

POLICY PAPERS • NUMBER FOUR

**ISRAEL'S STRATEGIC REALITY:
THE IMPACT OF THE
ARMS RACE**

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ACKNOWLEDGEMENTS

The author would like to thank Deborah Rothfeld and Leonard Schoen for valuable research assistance, Seth Carus for providing advice and much of the data and the graphs, and Robert Satloff for preparing the tables.

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PREFACE

Though Israel's military prowess has impressed the world, its superiority rests in fact on fragile foundations: on the skill and motivation of Israel's men and women in arms; on the technological superiority of the weapons Israel receives from its ally, the United States, as well as those designed or improved by its own scientists and engineers; and on the weaknesses and disunity of its Arab opponents. These assets have so far proven sufficient to compensate for a continuing, indeed a growing, numerical disadvantage in manpower, in economic resources and in all manner of weaponry.

The quality of Israel's fighting men is one advantage that surely will endure. They know that they cannot afford to fail, for if Israel loses one war, it will never get a chance to fight another. But Israel's other advantages are quite perishable. Israel's budget cutbacks are widening the quantitative gap which has always favored the Arabs. And now Israel's critical technological edge is in jeopardy. With Israel's deterrent capability eroding the chances of war increase and the prospects for peace diminish.

That is why the Washington Institute asked Hirsh Goodman of the Jerusalem Post, one of the world's leading military correspondents, to prepare this policy paper on the changing factors in the Middle East balance of power. His cogent analysis brings to bear the gifts both as a writer and a military analyst for which Mr. Goodman is so widely esteemed.

The Washington Institute's Policy Papers series is designed to provide the Washington based policy-making community with timely, expert analysis of current Middle East issues. It forms part of the Institute's wider purpose: to promote a better understanding of American interests in the Middle East and the means by which these interests can be promoted.

Barbi Weinberg
President
January 1986

EXECUTIVE SUMMARY

Israeli military planners must prepare for potential conflict in a strategic environment that is growing increasingly hostile. Forced to deal with worst-case scenarios spread over a 10-year planning horizon, Israeli planning must account for the ebb and flow of inter-Arab alliances. Therefore, Israel must not only ready itself against traditional foes, but it must also assume that weapons now sold to pro-Western Arab moderates will be used against the Jewish state in the event of an Arab-Israeli war. Planning is made even more complex given Israel's geographic limitations, with most of its population and its industrial infrastructure squeezed into an area roughly the size of urban Indianapolis.

First, the Arab states' **quantitative** edge over Israel is expanding. Comparisons of population growth, gross national product and armed forces indicate that the statistical gap between Israel and the Arab confrontation states is widening. Moreover, drastic budget cuts, escalating procurement costs, and a drop in the value of US aid have forced Israel to cut back spending in such crucial areas as development, training and regular army troop levels. In short, **Israel simply cannot keep up; it can no longer maintain the minimum quantitative ratio that its planners consider necessary to wage war at an acceptable cost.**

Second, due to the greater sophistication and easier utilization of weapons in Arab arsenals, Israel's **qualitative** advantage is eroding as well. Whereas arms sold to Arab states traditionally were technologically inferior to those sold to Israel, today both sides are able to purchase the same weapons. Israel is left with only two options to overcome this new technological problem: pre-positioning material at more vulnerable sites closer to the potential battlefields and investing vast sums of money and manpower in making the best weapons *even better*. Ironically, the effort to maintain the **qualitative** edge adds to the burden on the Israeli economy, further worsening the **quantitative** gap in the Arab states' favor.

The combination of these trends underscores the prime importance of maintaining air superiority as Israel's only effective response to a deteriorating military balance. But here too, Israel's edge is diminishing. Arab states have **concentrated their efforts on acquiring the means to challenge Israel's vital air superiority**. The proposed sale of F-16s and mobile I-Hawks to Jordan, combined with F-15s and AWACS in Saudi Arabia and the front-line Soviet equipment supplied to Syria, pose a threat with which Israel's air force has never before been faced. Moreover, these acquisitions undermine Israel's deterrent image and fuel the incentive for a quick and decisive Arab surprise attack.

As long as the fuse on Middle East conflict is shortened by the provision to both sides of weapons that are faster, more advanced and more lethal, hope for peace and stability in the region will continue to evaporate.

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* These maps reflect the borders which the Israel Defense Forces currently maintain, including territories administered by Israel since 1967.

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I. INTRODUCTION

Much has been written about Israel's eroding quantitative and qualitative military edge. The inherent consequences of this, however, have not been elucidated sufficiently; nor has America's role in the process.

America is Israel's staunchest ally. Without its aid Israel's current military and economic situation would be near catastrophic. American arms transfer policies, on the other hand, especially over the past 10 years (since the decision to supply Saudi Arabia with F-15 fighters) have become a major problem both for the maintenance of Israel's military edge and its economic well being. An examination of American arms transfer policy leads to perplexing conclusions. Foremost among them is that there is an inherent contradiction between American diplomatic goals in the Middle East -- producing lasting peace and stability through a process of territorial compromise -- and a US arms transfer policy which provides the main protagonists with the wherewithal and incentive to perpetuate conflict, thus making territorial compromise increasingly unlikely.

Declared American policy regarding peace in the region rests on UN Security Council Resolutions 242 and 338, calling for Israel's return of territory captured in the 1967 Six Day War in exchange for peace with its neighbors. Yet, how can Israel be expected to return the strategically vital West Bank when Jordan, Saudi Arabia and Egypt are the beneficiaries of weapons systems that cut flying times, increase destructive capabilities, are harder to intercept and are more survivable than anything Israel has ever had to face before? The better the weapons on the other side (more often than not the same weapons that the U.S. supplies to Israel), the more cogent the

argument for not giving up strategic depth, for not compromising on the hills that provide the early warning capabilities that are becoming more imperative as the quality of weapons on the other side constantly improves.

Israeli strategic planners have to assume the worst-case probability. Historic precedent makes it clear that it is impossible to predict the future of the arena; to know whose finger will be on the trigger in the currently pro-Western and moderate countries; and to foresee what ideologies will prevail in the states now receiving high-grade American weapons technology, infrastructure and training. An analysis of past patterns and future potential scenarios in these countries makes these questions not only theoretically applicable, but an essential element of any realistic appraisal of developments in Israel's strategic arena.

While others are also arming Israel's potential enemies, one-third of all military sales flowing to these countries comes from the US. And the problem of American-made systems is not just quantitative. On the qualitative level, the injection of high-grade American weapons in the arena brings in their wake upgrading from other sources of supply as well. The Soviet Union, for example, traditionally supplied its Arab clients with equipment one generation behind what it deployed on its own frontline. That pattern has changed and, one suspects, primarily because of the general increase in sophistication generated by US arms sales. It must be difficult, for example, for the Soviet Union to say "no" to a Syrian request for advanced fighters when the Americans are considering supplying Jordan with F-16s or comparable aircraft.

One of the purposes of this paper is to show that American arms transfer policies in the Middle East have not always been dictated by strategic prudence and are often not consistent with the real threat posed to the

recipients of these weapons. Though it is both shallow and glib to say that in many cases arms sales were generated by pecuniary interest, the ability of the arms manufacturing lobby to influence policy cannot be discounted. Also, the influence of the upper echelons of the military establishment -- whose strategic perceptions have often been affected by other interests such as defraying research and development costs -- cannot be dismissed.

The long-term consequences of the constant pumping of more TNT into a potential powderkeg and the equally constant shortening of the fuse on that powderkeg have been subordinated both to short-term interests and a narrow view of Middle East realities. The most likely result is the perpetuation of the regional conflict, not its resolution.

II. ISRAEL'S STRATEGIC REALITY

Israelis are one of the most politically heterogeneous people in the world, with 2,654,613 voters supporting 26 political parties. All Israelis, however, share a common strategic reality that transcends ideological differences.

Israel proper is a tiny country which stretches along the Mediterranean coast for 226 miles. It has an average depth of a mere 40 miles. About 90 percent of its population -- and 93 per cent of its industrial infrastructure, power-generating capability, ports, airports and refining facilities -- are situated along the coast, concentrated roughly between Ashkelon in the south and Acre in the north. In other words, most of Israel is located in an area roughly the size of urban Indianapolis, less than 10 minutes flying time from Amman and Damascus, the capitals of two of Israel's neighboring states.

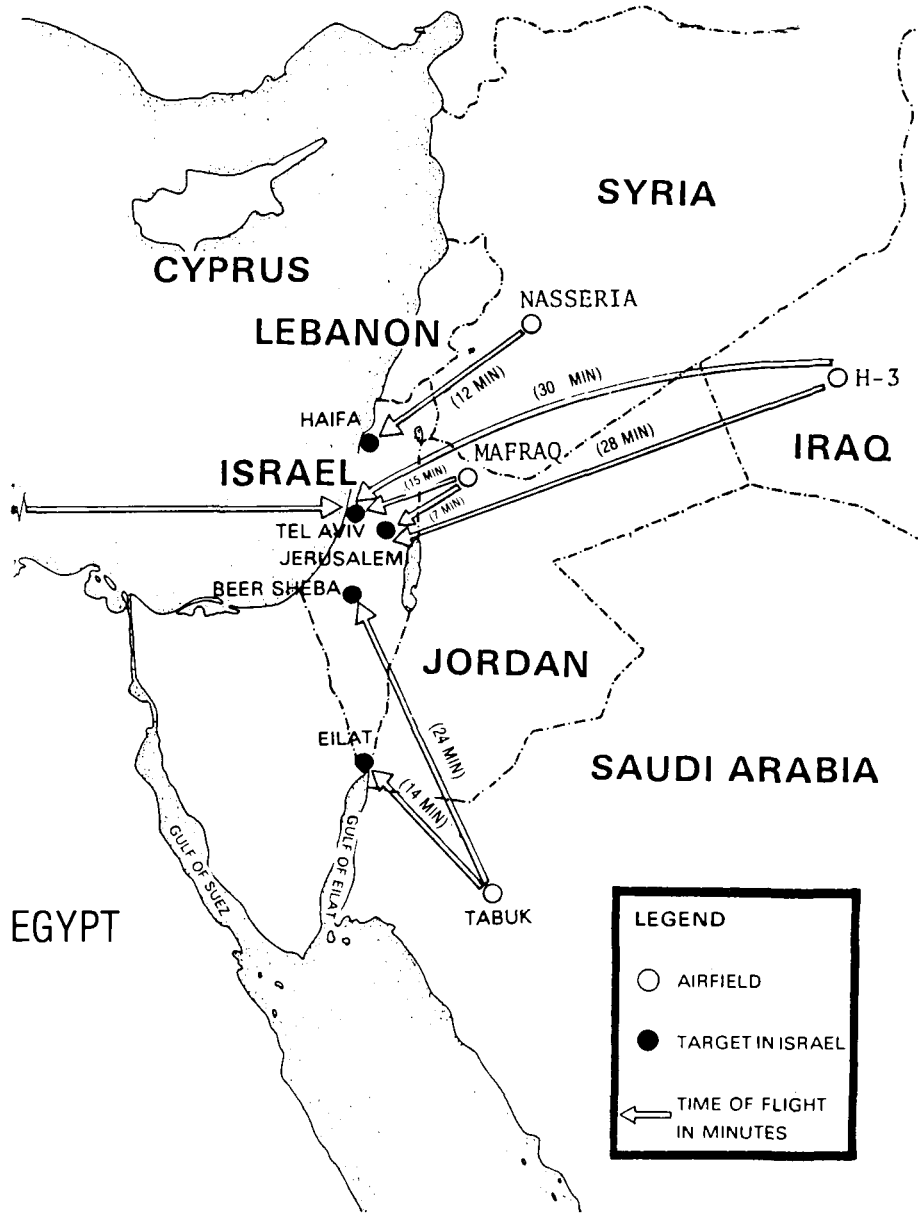
(See Map 1*)

The Strategic Arena

Apart from Egypt, all Israel's neighbors maintain a state of war against the Jewish state. And Israel's strategic environment is in a state of constant political flux. Israeli military planners must consider historical precedent and the region's quickly changing political alignments. Whereas six Arab states fought against Israel in the 1948 War of Independence, eight took part in the 1967 Six Day War, and eleven in the 1973 Yom Kippur War. In the advent of an attack from these neighboring states, Israel would have to assume the

*Map 1 based on aggregate times of existing operational aircraft, August 1982. Aircraft in service by 1990 will effectively reduce the flying times by two-fifths.

MAP 1: FLYING TIMES TO ISRAEL



Airfield	Aircraft type	Target	Distance (miles)	Flying Time (minutes)	Weight of Bombs carried (metric tons)
Nasseriya (Syria)	MIG 23	HAIFA	125	12	2.5
Mafraq (Jordan)	F-5	JERUSALEM	71	7	2.8
H-3 (Iraq)	MIG 23	JERUSALEM	262	28	2.5
		TEL AVIV	287	30	2.0
Tabuk (Saudi Arabia)	F-5	EILAT	131	14	2.0
	F-15	BEERSHEBA	225	24	3.0
Gamal-el-Nasser (Libya)	MIRAGE-5	TEL AVIV	637	72	1.0

probability of expeditionary forces joining the battle from other non-neighboring Arab states, such as Libya, Algeria, Morocco, Iraq and Saudi Arabia. (See Map 2)

There is no hard and fast rule to define a "confrontation state," and assessments differ -- particularly between American and Israeli analysts-- concerning who will participate in a potential confrontation. Israeli military planners, however, must work on worst-case probability, as they plan for Israel's security in the context of a 10-year horizon. Therefore, they must take the following minimal potential combination of hostile Arab states into account:¹

Full participants: Syria, Jordan, Palestinian forces, Egypt.

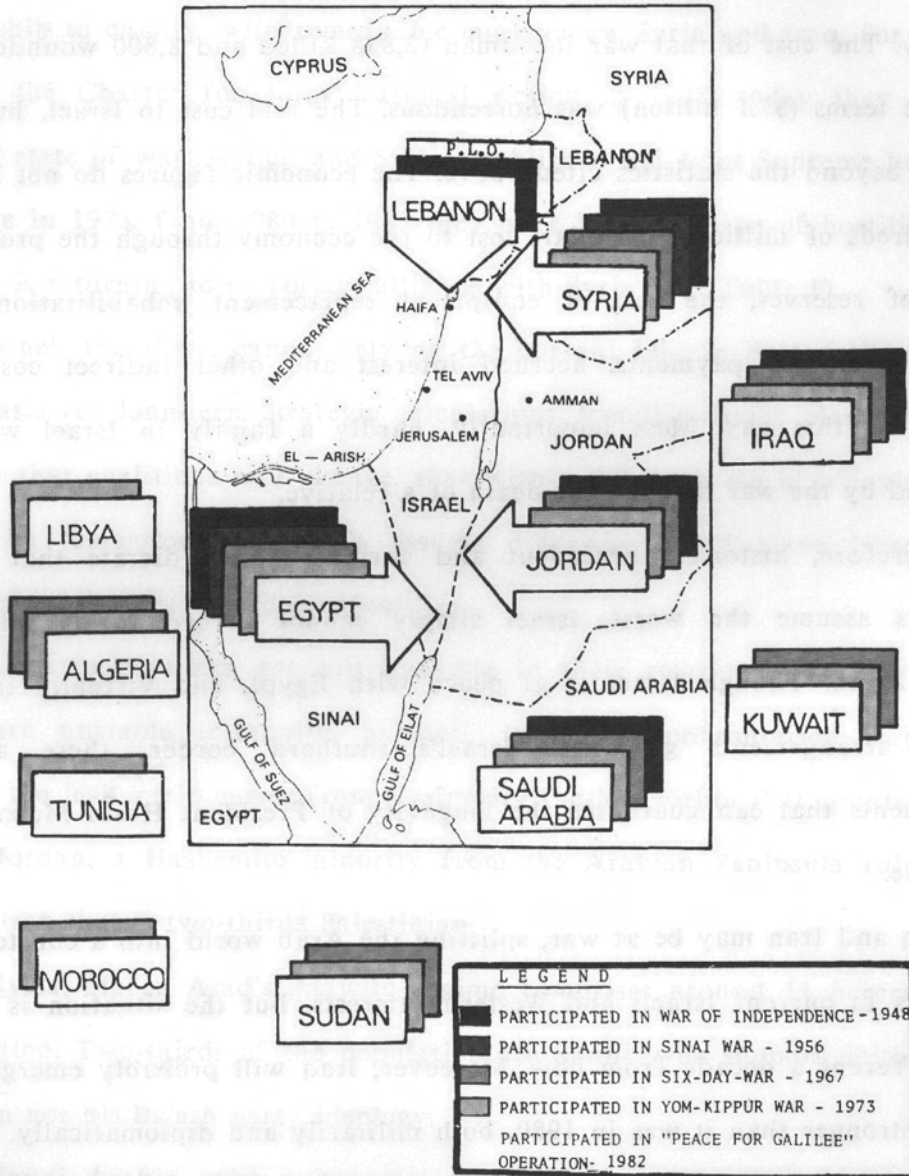
Partial participants:

- Saudi Arabian army (two brigades) and air force (two squadrons)
- Kuwaiti army (one brigade) and air force (one squadron)
- Algerian army (two brigades) and air force (two squadrons)
- Moroccan army (one brigade) and air force (one squadron)
- Sudanese army (two brigades)
- Libyan army (20 battalions), air force (two squadrons) and navy

Should the confrontation occur at the conclusion of -- or during a lull in-- the Iraq-Iran war, considerable forces from both these countries have to be projected into the balance. This would include about 50 percent of Iraq's Order of Battle, currently at 38 divisions and 532 aircraft, plus an unknown factor from Iran. Though currently at peace with Israel, Egypt is included in the composition of potentially hostile forces because it is impossible to project who will head the regime and what its political and ideological attitudes will be a decade from now.

¹ The same formula has been adopted in the Middle East Military Balance published by the authoritative Jaffee Center for Strategic Studies at Tel Aviv University.

MAP 2: ARAB PARTICIPATION IN WARS AGAINST ISRAEL



The Arab States that participated in wars against Israel:

War of Independence (1948) - Egypt, Jordan, Syria, Lebanon, Iraq and Saudi Arabia.

Sinai Campaign (1956) - Egypt.

Six-Day War (1967) - Egypt, Jordan, Syria, Iraq, Saudi Arabia, Sudan, Kuwait and Algeria.

Yom Kippur War (1973) - Egypt, Jordan, Syria, Iraq, Saudi Arabia, Sudan, Kuwait, Algeria, Morocco, Libya and Tunisia.

The Worst Case

Planning on the basis of the worst case probability is not fanciful. In the 1973 Yom Kippur War, Israel was taken by surprise on two fronts simultaneously. The cost of that war in human (2,838 killed and 8,800 wounded) and economic terms (\$7.1 billion) was horrendous. The real cost to Israel, however, goes far beyond the statistics cited above. The economic figures do not include the hundreds of millions of dollars lost to the economy through the protracted call-up of reserves, the cost of equipment replacement, rehabilitation costs, national insurance payments, accrued interest and other indirect costs that continue to this day. Most importantly, hardly a family in Israel was left untouched by the war through the death of a relative.

Therefore, historical precedent and current reality dictate that Israeli strategists assume the worst. Israel simply cannot afford to be taken by surprise again. Though Israel is at peace with Egypt, and virtually ironclad security arrangements guarantee Israel's southern border, there are no arrangements that can guarantee the longevity of President Hosni Mubarak or his regime.

Iraq and Iran may be at war, splitting the Arab world into a constellation propitious to current Israeli and Western interests, but the situation is bound to be different a decade from now. Moreover, Iraq will probably emerge from the war stronger than it was in 1980, both militarily and diplomatically. It will have discovered its weaknesses (in command and control, for example) and corrected them. Its arsenals will include high-grade conventional Western weapons never previously possessed, and its oil will be flowing through more diverse routes than before.

Alliances between Arab regimes have been notoriously unstable, with 25 fundamental coalition changes in the last two decades alone. Syria, Iraq, Jordan, Libya, Algeria and the Sudan have moved in and out of alliances, from friendship to enmity, with remarkable consistency. Syria and Iraq, for example, signed the Charter for Joint National Action in 1978; today they are in a virtual state of war. Jordan and Syria established the Joint Supreme Leadership alliance in 1975; from 1980 to 1985 they were in a situation of hostility; today Jordan is returning to its former alliance with Syria. (See Table 1)

Israel, therefore, cannot rely on the current Middle East political reality as a basis for long-term strategic calculations. Israeli military planners have to assume that coalitions will change, that within the Arab world today's enemies could be tomorrow's allies. To assume otherwise could leave Israel totally unprepared to meet future eventualities.

Arab regimes are not just unstable in their relations with one another; they are unstable internally, as well. In every confrontation state except Egypt, the leadership comes from a minority faction within that country.

-- In Jordan, a Hashemite minority from the Arabian Peninsula rules over a population that is two-thirds Palestinian.

-- In Syria, Hafez Asad's Alawite regime comprises around 11 percent of the population. Two-thirds of the population are Sunni, who support neither Asad's religion nor his Ba'ath party ideology.

-- In Saudi Arabia, with a population estimated anywhere between 3 million and 6 million, there are only 5,000 members of the ruling family.

-- Iraq is ruled by Saddam Hussein, a Sunni Moslem representing less than 40 percent of the population. Shiites, religiously and culturally linked to Iran, comprise 57 per cent of the population.

TABLE 1: ARAB ALLIANCES, 1964-1982

TYPE OF COALITION	DATE	PARTICIPANTS	DATE AND CAUSE OF ABROGATION
United political command	1964	Egypt-Iraq	1973: hostile relations between the two countries
Joint defense agreement	1966	Syria-Egypt	-----
Military coalition for war on Israel	1967	Jordan-Egypt-Syria-Iraq	end of the Six Day War
Egyptian-Jordanian joint defense agreement	1967	Egypt-Jordan-Iraq	March 1978: Jordan severed diplomatic relations with Egypt
Eastern command	1968	Iraq-Jordan-Syria	December 1968: lack of coordination
Eastern front command	1969	Syria-Jordan	August 22, 1970
Bilateral defense agreement	1969	Syria-Iraq	1982: differing views over Iran-Iraq War
Cairo Agreement	1970	Egypt-Jordan	-----
Tacit coalition of radical states	1970	Egypt, Iraq, Syria, Libya, Sudan, Algeria	-----
Egyptian military advisors and officers	1970	Egypt-Libya	March 1976: Libya expelled 250,000 Egyptian workers
Tripartite alliance	1970	Syria, Egypt, Libya, Sudan	-----
Permanent joint committee on Syrian-Lebanese affairs	1971	Syria-Lebanon	-----
Tacit understanding	1971-1973	Egypt-Saudi Arabia	-----

TABLE 1: ARAB ALLIANCES, 1964-1982

TYPE OF COALITION	DATE	PARTICIPANTS	DATE AND CAUSE OF ABROGATION
Military coalition	1973	Egypt-Syria	----
Higher Jordanian-Syrian joint committee	1975	Syria-Jordan	1980: Syria massed on Jordanian border
Tripartite agreement	1975	Egypt-Saudi-Sudan	-----
Joint Supreme Jordanian-Syrian leadership	1975	Syria-Jordan	1980: Syria massed on Jordanian border
Arab Deterrent Force (intervention into Lebanon)	1976	30,000 Syrian troops already in Lebanon (contingents from Saudi Arabia, Sudan, Libya, UAE, South Yemen)	April 1979: all non-Syrian forces had withdrawn
Charter for joint national action	1978	Syria-Iraq	1982: differing opinions over Iran-Iraq War
Coordination of supply of arms and training to Iran	1979	Syria-Iran	-----
Alliance between the two countries, military support	1980	Jordan-Iraq	-----
Pan-Arab "Front of Steadfastness and Resistance"	1980	Syria, Libya, Algeria, PDRY, PLO	1982: Lebanon war made it virtually inactive
Egypt supplies Iraq with arms and ammunition	1981	Egypt-Iraq	-----
Restoration of relations	1982	Saudi Arabia-Libya	March 1982: Libyan accusations that the Saudis were blocking oil production discussions in OPEC

-- Minority regimes also rule uneasily in Kuwait and Bahrain.

Israeli strategists, therefore, cannot predict who will be in control of the Arab arsenals now being assembled. Highly sophisticated weapons supplied to a friendly regime today could well end up in the hands of a hostile regime tomorrow. The best example of this is to be found in the fall of the Shah of Iran in 1979. Just as Ayatollah Khomeini inherited an estimated \$9.1 billion in sophisticated American weapons, so Israeli strategists have to assume that the same could happen in any of the current pro-Western, moderate countries now receiving American weapons. At the time of the revolution the following American equipment was deployed in Iran:

TABLE 2: AMERICAN EQUIPMENT IN THE IRANIAN ORDER OF BATTLE AT THE TIME OF THE FALL OF THE SHAH

ARMY	AIR FORCE
400 M-47/48 tanks	188 F-4D/E fighters
460 M-60A1 tanks	166 F-5E/F fighters
325 M-113 armored personnel carriers	77 F-14A fighters
330 M-101 105mm artillery	14 RF-4E reconnaissance aircraft
112 M-114 155mm artillery	13 Boeing 707, 9 Boeing 747,
14 M-115 203mm artillery	54 C-130E/H transports
440 M-109 155mm artillery	39 Bell 214C, 2 CH-47C, 2 S-61A4
38 M-107 175mm artillery	helicopters
14 M-110 203mm artillery	Phoenix, Sidewinder, Sparrow
Dragon anti-tank missiles	air-to-air missiles
TOW anti-tank missiles	Maverick air-to-surface missiles
HAWK anti-aircraft missiles	
205 AH-1J helicopters	
295 Bell 214A helicopters	
90 CH-47C helicopters	
NAVY	NAVAL AIR
2 Sumner class destroyers	6 P-3F Orion maritime reconnaissance
4 PF-103 class corvettes	aircraft
Harpoon anti-ship missiles	6 S-65A, 20 SH-3D, 6 RH-53D helicopters
Standard anti-ship missiles	

III. THE QUANTITATIVE BALANCE OF POWER

In the 12 years that have elapsed since the 1973 Yom Kippur War -- a war that Israel almost lost -- the Arab confrontation states have spent \$98.4 billion on weapons; arms worth an additional \$21 billion are in the pipeline. Consequently, in the decade 1972-1982, Arab-Israeli military spending ratios dramatically improved in the Arabs' favor. Whereas the ratio in 1972 (in constant 1981 U.S. dollars) was 2.7:1, in 1982 the ratio was 7.5:1. By the end of the decade, the ratio is estimated to be about 8:1, though no credible data is available.

TABLE 3: ARAB-ISRAELI MILITARY EXPENDITURES, 1972-1982
(millions 1981 \$US)

YEAR	TOTAL ARAB	ARAB-ISRAEL RATIO	ISRAEL
1972	7,842	2.73:1	2,872
1973	11,944	2.06:1	5,786
1974	17,281	3.36:1	5,140
1975	22,981	3.92:1	5,869
1976	28,209	4.70:1	5,999
1977	28,518	5.01:1	5,694
1978	29,571	6.17:1	4,789
1979	33,054	5.30:1	6,232
1980	38,042	6.42:1	5,930
1981	37,108	8.48:1	4,374
1982	41,492	7.53:1	5,507

Total Arab includes Egypt, Iraq, Jordan, Kuwait, Libya, Saudi Arabia and Syria

Source: US Arms Control and Disarmament Agency, 1984

Assuming an Arab constellation of Egypt, Iraq, Jordan, Kuwait, Libya, Saudi Arabia and Syria, Israel would have been faced with the following balance of forces (excluding navies) in 1984:

TABLE 4: BALANCE OF FORCES, 1984

	TOTAL ARAB	ISRAEL	RATIO
Mobilizable military manpower ('000s)	3,519	474	15:2
Combat aircraft	2,600	539	5:1
Surface-to-surface missile launchers	230	12	19:1
Surface-to-air missile launchers	487	15	32:1
Divisions	70	14	5:1
Battle tanks	14,910	3,560	4:1
Artillery	12,002	958	25:2

This balance of forces is a function of both procurement and production capabilities. Whereas Israel has an edge in production, arms import ratios have constantly deteriorated from Israel's point of view. In 1972 the ratio of arms imports was 4.2:1, in 1982 it was 14.6:1.

TABLE 5: ARMS IMPORTS, 1972-1982
(constant 1981 US \$millions)

YEAR	TOTAL ARAB	ARAB-ISRAEL RATIO	ISRAEL
1972	2,473	4.22:1	587
1973	5,685	13.37:1	425
1974	4,111	2.55:1	1,614
1975	3,614	3.21:1	1,127
1976	5,075	3.52:1	1,440
1977	6,847	4.46:1	1,536
1978	8,669	7.41:1	1,170
1979	10,510	17.93:1	586
1980	10,014	11.09:1	903
1981	12,495	11.36:1	1,100
1982	13,826	14.66:1	943

The overall 1984 balance between Israel and the aggregated forces Israel would have to face (excluding Iraq and Iran, but including Egypt) can be broken down as follows:

TABLE 6: ISRAEL-ARAB MILITARY BALANCE

Note: Plus sign indicates precise number unknown; minus indicates no entry

Source: The Middle East Military Balance 1984, Jaffee Center for Strategic Studies

ARMY

	Israel	Arab Coalition		Israel	Arab Coalition
Personnel (thousands)			Indep. Battalions		
Regular	130	752	Mechanized	-	20
Reserves	310	750	Tanks	3650	8065
Total	440	1,502	APCs & ARVs	8000	8470
Divisions			Guns & Mortars	1000	6050
Armor	11	10	ATGM Launchers	+	5150
Mechanized	-	10	SSM Launchers	12	54
Infantry	-	3			
Indep. Brigades					
Armor	-	9			
Mechanized	-	2			
Inf./Para./					
Comm.	20	40			

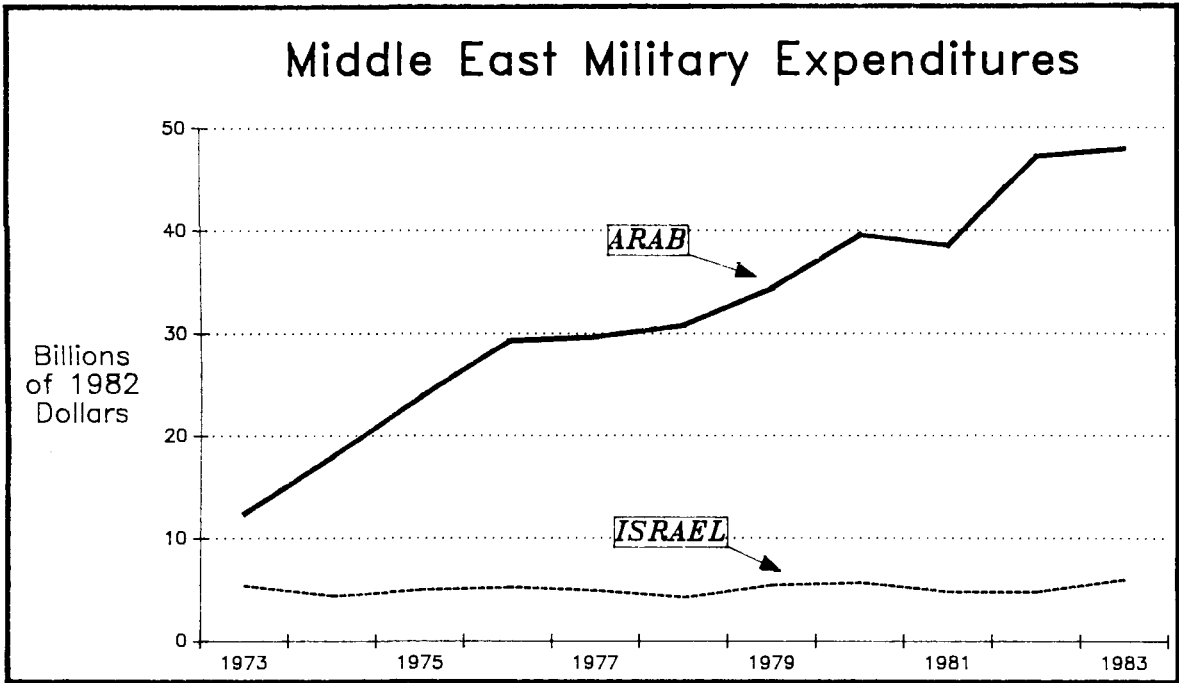
AIR FORCE & AIR DEFENSE

	Israel	Arab Coalition		Israel	Arab Coalition
Personnel (thousands)			Strike & Multi-		
Regular	30	221.0	role aircraft	600	850
Reserve	50	62.5	Bombers	-	35
Total	80	283.5	Total combat	640	1635
Interceptors	40	750	aircraft		
Military	11	48	Transport	88	160
airfields			aircraft		
Long-range SAM			Helicopters	188	485
batteries	+	304			

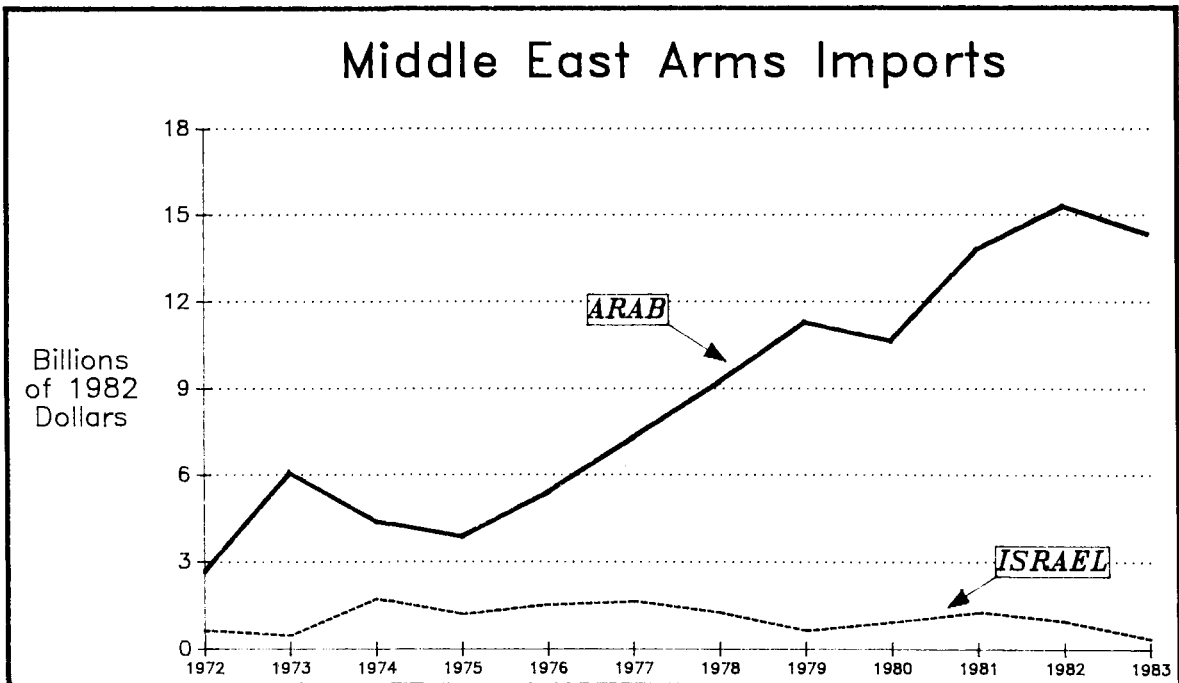
NAVY

	Israel	Arab Coalition		Israel	Arab Coalition
Personnel (thousands)			Submarines	3	18
Regular	10	34.3	Surface vessels	62	155
Reserve	10	17.5	Naval bases	3	17
Total	20	51.8			

Moreover, there is a growing disparity between Israel and the confrontation states in main weapons systems since the Yom Kippur War.

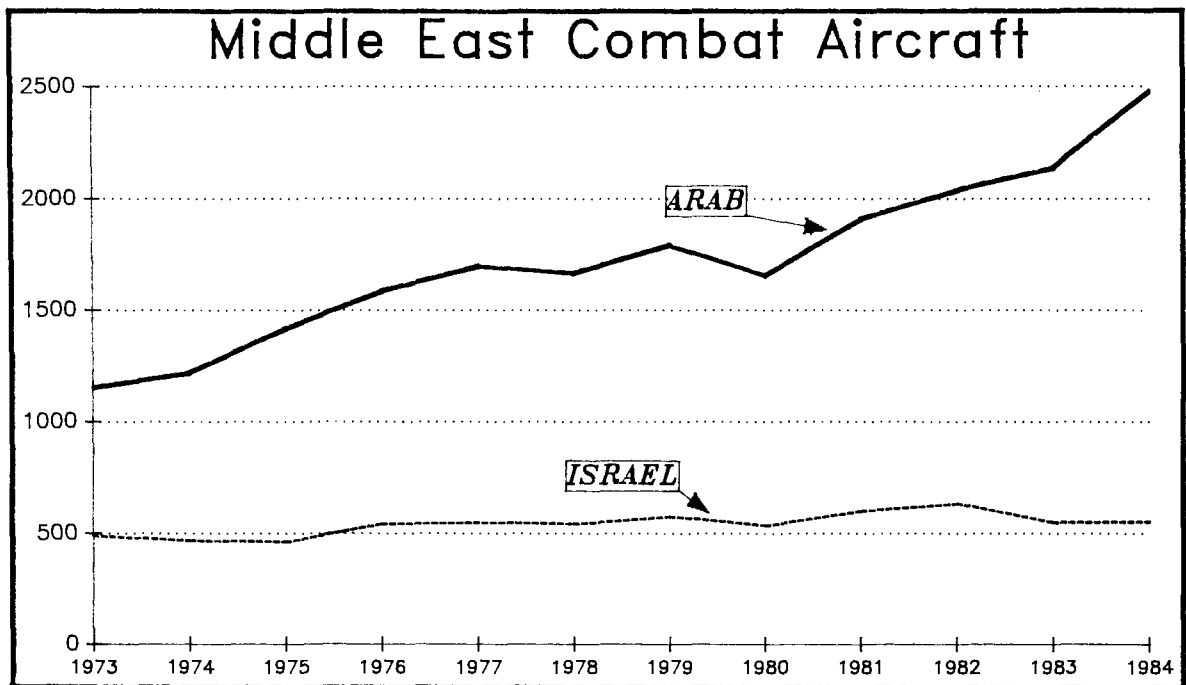


GRAPH 1



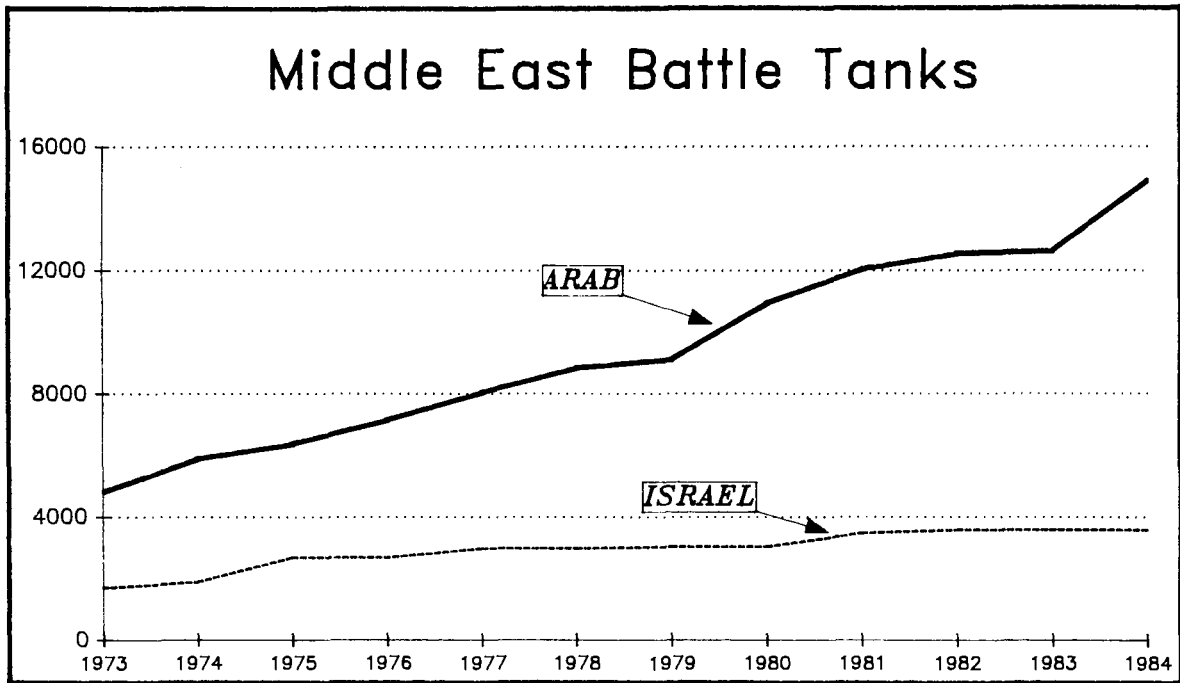
GRAPH 2

Surprisingly, although oil prices are dropping on the world market, Arab weapons procurement is not. Given orders in the pipeline and contracts that are about to be signed, the quantitative gap between Israel and the confrontation states will continue to grow. Moreover, considering Israel's current economic realities and the over-extension of its resources in relation to the Arab states, the rate of growth will accelerate.



GRAPH 3

In terms of manpower, the situation is just as alarming. Israel's projected Jewish population by the end of this decade is estimated to be 3.7 million; the population of the potential Arab confrontation states will be some 108 million -- a ratio of 29:1, compared with a ratio of 26:1 in 1985. By the year 2000, the ratio is expected to jump to 34:1.



GRAPH 4

TABLE 7: POPULATION, 1950-2000
ARAB COUNTRIES AND JEWISH ISRAELI
(in millions)

Year	Total Arab	Arab:Israel Ratio	Israel (Jewish)
1950	35.49	32.17:1	1.10
1955	39.99	25.71:1	1.56
1960	45.41	24.11:1	1.88
1965	52.17	22.99:1	2.27
1970	60.26	23.70:1	2.54
1975	68.96	23.53:1	2.93
1980	80.88	24.59:1	3.29
1985	93.86	26.61:1	3.53
1990	108.08	28.89:1	3.74
1995	123.79	31.54:1	3.92
2000	140.62	34.08:1	4.13

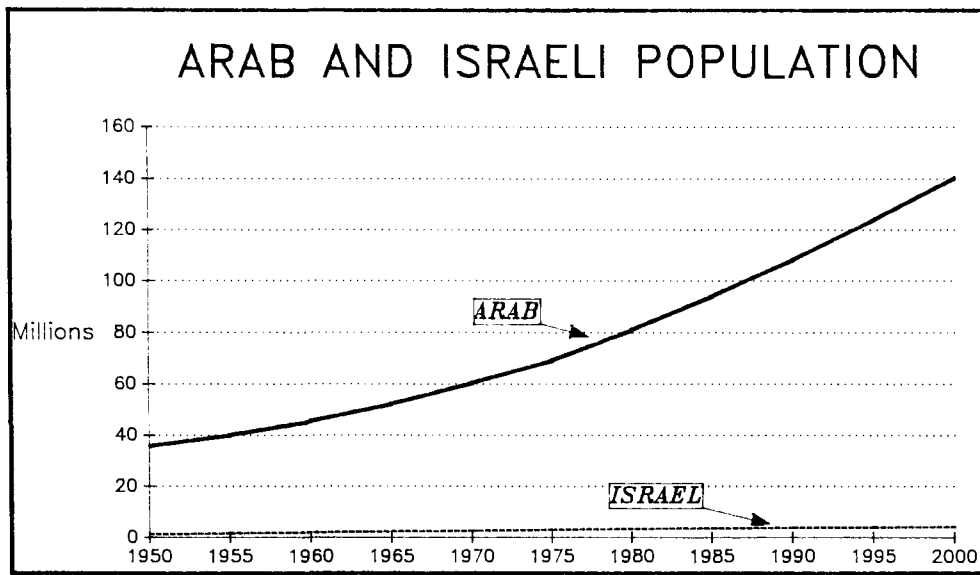
Total Arab includes Egypt, Iraq, Jordan, Kuwait, Libya, Saudi Arabia and Syria

Sources: For all data before 1972: United Nations, Demographic Yearbook:

Special Issue: Historical Supplement; for 1972-1981: UN, Demographic Yearbook

1981; Israeli data, Statistical Abstract of Israel, 1984 ed.

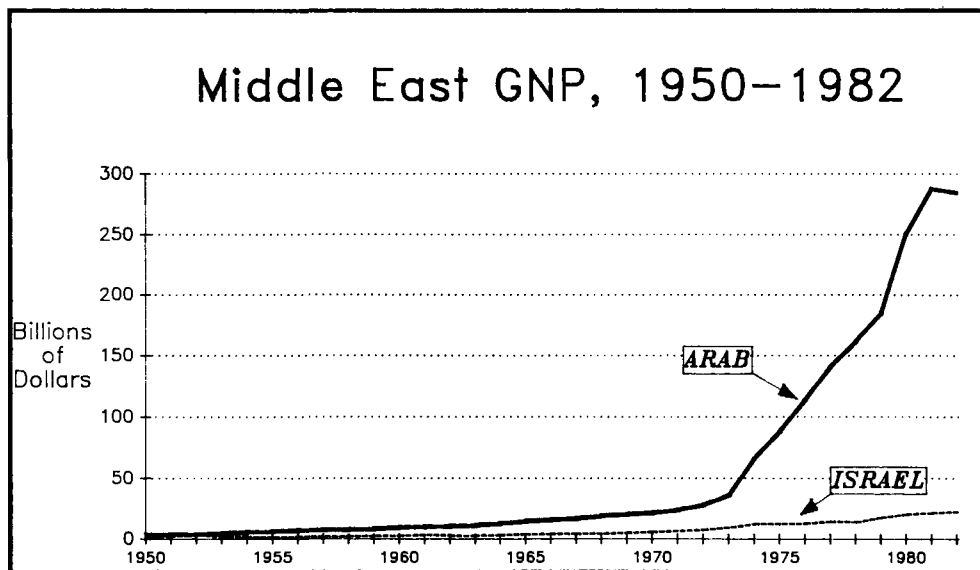
Projections: UN, Department of International Economic and Social Affairs, Demographic indicators of countries (estimates and projections as assessed in 1980, 1982). Jewish projections from Statistical Abstract of Israel, 1982, ed.



GRAPH 5

The Quantitative Economic Dimension

The problem, however, is not just one of weapons and manpower; it is very much also one of economics. In 1973, Israel's GNP was \$9 billion; the confrontation states' GNP was \$36 billion. The ratio was 4:1 in favor of the confrontation states. By 1982, the combined confrontation state GNP was \$284 billion; while Israel's was a mere \$22 billion. The GNP ratio grew to 12.9:1.



GRAPH 6

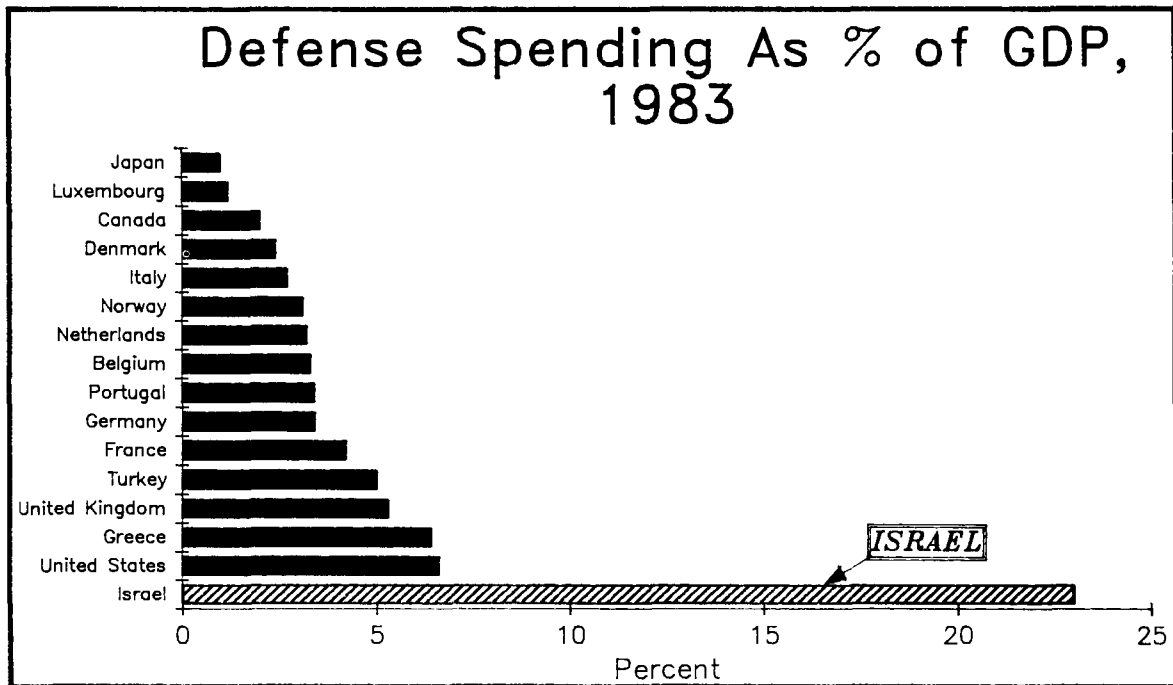
Israel is already the highest per capita spender on defense of any developed

nation, and one can foresee no scenario in which Israel will be able to appropriate more of its already over-extended budget to keep up with the developing arms race. Based upon the US Department of Defense Report on Allied Contributions to The Common Defense, a comparison of defense expenditures by Israel and America's Western allies reveals that:

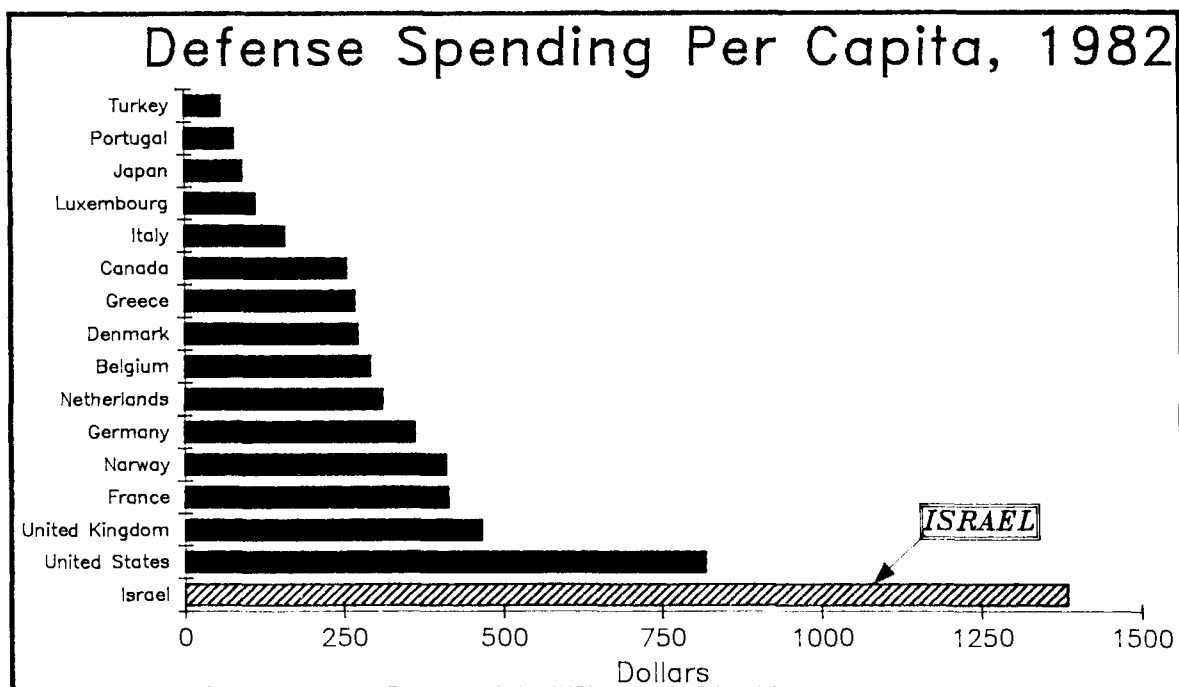
a) Israel's defense expenditure is more than five times the average for the allies, and three times more than the biggest spender among them;

b) Israel's active and reserve military manpower as a proportion of its population is 7.5 times the allied average and more than double that of the ally with the largest armed forces;

c) Israel's number of armored divisions compared to its GDP is 25 times the allied average while its aircraft combat inventory is 24 times the average.

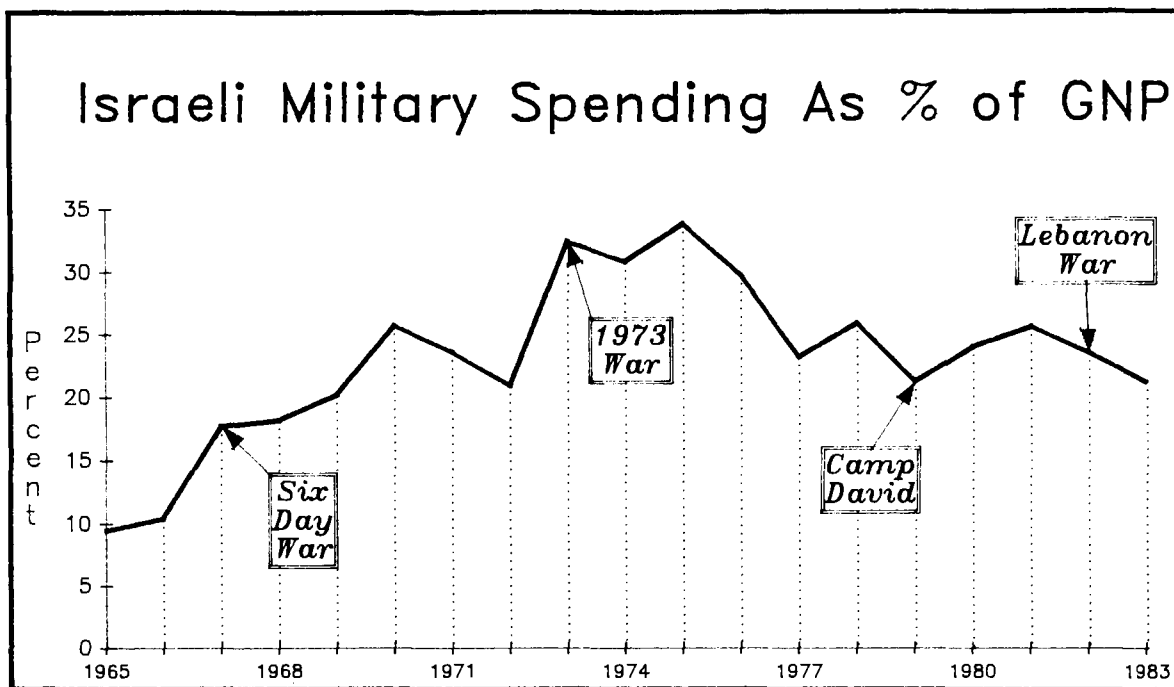


GRAPH 7

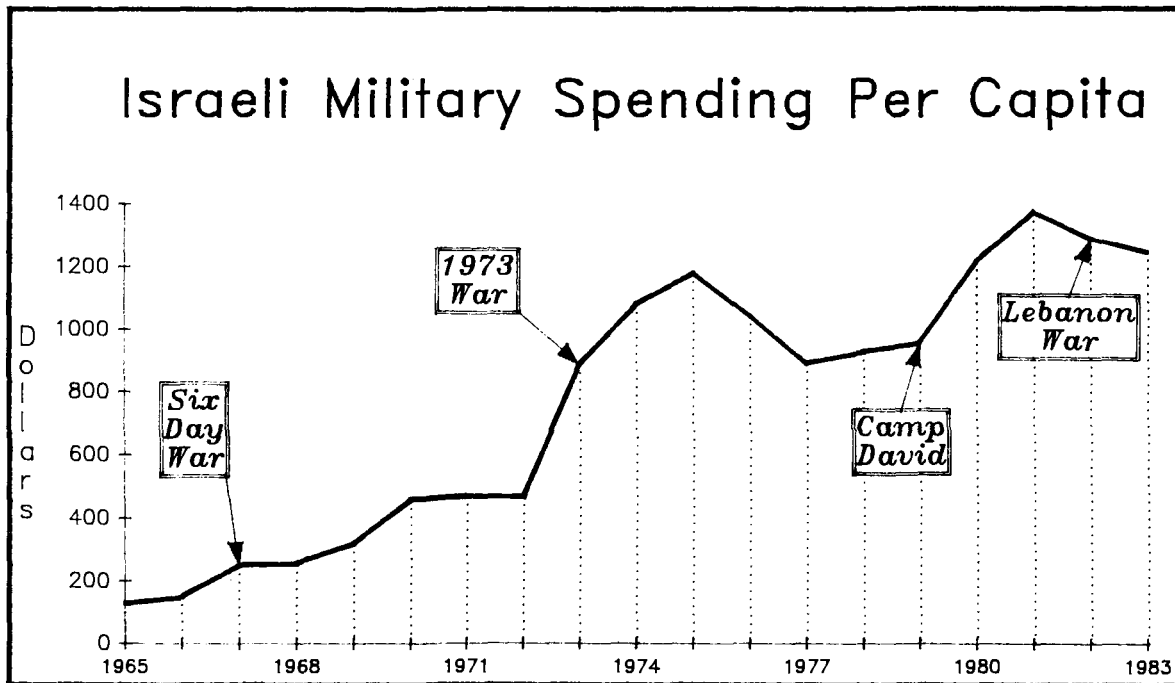


GRAPH 8

And as graphs 7 and 8 show, Israeli military spending as a percentage of GNP and per capita continues to be the highest in the world.



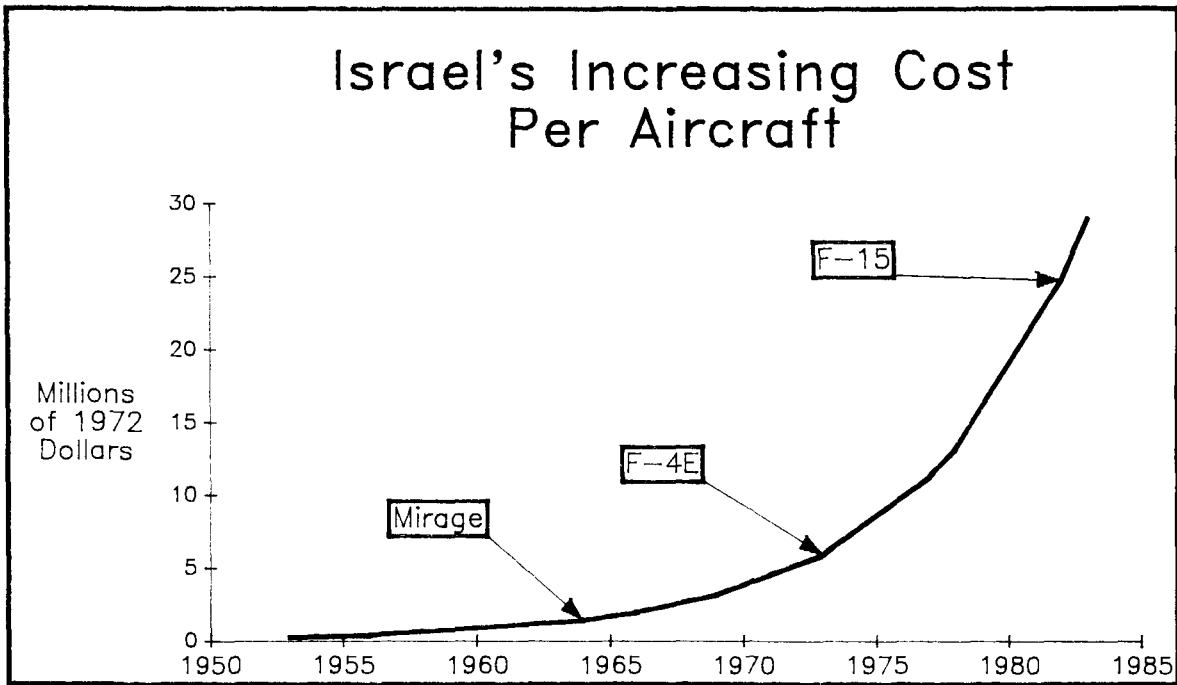
GRAPH 9



GRAPH 10

Massive defense expenditures have had a debilitating effect on the Israeli economy, being one of the prime causes for the near collapse of the Israeli economy toward the end of 1984. And as part of the overall plan to salvage the economy, the defense budget (excluding aid) was slashed by \$925 million between fiscal 1982 and fiscal 1984, with another \$700 million cut in fiscal 1985. In constant dollars, the defense budget was trimmed from a peak of \$3.3 billion in 1977 to around \$2.5 billion in 1986.

While the quantitative and qualitative gap with the confrontation states grows, the Israeli military has been confronted by skyrocketing procurement costs as well. An M-60 A3 tank, for example, purchased for \$850,000 (in constant dollars) in the 1970s, has been replaced with a locally made Merkava tank costing more than \$2 million; Skyhawk aircraft that once cost \$5 million are now replaced by F-16s costing \$23 million; Phantoms that cost \$10 million, are replaced by F-15s that now cost \$36 million.



GRAPH 11

The Diminishing Value of Aid

Procurement difficulties have been exacerbated by the drop in the value of the American aid dollar. According to data prepared by the Israeli Ministry of Defense, one dollar of aid received in 1984 can purchase less than half what each dollar bought in 1974.

TABLE 8: US MILITARY AID TO ISRAEL IN CONSTANT 1974 DOLLARS

(in \$ millions)

YEAR	ACTUAL	REAL
1975	1,350	1,205
1976	1,450	1,229
1981	1,950	985
1982	1,706	840
1983	1,400	683
1984	1,400	657

The Consequences

Israel's severe economic circumstances, coupled with the decrease in the real value of aid, have forced the Israeli defense establishment to make significant cuts in the Order of Battle for 1985/86. These measures include:

- the grounding of three front-line squadrons of aircraft
- the rotational grounding of active squadrons for an average of one month per year
- the transforming of one active division into a reserve division (saving \$43 million per annum) and the cancellation of an active brigade
- an across-the-board reduction in the size of standing units
- the cancellation of two major naval procurement programs, including the SAAR-5 advanced missile boat
- the retirement of over 6,000 military and defense-related personnel
- a cut in all training programs (Israeli pilots now fly fewer training hours than their American or Jordanian counterparts)
- a reduction in stockpiles and strategic reserves and a freeze on all building programs other than fortifications for the northern border following the pullback from Lebanon
- a significant cut in the number of "reserve days" -- the days per year a reserve soldier is called up for either active duty or training.

All indicators -- projected relative economic and population growth, procurement trends, and future Israeli military budget forecasts -- point to the same conclusion. Israel simply cannot keep up with the arms race. In particular it cannot maintain the current overall quantitative ratio of 2.7:1 that Israeli strategists consider to be the minimum balance of forces Israel needs in order to attain victory at acceptable cost.

IV. THE QUALITATIVE EDGE

Israel has always relied on its qualitative superiority to compensate for its quantitative inferiority. And as the quantitative gap grows, the importance of the qualitative edge becomes all the more important. However, Israel is finding this goal increasingly difficult to maintain.

Quality is not one-dimensional. It is the sum total of a country's academic excellence, its willingness to fight, its people's morale, and its collective ingenuity. Perhaps most importantly, quality rests upon the sophistication of the weapons a country has at its disposal and its ability to integrate them efficiently.

The last decade, however, has not only seen an influx of weapons into the Middle East; it has witnessed a continually growing sophistication in these weapons. Whereas Israel faced second-line Soviet equipment (apart from the Jordanians and other marginal units of specialized forces) in the 1967 and 1973 wars, today the IDF faces an array of highly sophisticated weapons from the front-line arsenals of both the East and the West. These weapons are faster, more accurate, more destructive and more difficult to neutralize than anything Israel has had to counter in the past.

Clearly, the increased sophistication of weapons in the confrontation arena makes the dangers of surprise in the future even more acute than they were in 1973. The margin of error is both narrow and critical, and it has consequently placed Israel under a tremendous burden in terms of finding technological solutions to its increasingly complicated problems.

The main problem is not simply that East and West are selling the confrontation states the most advanced technologies available, but that the same weapons are finding their way to both sides of the conflict. Both Israel

Hawk anti-aircraft missiles. The same tanks, artillery, electronics, avionics, missiles and rockets are now to be found on both sides of the confrontation line, even to the absurd point where the Egyptian air force is today flying Phantom jets with over 200 Israeli modifications, and the Saudi Arabian air force is flying F-15s with "fastpacks" developed by Israel. ²

TABLE 9: ARMS USED BY BOTH ISRAEL AND THE ARABS

FIGHTER BOMBERS

F-15: Saudi Arabia
F-16: Jordan, Egypt
F-4E: Egypt

ATTACK AIRCRAFT

A-4: Kuwait

ATTACK HELICOPTERS

AH-1 Cobra: Jordan
Hughes 500: Iraq, Jordan

AIR-TO-AIR MISSILES

AIM-9L Sidewinder: Egypt, Saudi Arabia
AIM-7F Sparrow: Egypt, Saudi Arabia

AIR-TO-GROUND WEAPONS

Maverick: Egypt, Jordan, Saudi Arabia
Laser-Guided bombs: Saudi Arabia

TANKS

Centurion: Jordan, Kuwait
M-60A1/A3: Egypt, Jordan, Saudi Arabia
M-48: Jordan
T-54/55: Iraq, Libya, Syria
T-62: Iraq, Libya, Syria

OTHER ARMORED FIGHTING VEHICLES

M-113: Egypt, Jordan, Kuwait,
Libya, Saudi Arabia
BRDM: Egypt, Iraq, Libya, Syria
BTR-50: Egypt, Iraq, Libya, Syria

ARTILLERY

M-109 155mm: Jordan, Libya,
Saudi Arabia
M-110 203mm: Jordan
M-46 130mm: Egypt, Iraq, Libya, Syria
D-30 122mm: Egypt, Iraq, Libya, Syria

ANTI-TANK

Dragon: Jordan, Saudi Arabia
TOW: Egypt, Jordan,
Kuwait, Saudi Arabia

AIR DEFENSE

Improved HAWK: Egypt, Jordan, Kuwait,
Saudi Arabia
Redeye: Jordan, Saudi Arabia
M-163 Vulcan: Jordan, Saudi Arabia

ANTI-SHIP MISSILE

Harpoon: Egypt, Saudi Arabia

² Fast-Packs are conformal fuel tanks that take up no hard points (to which the weapons are attached.)

To maintain its qualitative edge, Israel therefore must now make the world's most sophisticated weapons even better. This task has required the establishment of a military/industrial complex that currently employs nearly 70,000 people (18 percent of the country's total industrial workforce), forcing Israel to channel productive manpower into weapons development.

It has also forced Israel into the saturated arms export market and necessitated relationships with politically abhorrent regimes. Not only has the number of arms exporters increased thirtyfold in the past 11 years -- Israel is 15th³ on a list of the top 18 arms exporters -- but political constraints make finding markets increasingly difficult. While defense exports of over \$850 million in 1984 (8 per cent of Israel's total exports) offset some of the cost of maintaining Israel's disproportionately large defense infrastructure, the enterprise is far from economically viable.

The Burden of Sophistication - The Case of the Lavi

The example of the Lavi fighter plane typifies the burden generated by the technological race in the Middle East and Israel's obligation to retain its qualitative edge. This Israeli-designed aircraft was approved in the late 1970s, with production of the first prototype scheduled for 1986. While Israel could probably buy a comparable fighter more cheaply, it has been left with little choice but to generate a project that will keep in the country the diverse technological manpower and infrastructure necessary to improve on the performance of weapons flowing to the Arabs.

It is not enough for Israel simply to possess comparable aircraft. In order to ensure that its numerically inferior airforce can combat those of the enemy,

³ World Armaments and Disarmaments, SIPRI Yearbook 1984. Stockholm International Peace Research Institute, (Philadelphia, 1984).

systems in these aircraft. That can only be achieved by maintaining its own expertise in each field. Hence the necessity of producing its own fighter aircraft.

The Lavi project, however, is expected to cost Israel \$2.2-\$3 billion in non-recurrable development costs, plus an estimated \$10 billion in overall production costs (assuming the production of 300 aircraft, all for local use) over the next 15 years. Though economically debilitating, the project is essential. For it brings together more than 7,000 top-rate scientists and engineers who collectively provide the answers to Israel's defense problems. Their task is to improve on the radars, fire-control systems, communications, missiles and ordnance possessed by the confrontation states, especially those systems which duplicate Israel's deployments.

Currently, the bulk of the development program is being financed by American aid provided on an annual basis. If, for some reason, the US Congress decides to change the stipulation in the foreign aid bill that allows for the extraordinary appropriation of funds to be spent in Israel (as opposed to the regular stipulation that all aid funds must be spent inside the US), Israel could find itself faced with harsh choices: cancelling the program; finding a partner outside Israel willing to assume the program; or making available the economic means, at the expense of other factors in the economy, to complete it. Given the fact that nearly half of Israel's total budget of \$21 billion in 1984 was spent on debt-servicing, with defense consuming nearly \$6 billion of the remainder, the last alternative hardly looks realistic.

The Human Factor

Added to the obvious problems posed by the injection of new technologies in the arena is that, ironically, these systems for the most part are easier to

maintain and operate than those previously deployed by the confrontation states. While this is true for most modern weapons, it is particularly true for weapons reaching the Middle East from the U.S.

Since the abolition of compulsory conscription into the US armed forces in 1973, America has had to compensate for the loss in quality manpower by finding technological solutions. These solutions have made American weapons easier to operate and maintain. And this in turn has had a fundamental impact on Israel's ability to exploit its main resource -- ingenuitive manpower.

An illustration of this can be found in the relative turn-around ratios for the Phantom F-4 compared with either the F-15 or the F-16. Whereas it took six hours to turn around a Phantom jet, Israeli technicians, by employing ingenuity, could achieve the task in just two hours. In practice, therefore, Israel could field more than twice as many aircraft than would otherwise be technically possible. By maximizing "platform usage" Israel was able to minimize "platform procurement." But the F-15 and the F-16, despite their advanced technology, can be turned around in mere minutes, with far less technical skill than was required for a Phantom. They can be armed more easily than a Phantom and faulty avionic and electronic systems can be identified rapidly and replaced easily. The Phantom example can be applied to almost every parameter of warfare in the Middle East, whether the battle environment is on the land, in the air or at sea. Almost every major weapons system now deployed in the Middle East shares the common characteristics of being more lethal, more threatening and yet easier to maintain and operate.

The Problem of Reserves

Israel is faced not only with the dual problem of an eroding qualitative edge and an eroding quantitative balance but also with the added burden of

reliance on reserves soldiers, who comprise 85 percent of Israel's armed forces. According to published data, these reserves require 72 hours to mobilize. In other words, in a situation in which Israel were attacked, it might be able to field only 15 percent of its forces in the first three days of combat.

One partial solution to this problem would be to maintain a sizeable portion of the reserve forces on active duty at all times. This option, however, is costly both in terms of lost labor days and compensation for lost salaries. Indeed, to pare down the 1985/86 military budget, Israel has actually been forced to reduce the number of reserve days (as well as the number of units on active duty).

Because of its dependence on reserves, the IDF decided to minimize the time lag between call-up and mobilization by pre-positioning weapons and ammunition closer to Israel's borders. Placing them in the center of the country would have made them less vulnerable but would have required more time to deploy the reserves. Invulnerability was therefore sacrificed to the expedient of speed.

This has added another dimension to Israel's strategic vulnerability and therefore its dependence on early-warning. If the enemy makes significant inroads before Israel has mobilized its reserves, or if Israel's vulnerable pre-positioning sites -- essential for mobilizing of those reserves -- are significantly damaged in the opening stages of a war, Israel's situation would be critical.

V. THE THREAT TO ISRAEL'S AIR SUPERIORITY

A cardinal pillar of Israel's response in this deteriorating environment is the maintenance of the air superiority which affords rapid pin-point response and must be relied upon to counter Israel's quantitative inferiority. The air force is an essential element in providing time for the reserves to mobilize. In addition, the air force will also have prime responsibility for protecting pre-positioning sites from attack and for halting an enemy offensive. It will carry responsibility for protection of the skies, and shipping lanes (Israel's isolation making these strategically vital). The air force will also have to bolster Israeli naval capability in protecting Israel's vulnerable shores. And it will have to provide ground support; neutralize the enemy's ground-to-ground and ground-to-air capabilities; interdict enemy supply lines; evacuate casualties; supply Israeli forces; and provide intelligence and communications.

If Israeli population and industrial centers are among the opening targets of an Arab attack, the tasks facing the IAF multiply significantly in both diversity and urgency. Put simply, at the outset of any war, the IAF must establish control of the skies above the battlefields. Therefore, given Israel's small size, the concentration of its population and industrial infrastructure, the vulnerability of its pre-positioning and the country's acute dependence on its air force, the maintenance of air supremacy is the heart of Israel's defense.

For this reason air power has become the focal point of the arms acquisition programs of the Arab confrontation states. They have sought answers to Israel's air superiority by purchasing newer and more sophisticated aircraft with better penetrability and survivability characteristics; better ground-to-air defenses; and more accurate ground-to-ground capabilities. The recent Saudi purchase of 72 Tornados -- NATO's most sophisticated ground

attack aircraft -- is a case in point.

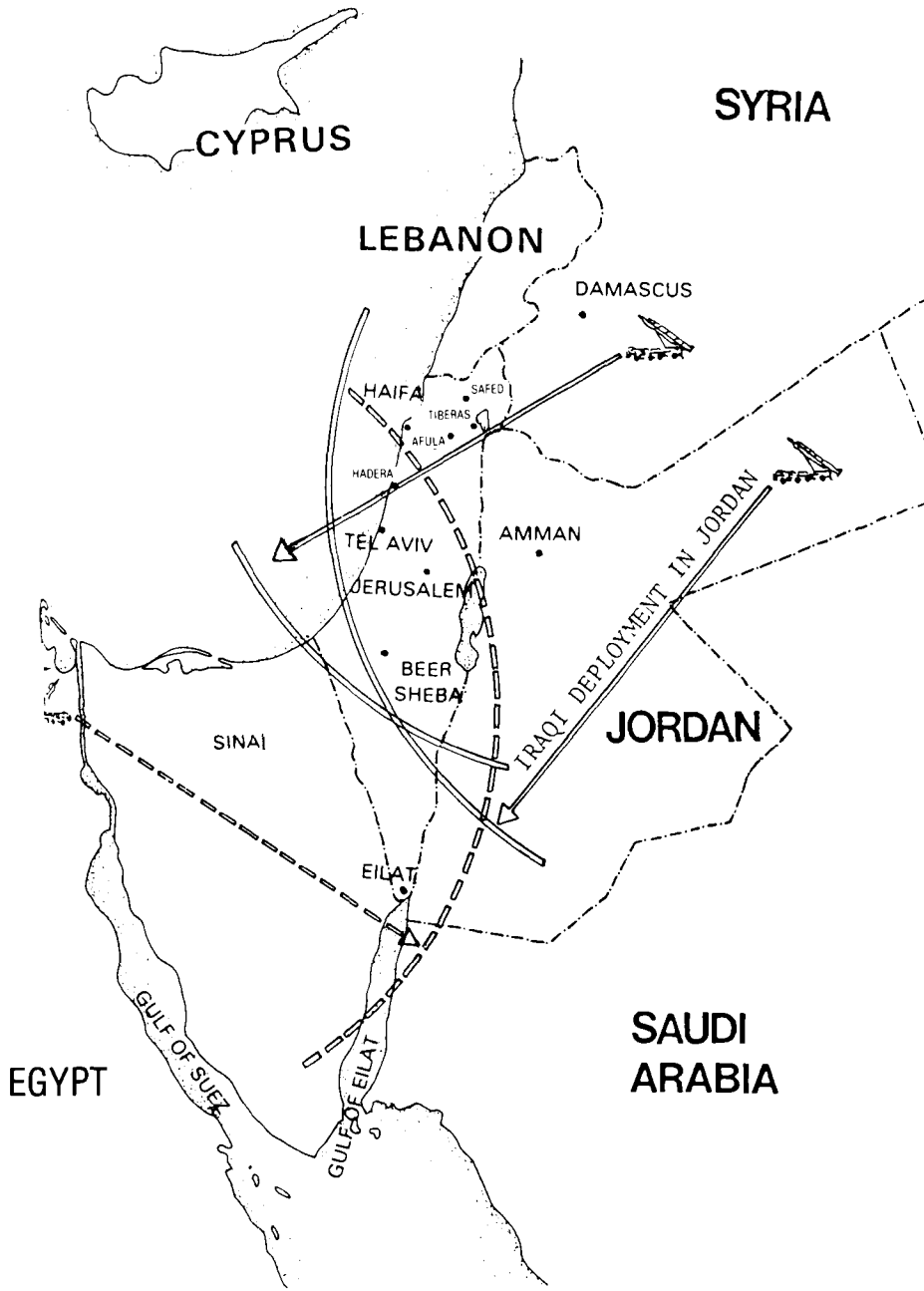
These acquisitions now pose a serious threat to Israel's airfields and prepositioning sites. For example, the injection into Syria of Soviet-Improved Scud and SS-21 ground-to-ground missiles has amplified that threat. The consequences of Scud deployment in Syria, supplemented by those of an Iraqi expeditionary force on Jordanian territory are illustrated in map 3 which also shows that the number of Scuds deployed in potential confrontation states has increased from around 200 in 1982 to 340 in 1986.

In 1983, the Soviet Union provided Syria with SS-21 missiles which have a CEP (dispersal ratio) of 250 meters over a range of 120 km. This was the first time such weapons have been deployed outside the Warsaw Pact, adding yet another layer of threat. If similar missiles were deployed in Jordan (e.g., the Lance), not a single Israeli airfield (other than Ovda in the south and thus distant from the combat arena) would be outside their combined range. Every city, port and other installation in Israel would be threatened by these ground-to-ground missiles. (See maps 4, 5)

If they were deployed only in Jordan, the threat would be no less significant. Indeed, the immediate threat from Syria is severely exacerbated should Jordan join forces with it. The border with Jordan is Israel's longest and the closest to its population centers and industrial infrastructure. For this reason, the Reagan Administration's attempts to sell Jordan F-16s and/or F-20s as well as mobile, Improved-Hawk anti-aircraft missiles will make the threat to Israel's air superiority from the east even more acute. (See map 6)

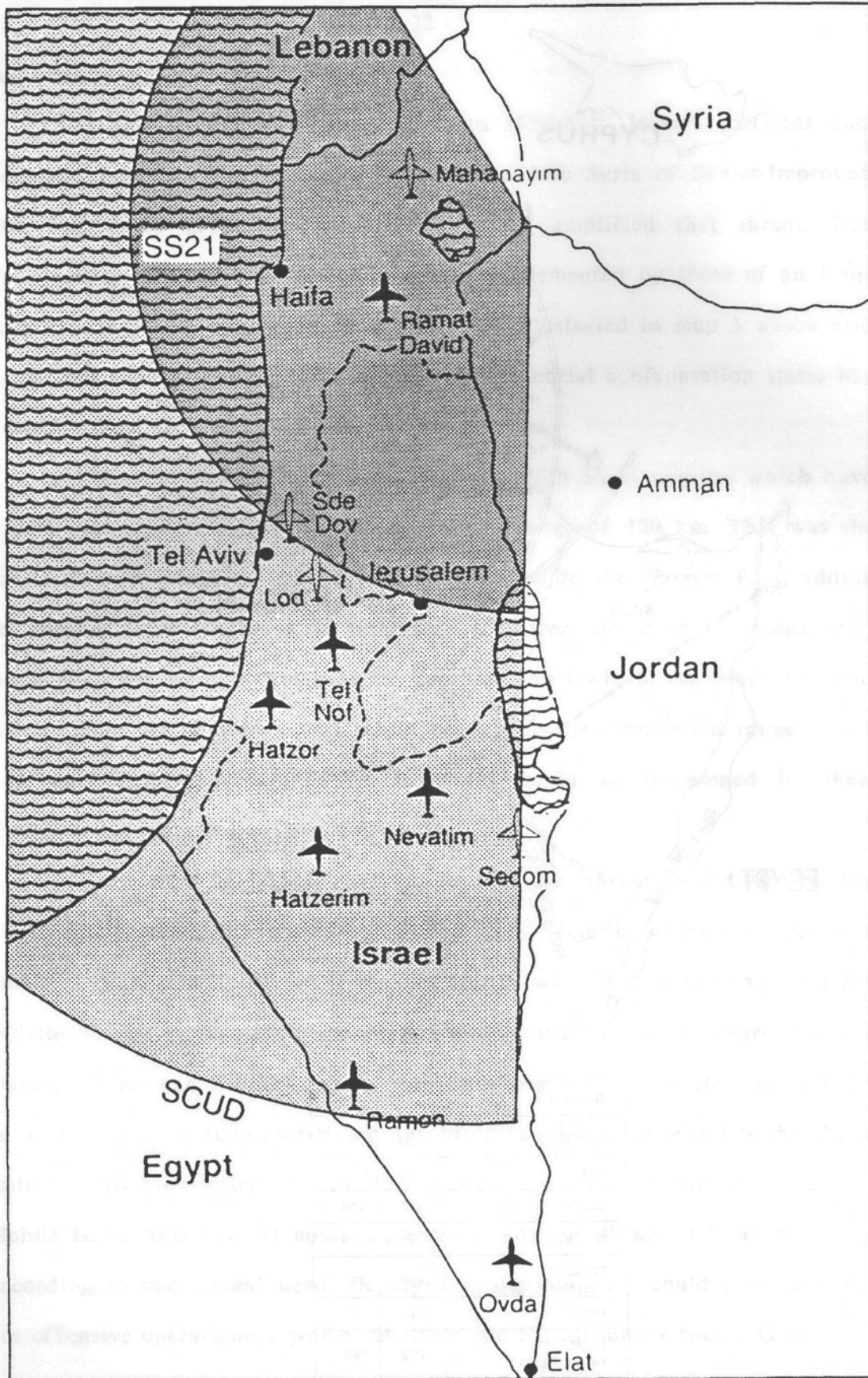
Mobile Hawk anti-aircraft missiles possess a range of 40 km and can be moved according to operational need. Deployed in Jordan, they could provide cover for offensive operations, a war of attrition and expeditionary forces. Given

MAP 3: THE SCUD THREAT

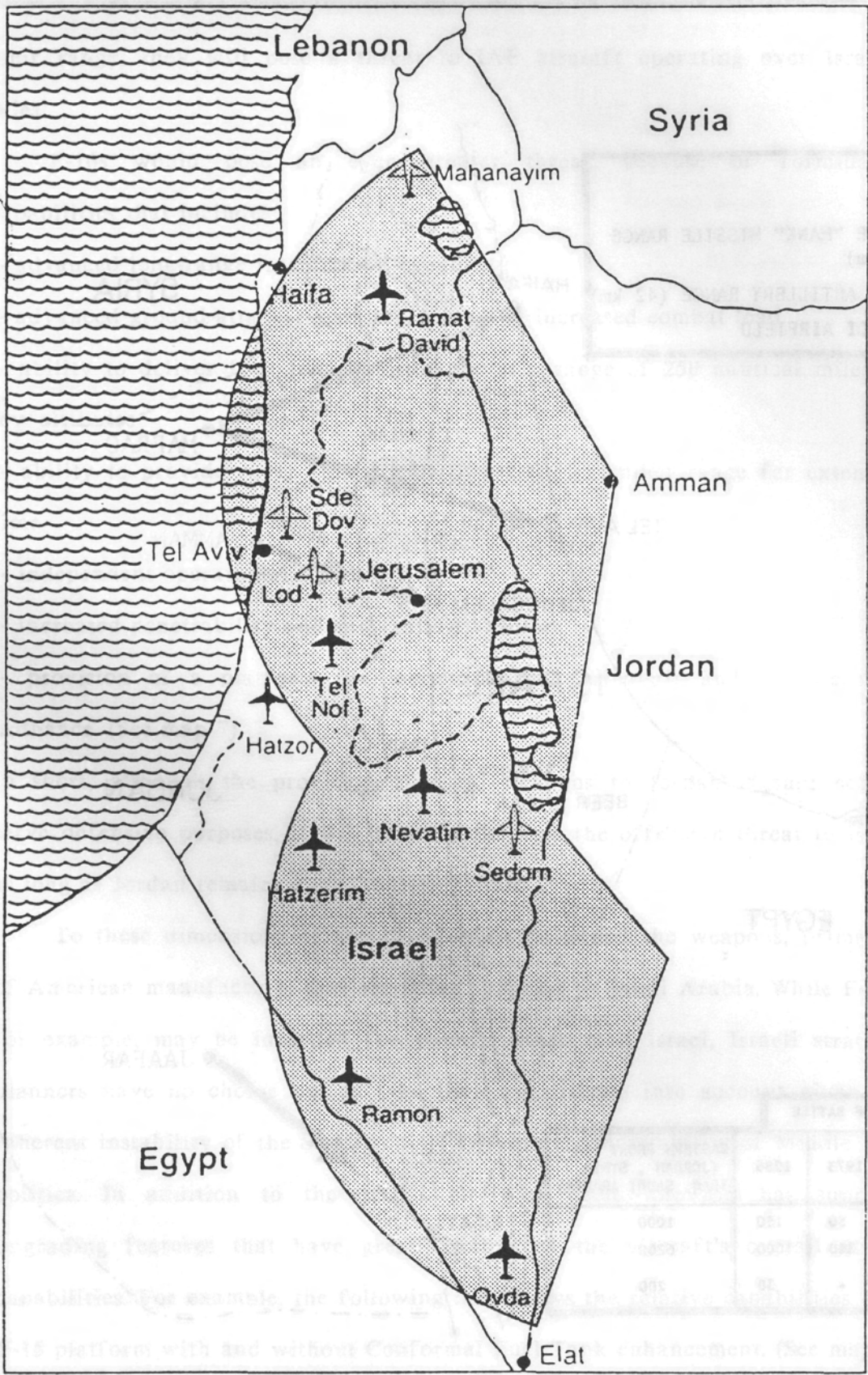


State	1982	1986
SYRIA	35	80
IRAQ	30	70
LIBYA	100	150
ALGERIA	25	25
TOTAL (without Egypt)	190	325
EGYPT	12	15
TOTAL (with Egypt)	202	340

MAP 4: THE MISSILE THREAT FROM SYRIA



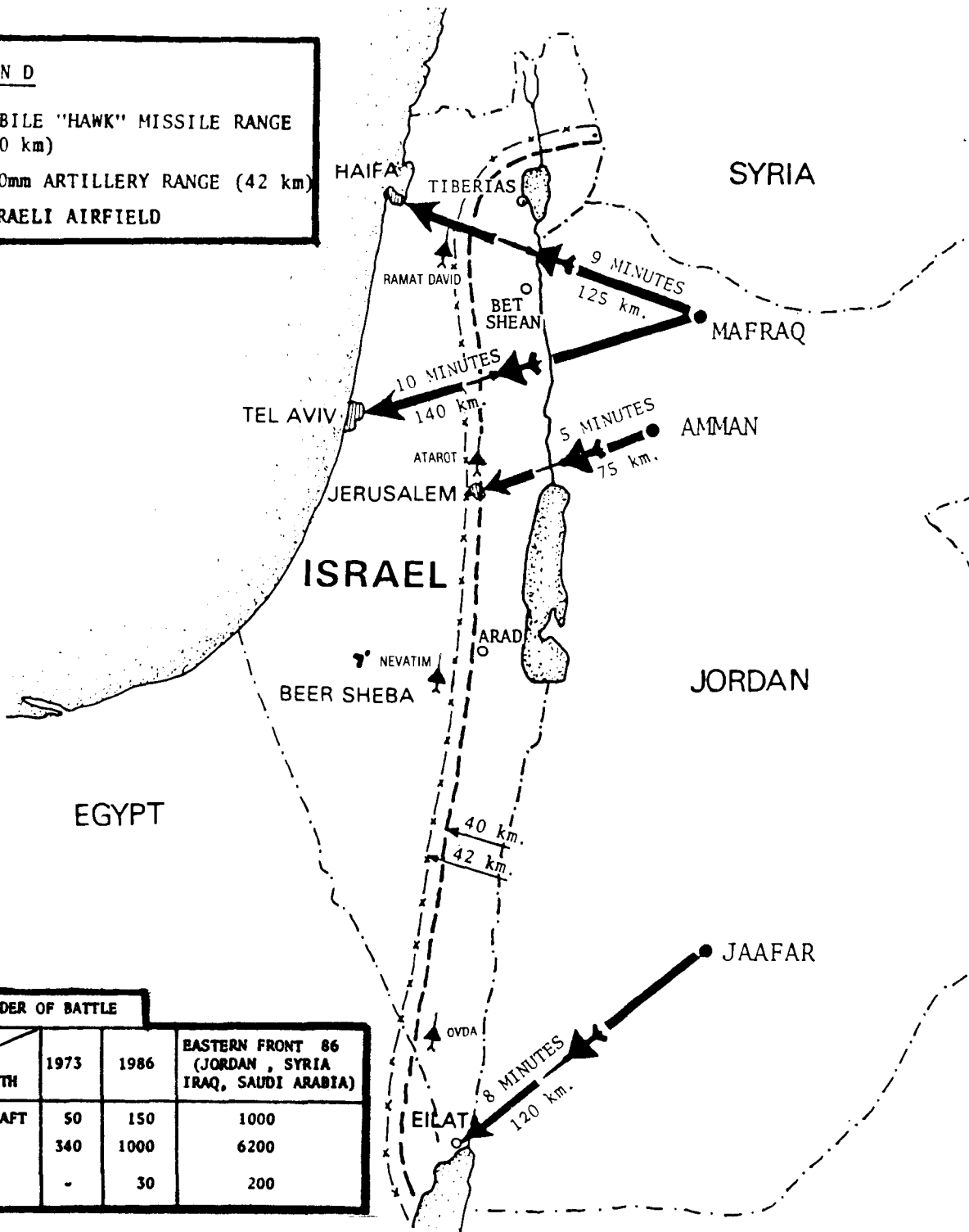
MAP 5: POSSIBLE MISSILE THREAT FROM JORDAN



MAP 6: CONTRIBUTION OF F-16 AND MOBILE "HAWK" MISSILES TO JORDAN'S ATTACK CAPABILITY

LEGEND

- MOBILE "HAWK" MISSILE RANGE (40 km)
- - - 180mm ARTILLERY RANGE (42 km)
- ▲ ISRAELI AIRFIELD



JORDANIAN ORDER OF BATTLE			
YEAR	1973	1986	EASTERN FRONT 86 (JORDAN, SYRIA IRAQ, SAUDI ARABIA)
STRENGTH			
COMBAT AIRCRAFT	50	150	1000
TANKS	340	1000	6200
S.A.M LAUNCHERS	-	30	200

their range, they will pose a threat to IAF aircraft operating over Israel's skies.

F-16s would pose an even greater threat, because of formidable capabilities that include:

- advanced long-range interception capability
- advanced ground-attack capability, including increased combat load
- ability to deliver four tons of ordnance at a range of 250 nautical miles at low altitudes
- ability to provide cover for ground forces for extended range for extended time
- independent operational capability
- increased penetrability and survivability factors
- provision of a platform for more advanced air-to-air and air-to-ground ordnance. (See map 7)

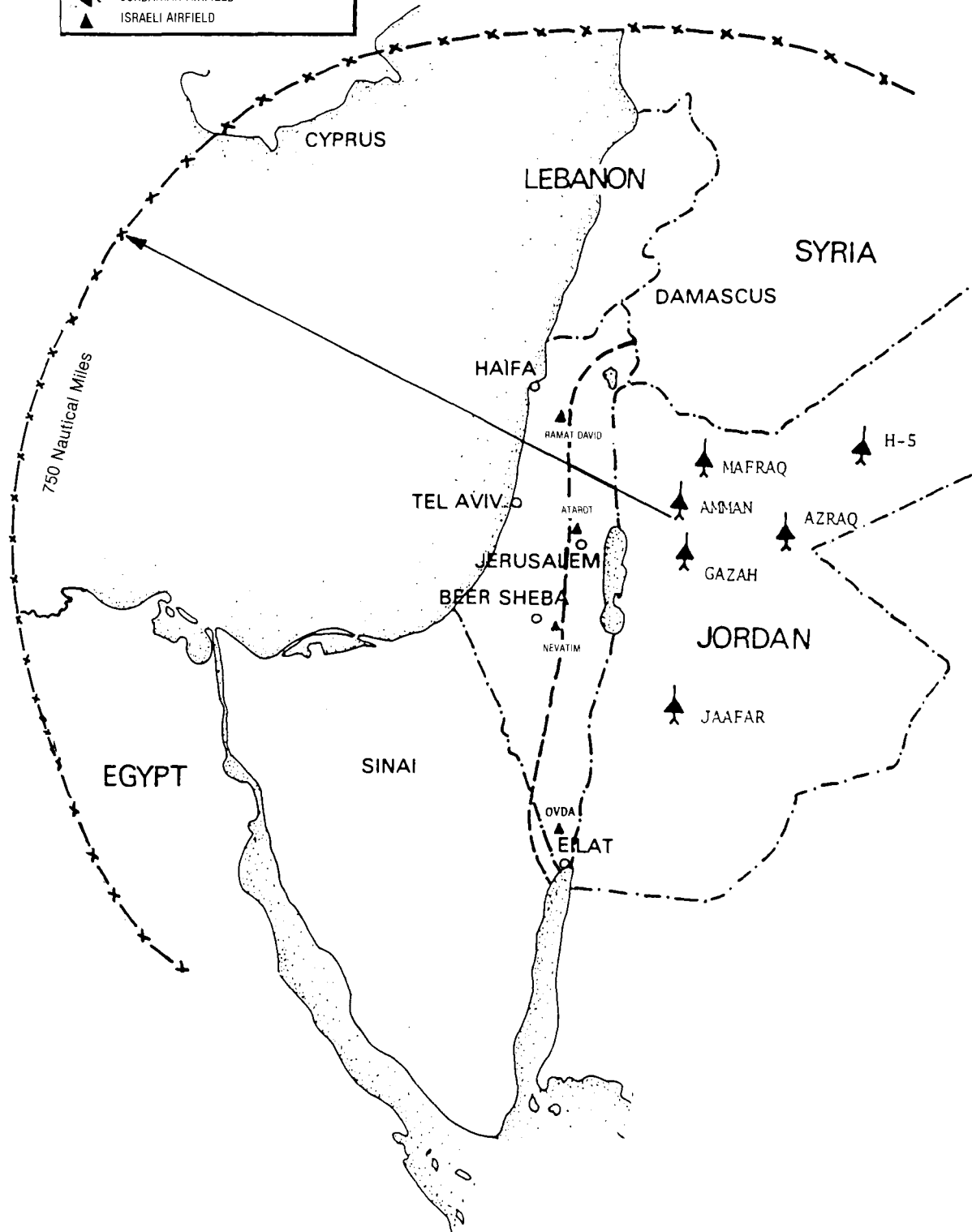
In short, although the provision of these weapons to Jordan is supposed to serve defensive purposes, it will actually increase the offensive threat to Israel as long as Jordan remains a confrontation state.

To these dimensions of the threat must be added the weapons, primarily of American manufacture, that are being supplied to Saudi Arabia. While F-15s, for example, may be intended for enemies other than Israel, Israeli strategic planners have no choice but to take their capabilities into account given the inherent instability of the Saudi regime and the unpredictability of Middle East politics. In addition to the actual platform itself, the US has supplied upgrading features that have greatly enhanced the aircraft's overall attack capabilities. For example, the following map shows the relative capabilities of a F-15 platform with and without Conformal Fuel Tank enhancement. (See map 8)

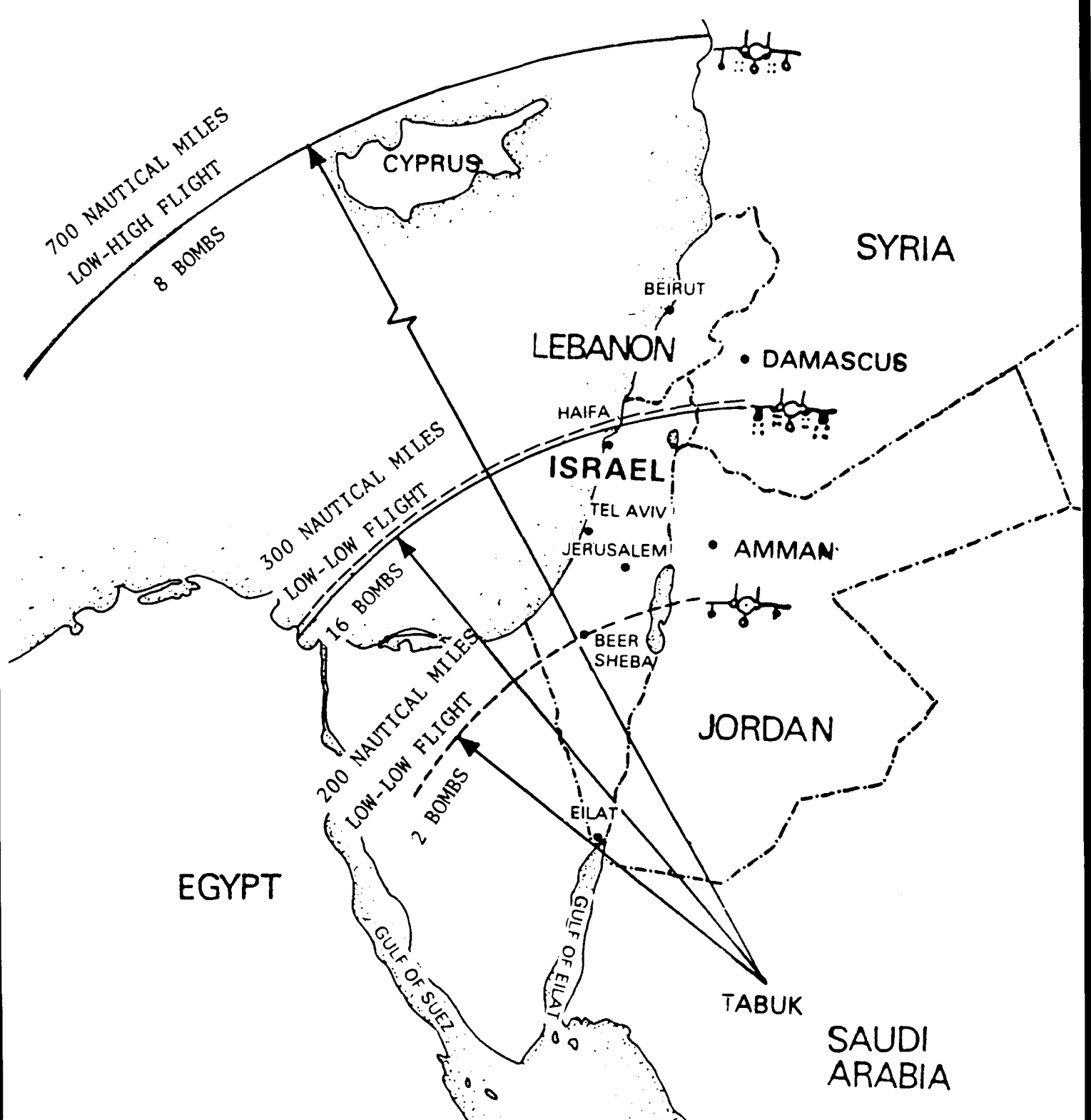
MAP 7: SUPPLY OF F-16 AND MOBILE "HAWK" MISSILES TO JORDAN—CHARACTERISTICS AND CONSEQUENCES

LEGEND

- x—x— F16 FLIGHT RANGE
(FOR DETAILS, SEE PERFORMANCE TABLE)
- - - MOBILE "HAWK" MISSILE RANGE
(140KM)
- ▲ 180MM ARTILLERY RANGE (42KM)
- ▲ JORDANIAN AIRFIELD
- ▲ ISRAELI AIRFIELD



MAP 8: F-15 CAPABILITY - ATTACK MISSION - WITH/WITHOUT CFT & MER-200



- F-15 WITHOUT CFT AND MER-200 (2 BOMBS) LOW-LOW ALTITUDE FLIGHT
- ==== F-15 WITH CFT AND MER-200 (16 BOMBS) LOW-LOW ALTITUDE FLIGHT
- F-15 WITH CFT AND MER-200 (8 BOMBS) LOW-HIGH ALTITUDE FLIGHT

The addition of AIM 9L air-to-air missiles to these platforms adds new qualitative dimensions to the aircraft in air-to-air combat and consequently in its penetration capability. Whereas the standard missile in use today requires a pilot to position himself 3,600 feet behind a target plane, the AIM 9L enables easy fire at the target plane from any direction from 32,000-60,000 feet.

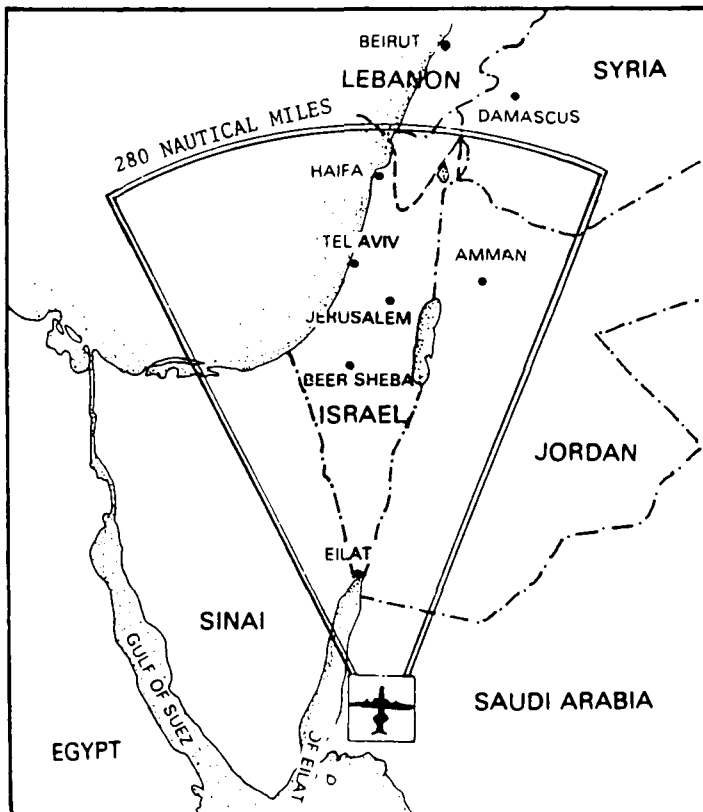
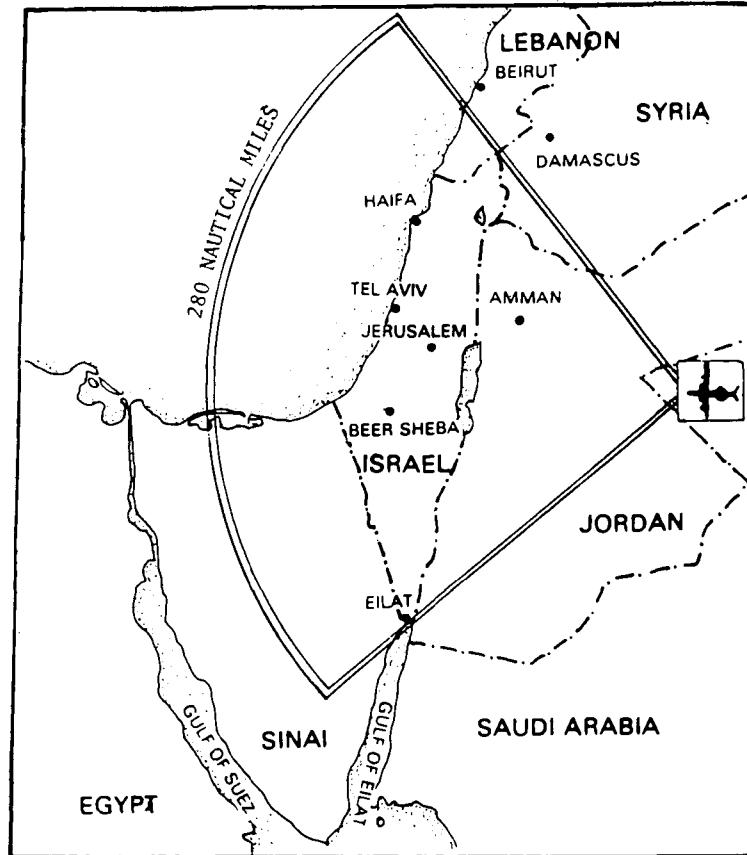
When the command and control, intelligence and other functions of the AWACS systems that have been supplied to Saudi Arabia are added to these other weapons, the cumulative challenge to Israel in terms of retaining air supremacy takes on yet another dimension. The AWACS afford the following:

- comprehensive surveillance of Israel's air space
- real-time, constant, early warning both to the Saudis and -- through them -- to other belligerents
- effective management of Saudi and allied Arab air defenses and interception capabilities
- target acquisition in the air, on sea and on land
- ECM and ECCM measures

The all encompassing enhancement afforded by the AWACS is illustrated in Map 9.

If one examines the eastern front arena as a whole, as Israeli strategic planners must, the question mark hovering over continued Israeli air supremacy -- the ability of the Israeli air force to prevail in real time over the multiple threats that could develop -- becomes more ominous. The combination of missiles, platforms, ordnance and artillery that has found its way to the confrontation states gives them an ability to cover all of Israel's territory. They can now threaten Israel's air force from both air and land. This, and the pending supply of Mig 29s and Mig 31s to Syria, and F-16s or F-20s to Jordan, have caused significant erosion in Israel's ability to defend itself. The net


MAP 9: THE AWACS THREAT TO ISRAEL



HEIGHT OF FLIGHT 31,000 FEET

HEIGHT OF TARGET 2,000 FEET

LEGEND

 - VISIBLE AREA

 - PLANE'S POSITION

effect is that Israel's deterrent image has also been weakened and the confrontation states now have an increasing incentive to try for a quick and decisive surprise attack that would have far-reaching ramifications.

VI. EROSION OF DETERRENCE AND THE CHANCES OF WAR

Deterrence is the cornerstone of Israeli strategic thinking. The prime goal of the Israel defense forces is not to win a war, but to prevent war from breaking out. Notwithstanding how victorious the Israel Defense Forces may be in the field, Israel cannot "win" a war. Each war, no matter how limited, undermines the country economically, catalyzes emigration and discourages immigration. Each war claims another generation of youth, depriving Israel of its most valuable asset -- manpower.

Deterrence depends upon the maintenance of the perception of a favorable military balance. Thus, as the military balance erodes, Israel's deterrent capability erodes as well. And this in turn increases the chances of war. Moreover, the mere possession of high grade equipment creates an illusion of power which alters the perception of relative capabilities. Specifically, because Israel is so vulnerable, because the cost of war is so disproportionately disadvantageous to Israel, the incentive by one or a coalition of confrontation states to use their sophisticated weapons increases disproportionately. And, conversely, the greater the illusion of power in the confrontation states, the less incentive there is to make peace.

The Middle East is one of the most unstable arenas in the world. Put simply, one cannot continue to pump more TNT into what has become a virtual powder-keg and hope for stability. One cannot continue to hope for peace while shortening the fuse on the conflict by providing weapons that are faster,

more penetrable and more destructive.

The challenge facing Israeli military planners is manifold. They have to assume:

- a worst case probability;
- the influx of more Western, particularly American, weapons into the arena;
- a continued, if not deepened, Soviet commitment to the Arab radicals;
- tremendous Israeli financial and manpower constraints and an increased dependence on American aid;
- a growing gap in both GNP and population in relation to the confrontation states;
- political pressures to give up the strategic depth of the West Bank, and the early-warning benefits derived from the heights in these regions;
- continually changing political environments in neighboring states;
- and, perhaps most crucially, a constantly closing qualitative gap between Israel and the confrontation states. (Just one indicator of this is the fact that there are already more students from states potentially hostile to Israel studying in universities around the world, than Israel has in its own financially troubled institutions of higher learning.)

Moreover, those responsible for Israel's security are also faced with the strategic problems inherent in defending a country of 8300 sq. miles -- with borders totalling 459 miles and a 226 mile vulnerable shoreline -- having only minutes to respond from the moment enemy aircraft take off. The need for constant vigilance created by the possession of high-grade weapons is compounded by the autocratic nature of the regimes surrounding Israel, in which decisions are not subject to the same time-delaying and intelligence-vulnerable procedures generic to democracies. This shortens the fuse even more.

The erosion of Israel's deterrent image coupled with the shortening fuse portend ill for both the peace process and stability. Each new military capability in the hands of the confrontation states adds yet another layer to Israeli insecurity and makes Israel less able to consider giving up territorial depth in exchange for less than absolute security guarantees. Moreover, it increases Israel's incentive to opt for a pre-emptive strike should the chances of war be perceived as real. Because the first hours of any conflict between Israel and the confrontation states will be the most critical (as they were in 1967 and 1973), and because surprise is a crucial element in helping Israel redress the quantitative imbalance, the increased sophistication of weapons in the arena generate an added Israeli incentive to pre-empt. If, for example, Israel receives credible information of hostile Jordanian or Syrian intent, it cannot wait to have its airfields and pre-positioning sites threatened before it responds. If it is going to emerge victorious at acceptable cost, it must nip the threat in the bud.

The combined erosion of Israel's quantitative, qualitative and deterrent postures not only increases the chances of conflict, but it also significantly cuts down on the lead-time available for diplomatic intervention and mediation before the guns go into action. In short, the more TNT in the powderkeg, and the shorter the fuse, the greater the chances of war.

VII. ISRAEL AND THE U.S.

An unquestionable element of Israel's continued ability to maintain a credible deterrent is its alliance with the United States. Beyond the physical supply of weapons and aid from America to Israel, a crucial factor in the Arab calculation of whether or not to go to war is how Washington will respond to an attack on Israel.

The bilateral alliance is based on America's historic and emotional empathy for the Jewish state and its democratic principles; but it is also founded on a mutuality of strategic need. Since the turn of the decade, there has been a growing emphasis in the relationship on this mutual strategic bond. While this is partly due to the personalities involved, the strategic relationship has blossomed primarily because of a growing fear in Washington over the potentially transient nature of alliances in the Middle East and the compounded frustration with mercurial Arab attitudes toward basic American policy objectives in the area.

Israel, however, cannot take this special relationship for granted. There have been sporadic US embargos against Israel when America wanted to achieve policy objectives that were not consistent with Israeli perceptions or when Israel has acted too independently (as in the 1981 bombing of the Iraqi nuclear reactor). There have also been occasions when US aid to Israel in time of war has been hampered by the attitudes of third parties, as was the case in 1973, when no West European country except Portugal was prepared to allow American transport aircraft en route to Israel to refuel on its territory.

Moreover, Israel has to be sensitive to the almost certain Congressional and public pressure that will be applied in coming years on the Administration

to trim foreign aid in tandem with domestic spending in order to cut the budget deficit. The chances of exacerbating tensions on the policy level, especially if the Administration pursues a Middle East peace initiative, are also great -- as are the potential repercussions on the fundamental relationship between the two countries. Tension in the relationship could also arise over the almost predictable differences of opinion concerning America's arms transfer policies in the Middle East. This could manifest itself in Administration anger over Israeli opposition to these transfers and could also generate anti-Israel sentiment on the part of those who are linked financially to these transfers.

Despite the mutuality of goals and interests, Israel's relationship with America is fragile. While it is probably safe to assume that the basic relationship will not alter, tactical nuances could have long-term strategic implications for Israel. The Lavi fighter project, for example, is dependent on an annual injection of American aid money. If, for some tactical reason, funding were not forthcoming, a prime Israeli strategic interest will be compromised.

Of all the factors that could influence American-Israel relations, none is potentially more explosive than that of American arms transfers to the states Israel perceives as potential enemies and America perceives as friends. The significance to Israel of these weapons flowing into the arena is crucial at every level: military, economic and political. Since 1973, 33 per cent of all military sales to countries Israel defines as confrontation states (plus Egypt) were from the United States. In 1984, the ratio of American arms supplied by to Israel and the Arab confrontation states was 12:1 to the advantage of the Arabs. If the current Administration proposal to sell arms to Jordan goes through, the ratio will deteriorate even further.

TABLE 10: US FOREIGN MILITARY SALES, 1950-1984

(in \$ millions)

(Includes FMS, Military Construction, MAP and Commercial Military Sales)							
Fiscal Year	Egypt	Jordan	Saudi Arabia	Other	Total Arab	Arab:Israel Ratio	Israel
1950-1974	---	450	4045	161	4656	1.14:1	4091
1975	---	141	5761	353	6256	7.30:1	857
1976	76	398	7470	193	8137	7.07:1	1150
1977	2	149	1894	17	2062	2.97:1	695
1978	167	129	2670	68	3034	2.06:1	1476
1979	411	118	6675	14	7219	7.58:1	952
1980	2107	377	4694	122	7299	9.24:1	790
1981	313	380	1997	45	2735	6.86:1	399
1982	1926	167	7308	120	9521	12.19:1	781
1983	741	100	2706	153	3700	1.41:1	2616
1984	1036	38	3322	156	4553	11.92:1	382
Total	6778	2446	48543	1405	59172	4.17:1	14188

Other includes Kuwait, Iraq, Libya and Syria Source: US Arms Control and Disarmament Agency, 1984

American strategic interests in the Middle East and the necessity of American arms transfers as an instrument of furthering American policy goals cannot be denied; nor can the real threat to America's Arab friends. However, the implications of the arms race that this generates also cannot be ignored. While the arms race may be in the interest of the American business community it does not, in the long-term, further American policy objectives which center on stability and peace in the Middle East.

Of course, America is not the only supplier of weapons to the arena. But it has become a cardinal source of those weapons and it has consistently upgraded their sophistication. And when front-line American systems reach the

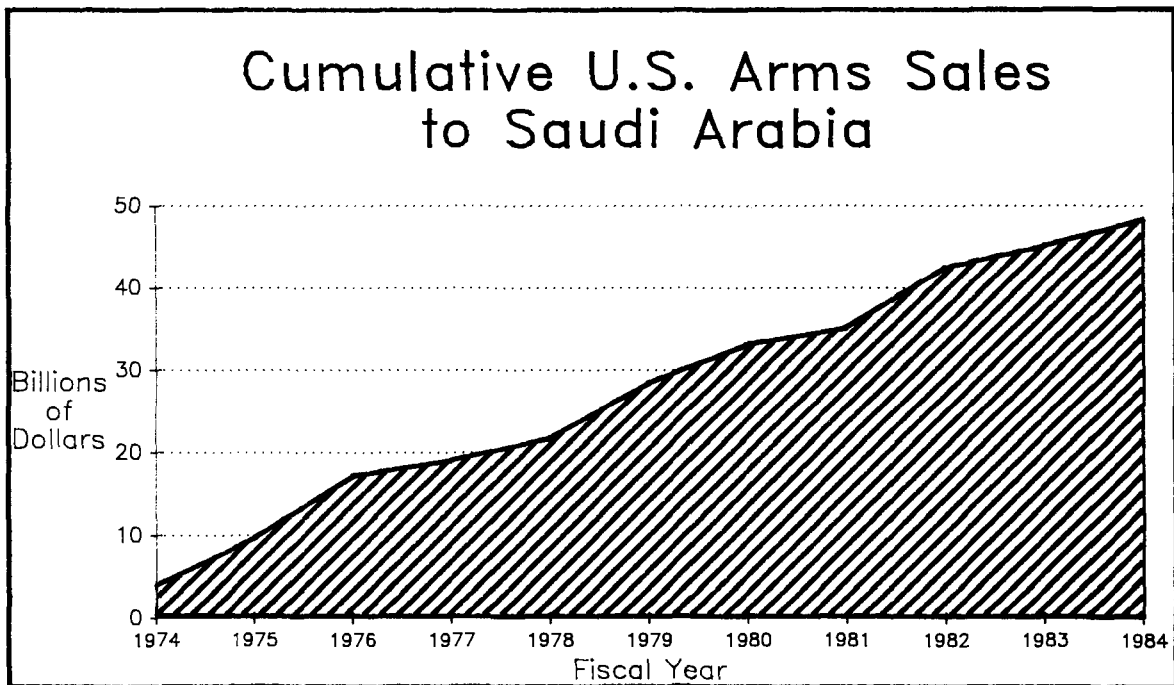
Middle East it makes it more difficult for both the Europeans and the Russians to say "no" when their clients ask for the latest weapons in their own arsenals. While the Europeans would probably sell anyway (with the French even going so far as to provide Iraq with the wherewithal to ultimately produce a nuclear weapon), the Soviets have, by and large, restricted the weapons they were providing their clients. Moscow, for example, refused to provide Saddam Hussein with nuclear technology. Now, however, the Syrians are receiving weapons never before allowed outside of Warsaw Pact countries, including the Sam-5 missile systems, SS-21 ground-to-ground rockets and soon the most advanced fighters in the Mig family. While one cannot attribute the increased sophistication of Soviet arms solely as a response to what the Americans are supplying, there is no question that a relationship exists between the two. It is axiomatic that the better the American weapons in the Arab countries aligned with the West, the greater the sophistication of weapons provided by the Soviet Union to its clients. An examination of the timing of supply of upgraded Soviet weapons, compared with the injection of high-grade American military technology into the arena, confirms this.

TABLE 11: UPGRADES OF SOVIET EQUIPMENT
SUPPLIED TO ARAB COUNTRIES

FIGHTERS	ATTACK AIRCRAFT	SURFACE-TO-AIR MISSILES
MiG-15 (1956)	Su-7 (1967)	SA-2 (pre-1967)
MiG-17 (1957/58)	Su-17 (1973)	SA-3 (1970)
MiG-19 (1961)	Su-20/22 (1974)	SA-7 (1970)
MiG-21 (1962)	MiG-27 (1983)	SA-6 (1970/1973)
MiG-23 (1974)	*Su-24	SA-9 (1974)
MiG-25 (1978)		SA-8 (1982)
*MiG-29		SA-5 (1983)
*MiG-31		SA-11 (1983)
*Su-27	BATTLE TANKS	SA-13 (1983)
	T-55 (1964)	SA-14 (1983)
BOMBERS	T-62 (1972)	*SA-12
Il-28 (1956)	T-72 (1979)	*SA-10
Tu-16 (1964)	T-74 (1984)	
Tu-22 (1976)	*T-80	

* not in inventory
Dates indicate
approximately when
weapons entered into
Arab service.

Ironically, as US-Israeli ties have become stronger in recent decades, American weapons have come to pose the greatest threat to the security of Israel. This is not only the result of America's legitimate policy dilemmas in the Middle East but also because in many cases commercial considerations seem to have prevailed over strategic ones. This seems to be especially true in the case of Saudi Arabia. Saudi orders for defense goods and services from the US have amounted to \$48 billion through fiscal 1984. From FY1982-1984, American sales to Saudi Arabia have constituted about one-quarter of all US arms sales.



GRAPH 12

These sales not only have a profound impact on America's balance of trade and internal economy, they also drastically reduce the cost of non-recurrable research and development invested in weapons systems developed for the American military. Without returning to the well-worn

arguments surrounding the 1981 sale to Saudi Arabia of the \$8.1 billion AWACS aircraft, one cannot ignore the role of American corporations in molding that decision. In lobbying for an arms sales policy that would enhance their own prosperity, these corporations were hardly likely to take into account the strategic consequences. Yet the injection of the AWACS system could not be an isolated action. As a result, a technological leap was generated that reverberated throughout the arena. The possession of AWACS necessitated the acquisition of communications, radars, jamming technologies, computers, high grade fighters (for escort and response) and other systems that dramatically altered the nature of the potential battlefield. In turn, countries threatened by the upgrading -- especially Israel -- now have to find their own solutions.

But the consequences do not end there. Because US policy considers a secure and strong Israel a strategic asset, America compensates Israel by giving it better (and more expensive) weapons in order to negate the potential threat from Saudi Arabia. Israel, in turn, becomes more dependent on American military aid. In addition, Israel has to generate new, economically draining, military research projects that further undermine the country's economy. This, in turn, creates the need for more US economic aid to Israel.

VIII. THE CONSEQUENCES OF FURTHER ARMS SALES

The same process is evident with regard to the proposed sale of mobile Hawks and F-16s to Jordan. The Middle East Arms Transfers Study (MEATS) presented to Congress in secret session of the Senate Foreign Relations Committee in August 1985, which justified this sale, reflects the tension in US policy objectives. Accordingly, the logic used in the report was often contradictory. It argued, for example, that since Jordan spans Israel's longest

border with any Arab state, it was essential that Jordan have the wherewithal to protect that frontier from hostile forces. There is, however, no conceivable scenario whereby King Hussein would protect Israel's border from a concerted Arab attack, and Israel considers Jordan -- even with this King but particularly if there is a change in regime -- to be a potential confrontation state.

The MEATS study also reaffirms America's enduring commitment to Israel's security and stresses that more sophisticated weapons will contribute to that security by providing a qualitative edge that will serve as a strong deterrent. However, the assessment was then offered that Israel's qualitative edge would be secure "at least through the rest of this decade." That is only another five years, while Israeli strategic planners must take decisions now whose impact will be felt far past 1990. And in a decade's time there is no knowing what the arena will look like or what forces will be in play. The only "given" will be the threat posed by the presence of weapons systems such as those supplied to Jordan.

Fostering peaceful resolution of regional conflicts and the development of normal inter-state relations, especially between Israel and its Arab neighbors, was one of the main political goals defined in the MEATS study. One can only question how this can be achieved with the constant injection of weapons into an already explosive area -- especially weapons that are more sophisticated, more destructive and more difficult to neutralize. Moreover, a paranoid Israel, unable to maintain either the quantitative or qualitative balance, will not be an Israel that can be induced to negotiate territorial concessions. In fact, the perennial flow of arms makes stronger the case of uncompromising Israelis and makes less credible the case of those who counsel peace through territorial compromise. If the goal is indeed to foster regional stability, there

has to be a balance between arms supplies and strategic evaluation. Policy must be strategic, not tactical. Goals must be clearly defined and not obfuscated with convoluted logic.

The late President Anwar Sadat did not come to Jerusalem in 1977 because he was a Zionist, but because he came to recognize that he could not deal with Israel by military means. That message was brought home to him in the Yom Kippur War, when the arena was typified by a different balance of power and when despite a surprise attack on two fronts by an eventual coalition of 11 Arab nations, he could not defeat Israel.

Peace can only be the result of an Arab recognition that military means are futile. The way to promote peace certainly cannot be the unbridled supply of the means of war.

