range rockets, mines, night vision, radio control. Added Iranian shipments and Syrian support.
- Loss of edge in LIC. Near parity in casualties, with far more sensitivity to losses on Israeli side.
- Uncertain ability to cost-effectively deter/retaliate for attacks on Israel if withdraw from security zone.
- Corruption and uncertain loyalty of much of SLA.
- Uncertain future of Syria: “Fourth front” under Syrian control?

Iran

- No Dongs, refueling, attacks on Israel
- Nuclear “time window”
- Support of Hezbollah/PIJ
- Ability to use commercial satellite technology.
- Targeting and strike challenge posed to IDF for preemption and retaliation/

Iraq

- Example can strike Israel with missiles
- Retention of WMD capabilities, future break out
- Retention of missiles and long-range strike aircraft
- Break down in peace process, rapprochement with Syria and/or Jordan
- Ability to use commercial satellite technology.
- Targeting and strike challenge posed to IDF for preemption and retaliation/

Israeli Concerns Over Israel's Military Edge: Views Expressed in Interviews with General Itzhak Mordechai (MOD), Lt. General Amnon Lipkin-Shahak (COS) and Rear Admiral Micha Ram (Former Commander of the Navy) - Part Two

Israel

- Break down of peace process; Palestinian despair
- Problems in obtaining adequate manpower intake and retention: 1/3 no longer serve as conscripts. 15% get early out.
- Growing manpower costs.
- Caserme mentality, lack of aggressive edge. Conscripts compete to serve in rear areas, near home, not in prestige combat units.
- Bureaucratic problems: Colonels up by 17%, Brigadier Generals by 60%, Generals as a whole by 41%. High salaries and retirement bonuses for officers (Colonel earns \$5,900 a month. Retirement bonus of \$282,200 for Colonel as early as age 42.)
- Loss readiness due to funding issues. Deadlined aircraft and armor, stockpiles down. Mordechai has publicly said it would cost \$667 million in FY1998 to restore the IDF to proper readiness.
- Time problems grow in relying on mobilization and this creates windows of vulnerability.
- Shahak has warned of sharp decline in reserve training activity; loss of combat experienced cadres; poor reserve exercise performance and adaptation to new technology/C4I/BM systems,
- Sensitivity to casualties.
- "Who's a Jew" divisions within Israel affecting military; Rabbis who interfere in operations dealing with settlements.
- Last war was 1973 (1982). Loss of generations with combat experience.
- Inadequate military spending.
- Inability to fund "necessary" upgrades of OAFVs/APCs and helicopter force.
- Loss of edge in stand-off attack capability, targeting, and electronic warfare?
- What comes after E-2C, current ECM/recce aircraft/RPVs?
- Underfunding of Navy, new for added ASW capability
- Shift of resources to security missions; Morale problems in dealing with Palestinians.
- Vulnerability to attacks with WMD, particularly terrorism.
- Hobson's TABM: Cost of having Arrow/Risk of not having Arrow.
- Lag in Satellite program
- Uncertain future of defense industry; political interference in IDF force plans to serve needs of industry.

Jordan

- Break down in peace process, rapprochement with Egypt, Syria and/Iraq
- Uncertain political future: After King Hussein?
- Role in "new Intifada."
- Spoiler or added front role, particularly as gets new US equipment.

Israeli Concerns Over Israel's Military Edge: Views Expressed in Interviews with General Itzhak Mordechai (MOD), Lt. General Amnon Lipkin-Shahak (COS) and Rear Admiral Micha Ram (Former Commander of the Navy) - Part Three

Libya

- Minor "Spoiler" role

New Intifada

- Jibril
- Rapid recruiting and training of suicide bombers.
- Hamas/PIJ
- Palestinian Authority security forces turn on Israel
- Trying to enforce isolation of Palestinian

North Korea

- No Dong missile

Syria

- Strategic shift away from peace process?
- Proxy war in Lebanon
- Shift of land forces to aid in sudden attack on Golan/Mt. Hermon-- "four hours from the border." Shift of 14th Special Forces Division from Lebanon to Golan similar to steps taken in 1973.
- Build-up of armored forces (1,500 T-72s), risk of surprise attack, "Golan grab."
- Air force minor threat, but major improvement to SAM defenses could affect balance.
- Purchase of new missile craft and 27 naval attack helicopters.
- Scud Cs, No Dongs?
- VX gas
- Chemically armed missiles: Volley fire against key Israeli targets?
- IDF estimate of at least 80 SSM launchers, many mobile and/or sheltered, and more than 1,000 missiles by 2000.
- Biological weapons?
- Ability to use commercial satellite technology.
- Targeting and strike challenge posed to IDF for preemption and retaliation in dealing with SSM/WMD threat.

New Intifada

- Jibril
- Rapid recruiting and training of suicide bombers.
- Hamas/PIJ
- Palestinian Authority security forces turn on Israel
- Trying to enforce isolation of Palestinian enclaves. Mid- to long-term LIC war similar to Northern Ireland.

Israeli Concerns Over Israel's Military Edge: Views Expressed in Interviews with General Itzhak Mordechai (MOD), Lt. General Amnon Lipkin-Shahak (COS) and Rear Admiral Micha Ram (Former Commander of the Navy) - Part Four

Russia/Ukraine

- Potential sale of advanced aircraft, refueling capabilities, AWACS.
- Potential SA-10 system sale.
- Security of nuclear materials.

Saudi Arabia

- Purchase of submarines
- Qualitative parity in air with Tornados, F-15I, US support and training. Long-range strike and AWACS/BVR capability.
- Patriot air defense system

UAE

- Potential transfer of AMRAAM to Arab country.

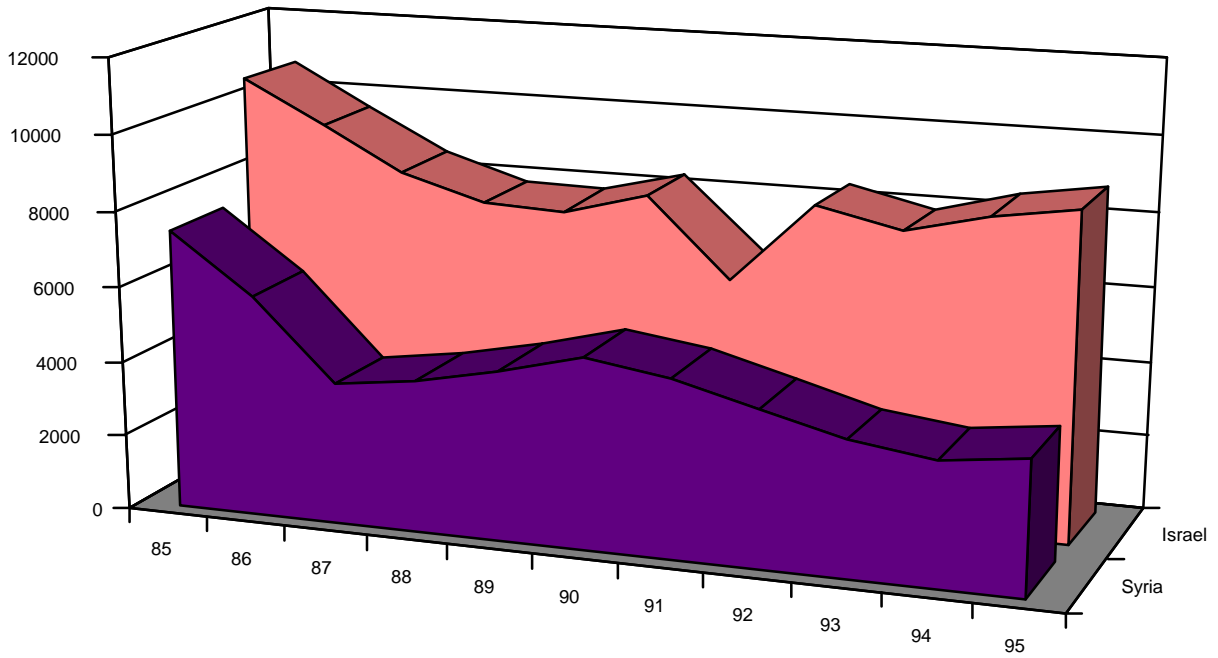
US

- Uncertain future of 6th Fleet
- Decline in US defense investment, rate of modernization and innovation contributing to Israel's edge.
- Constant rises in real price of US weapons and military equipment.
- Sales and technology transfer to Arab states; transfer of training, joint operations, C4I/BM capabilities.
- Aid forever?
- Role in nuclear Middle East?
- Future size of power projection forces and resupply capabilities?
- Fights over possible Israeli compromise of US Patriot and F-16 technology.
- Arms control initiatives in terms of NPT, MTCR, CWC, BWC that challenge Israel's nuclear edge without limiting Iran, Syria, etc.

Part Two

Israel vs. Syria and the Golan

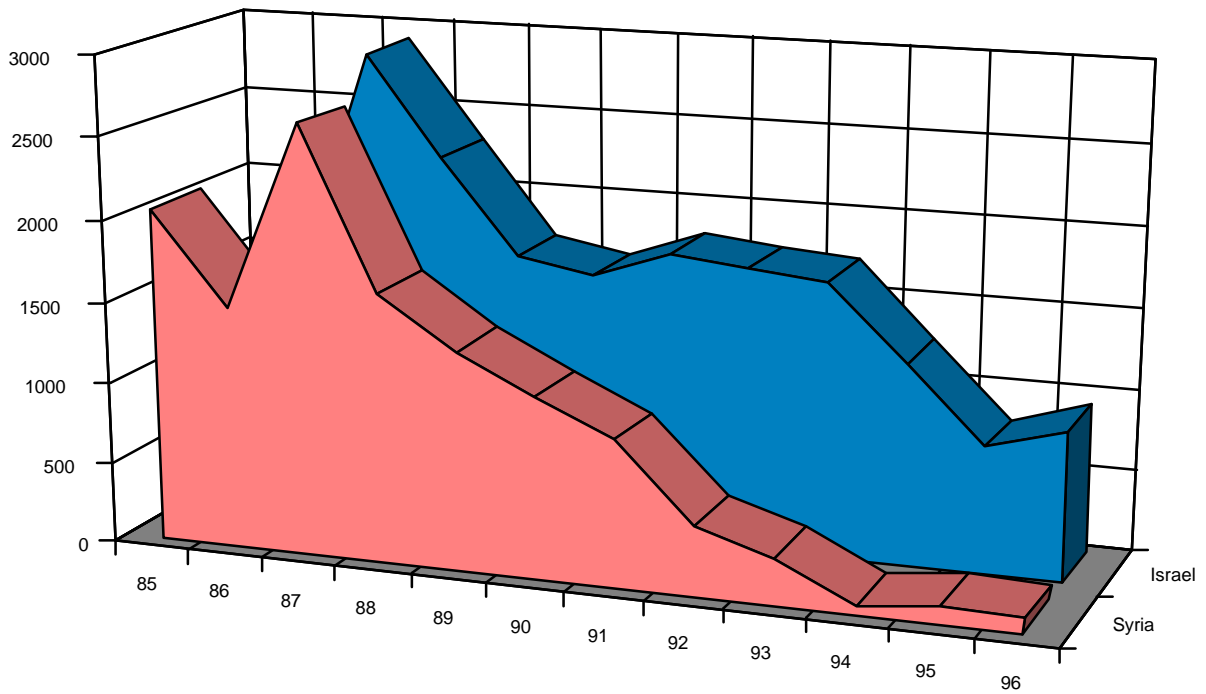
Trends in Syrian-Israeli Military Spending: 1984-1995 (In Constant \$95 Millions)



	85	86	87	88	89	90	91	92	93	94	95
■ Syria	7445	5878	3727	4000	4491	5045	4730	4150	3580	3270	3563
■ Israel	10650	9554	8421	7740	7693	8237	6233	8320	7812	8376	8734

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

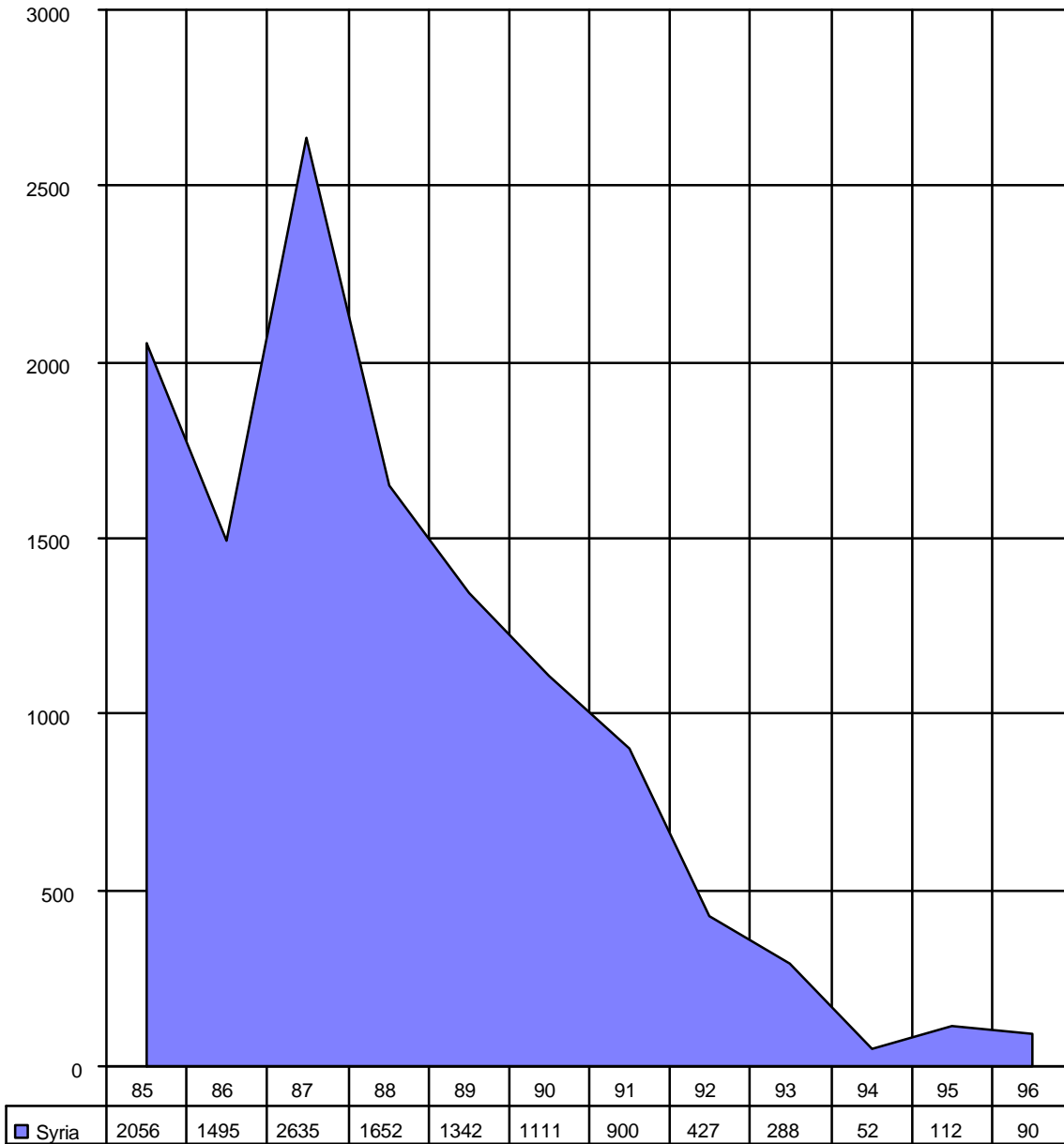
Comparative Trend in Syrian-Israeli Arms Deliveries: 1985-1996 (\$96 Constant Millions)



	85	86	87	88	89	90	91	92	93	94	95	96
■ Syria	2056	1495	2635	1652	1342	1111	900	427	288	52	112	90
■ Israel	1508	1495	2899	2288	1708	1637	1800	1752	1707	1250	789	925

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.

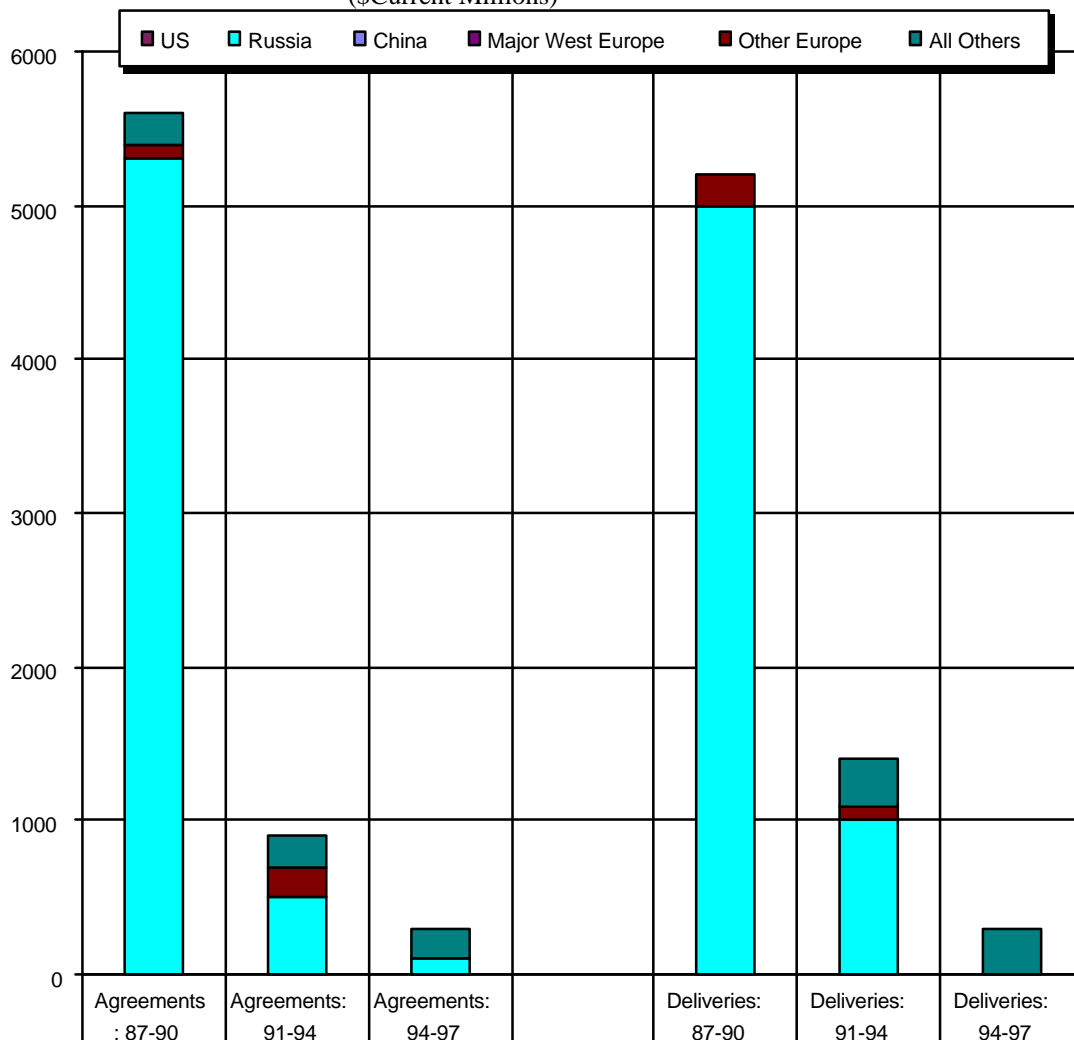
The Syrian Recapitalization Crisis: Arms Deliveries During 1985-1996 (\$96 Constant Millions)



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.

Syrian Arms Agreements and Deliveries By Major Supplier: 1987-1997

(\$Current Millions)



All Others	200	200	200	0	300	300
Other Europe	100	200	0	200	100	0
Major West Europe	0	0	0	0	0	0
China	0	0	0	0	0	0
Russia	5300	500	100	5000	1000	0
US	0	0	0	0	0	0

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.

The Syrian-Israeli Balance in 1999 - Part One

<u>Category/Weapon</u>	<u>Israel</u>	<u>Syria</u>
<u>Defense Budget</u>		
(In 98, \$Current Billions)	\$3.0	\$1.70
<u>Arms Imports - 1992-1995 (\$M)</u>		
New Orders	4,800	300
Deliveries	1,900	300
<u>Mobilization Base</u>		
Men Ages 13-17	275,000	973,000
Men Ages 18-22	267,000	793,000
<u>Manpower</u>		
Total Active	175,000	320,000
(Conscript)	138,500	-
Total Reserve	430,000	500,000
Total	605,000	820,000
Paramilitary	6,050	8,000+
<u>Land Forces</u>		
Active Manpower	134,000	215,000
(Conscripts)	114,700	-
Reserve Manpower	365,000	400,000
Total Manpower	499,000	615,000
Main Battle Tanks	4,300	4,600
(Fixed and Storage)	0	(1,200)
AIFVs/Armored Cars/Lt. Tanks	400	3,010
APCs/Recce/Scouts	5,980	1,500
WW II Half-Tracks	3,500	0
ATGM Launchers	1005	3,390
SP Artillery	1,150	450
Towed Artillery	400	1,630
MRLs	160	480
Mortars	2,740-5,000	4,500+
SSM Launchers	48	62
AA Guns	850	2,060
Lt. SAM Launchers	945	4,055

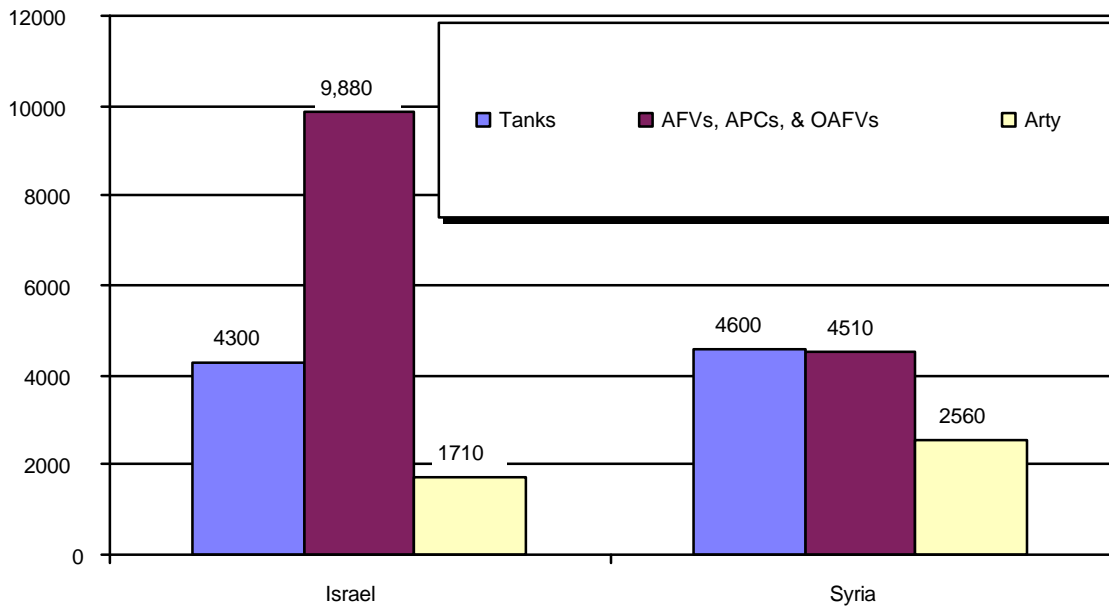
The Syrian-Israeli Balance in 1999 -Part Two

<u>Category/Weapon</u>	<u>Israel</u>	<u>Syria</u>
<u>Air & Air Defense Forces</u>		
Active Manpower	32,000	40,000
Active Air Defense Command	0	60,000
Air Force Reserve Manpower	55,000	92,000
Air Defense Command Reserve	0	-
Aircraft		
Total Fighter/FGA/Recce	474	589
Fighter	0	310
FGA/Fighter	352+(120)	0
FGA	50+(130)	154
Recce	22	14
Airborne Early Warning (AEW)	2	0
Electronic Warfare (EW)	36	10
Fixed Wing	(36)	0
Rotary Wing	0	10
Maritime Reconnaissance (MR)	3	0
Combat Capable Trainer	23	121
Tanker	8	0
Transport	48	29
Helicopters		
Attack/Armed/ASW	129	72
SAR/ASW	9	-
Other	158	110
Total	296	182
SAM Forces		
Batteries	20	130
Heavy Launchers	79	650
Medium Launchers	-	108
AA Guns	-	-
<u>Naval Forces</u>		
Active Manpower	9,000	5,000
Reserve Manpower	10,000	8,000
Total Manpower	19,000	14,000
Submarines	3	3
Destroyers/Frigates/Corvettes	3	4
Missile	3	2
Other	0	2
Missile Patrol	18	16
Coastal/Inshore Patrol	30	11
Mine	0	7
Amphibious Ships	1	3
Landing Craft/Light Support	4	5
MR/MPA	0	0
ASW/Combat Helicopter	0	24
Other Helicopters	-	-

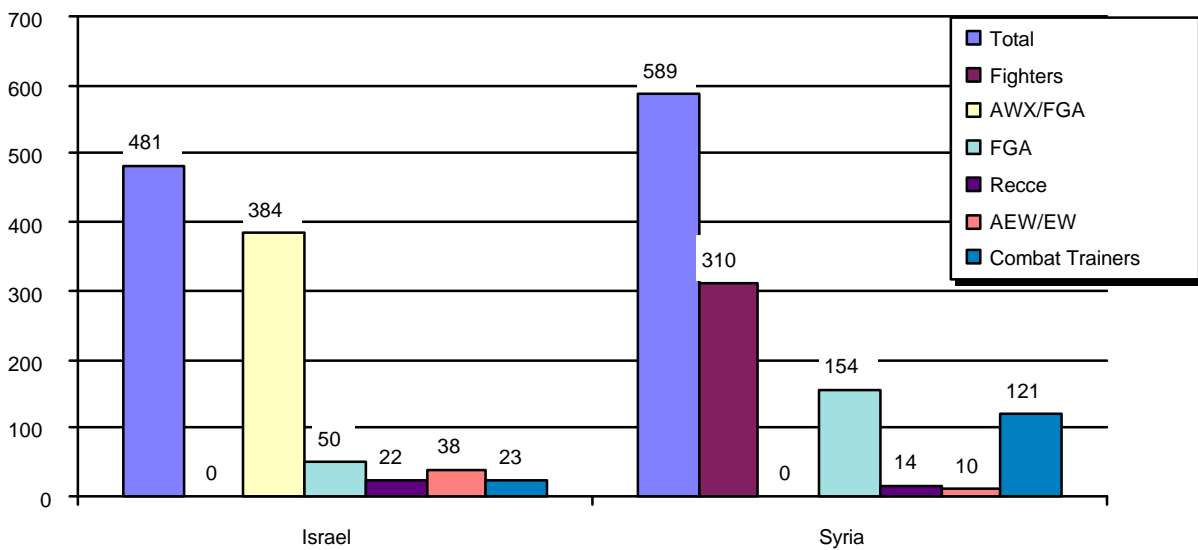
Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, [Military Balance](#)

Israel Versus Syria in 1999

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.

Israeli Forces

Strengths

- Exploitation of “revolution in military affairs”: Modern C⁴I/BM, beyond visual range, night combat, and high intensity warfare capabilities.
- One of the most effective reserve systems in the world; the only reserve forces in the middle east capable of immediate, high quality combat operations after call-up.
- Excellent combined arms and joint warfare capability.
- Modern land-air battle tactics and “system of systems.”
- Realistic high quality training at unit and force-wide levels.
- Excellent leadership, only Middle Eastern state except Jordan with high quality NCO corps and technicians; effective manpower and career management.
- Short lines of communication, excellent infrastructure.
- Core strength of 1200 M-60s and 1000 Merkavas: Over 50% of tank force.
- Highly mechanized force with some 6,000 relatively modern APCs and 400 modernized armored reconnaissance vehicles.
- Largely self-propelled artillery force (over 75%) with excellent battle management, fire control, and targeting support.
- New roads and security systems allow to isolate Palestinians.
- High technology air force with excellent AEW/EW, BVR, stand-off attack, and long range targeting capability.
- Core strength of 203 F-16 and 23 F-15C/D fighters.
- Tanker capability for in-flight refueling, long range missions.
- Modern attack helicopter force with 39 AH-1F and 42 AH-64; modern helicopter tactics and training.
- Exploitation of modern UAV, ELINT, and reconnaissance capabilities
- Fully modern land-based air defenses with Patriot, Improved Hawk, and modern C⁴I/BM system.
- Balanced force posture emphasizing readiness, sustainability, recovery and repair as well as equipment numbers and modernization.
- Modern naval anti-ship missiles, EW capability, and sensors. Maritime reconnaissance capabilities.
- Monopoly of nuclear weapons.
- Modern, efficient defense industries.
- US military assistance, resupply capabilities, and power projection capabilities.

Weaknesses

- Cuts in military spending affect readiness.
- Decline in active and reserve training standards.
- Need to train for both modern warfare and control of Gaza and West Bank, waste of assets protecting small settlements and enclaves.
- Dependence on warning to mobilize; vulnerability of reserve assembly centers.
- Risk of multi-front war, or mix of regular war and struggle with Palestinians.
- Acute sensitivity to casualties.
- Vulnerability to surprise and saturation by massive armored force on limited front or sudden raid.
- Vulnerability of key cities.
- Reliance on 1,080 Centurions, 500 M-48A5s, 150 Magach 7, 300 Ti-67, and 70 T-62 tanks: 2,100 out of 4,300 tanks are not first line and at least 25% are obsolete or obsolescent.
- Very limited numbers of armored fighting vehicles (400). No highly advanced types.
- Reliance on some 3,500 obsolete armored half tracks and OAFVs.
- Large part of former air force strength is obsolescent. 20 Kfirs active and 120 in storage; 50 A-4Ns active and 130 in storage.
- Limited naval forces, lack of Red Sea capabilities.
- Vulnerability to chemical and biological warfare.
- Lack of grand strategic vision; sensitivity to Arab reactions.
- **Lack of focus on nonconventional warfare.**

Syrian Forces

Strengths

- Ability to concentrate on one front, attack with forces in being.
- Ability to exploit occupation of Lebanon, use Hezbollah as a proxy.
- Ability to use terrorism, Islamic extremists as proxy.
- Large active forces: 421,000 men versus 175,000 for Israel and 98,650 for Jordan.
- Large tank force: 4,600 main battle tanks.
- Large force of armored fighting vehicles: 2,250 BMP-1s and 60 BMP-2s.
- Large artillery forces.
- Large anti-tank weapons force.
- Large air force with 579 fixed-wing combat aircraft and 100 armed helicopters.
- Massive land-based air defense force with 450 SA-2s and SA-3s, 200 SA-6s, over 4,000 short range air defense missiles and over 2,000 air defense guns.
- Growing chemical weapons capability including Scuds and North Korean missiles; possible biological capability.

Weaknesses

- Cuts in military spending affect readiness and recent arms imports only total about 20% of the level necessary to “recapitalize” the force built-up in the mid-1980s.
- Failure to exploit “revolution in military affairs”: Lack of modern C⁴I/BM, beyond visual range, night combat, and high intensity warfare capabilities.
- Emphasis on weapons numbers and procurement over readiness, sustainability, recovery and repair.
- Incompetent and largely worthless reserve system.
- Poor combined arms and joint warfare capability.
- Lack of modern land-air battle tactics and “system of systems.”
- Politicization and corruption of officer corps at many levels.
- Low quality training at all levels.
- Poor leadership, lack of high quality NCO corps and technicians; poor manpower and career management.
- Only 1,500 tanks out of 4,600 are T-72s, none with advanced fire control systems and armor; some 1,200 tanks in static positions or storage. At least 45% of tanks are obsolete and worn.
- Far too few APCs to fully mechanize force and most obsolescent: 1,500 BTRs.
- Reliance on towed artillery - over 60%. Lack of modern fire control and targeting systems. Obsolete massed fire and slow maneuver tactics optimized for day combat.
- Most short range air defenses are obsolete. Guns are unguided, most SAMs are SA-7s.
- No real AEW/EW, BVR, stand-off attack, and long range targeting capability.
- Over 110 of the 579 combat aircraft are low quality trainers and other aircraft are in storage. Only truly modern aircraft are 20 Su-24s and 20 MiG-29s, all with export versions of avionics. 302 of active combat aircraft are obsolete MiG-21s and MiG-23s, 413 including trainers.
- No tanker capability for in-flight refueling, long range missions.
- Some of attack helicopter force in storage. 50 are obsolescent SA-342s. Dated helicopter tactics and training.
- Very limited UAV, ELINT, and reconnaissance capabilities
- Most heavy SAMs are obsolete (48 SA-5s and 450 SA-2/SA-3; lack of modern C⁴I/BM system.
- Obsolete naval anti-ship missiles, poor EW capability, and sensors. Minimal maritime reconnaissance capabilities.
- No nuclear weapons.
- Vulnerability of key cities.
- Lack of significant Arab military aid; end of Cold War.

Recent Reports of Syrian Force Developments - Part One

General

- Syria redeployed 12,000 of its 40,000 troops in Lebanon to the Bekaa Valley and to the foothills of Mount Hermon where the Israelis have key electronic surveillance facilities (9/96). Damascus describes the moves as defensive. Recent reports (6/97) say that Syria has deployed several of its elite units closer to the border. Although Syria has labeled these moves as "defensive," Israeli military officials have not ruled out the possibility of an attack.
- Syria deployed armored units out of Lebanon in May, 1997, possibly to strengthen forces on Turkish border.
- Syria's forces in Lebanon are reported to have been reduced from 35,000 to 25,000 men in 1997-1998.
- Syria's arms market is limited. \$11 billion debt to Russia and inability to purchase weapons from the US, act as stumbling blocks to new arms purchases.
- Syria has one of the world's highest rates of enlistment at 28.5 servicemen per thousand people. The armed forces total about 408,000 personnel on active duty. (7/95)

Land Forces

- Most of its eight armored divisions are equipped with T-72s, the total surpassing 1,500. The bulk of these require upgrading to maintain their effectiveness. Their night-and adverse weather warfare capability must be improved with modern thermal-imaging and fire-control systems.
- Syria has taken delivery from the Ukraine of the first batch of T-55MV tanks and has deployed them near the Golan
- Has about 3,000 near-obsolete T-54/T-55/T-62 tanks that need more than upgrading.
- Syria is reported to be negotiating with Russia for T-72 upgrades, and to have upgraded the night vision and fire control systems on some of its T-55s.
- Modernization is needed for the rest of the combined mobile force. Has 2,450 BMP-1s and 100-200 BMP-2s would be weak in combat because of their light armor protection and severe ergonomic deficiencies.
- Has acquired 400 self-propelled guns for its mobile force, but the majority are still towed.

Air Forces

- Of its 500 aircraft, only 10 percent are high-quality aircraft, such as MiG-25s, MiG-29s, and Su-24s.
- Reports of a \$1.4 billion agreement with Russia involving supplies of 30 S-24 Fencer and 50 MiG-29 Fulcrum aircraft, multiple rocket launchers, and SA-10 surface-to-air missile.
- The state of Syria's air defenses is relatively poor and in great need of modernization. Although no less than 95 SAM batteries are fielded, their equipment includes near-obsolete SA-3/3s, SA-6s, and SA-8s.

Naval Forces

Recent Reports of Syrian Force Developments - Part Two

Weapons of Mass Destruction

- Intelligence reports that Syria, with the help of Russian scientists, is manufacturing a nerve gas call VX that acts via the skin and is hard to disperse. Reported to be in initial stages of preparing warheads for ground-to-ground missiles that could deliver the gas.
- Syria has begun production of chemical bomblets for its Scud C ballistic missiles.
- IDF estimates that by the year 2,000, Syria will have at least 80 SSM launchers and more than 1,000 missiles.
- The Chinese manufacturer of M-11 missiles sent a shipment of military cargo to Syria that the CIA believes may have contained missile related components.
- The US navy has monitored an undisclosed number of Syrian 'Scud' missile launches into their eastern desert in recent months. Launches during the latter half of 1996 and 1997 are believed to have been the testing of Scud-B variants. Suspicions that Syria's test program could be leading to the employment of a chemical warhead.
- Iran may have sent Syria equipment for use in the manufacture of solid-fuel rocket motors. Syria is believed to have improved its launching systems to include surface-to-surface missiles with ranges of 300, 500, and 1,000 kilometers.
- US satellites detected unusual movements inside Syria of military units equipped with Scud-type surface-to-surface missiles. (10/96)
- Intelligence reports suggest that Syria has increased the readiness to fire its long-range missiles, which are capable of reaching Tel Aviv.

Source: Various media reports.

Force Trends in Syria - Part One

<u>Category/Weapon</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>1999</u>
<u>Manpower</u>						
Total Active (Conscript)	177,500	247,500	402,500	404,000	423,000	320,000
Total Reserve	-	-	-	-	-	-
Total	102,500	-	273,500	400,000	650,000	500,000
	280,000	-	676,000	804,000	1,073,000	820,000
Paramilitary	9,500	9,500	6,300	10,800	8,000+	8,000+
<u>Land Forces</u>						
Active Regular Manpower (Conscripts)	150,000	200,000	270,000	300,000	315,000	215,000
Republican Guards	-	(140,000)	(135,000)	(130,000)	(250,000)	-
Reserve Manpower	-	-	-	10,000	-	-
Total Reserve & Active Manpower	100,000	-	270,000	392,000	550,000	400,000
	250,000	-	540,000	702,000	865,000	615,000
Main Battle Tanks (Static & in Storage)	1,400	2,920	4,200	4,000	4,600	4,600
		-	-	(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

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

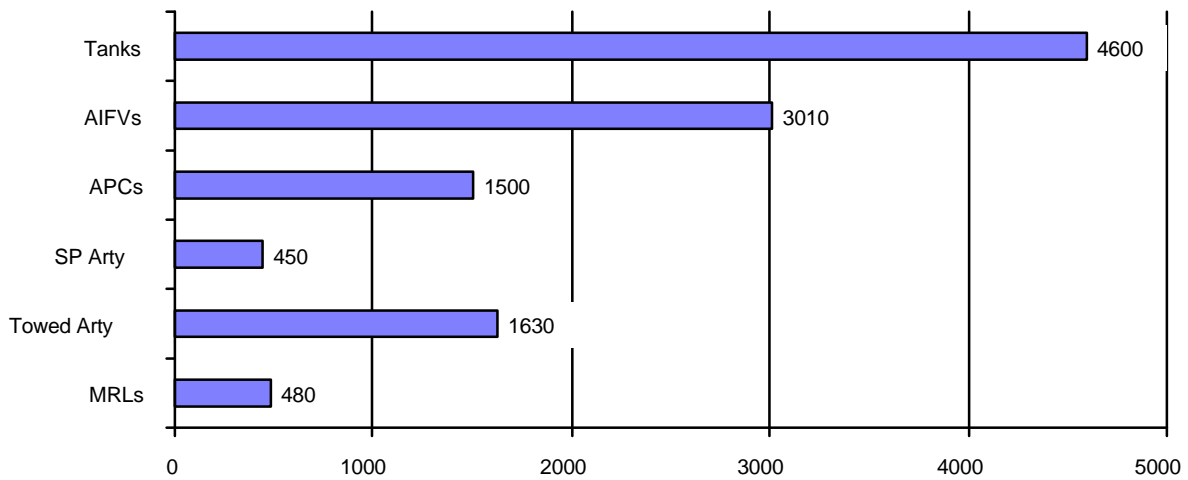
Force Trends in Syria - Part Two

<u>Category/Weapon</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>1999</u>
<u>Air & Air Defense Forces</u>						
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	-	-	-	-	-	-
<u>Aircraft</u>						
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	121
Tanker	0	0	0	0	0	0
Transport	9	17	23	28	34	29
<u>Helicopters</u>						
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
<u>SAM Forces</u>						
Batteries	-	75	126	126	130	130
Heavy Launchers	-	-	658	658	650	650
Medium Launchers	-	-	-	108	108	108
AA Guns	-	-	-	-	-	-
<u>Naval Forces</u>						
Active Manpower	2,500	2,500	2,500	6,000	8,000	5,000
Reserve Manpower	2,500	-	2,500	8,000	8,000	8,000
Total Manpower	5,000	-	5,000	14,000	16,000	13,000
Submarines	0	0	0	3	3(2)	(3)
Destroyers/Frigates/Corvettes	0	0	0	2	2	4
Missile	0	2	2	2	2	2
Other	0	0	0	0	0	2
Missile Patrol	6	18	22	12	18	16
Coastal/Inshore Patrol	12	9	7	8	11	11
Mine	1	3	4	9	7	7
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	-	-	-	-	-	-

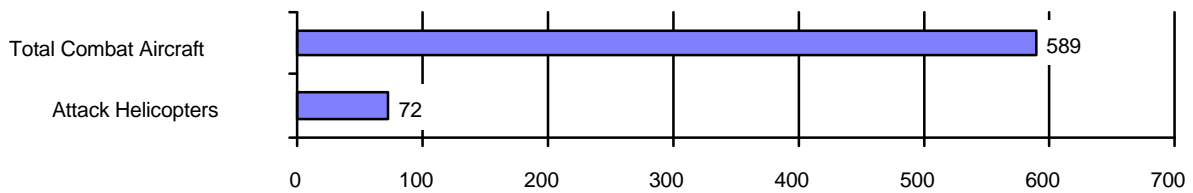
Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, Military Balance

Syrian Major Military Equipment in 1999

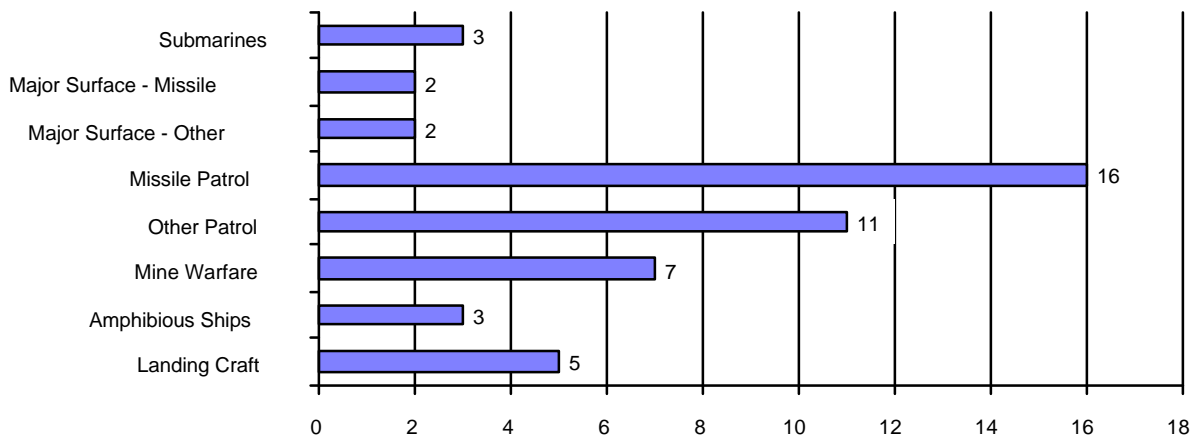
Land Forces



Air Forces



Naval Forces



Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, [Military Balance](#)

Security on the Golan - Part One

Geography of Golan

- Plateau about 1,150 square kilometers, 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.
- Movement limited by Mount Hermon in the North, and by the Ruqqad and Yarmuk River wadis in the far south.
- Central Golan has a relatively gentle slope down toward Damascus, but 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, its from 100 meters in Israel to peaks as high as 1,121 meters at Mount Hermon, 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 five main east-west routes, but each presents problems.
- Terrain on the Golan is relatively smooth at the top, but it is broken up with small volcanic cones that make natural sites for defensive positions and strong points.

Strategic Importance to Israel

- Israel occupies key line of volcanic peaks to the west of Quneitra, and Israeli ground forces are deployed on the high ground on the Golan to the east of the line of volcanic mounds that defines the Golan watershed. Israel has created an extensive network of fire points, anti-tank obstacles, and mine fields. 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.
- There are some 14,000 Jews settled on the Golan in 29 settlements, and some 15,000 Druze.
- 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.
- 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. The Israeli signals and electronic intelligence sensors on the Golan are an integral part of Israel's early warning system.
- Golan is within 20 kilometers of Israeli cites like Tiberias, and 60 kilometers of relatively obstacle-free terrain from Haifa and Acre. The Golan would be a good observation platform for Syria, which could locate visual and signals intelligence observation posts. Syria could also use the Golan for artillery and missile attacks.

Security on the Golan - Part Two

Israeli-Syrian disengagement agreement signed on May 31, 1974

- There is a 3-6 kilometer-wide disengagement zone where no forces are permitted, except for a UN disengagement observer force (UNDOF) of 1,000- 1,250 men. This force has been in place since 1974, and has manning from Austria, Canada, Finland, and Poland.
- 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 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.

Syrian Forces

- In 1973, Syria launched a surprise attack with 1,400 tanks and 28,000 other weapons and vehicles.
- 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.¹
- Syria could put simultaneous pressure on Israel by attacking across the Lebanese border with the 30,000 men it stations in the Beqa'a, or using the 3,000 men in the Hezbollah.

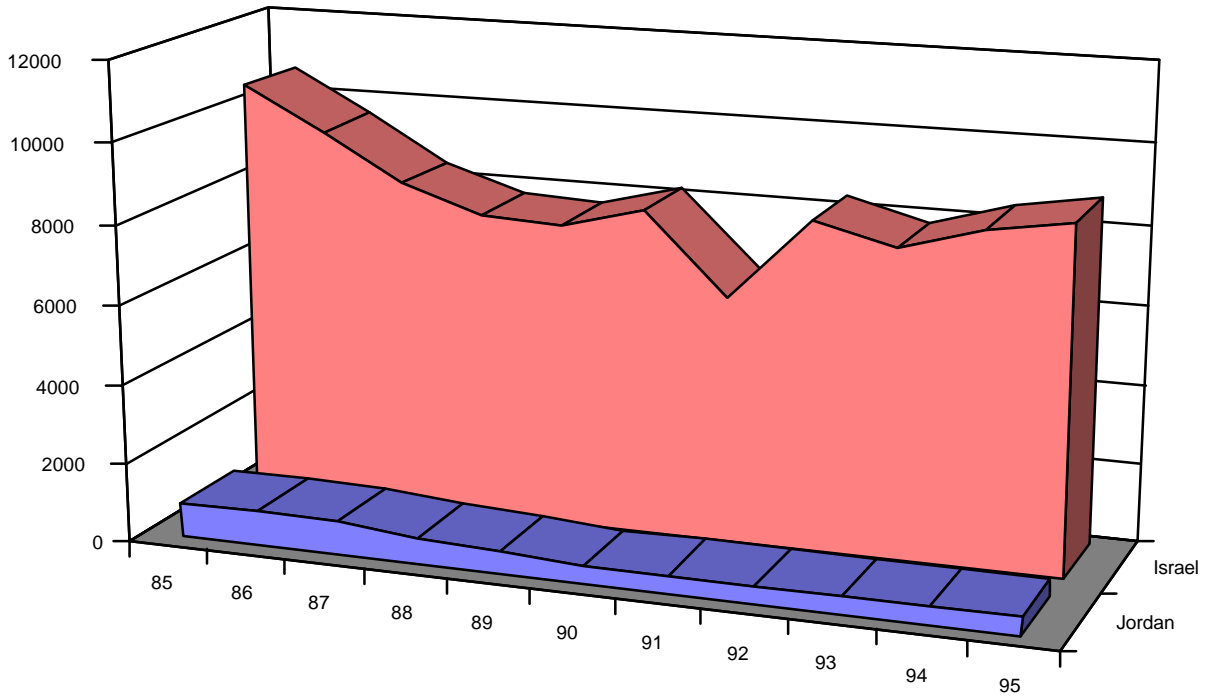
Syrian Moves Affecting War with Israel and the Golan: 1996-1997

- 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 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.

Part Three

Israel vs. Jordan

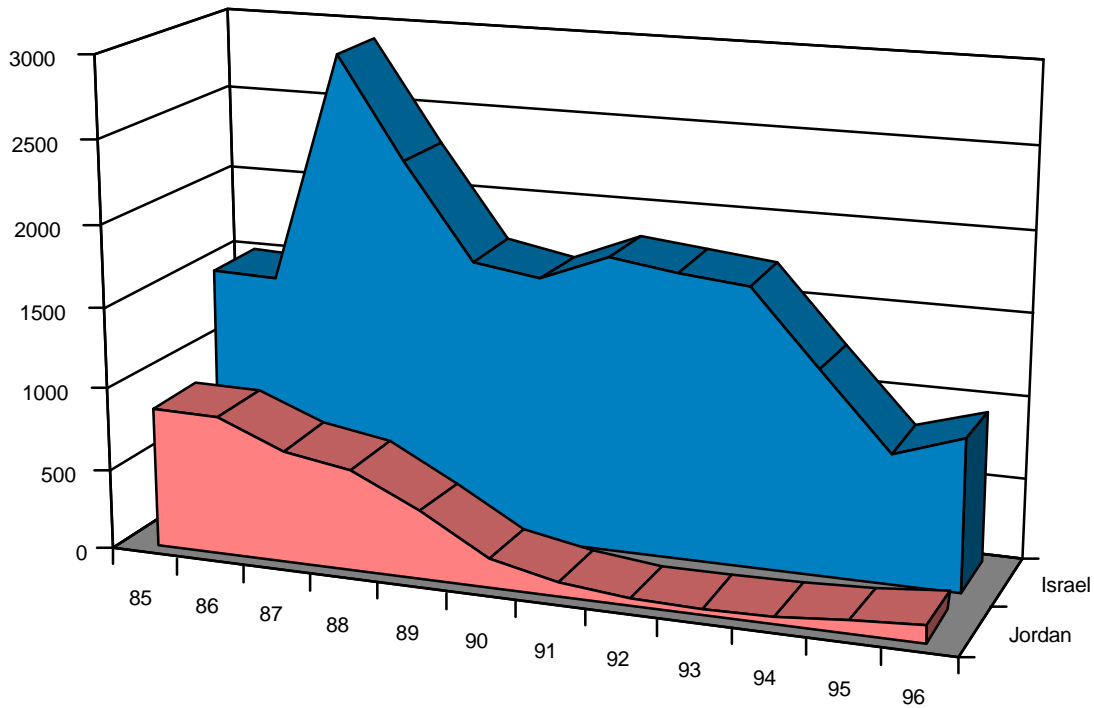
Trends in Jordanian-Israeli Military Spending: 1984-1995 (In Constant \$95 Millions)



	85	86	87	88	89	90	91	92	93	94	95
Jordan	849	899	894	673	597	456	466	461	469	448	481
Israel	10650	9554	8421	7740	7693	8237	6233	8320	7812	8376	8734

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

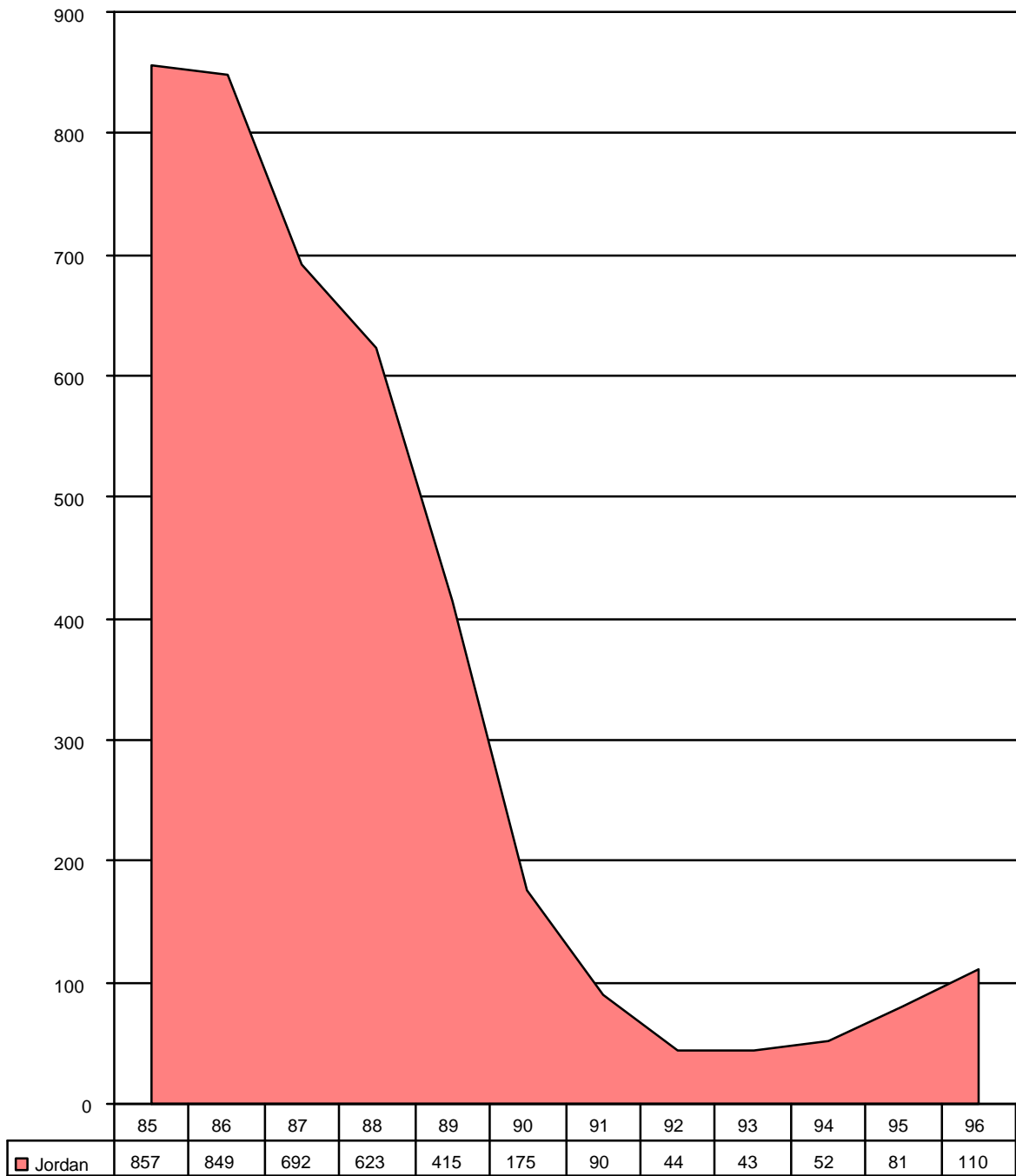
Trends in Jordanian-Israeli Arms Import Deliveries: 1985-1996 (\$96 Constant Millions)



	85	86	87	88	89	90	91	92	93	94	95	96
■ Jordan	857	849	692	623	415	175	90	44	43	52	81	110
■ Israel	1508	1495	2899	2288	1708	1637	1800	1752	1707	1250	789	925

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.

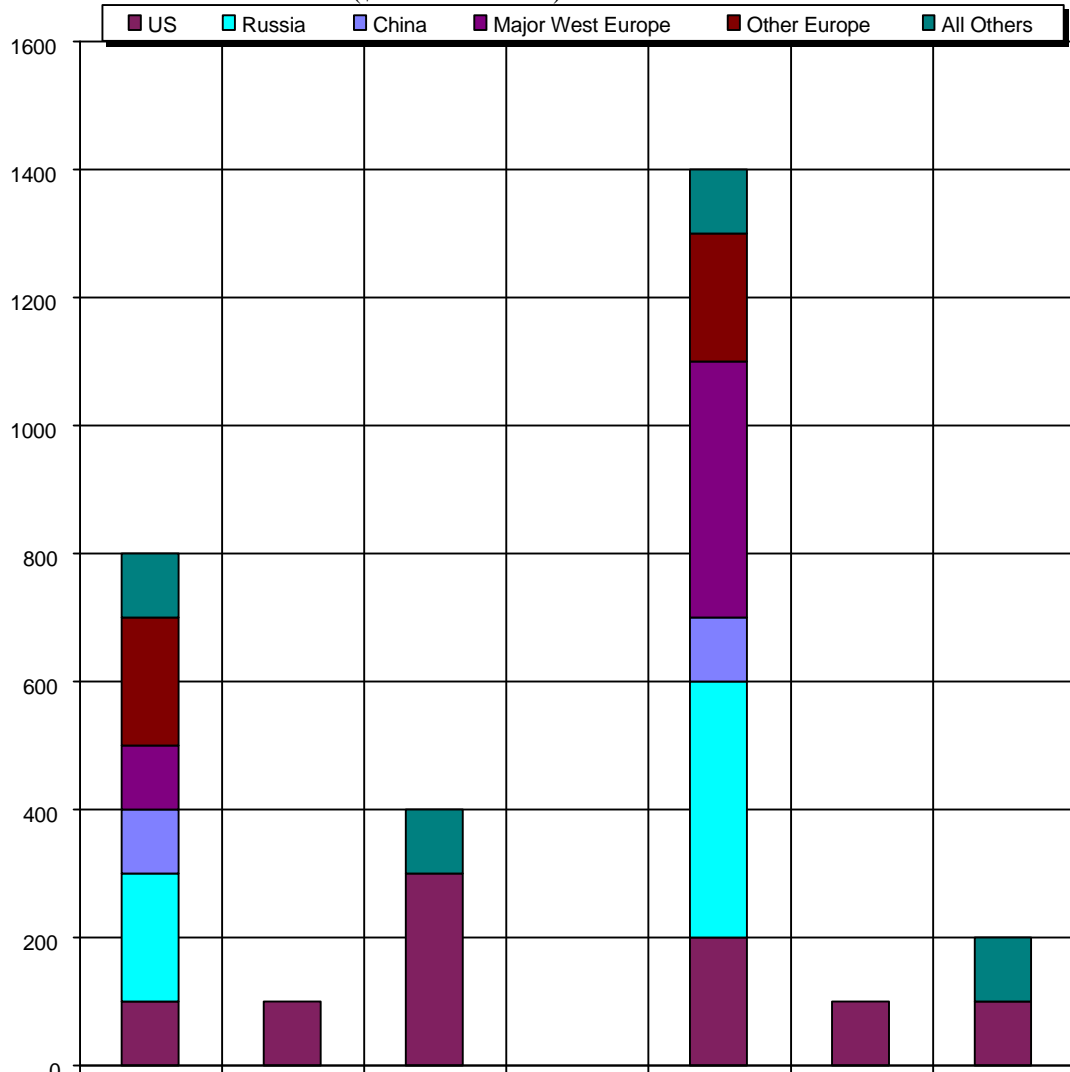
The Jordanian Recapitalization Crisis: Arm Deliveries: 1985-1996 (\$96 Constant Millions)



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.

Jordanian Arms Agreements and Deliveries By Major Supplier: 1987-1997

(\$Current Millions)



	Agreements: 87-90	Agreements: 91-94	Agreements: 94-97	Deliveries: 87-90	Deliveries: 91-94	Deliveries: 94-97
All Others	100	0	100	100	0	100
Other Europe	200	0	0	200	0	0
Major West Europe	100	0	0	400	0	0
China	100	0	0	100	0	0
Russia	200	0	0	400	0	0
US	100	100	300	200	100	100

Total 800 100 400 1,300 100 200

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.

The Jordanian-Israeli Balance in 1999 - Part One

<u>Category/Weapon</u>	<u>Israel</u>	—	<u>Jordan</u>
<u>Defense Budget</u>			
(In 97, \$Current Billions)	\$3.0		\$0.548
<u>Arms Imports - 1992-1995 (\$M)</u>			
New Orders	4,800		400
Deliveries	1,900		200
<u>Mobilization Base</u>			
Men Ages 13-17	275,000		263,000
Men Ages 18-22	267,000		240,000
<u>Manpower</u>			
Total Active	175,000		104,500
(Conscript)	138,500		-
Total Reserve	430,000		30,000
Total	605,000		134,500
Paramilitary	6,050		10,000
<u>Land Forces</u>			
Active Manpower	134,000		90,000
(Conscripts)	114,700		-
Reserve Manpower	365,000		30,000
Total Manpower	499,000		120,000
Main Battle Tanks	4,300		1,217
(Fixed and in Storage)	0		-
AIFVs/Armored Cars/Lt. Tanks	400		224
APCs/Recce/Scouts	5,980		1,100
WWII Half-Tracks/Half-Tracks	3,500		
ATGM Launchers	1005		640
SP Artillery	1,150		406
Towed Artillery	400		115
MRLs	160		0
Mortars	2,740		450
SSM Launchers	48		0
AA Guns	850		360
Lt. SAM Launchers	945		965+

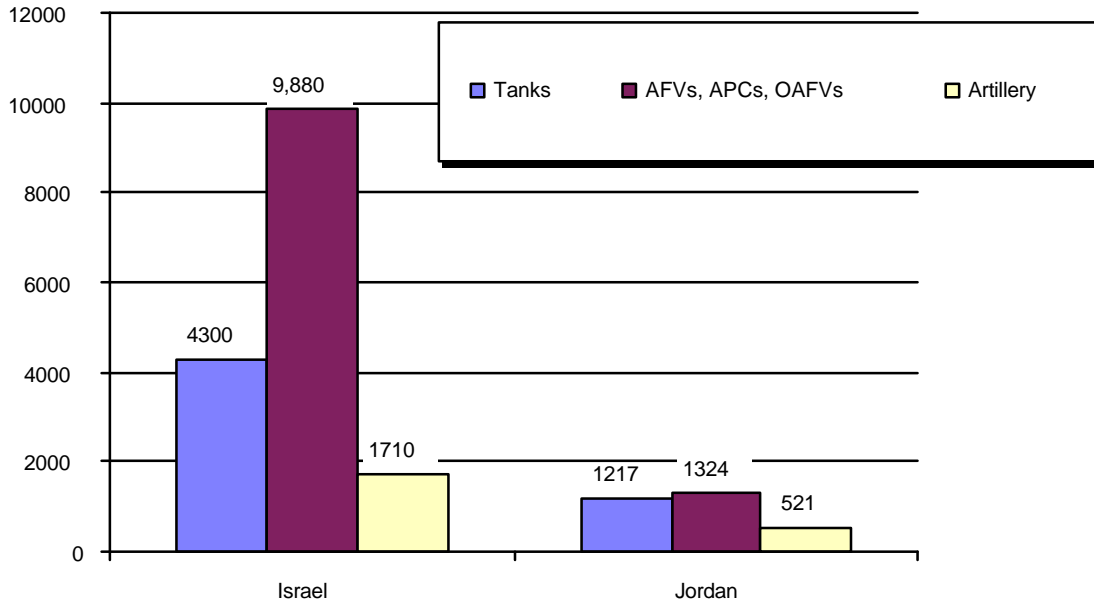
The Jordanian-Israeli Balance in 1999 - Part Two

<u>Category/Weapon</u>	<u>Israel</u>	<u>Jordan</u>
<u>Air & Air Defense Forces</u>		
Active Air Force Manpower	32,000	13,500
Active Air Defense Command	0	0
Air Force Reserve Manpower	55,000	-
Air Defense Command Reserve	0	0
Aircraft		
Total Fighter/FGA/Recce	474	93
Fighter	0	41
FGA/Fighter	352+(120)	0
FGA	50+(130)	50
Recce	22	0
Airborne Early Warning (AEW)	2	0
Electronic Warfare (EW)	36	0
(Fixed Wing)	36	0
(Rotary Wing)	-	0
Maritime Reconnaissance (MR)	3	0
Combat Capable Trainer	23	2
Tanker	8	0
Transport	48	14
Helicopters		
Attack/Armed	129	16
SAR/ASW	9	-
Other	158	46
Total	296	62
SAM Forces		
Batteries	20	14
Heavy Launchers	79	80
Medium Launchers	-	0
AA Guns	-	-
<u>Naval Forces</u>		
Active Manpower	9,000	480
Reserve Manpower	1,000-3,000	-
Total Manpower	10,000-12,000	480
Submarines	4	0
Destroyers/Frigates/Corvettes	3	0
Missile	3	0
Other	0	0
Missile Patrol	18	0
Coastal/Inshore Patrol	30	3
Mine	0	0
Amphibious Ships	1	0
Landing Craft/Light Support	4	7
Fixed Wing Combat Aircraft	0	0
MR/MPA	0	0
ASW/Combat Helicopter	0	0
Other Helicopters	-	-

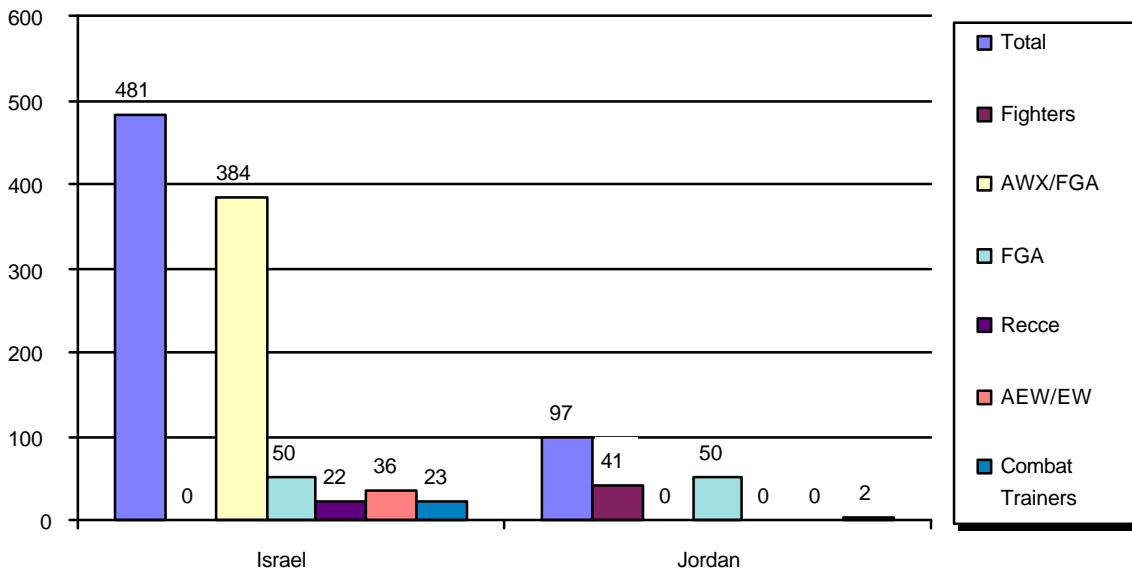
Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, Military Balance

Israel Versus Jordan in 1999

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.

Jordanian Forces

Strengths

- Some exploitation of “revolution in military affairs”: Seeking modern C⁴I/BM, beyond visual range, night combat, and high intensity warfare capabilities.
- Moderate combined arms and joint warfare capability, limited by equipment and training and readiness funds..
- Relatively high quality training at unit levels.
- Good leadership, high quality NCO corps and technicians; effective manpower and career management.
- 218 upgraded M-60A1/A3 tanks.
- Moderately mechanized force with 1,100 M-113s.
- Largely self-propelled artillery force (over 75%) with competent battle management, but limited equipment for modern fire control and targeting.
- Modern anti-tank weapons: 330 TOW launchers (70 self-propelled) and 310 Dragon launchers.
- Modern attack helicopter force with 24 AH-1S with TOW; good tactics.
- Acquiring F-16s through US aid.
- 80 IHawk launchers with moderately updated C⁴I/BM system.
- Comparatively large numbers of modern Russian short-range air defense missiles: 50 SA-8s, 50 SA-13s, 300 SA-14a, 240 SA-16s.
- Balanced force posture emphasizing readiness, sustainability, recovery and repair as well as equipment numbers and modernization.
- US military assistance, resupply capabilities, and power projection capabilities.
- Terrain advantage in defensive missions.

Weaknesses

- Cuts in military spending affect readiness and manpower levels, force increasing amounts of equipment to be put in storage. Recent arms imports total less than 15% of levels necessary to recapitalize and modernize force structure.
- Decline in active and reserve training standards for fiscal reasons.
- Terrain favors Israel in offensive battle.
- Vulnerability to surprise and saturation by massive armored force on limited front or sudden raid.
- More than 25% of tanks (270 M-47/M-48s) in storage. Out of the remaining force, 28% are obsolete Tariqs (Centurions) and 26% are worn Khalids (Chieftains) with limited endurance and mobility and obsolescent fire control systems.
- Limited numbers of armored fighting vehicles (19 Scorpions, 150 obsolete Ferrets, and 35 BMP-2s. No highly advanced types.
- Reliance on some 3,500 obsolete armored half tracks and OAFVs.
- Entire air force strength is obsolescent: 65 F-5E/Fs, 30 Mirage F-1s. No meaningful AEW, EW, beyond-visual-range, and stand-off attack capability.
- I-Hawks are fixed in vulnerable locations and covert mobility plan is ineffective.
- Token naval forces, lack of Red Sea capabilities.
- Vulnerability to chemical, biological, and nuclear warfare; no weapons of mass destruction.
- Vulnerability of key cities.
- Lack of significant Arab military aid.

Recent Jordanian Force Developments

General

- **Joint** training exercises by US and Jordanian military units continue to take place in Jordan on at least an annual basis and sometimes more often.
- Designation as a "major non-NATO ally" entitles Jordan to priority consideration of EDA assistance.
- Jordan's restructuring plan, developed in 1994, called for a cut in the military's manpower from the current 100,000 to 60,000.
- Jordan's economic problems and foreign debt preclude it from further major self-financed acquisitions at this time.
- Seeking Global Positioning System (GPS) navigation and communications gear to counter problems in drugs and weapons smuggling.

Land Forces

- Acquisition (12/14/96) of 50 M60A3 MBTs, 18 UH-1H helicopters, 250 M1008 and M1009 trucks, two Mk 4 personnel boats, an air-sea rescue craft, communications equipment and 1,000 night vision goggles through US aid. Equipment totaled \$100 million,
- Seeking M1A1 tanks to replace M48 tanks and upgraded Centurion tanks.
- Seeking to acquire at least 50 more M60A3s and M2 Bradley infantry fighting vehicles from the US to replace its 1,100 M113 APCs.
- In 1996, received 500 light trucks, medical supplies, and assault rifles through US military aid.
- Lack of spare parts for the tank fleet which is divided between 218 M60A1/A3, 270 M47/48A5 MBTs, 360 Khalid/Chieftain, and 293 Centurions from the UK.

Air Forces

- Acquired 12 ex-USAF F-16As and four F-16Bs, the first of which arrived in 12/97. Provided under a five year lease paid mostly by the US. The US will train the Jordanian air force in F-16 operation.
- Lack of spare parts for its 44 US F-5E/F Tiger IIs.
- Acquiring one C-130 transport this year through US aid.
- Looking for upgraded mobile HAWK surface-to-air missile systems and more TOW anti-tank missiles.

Naval Forces

Source: Various media reports.

Force Trends in Jordan - Part One

<u>Category/Weapon</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>1999</u>
<u>Manpower</u>						
Total Active (Conscript)	80,200	67,200	70,300	82,250	98,800	104,500
Total Reserve	-	-	35,000	35,000	35,000	30,000
Total Actives & Reserve	-	-	105,300	117,250	133,800	134,500
Paramilitary	10,000	10,000	11,000	17,000	10,000	10,000
<u>Land Forces</u>						
Active Manpower (Conscripts)	75,000	60,000	62,750	74,000	90,000	90,000
Reserve Manpower	-	-	30,000	30,000	30,000	30,000
Total Reserve & Active Manpower	-	-	92,750	104,000	120,000	120,000
Main Battle Tanks (Fixed & in Storage)	440	609	795	1,131 (260)	1,141 (270)	1,217 (300)
AIFVs/Armored Cars/Lt. Tanks	240	140	32	188	204	224
APCs/Recce/Scouts	440	962	850	1,244	1,100	1,100
WWII Half-Tracks	0	0	0	0	0	0
ATGM Launchers	-	162	610	640	640	640
SP Artillery	55	173	144	237	370	406
Towed Artillery	160	90	91	89	115	115
MRLs	0	0	0	0	0	0
Mortars	-	400	500	600	450+	800
SSM Launchers	0	0	0	0	0	0
AA Guns	200	200	366	408	360	360
Lt. SAM Launchers	-	-	-	-	890	965+

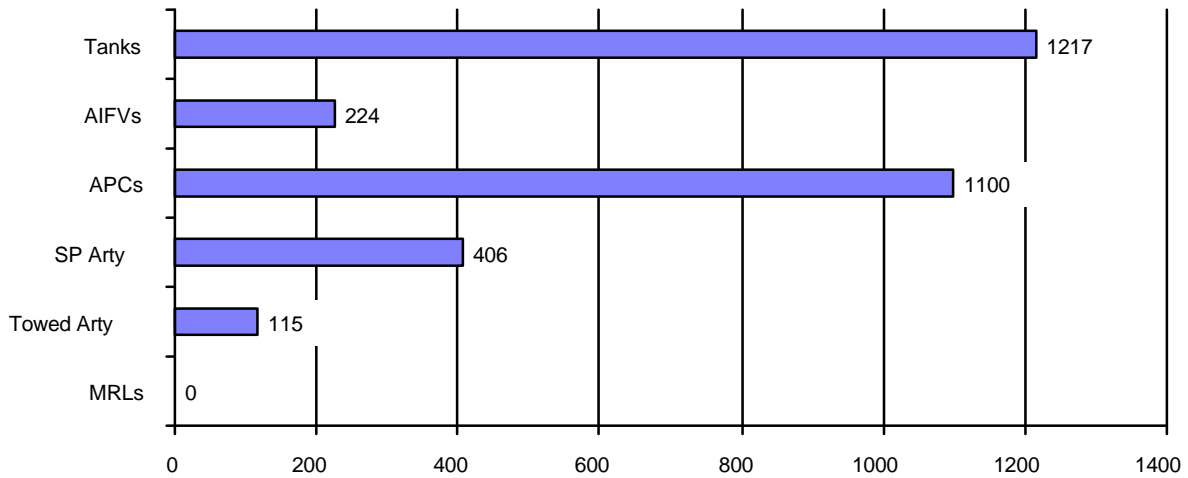
Force Trends in Jordan - Part Two

<u>Category/Weapon</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>1999</u>
<u>Air & Air Defense Forces</u>						
Active Air Force Manpower	5,000	7,000	7,200	10,000	8,000	13,600
Active Air Defense	-	-	-	-	(2,000)	(3,400)
Air Force Reserve Manpower	-	-	-	5,000	5,000	-
Air Defense Reserve Manpower	0	0	0	0	0	0
<u>Aircraft</u>						
Total Fighter/FGA/Recce	42	58	121	104	82	93
Fighter	18	24	35	32	30	41
FGA/Fighter	0	0	0	0	0	0
FGA	24	24	68	72	50	50
Recce	0	0	0	0	0	0
Airborne Early Warning (AEW)	0	0	0	0	0	0
Electronic Warfare (EW)	0	0	0	0	0	0
(Fixed Wing)	-	-	-	-	-	-
(Helicopter)	-	-	-	-	-	-
Maritime Reconnaissance (MR)	0	0	0	0	0	0
Combat Capable Trainer/OCU	7	10	18	0	2	2
Tanker	0	0	0	0	0	0
Transport	11	9	10	13	20	14
<u>Helicopters</u>						
Attack/Armed	0	0	0	24	24	16
ASW/SAR	0	0	0	0	0	0
Transport & Other	13	17	38	32	20	46
Total	13	17	38	56	44	62
<u>SAM Forces (operated by Army)</u>						
Batteries	0	14	14	14	14	14
Heavy Launchers	0	-	-	126	80	80
Medium Launchers	0	-	20	40	-	-
AA Guns	-	-	-	-	-	-
<u>Naval Forces</u>						
Active Manpower	250	200	350	250	600	480
Reserve Manpower	-	-	-	-	-	-
Total Manpower	250	200	350	250	600	480
<u>Submarines</u>						
Destroyers/Frigates/Corvettes	0	0	0	0	0	0
Missile	0	0	0	0	0	0
Other	0	0	0	0	0	0
Missile Patrol	0	0	0	0	0	0
Coastal/Inshore Patrol	12	9	9	1	5	3
Mine	0	0	0	0	0	0
Amphibious Ships	0	0	0	0	0	0
Landing Craft/Light Support	0	0	0	0	3	7
Fixed Wing Combat Aircraft	0	0	0	0	0	0
MR/MPA	0	0	0	0	0	0
ASW/Combat Helicopter	0	0	0	0	0	0
Other Helicopters	0	0	0	0	0	0

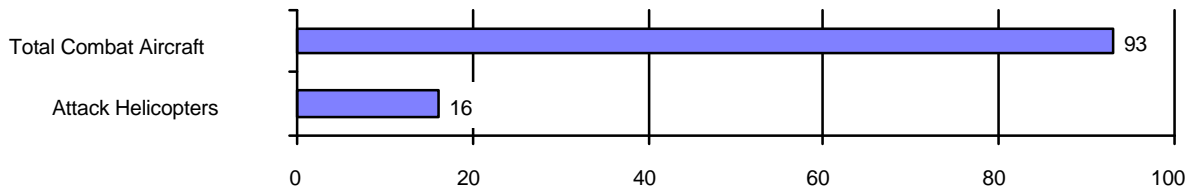
Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, Military Balance

Jordanian Major Military Equipment in 1999

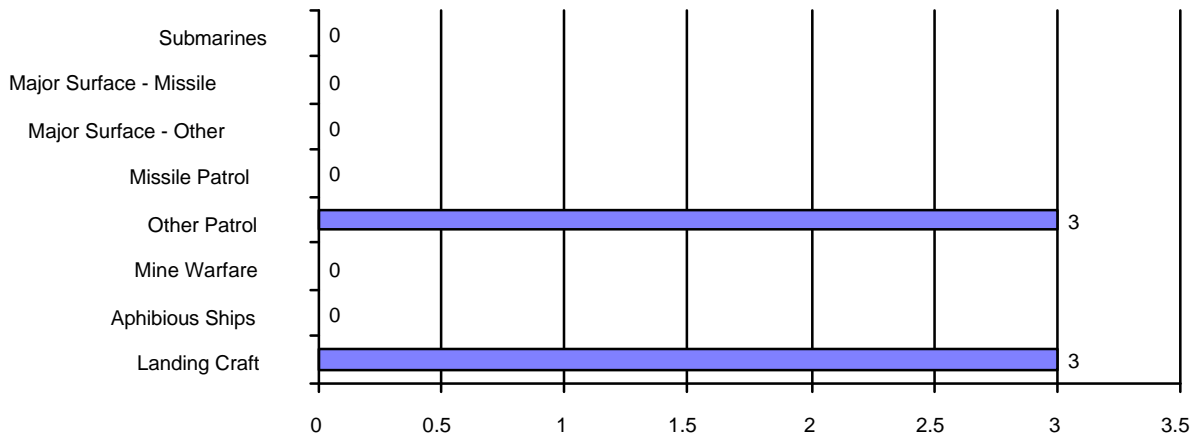
Land Forces



Air Forces



Naval Forces



Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, [Military Balance](#)

Part Three

Israel vs. Jordan and Syria The “Eastern Front”

Israel Versus Jordan and Syria: The “Eastern Front” Balance in 1999 - Part One

<u>Category/Weapon</u>	<u>Israel</u>	<u>Jordan & Syria</u>	<u>Syria</u>	<u>Jordan</u>
<u>Defense Budget</u> (In 98, \$Current Billions)	\$3.0	\$2.348	\$1.70	\$0.548
<u>Arms Imports - 1992-1995 (\$M)</u>				
New Orders	4,800	700	300	400
Deliveries	1,900	500	300	200
<u>Mobilization Base</u>				
Men Ages 13-17	275,000	1,236,000	973,000	263,000
Men Ages 18-22	267,000	1,033,000	793,000	240,000
<u>Manpower</u>				
Total Active (Conscript)	175,000 138,500	424,5000 -	320,000 -	104,500 -
Total Reserve Total	430,000 605,000	530,000 954,500	500,000 820,000	30,000 134,500
Paramilitary	6,050	18,000+	8,000+	10,000
<u>Land Forces</u>				
Active Manpower (Conscripts)	134,000 114,700	305,000 -	215,000 -	90,000 -
Reserve Manpower Total Manpower	365,000 499,000	430,000 735,000	400,000 615,000	30,000 120,000
Main Battle Tanks (Fixed and Storage)	4,300 0	5,817 (1,200)	4,600 (1,200)	1,217
AIFVs/Armored Cars/Lt. Tanks APCs/Recce/Scouts WW II Half-Tracks	400 5,980 3,500	3,234 2,600 0	3,010 1,500 0	224 1,100 0
ATGM Launchers	1005	4,030	3,390	640
SP Artillery Towed Artillery MRLs	1,150 400 160	856 1,745 480	450 1,630 480	406 115 0
Mortars	2,740-5,000	5,300+	4,500+	800
SSM Launchers	48	62	62	0
AA Guns Lt. SAM Launchers	850 945	2,420 5,020	2,060 4,055	360 965+

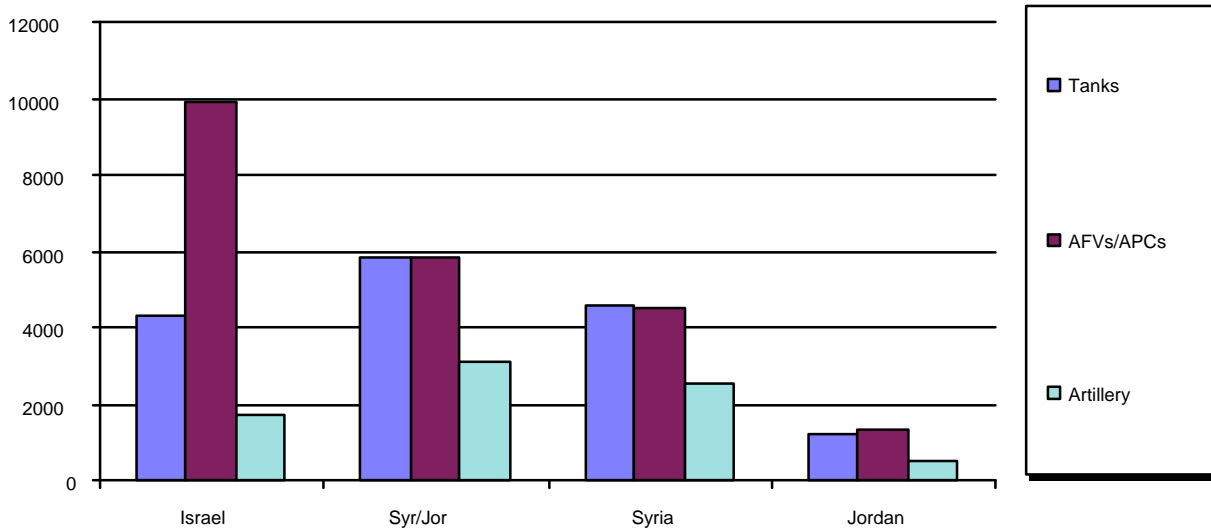
Israel Versus Jordan and Syria: The “Eastern Front” Balance in 1999 - Part Two

<u>Category/Weapon</u>	<u>Israel</u>	<u>Jordan & Syria</u>	<u>Syria</u>	<u>Jordan</u>
<u>Air & Air Defense Forces</u>				
Active Manpower	32,000	53,500	40,000	13,500
Active Air Defense Command	0	60,000	60,000	-
Air Force Reserve Manpower	55,000	92,000	92,000	-
Air Defense Command Reserve	0	-	-	-
<u>Aircraft</u>				
Total Fighter/FGA/Recce	474	682	589	93
Fighter	0	351	310	41
FGA/Fighter	352+(120)	0	0	0
FGA	50+(130)	204	154	50
Recce	22	14	14	0
Airborne Early Warning (AEW)	2	0	0	0
Electronic Warfare (EW)	36	10	10	0
Fixed Wing	(36)	0	0	0
Rotary Wing	0	10	10	0
Maritime Reconnaissance (MR)	3	0	0	0
Combat Capable Trainer	23	123	121	2
Tanker	8	0	0	0
Transport	48	43	29	14
<u>Helicopters</u>				
Attack/Armed/ASW	129	88	72	16
SAR/ASW	9	-	-	-
Other	158	159	110	49
Total	296	247	182	65
<u>SAM Forces</u>				
Batteries	20	144	130	14
Heavy Launchers	79	730	650	80
Medium Launchers	-	108	108	0
AA Guns	-	-	-	-
<u>Naval Forces</u>				
Active Manpower	9,000	5,480	5,000	480
Reserve Manpower	10,000	8,000	8,000	-
Total Manpower	19,000	14,480	14,000	480
Submarines	3	3	3	0
Destroyers/Frigates/Corvettes	4	2	2	0
Missile	3	2	2	0
Other	0	2	2	0
Missile Patrol	18	16	16	0
Coastal/Inshore Patrol	30	14	11	3
Mine	0	7	7	0
Amphibious Ships	1	3	3	0
Landing Craft/Light Support	4	12	5	7
MR/MPA	0	0	0	0
ASW/Combat Helicopter	0	24	24	0
Other Helicopters	-	-	-	-

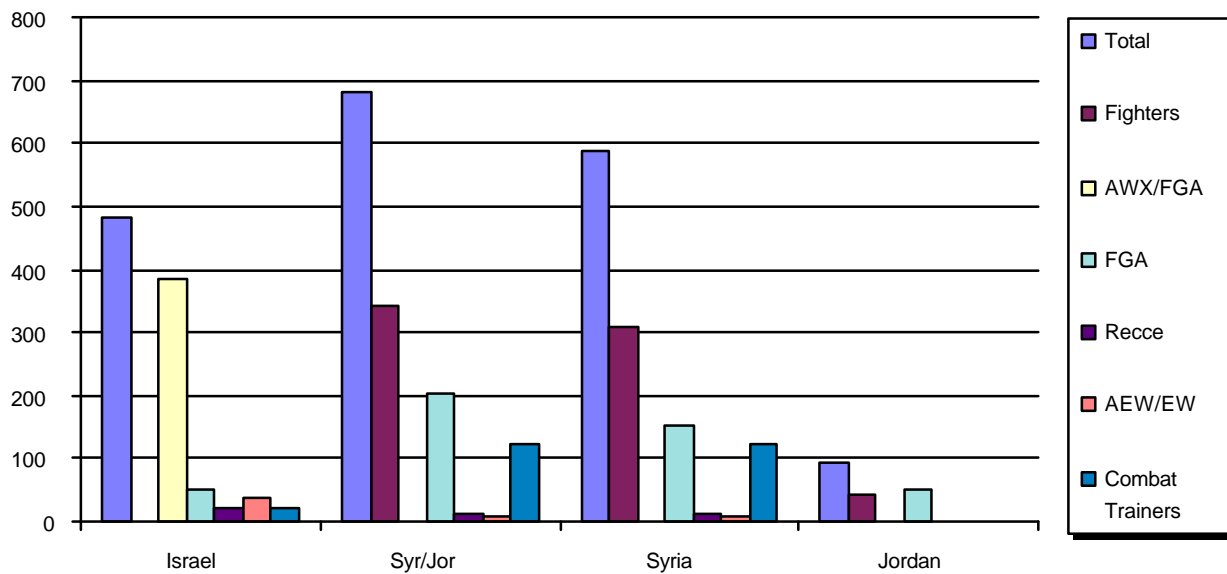
Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, Military Balance

Israel Versus Jordan & Syria in 1999

Land Weapons



Air Forces

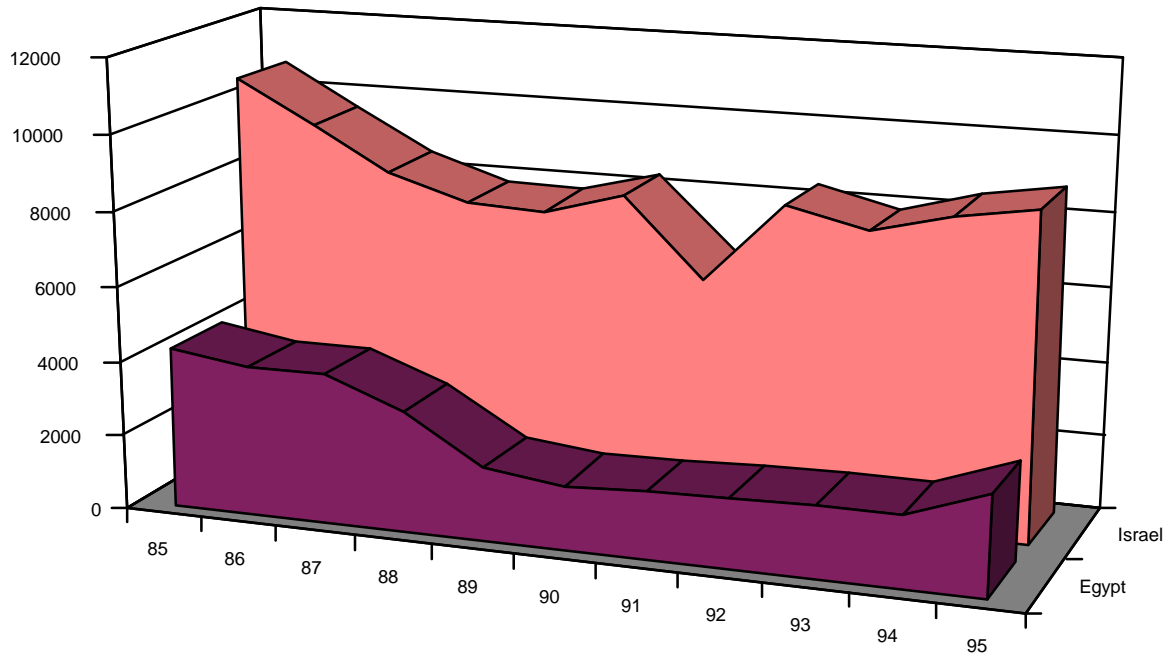


Note: Total Artillery includes towed and self-propelled tube artillery and multiple rocket launchers. Total air forces include only operational fixed wing fighter, fighter-attack, and reconnaissance aircraft in combat units, less aircraft in combat training units.

Part Four

Israel vs. Egypt and the Southern Front

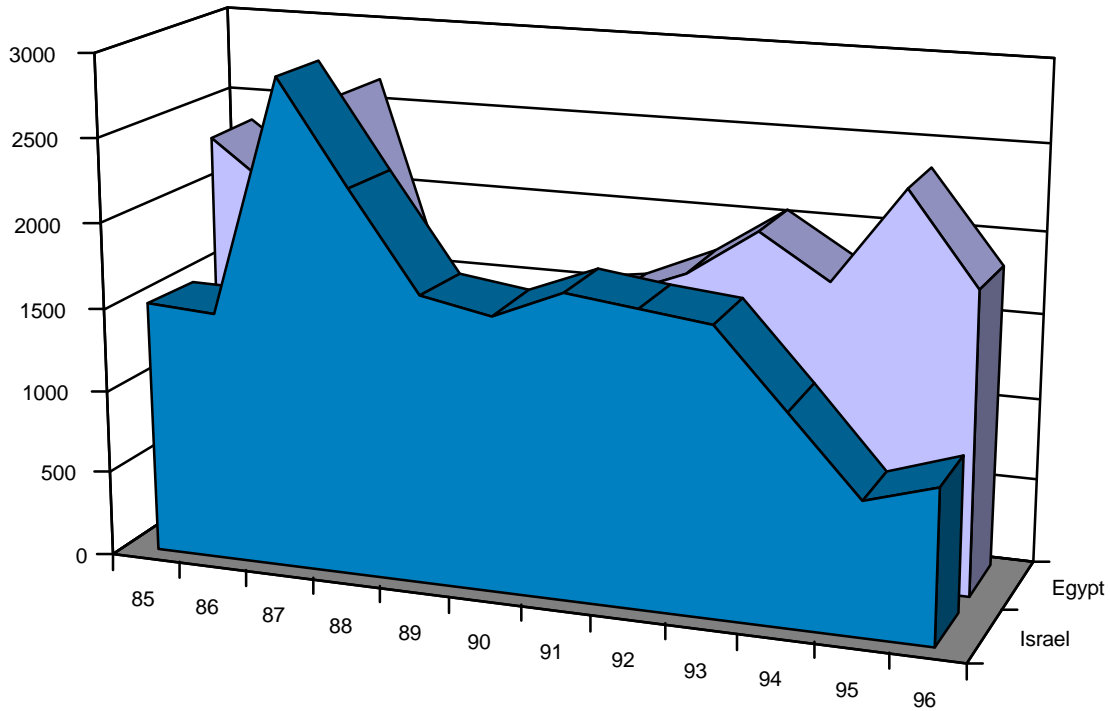
Trends in Egyptian-Israeli Military Spending: 1984-1995 (In Constant \$95 Millions)



	85	86	87	88	89	90	91	92	93	94	95
■ Egypt	4289	3981	3980	3208	1953	1687	1767	1840	1904	1881	2653
■ Israel	10650	9554	8421	7740	7693	8237	6233	8320	7812	8376	8734

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

Trends in Egyptian-Israeli Arms Import Deliveries: 1985-1996 (1996 Constant Millions)



	85	86	87	88	89	90	91	92	93	94	95	96
■ Israel	1508	1495	2899	2288	1708	1637	1800	1752	1707	1250	789	925
■ Egypt	2330	2038	2635	1398	1220	1520	1575	1752	2027	1771	2343	1800

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

The Egyptian-Israeli Balance in 1999 - Part One

<u>Category/Weapon</u>	<u>Israel</u>	<u>Egypt</u>
<u>Defense Budget</u> (In 1998, \$Current Billions)	\$3.0	\$2.8
<u>Arms Imports: 1994-1997 (\$M)</u>		
New Orders	4,800	4,900
Deliveries	1,900	5,900
<u>Mobilization Base</u>		
Men Ages 13-17	275,000	3,486,000
Men Ages 18-22	267,000	3,026,000
<u>Manpower</u>		
Total Active	175,000	450,000
(Conscript)	138,500	320,000
Total Reserve	430,000	254,000
Total	605,000	704,000
Paramilitary	6,050	230,000
<u>Land Forces</u>		
Active Manpower	134,000	320,000
(Conscripts)	114,700	250,000+
Reserve Manpower	365,000	150,000
Total Manpower	499,000	470,000
Main Battle Tanks (Fixed & Storage)	4,300 0	3,700 -
AIFVs/Armored Cars/Lt. Tanks	400	1,335 (220)
APCs/Recce/Scouts/Half-Tracks	5,980	2,664(1,075)
WWII Half-Tracks	3,500	0
ATGM Launchers	1005	2,660
SP Artillery	1,150	276
Towed Artillery	400	971
MRLs	160	296
Mortars	2,740-5,000	2,400
SSM Launchers	48	21
AA Guns	850	1,677
Lt. SAM Launchers	945	2,046

The Egyptian-Israeli Balance in 1999 - Part Two

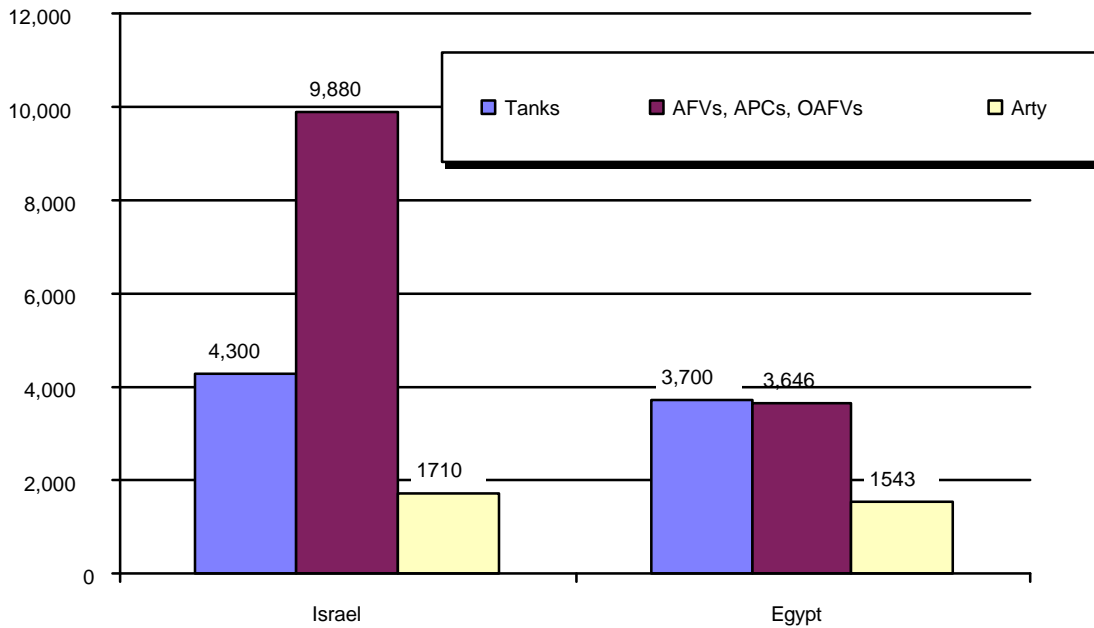
<u>Category/Weapon</u>	<u>Israel</u>	<u>Egypt</u>
<u>Air & Air Defense Forces</u>		
Active Air Force Manpower	32,000	30,000
Active Air Defense Command	0	80,000
Air Force Reserve Manpower	55,000	90,000
Air Defense Command Reserve Manpower	0	70,000
<u>Aircraft</u>		
Total Fighter/FGA/Recce	481	585
Fighter	0	337
FGA/Fighter	352 (120)	0
FGA	50 (130)	135
Recce	22	20
Airborne Early Warning (AEW)	2	5
Electronic Warfare (EW)	36	10
Fixed Wing	36	6
Helicopter	0	4
Maritime Reconnaissance (MR)	3	2
Combat Capable Trainer	23	93
Tanker	8	0
Transport	48	32
<u>Helicopters</u>		
Attack/Armed	129	125
SAR/ASW	9	-
Transport & Other	158	131
Total	296	256
<u>SAM Forces</u>		
Batteries	20	38+
Heavy Launchers	79	628
Medium Launchers	0	36-54
AA Guns	0	72
<u>Naval Forces</u>		
Active Manpower	9,000	20,000
Reserve Manpower	1,000-3,000	14,000
Total Manpower	10,000-12,000	34,000
Submarines	3	4
Destroyers/Frigates/Corvettes	4	10
Missile	3	9
Other	0	0
Missile Patrol	18	22
Coastal/Inshore Patrol	30	18
Mine	0	13
Amphibious Ships	1	12
Landing Craft/Light Support	4	20
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.)

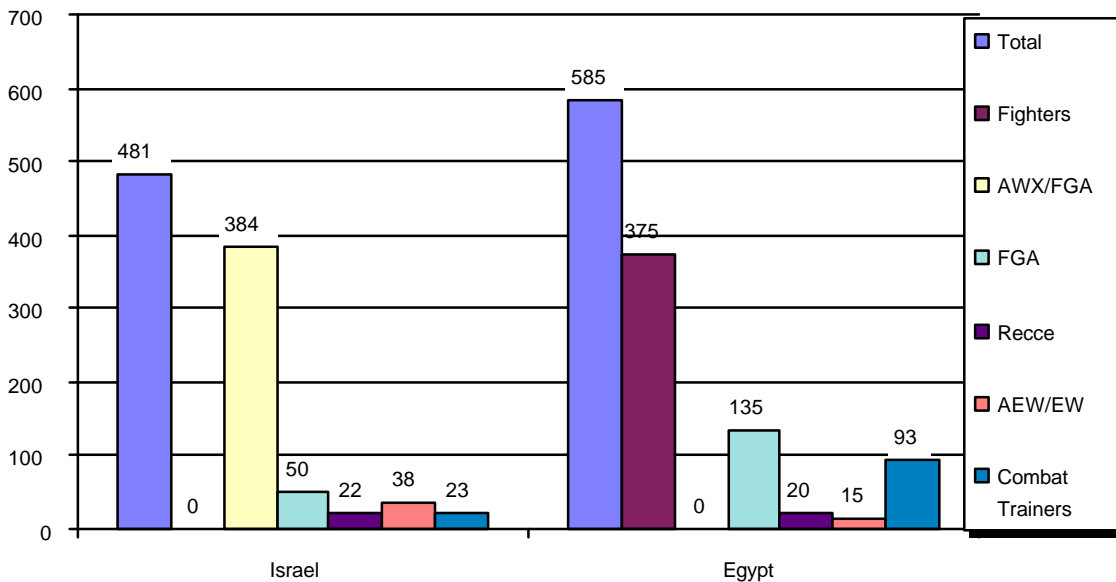
Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, Military Balance

Israel Versus Egypt in 1999

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.

Egyptian Forces

Strengths

- Very large force structure with 450,000 actives and 320,000 actives in army.
- Some exploitation of “revolution in military affairs,” particularly in US-equipped portion of force
- Seeking modern C⁴I/BM, beyond visual range, night combat, and high intensity warfare capabilities.
- Moderate combined arms and joint warfare capability for US-equipped forces.
- Relatively high quality training at unit level for forces with US equipment; improved NCO and technician cadres for these forces.
- 1,700 M-60 and 400 M-1A1 modern tanks: 56% of total tank force.
- Moderately mechanized force with 1,944 M-113s and 380 YPR-765s (310 with 25 mm guns).
- Growing self-propelled artillery force (20%) with competent battle management, but limited equipment for modern fire control and targeting.
- Modern anti-tank weapons: 840 TOW launchers (52 self-propelled on M-901 and 210 on YPR-765)) and 200 Milan launchers.
- Modern attack helicopter force with 24 AH-64s with TOW and 44 SA-342Ks with HOT; acceptable tactics, limited readiness and sustainability.
- Growing heliborne and transport aircraft mobility.
- Core of 25 F-16A, 114 F-16C, 18 Mirage 2000C: 28% of fixed wing combat strength.
- 5 E-2Cs: Moderate AEW, EW, beyond-visual-range and stand-off air attack capabilities.
- Acquiring improved capability to use UAVs and reconnaissance aircraft.
- 12 IHawk batteries with moderately updated C⁴I/BM system.
- Some modern short-range air defense missiles: 12 Chaparral and 14 Crotale batteries; 50 SA-8s, 50 SA-13s, 300 SA-14a, 240 SA-16s.
- 4 modernized Chinese submarines; 4 frigates with Harpoon; 12 missile craft with Otomat.
- Some amphibious mobility.
- Slowly moving towards more balanced force posture and proper emphasis on readiness, sustainability, recovery and repair.
- Some chemical and possibly some biological weapons.
- US military assistance, resupply capabilities, and power projection capabilities.

Weaknesses

- Force structure is still about one-third too large for Egypt’s skilled manpower and financial resources. Major waste of resources on Soviet-equipped and garrison forces.
- Emphasize weapons numbers and weapons modernization over balance force structure.
- Very low quality reserves; training and readiness of Soviet-bloc equipped active forces is poor to very poor.
- Overall manpower management is weak, skilled military is underpaid and lacks career incentives, poor overall handling of NCO and technician cadres.
- Command structure too rigid and hierarchical.
- Maintenance, combat recovery, sustainability, resupply, and speed of maneuver under-emphasized.
- Terrain favors Israel in offensive battle as long as Sinai remains demilitarized..
- 43% of tank force is obsolete or obsolescent Soviet supplied equipment.
- 780 out of 1,084 (over 70%) AFVs in storage or obsolete/obsolescent.
- Reliance on some 3,500 obsolete armored half tracks and OAFVs.
- More than 60% of artillery is towed, has poor training and obsolete tactics, lacks modern C⁴I/BM and targeting.
- Air force has 13% of strength in training aircraft. Active combat strength includes 44 J-6, 53 J-7, 74 MiG-21, 14 MiG-21 and another 33% is obsolete. Remainder includes 29 F-4Es and 79 Mirage 5s and is 19% obsolescent.
- Most of heavy SAM force (40 SA-2s, 53 SA-3s, and 16 SA-6 Bns.) is obsolete or obsolescent.
- 4 of 8 submarine are non-operational; mine warfare ships, 2 frigates, and 13 missile craft are obsolete.
- Much of infrastructure, facilities, and basing is obsolete or very poorly maintained.
- Vulnerability to chemical, biological, and nuclear warfare.
- Vulnerability of key cities.
- Lack of significant Arab military aid.

Egyptian Force Developments - I

General

- According to a recently leaked CIA report, North Korea shipped at least seven consignments of Scud missile parts to Egypt in March and April 1995.
- US also suspects Egypt is developing a liquid-fueled missile called the Vector with an estimated range of 600-1200 kilometers.
- Another liquid-fueled missile under development known as 'Project T' has an estimated range of 450 kilometers.
- On 9/10/96 Egyptian armed forces participated in their largest maneuvers since the 1973 war. The maneuvers, referred to as 'Badr 96,' included 35,000 troops engaged in air, land, and sea exercise. It was aimed at improving military readiness.
- Has asked the US for F-16 jets, KC-135 aerial tankers, C-130 transports, M-113 armored vehicles and TOW anti-tank missiles to replace outdated Soviet systems.

Land Forces

- The Soviet T-62 tank was replaced with US M-60A3s, 850 of which now equip several of the five armor and mechanized divisions. Two new armor divisions were formed, one of which is equipped with 350 US/General Dynamics M1A1 tanks. M1A1s still to be completed, will equip the second division by 1999.
- Tentative plan to assemble 1,000 more M1A1s but seems unlikely due to lack of funding, however, Egypt hopes to purchase 200 M1A1 tank kits from the U.S.
- Egypt's wide variety of APCs has produced logistical problems. Interested in replacing them with US M113 and the Dutch YPR-765.
- In 1996 Egypt took delivery of 611 AIFVs designated YPR 765s from the Netherlands. Delivery allows them to replace older Russian BMP-1, OT-62, and BTR-60 AFVs.
- Egypt is testing a prototype of the Egyptian Infantry Fighting Vehicle (EIFV) developed by UD LP and the Ministry of Military Production. The EIFV is designed to operate across country with M1A1 battle tanks. Trials could be eventually followed by transfer of the technology to Egypt.
- The overall armor corps will need further efforts to bring it up to standards as a fully integrated and mobile all-arms force.
- Slow in acquiring modern self-propelled artillery. Out of 2,000 artillery pieces, less than 10 percent are mobile.
- Egypt requested (1/97) from the US the procurement of the Tube-launched, Optically tracked, Wire-guided (TOW)-2B missile and the Avenger air defense system.
- Plans to buy advanced Hawk, Chaparral and Stinger air-defense weapons.

Egyptian Force Developments - II

Air Forces

- Egypt has been modernizing its aircraft fleet to replace near-obsolete MiGs to modern western combat aircraft. Out of 497 aircraft, no less than 183 are Lockheed Martin F-16/A/B/C/D multi-role fighters or French Dassault Mirage 200 interceptors.
- Acquiring 46 F-16C/Ds coproduced by Turkey under the Peace Vector IV program.
- Egypt has ordered 21 F-16 combat aircraft from Lockheed Martin. First delivery will take place in 1999 and continue through the year 2000.
- Air force has enhanced operational capabilities by introducing western technology acquisitions in the realm of command and control as well as new doctrine in pilot and flight crew training.
- US intelligence reports say that Egypt is seeking to buy from Russia 12 batteries of SA-12A Gladiator and the SA-12B Giant. They are also seeking from Russia an agreement to produce Igla anti-aircraft missiles, designated SA-18 by the Pentagon.
- Has asked Russia to conclude an agreement for the repair and modernization of SA-3, SA-2 and SA-6 anti-aircraft systems.

Naval Forces

- Has modernized four Soviet Romeo-class submarines with new fire control systems and US/McDonnell Douglas Harpoon anti-ship missiles (Despite these upgrades, the submarines will be obsolete within a decade). Has plans for two German type 209 submarines if funds become available.
- Two US FF-1052 Knox class frigates were provided to Egypt in 1995.
- Four FFG-7 Perry-class frigates and 10 Kaman SH-2F Seasprite antisubmarine warfare helicopters are being transferred from US Navy surplus in September 1996, the latter upgraded to an SH-2G configuration
 - Two frigates the FG-25 and FFG-26 were transferred in September, 1996, and were named the *Mubarak* and *Taba* in July, 1997. They carry Harpoon anti-ship and 35 Standard SM-1 anti-air missiles, 12 Mark 46 torpedoes, Phalanx and two helicopters.
 - Another two frigates will be transferred in 1998.
 - The 10 Seasprites will be transferred during 1998-2000.
- Egypt received (7/97) two guided missile frigates from the US and two more are expected to be delivered in 1998. They are armed with Harpoon anti-ship missiles, SAMs, anti-submarine torpedoes, and rapid fire guns.

Force Trends in Egypt -Part One

<u>Category/Weapon</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>1999</u>
<u>Manpower</u>						
Total Active	322,500	367,000	445,000	450,000	450,000	450,000
(Conscript)	-	-	(250,000)	(252,000)	(320,000)	(320,000)
Total Reserve	-	-	380,000	623,000	254,000	254,000
Total	-	-	825,000	1,073,000	704,000	704,000
Paramilitary	120,000	49,000	139,000	374,000	230,000	230,000
<u>Land Forces</u>						
Active Manpower	275,000	245,000	320,000	320,000	320,000	320,000
(Conscripts)	-	-	(250,000)	(180,000)	(250,000+)	(250,000+)
Reserve Manpower	500,000	350,000	323,000	500,000	150,000	150,000
Total Reserve & Active Manpower	775,000	595,000	643,000	820,000	470,000	470,000
Main Battle Tanks (Fixed & in Storage)	1,945 -	1,600 -	2,159 -	3,190 -	3,500 -	3,700 -
AIFVs/Armored Cars/Lt. Tanks	130	580	747	770	1,080	1,335 (220)
APCs/Recce/Scouts/ WWII Half-Tracks	2,500 0	2,550 0	2,550 0	2,745 0	3,834 0	2,664(1,075) 0
ATGM Launchers	-	1,000	-	3,340	2,785	2,660
SP Artillery	200	200	200	185	200	276
Towed Artillery	1,300	1,500	1,500	1,120	971	971
MRLs	420	300	300	300	296	296
Mortars	-	-	-	-	-	2,400
SSM Launchers	18+	54	-	13	21	21
AA Guns (Army + ADC)	2,500	2,500+	2,500+	1,070+	1,677+	1,677+
Lt. SAM Launchers	-	-	-	1,226+	2,046	2,046

Note: Figures in parenthesis are additional equipment in storage.

* Included in the army total.

** Includes 108 fighters in the Air Defense Command

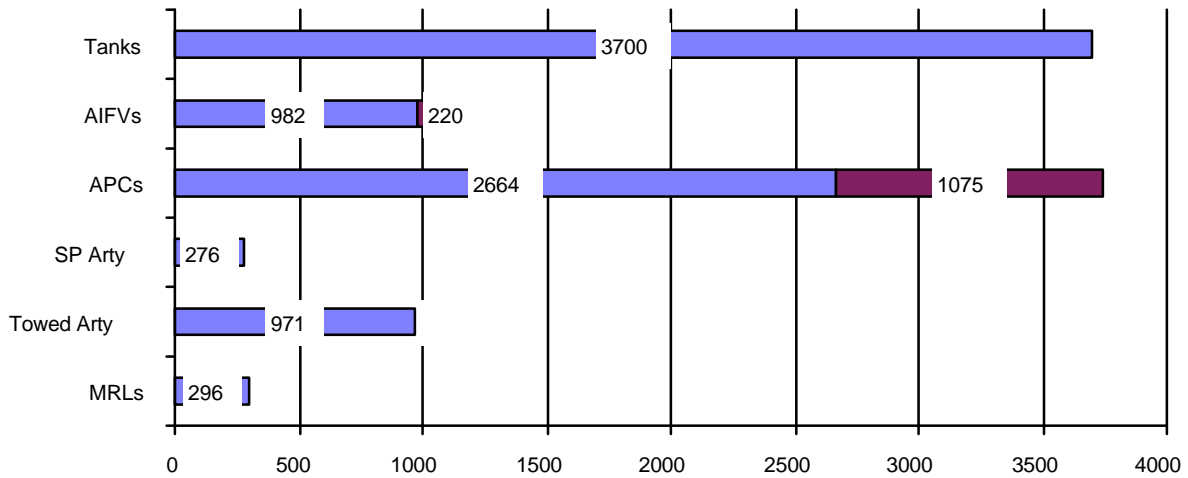
Force Trends in Egypt - Part Two

<u>Category/Weapon</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>1999</u>
<u>Air & Air Defense Forces</u>						
Active Air Force Manpower	30,000	27,000	25,000	80,000	30,000	30,000
Air Defense Command	(75,000)*	75,000	80,000	30,000	80,000	80,000
Total Reserve Manpower	20,000	-	42,000	109,000	90,000	90,000
<u>Aircraft</u>						
Total Fighter/FGA/Recce	608**	363(305)	427	475	564	585
Bomber	30	23	13	0	0	0
Fighter	-	45	164	272	339	337
FGA/Fighter	200	92	103	0	0	0
FGA	205-253	201	73	139	135	135
Recce	-	-	34	20	20	20
Airborne Early Warning (AEW)	0	0	0	5	5	5
Electronic Warfare (EW)	0	2	2	10	10	10
(Fixed Wing)	-	-	-	-	-	6
(Rotary Wing)	-	-	-	-	-	4
Maritime Reconnaissance (MR)	0	0	0	2	2	2
Combat Capable Trainer/OCU	153	50	38	48	70	74
Tanker	0	0	0	0	0	0
Transport	70	65	37	25	32	32
<u>Helicopters</u>						
Attack/Armed	0	0	48	74	103	125
ASW/SAR	0	0	5	0	14	0
Transport & Other	138	168	108	118	115	131
Total	138	168	161	192	232	236
<u>SAM Forces</u>						
Batteries	-	-	-	-	-	38+
Heavy Launchers	635	635	727	808	702	628
Medium Launchers	-	20	16	50	36	36-54
AA Guns	-	-	-	-	-	72
<u>Naval Forces</u>						
Active Manpower	17,500	20,000	20,000	20,000	16,000	20,000
Reserve Manpower	15,000	-	15,000	14,000	14,000	14,000
Total Manpower	32,500	-	35,000	34,000	30,000	34,000
Submarines	12	10(1)	14	10	4	4
Destroyers/Frigates/Corvettes	8	8	10	5	7	10
Missile	-	5	7	4	6	4
Other	-	3	3	1	1	2
Missile Patrol	13	22	30	21	25	22
Coastal/Inshore Patrol	42	38	32	18	18	18
Mine	12	14	15	9	7	13
Amphibious Ships	-	3	3	3	3	18
Landing Craft/Light Support	14	17	13	-	11	16
Fixed Wing Combat Aircraft	0	0	0	0	0	0
MR/MPA	0	0	0	0	0	0
ASW/Combat Helicopter	-	6	(5)	(17)	(14)	24
Other Helicopters	-	-	-	-	-	-

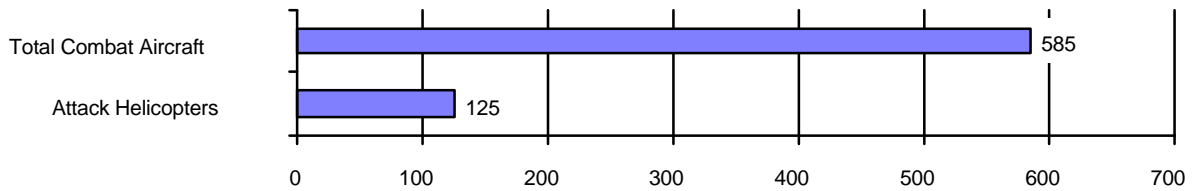
Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, Military Balance

Egyptian Major Military Equipment in 1999

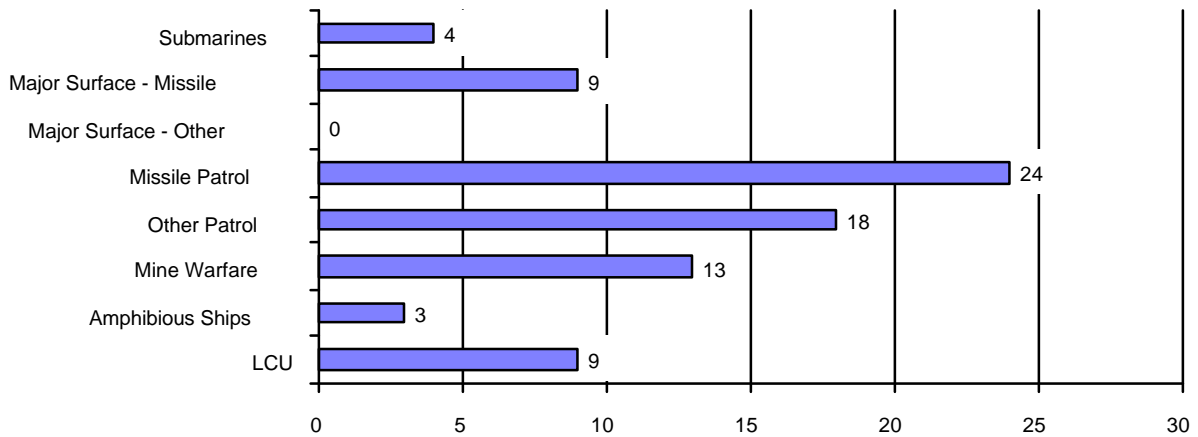
Land Forces



Air Forces



Naval Forces



Note: Equipment in blue is operational. Equipment shown in red is additional equipment in storage.

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

Part Five

Israel vs. Total Arab Forces

The Arab-Israeli Balance: Forces in the Arab-Israeli “Ring” States in 1999 -Part One

<u>Category/Weapon</u>	<u>Israel</u>	<u>Syria</u>	<u>Jordan</u>	<u>Egypt</u>	<u>Lebanon</u>
<u>Defense Budget</u> (In 1998, \$Current Billions)	\$3.0	\$1.7	\$0.548	\$2.8	\$0.592
<u>Arms Imports: 1994-1997 (\$M)</u>					
New Orders	4,800	300	400	4,900	200
Deliveries	1,900	300	200	5,900	100
<u>Mobilization Base</u>					
Men Ages 13-17	275,000	973,000	263,000	3,486,000	207,000
Men Ages 18-22	267,000	793,000	240,000	3,026,000	196,000
<u>Manpower</u>					
Total Active	175,000	320,000	104,500	450,000	55,100
(Conscript)	138,500	-	-	320,000	-
Total Reserve	430,000	500,000	30,000	254,000	-
Total	605,000	820,000	134,500	704,000	-
Paramilitary	6,050	8,000+	10,000	230,000	13,000
<u>Land Forces</u>					
Active Manpower	134,000	215,000	90,000	320,000	53,300
(Conscripts)	114,700	-	-	250,000+	-
Reserve Manpower	365,000	400,000	30,000	150,000	-
Total Manpower	499,000	615,000	120,000	470,000	53,300
Main Battle Tanks	4,300	4,600	1,217	3,700	315
(Fixed & Storage)	0	(1,200)	-	-	-
AIFVs/Armored Cars/Lt. Tanks	400	3,010	224	1,335 (220)	185
APCs/Recce/Scouts/Half-Tracks	5,980	1,500	1,100	2,664(1,075)	895
WWII Half-Tracks	3,500	0	0	0	0
ATGM Launchers	1005	3,390	640	2,660	250
SP Artillery	1,150	450	406	276	0
Towed Artillery	400	1,630	115	971	150
MRLs	160	480	0	296	30
Mortars	2,740-5,000	4,500+	800	2,400	280+
SSM Launchers	48	62	0	21	0
AA Guns	850	2,060	360	1,677	220
Lt. SAM Launchers	945	4,055	965+	2,046	-

The Arab-Israeli Balance

Forces of the Arab-Israeli “Ring” States in 1999 -Part Two

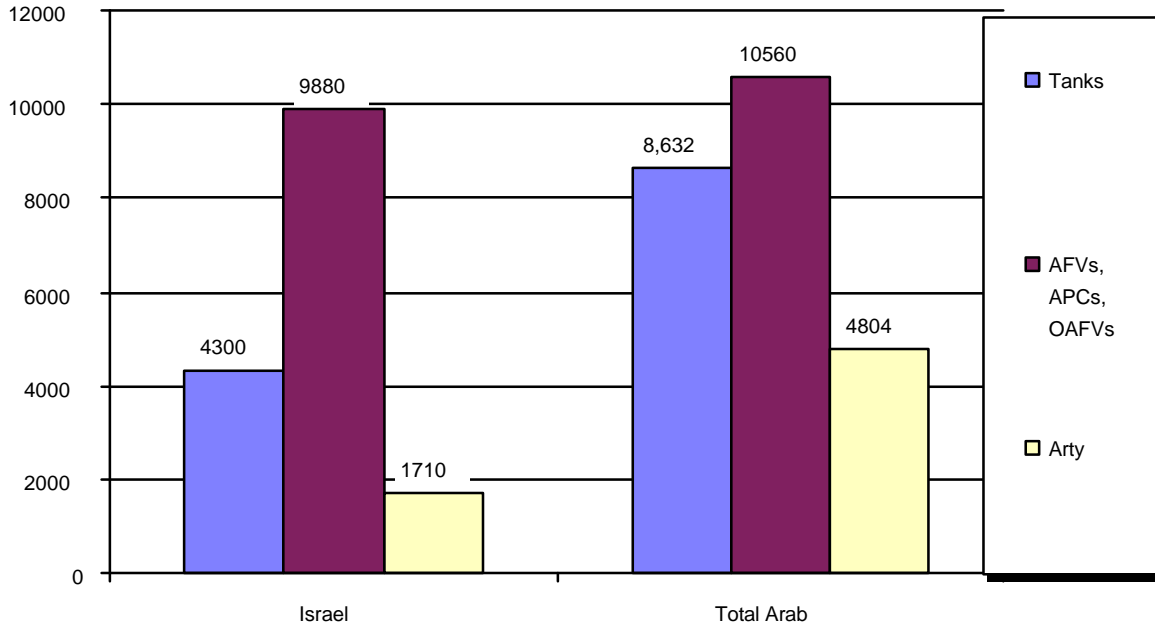
<u>Category/Weapon</u>	<u>Israel</u>	<u>Syria</u>	<u>Jordan</u>	<u>Egypt</u>	<u>Lebanon</u>
<u>Air & Air Defense Forces</u>					
Active Air Force Manpower	32,000	40,000	13,500	30,000	800
Active Air Defense Command	0	60,000	0	80,000	0
Air Force Reserve Manpower	55,000	92,000	-	90,000	-
Air Defense Command Reserve Manpower	0	-	0	70,000	0
<u>Aircraft</u>					
Total Fighter/FGA/Recce	474	589	93	585	3
Fighter	0	310	41	337	0
FGA/Fighter	352 (120)	0	0	0	0
FGA	50(130)	154	50	135	3
Recce	22	14	0	20	0
Airborne Early Warning (AEW)	2	0	0	5	0
Electronic Warfare (EW)	36	10	0	10	0
Fixed Wing	36	0	0	6	
Helicopter	0	10	0	4	
Maritime Reconnaissance (MR)	3	0	0	2	0
Combat Capable Trainer	23	121	2	93	0
Tanker	8	0	0	0	0
Transport	48	29	14	32	2
<u>Helicopters</u>					
Attack/Armed	129	72	16	125	4
SAR/ASW	9	-	-	-	-
Transport & Other	158	110	46	131	28
Total	296	182	62	256	32
<u>SAM Forces</u>					
Batteries	20	130	14	38+	0
Heavy Launchers	79	650	80	628	0
Medium Launchers	0	108	0	36-54	0
AA Guns	0	-	-	72	-
<u>Naval Forces</u>					
Active Manpower	9,000	5,000	480	20,000	1,100
Reserve Manpower	1,000-3,000	8,000	-	14,000	0
Total Manpower	10,000-12,000	14,000	480	34,000	1,100
<u>Submarines</u>					
Destroyers/Frigates/Corvettes	4	3	0	4	0
Missile	3	4	0	10	0
Other	0	2	0	9	0
Missile Patrol	0	2	0	0	0
Missile Patrol	18	16	0	22	0
Coastal/Inshore Patrol	30	11	3	18	14
Mine	0	7	0	13	0
Amphibious Ships	1	3	0	12	0
Landing Craft/Light Support	4	4	7	20	2
Fixed Wing Combat Aircraft	0	0	0	0	0
MR/MPA	0	0	0	0	0
ASW/Combat Helicopter	0	24	0	24	0
Other Helicopters	-	-	-	-	-
	-	-	-	-	-

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

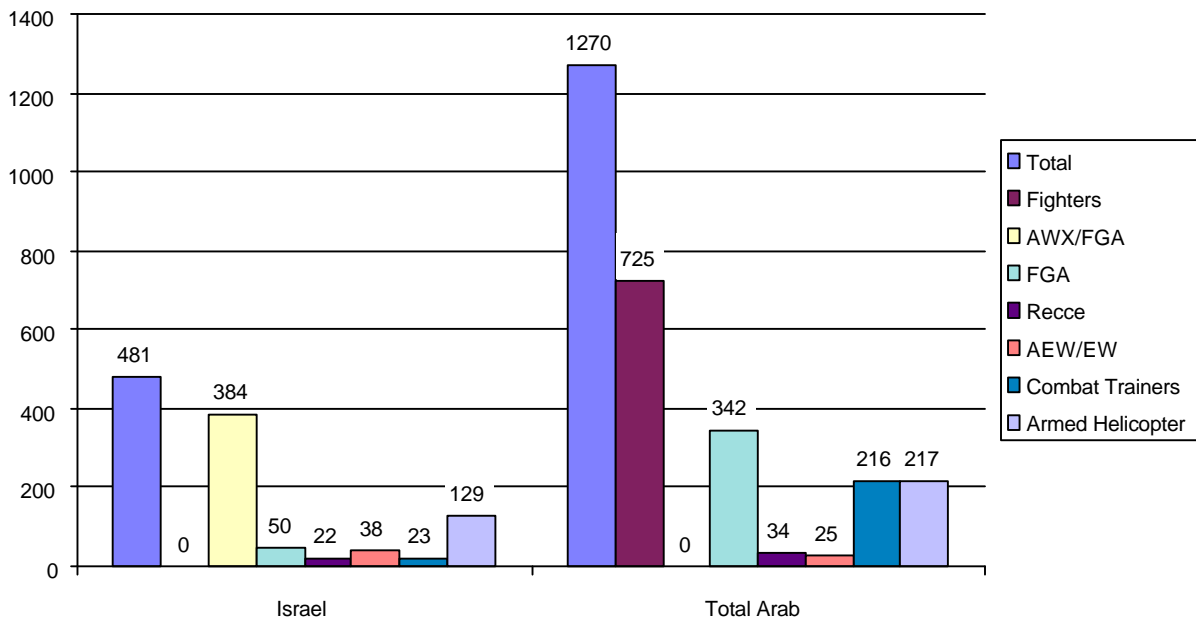
Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, [Military Balance](#)

Israel Versus Egypt, Syria, Jordan, and Lebanon in 1999

Operational Land Weapons



Operational Combat Aircraft



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.

Part Six

Lebanon, the Hezbollah, and the “Proxy War” in Lebanon

Status of Lebanese Regular Military in 1999

Lebanese army is fragmented along sectarian lines and has been largely confined to an internal security role with the support of 25,000-35,000 Syrian troops.

Heavily influenced by Syria. Syrian military intelligence is believed to have many active agents in Lebanese forces and Lebanese military intelligence.

Total strength of roughly 55,100

Army has 53,300 actives authorized. Has 11 infantry brigades, 1 Presidential Guard Brigade, 1 commando/ranger regiment, 3 special forces regiments, 2 artillery regiments, and 1 air assault regiment.

Equipment readiness and sustainability is improving, but is still poor. Standardization and spare parts situation very poor.

MBTs: 110 M-48A1/A5, 205 T-54/T-55.

OAFVs: 35 AMX-13s, 40 Saladin, 5 Ferret, 80 AML-90, 30 Staghound,

APCs: 725 M-113s, 20 Saracen, 30 VAB-VCI, 30 VAB-VTT, 75 AMX-VCI, 15 Panhard M3/VTT.

Towed Artillery: 15 M-101A & 10 M-102 105mm; 33 M-1938, 10 D-30 122mm; 25 M-46, 130mm; 15 M-114A1, 35 M-198.

MRLs: 5 BM-11 and 25 BM-21 122mm.

Mortars: 150 81mm; 130 120mm.

Anti-tank Weapons: ENTAC, Milan, and 20 BGM-71 TOW ATGMs; RPG-7s, M-65 89mm rocket launchers; M-40A1 106mm recoilless rifles.

Air Force has some 800 actives. Has no real fixed wing combat capability. Limited fair-weather helicopter capability with limited survivability, firepower, and tactical skill.

Fighters: 3 obsolete Hunter F-70 and FGA-70A.

Attack Helicopters: 4 SA-342 with AS-11 and AS-12 air-t-surface anti-armor missiles.

Other Helicopters: 16 UH-1H, 5 AB-212, 16 AB-205, 3 SA-330, 2 SA-318, and 4 SA-319.

Training Aircraft: 3 CM-170, 3 Bulldog

Transports: 1 Dove, 1 Turbo-Commander 690A.

Navy has some 1,000 personnel. Is largely ineffective except in light patrol role against smugglers and guerrillas.

Bases at Juniye, Beirut, Tripoli.

Combat Ships: 5 UK-made *Attacker* in-shore patrol craft; 2 UK-made *Tracker* in-shore patrol craft; 27 armed boats.

Amphibious: 2 Sour-class LCTs, capable of carrying 33 troops each.

Ministry of Interior security force has 13,000 men. Includes Beirut and regional Gendarmerie and Judicial Police. Equipped with small arms, automatic weapons, and 30 Chamite APCs.

Customs: Equipped with 2 *Tracker* and 5 *Aztec* in-shore patrol craft.

Lebanese Force Developments

Syria's forces in Lebanon are reported to have been reduced from 35,000 to 25,000 men in 1997-1998.

The Lebanese military now numbers **55,100** according to Lebanese officials.

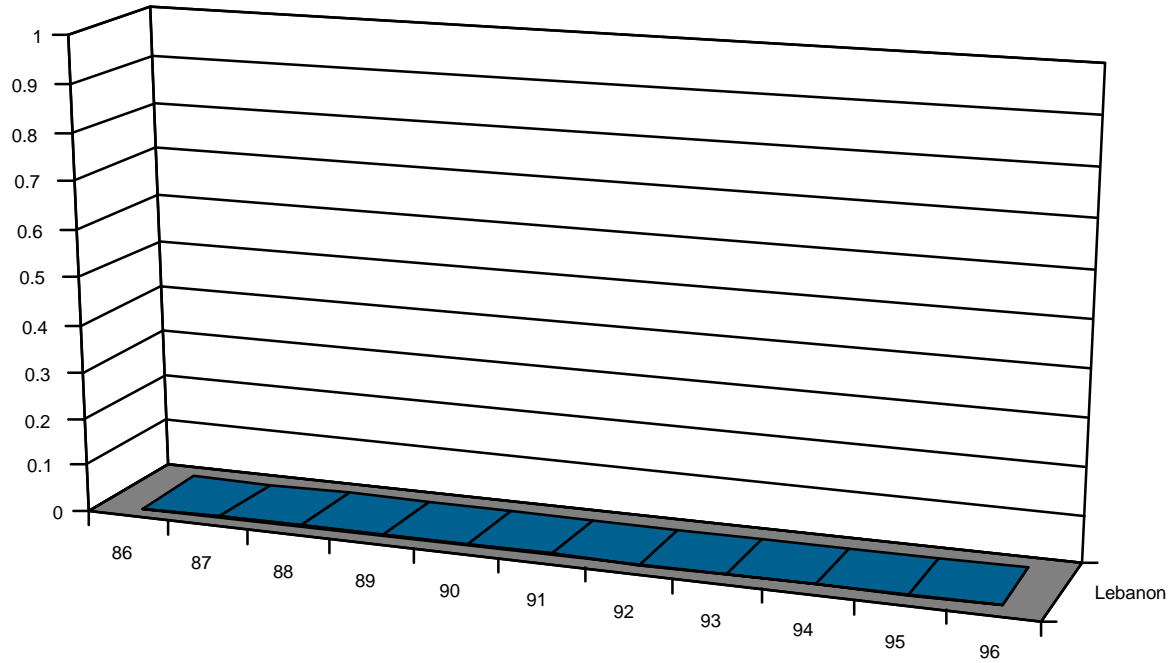
Lebanon has asked the US for 500 more used M-113 APCs and for additional communications equipment to enable units to respond more quickly.

Lebanon bought 16 ex-US Army Bell UH-1 helicopters from the United States in 1995. 16 more were expected by early 1996. Lebanon asked the US for more UH-1s in 1998.

Since 1993 the US has provided its armed forces with \$80 million in non-lethal military aid.

Lebanon has expressed interest in purchasing armored personnel carriers, attack helicopters, communication systems, P-3 Orion naval reconnaissance aircraft and American training for officers.

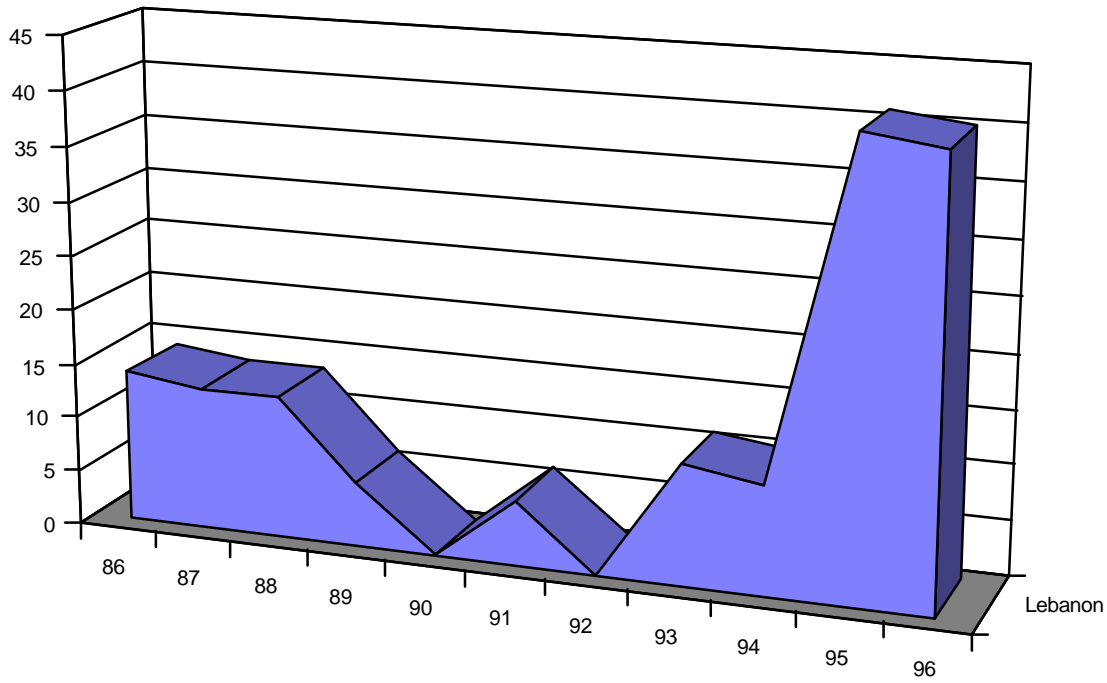
Trends in Lebanese Military Spending: 1986-1996 (In Constant \$96 Millions)



	86	87	88	89	90	91	92	93	94	95	96
■ Lebanon											

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

Trends in Egyptian-Israeli Arms Import Deliveries: 1985-1996 (\$96 Constant Millions)



	86	87	88	89	90	91	92	93	94	95	96
■ Lebanon	14	13	13	6		6		11	10	41	40

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

Force Trends in Lebanon - Part One

<u>Category/Weapon</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>1999</u>
<u>Manpower</u>						
Total Active (Conscript)	15,300	23,000	17,400	21,000	44,300	55,100
Total Reserve	-	-	-	-	-	-
Total	-	-	17,400	21,000	44,300	55,100
Paramilitary	5,000	-	13,000	8,000	13,000	13,000
<u>Land Forces</u>						
Active Manpower (Conscripts)	14,000	22,250	16,000	21,000	43,000	53,300
Reserve Manpower	-	-	-	-	-	-
Total Reserve & Active Manpower	14,000	22,250	16,000	21,000	43,000	53,300
Main Battle Tanks (Fixed & in Storage)	60	0	50	200	300	315
AIFVs/Armored Cars/Lt. Tanks	43	17	150	102	175	185
APCs/Recce/Scouts	180	80	420	340	740	895
WWII Half-Tracks	0	0	0	0	0	0
ATGM Launchers	-	-	-	-	200	250
SP Artillery	0	0	0	0	0	0
Towed Artillery	50	28	125	111	200	150
MRLs	0	0	0	-	30	30
Mortars	-	-	200+	120+	280+	280+
SSM Launchers	0	0	0	0	0	0
AA Guns	-	-	-	-	-	220
Lt. SAM Launchers	-	-	-	-	-	-

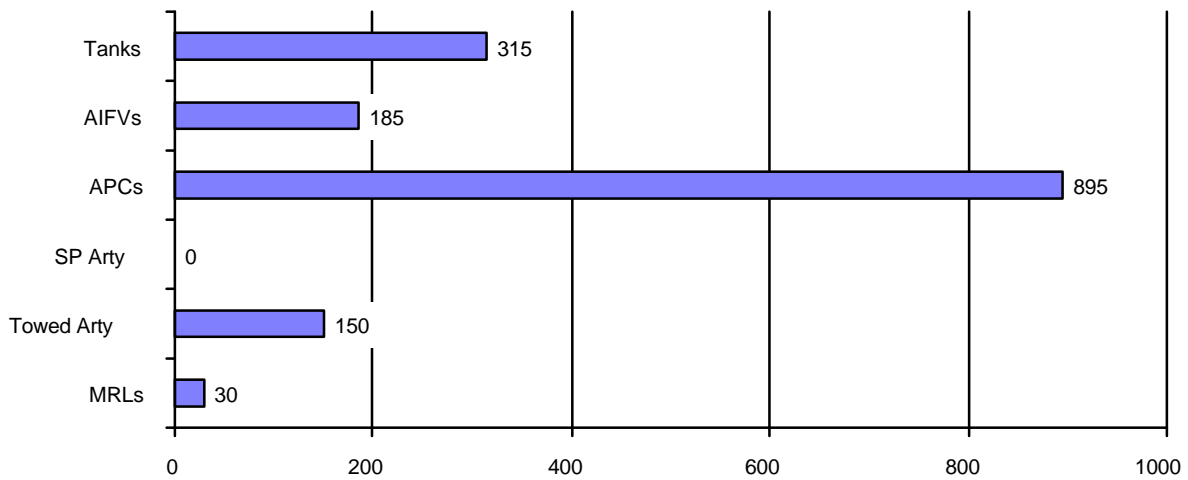
Force Trends in Lebanon -Part Two

<u>Category/Weapon</u>	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>1995</u>	<u>1999</u>
<u>Air & Air Defense Forces</u>						
Active Manpower	1,000	500	1,100	800	800	800
Reserve Manpower	-	-	-	-	-	-
Aircraft						
Total Fighter/FGA/Recce	19	7	7	3	3	3
Fighter	6(5)	(9)	0	0	0	0
FGA/Fighter	0	0	0	0	0	0
FGA	13	7	7	3	3	3
Recce	0	0	0	0	0	0
Airborne Early Warning (AEW)	0	0	0	0	0	0
Electronic Warfare (EW)	0	0	0	0	0	0
Maritime Reconnaissance (MR)	0	0	0	0	0	0
Combat Capable Trainer	0	0	0	0	0	0
Tanker	0	0	0	0	0	0
Transport	3	2	2	2	2	2
Helicopters						
Attack/Armed	0	4	4	1	4	4
ASW/SAR	0	0	0	0	0	0
Transport & Other	16	17	28	15	46	28
Total		21	32	16	50	32
SAM Forces						
Batteries	0	0	0	0	0	0
Heavy Launchers	0	0	0	0	0	0
Medium Launchers	0	0	0	0	0	0
<u>Naval Forces</u>						
Active Manpower	300	250	300	-	500	1,100
Reserve Manpower	0	0	0	-	0	0
Total Manpower	300	250	300	-	500	1,100
Submarines	0	0	0	-	0	0
Destroyers/Frigates/Corvettes	0	0	0	-	0	0
Missile	0	0	0	-	0	0
Other	0	0	0	-	0	0
Missile Patrol	0	0	0	-	0	0
Coastal/Inshore Patrol	5	6	4	-	9	14
Mine	0	0	0	-	0	0
Amphibious Ships	0	0	0	-	0	0
Landing Craft/Light Support	1	1	1	-	2	2
Fixed Wing Combat Aircraft	0	0	0	-	0	0
MR/MPA	0	0	0	-	0	0
ASW/Combat Helicopter	0	0	0	-	0	0
Other Helicopters	0	0	0	-	0	0

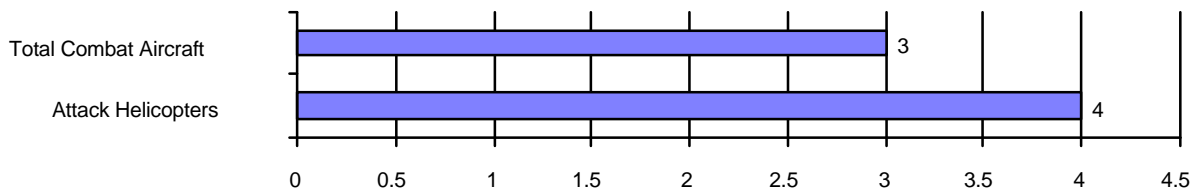
Source: Adapted by Anthony H. Cordesman from data provided by US experts, and the IISS, Military Balance

Lebanese Major Military Equipment in 1999

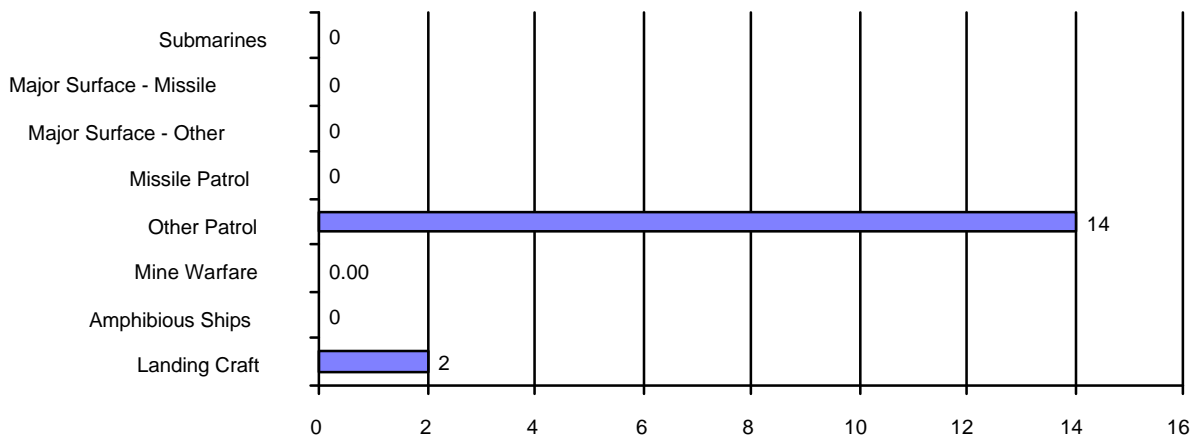
Land Forces



Air Forces



Naval Forces



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

Developments in Hezbollah Military Forces in Lebanon in 1997-1999

- Roughly 3,000 men, heavily dependent on part-time and irregular forces. Many are now highly experienced, often well educated forces.
- Composed of a core of just 300 to 500 guerrillas. Has deliberately cut its force over the past years to prevent infiltration and leaks.
- Hezbollah fighters are old by comparison to Israeli fighters. Any age up to 35, usually married, often university students or professional men.
- Roughly 150 Iranian Revolutionary Guards as advisors. Heavily supplied and financed by Iran, but Syrian personnel seem to be involved in training and in coordinating with Iran. Iranian and Syrian coordination of support for military supply and possibly operations of Hezbollah seems to occur at the general officer, deputy minister level.
- Iran has been flying three 747 cargo jets monthly to Hezbollah via Syria in an effort to upgrade their arms capabilities. Weapons include the Russian made Sagger and Strella antitank missiles. Iran's military camps in Lebanon appear to be offering training on the more advanced systems.
- Conflicting intelligence reports estimate Iranian aid to Hezbollah to be between 65 and 100 million dollars a year.
- Forces carry out an average of two operations a day against the SLA and Israeli forces. Some missions involve long range shelling while others have included sophisticated roadside bombings and commando missions involving 40 well-trained guerrillas operating as a team.
- Equipped with APCs, artillery, multiple rocket launchers, mortars, anti-tank guided missiles (including AT-3s), recoilless rifles, SA-7s, anti-aircraft guns.
- Guerrilla mortar strikes have improved in both accuracy and range, indicating better range-finding systems, low signature weapons, and the use of mortar boosters that enable consistent hits for 2 to 3 miles.
- New anti-tank weapons capable of burning through the armor plate of Israel's M-60 tanks.
- Acquisition of anti-tank weapons with a longer range.
- Supply of Katyusha rockets is estimated to have risen to 1,000. These include 30 Iranian produced 240 mm rockets with a range of 40 km, according to Israeli intelligence reports. Most of the rockets are 120 mm and 127 mm variants with a maximum range of 22 km.
- Improved radio detonated roadside bombs have been effective against the Israelis. Some are disguised as large rocks. The rocks are reportedly produced in Iran.
- Hezbollah is now winning against Israel. More Israeli soldiers are being killed than Hezbollah fighters; Israeli retaliatory air strikes and raids are aiding Hezbollah by alienating Lebanese. Considerable Christian and Sunni support now for Hezbollah.

South Lebanese Force Developments in 1997-1999

1,800 man (4/97) force equipped and paid by Israel and supported by up to 2,000 Israeli troops.

30 T-54/54

M-113 and BTR-50 APCs

D-30 122mm, M-46 130 mm, and M-1950 155 mm towed artillery.

Some 160 mm mortars.

Hezbollah intelligence has penetrated the SLA. Guerrillas often seem to know where and when SLA and Israeli patrols will come.

Sense of imminent abandonment by Israel, amongst SLA soldiers has cause morale to plunge.

Sources of manpower include Fifteen-year-olds with fake identification cards and men in their 40's and 50's.

Casualties in the SLA have fallen and Israeli casualties have risen as Israelis have taken over a lot of work that the SLA used to do.

Israeli Gen. Elie Amitai announced in April that Israel would provide the SLA with new weapons but did not specify what those weapons would be. He also said that Israel would begin training SLA soldiers to carry out commando operations outside the security zone.

