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The Middle East Military Balance:

Definition, Regional Developments and Trends

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Please note that this document is a working draft and will be revised regularly. To comment, or to provide suggestions and corrections, please e-mail the author at acordesman@aol.com.

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I. Introduction

The analysis in this report, and upcoming sub-regional military balances, grew out of a series of annual efforts to introduce analysts and officials to the trends in the regional balance, and how to assess them. As such, the analysis draws largely on unclassified sources provided by the US government, and on the database the International Institute of Strategic Studies (IISS) compiles with the aid of various governments. They also make use of the databases developed by Jane's and the Jaffe Center for Strategic Studies, as well as informal inputs from US experts and experts from within the region.

The reader should be aware, however, that many of the data are uncertain, and the sources used are often in conflict. In these cases, these documents rely largely on US official sources, or on force counts that are seen as accurate by US experts. This choice of sources reflects the fact that the US government has intelligence and analytic resources far beyond those available to most other governments and organizations. It also reflects a deliberate effort to avoid the use of sources designed to prove an ideological point or to choose some side in the many conflicts plaguing the region.

There are, however, many cases where such data are not available, and there are many aspects of the balance that cannot be quantified in the form of graphics, charts, and tables; and where judgment is the only valid form of analysis. There are also aspects of the balance that require a far more detailed assessment of country and non-state military capabilities than is possible in this overview. Similarly, it is not possible to go from assessing force strengths and broad trends and provide a contingency or scenario analysis, although the forces actually brought to bear in a given conflict normally do far more to determine its outcome than the total forces a country has at the outset of conflict. The material presented can help the reader in making such contingency assessments, but measurements of force strength cannot be predictions of the future of war or of the outcome on possible conflicts.

Moreover, the very nature of the military balance in the Middle East is experiencing massive changes. Some of these changes are the result of conflicts in the region. The US and British-led invasion of Iraq in 2003 removed Iraq – one of the region's major military powers – from the balance, creating at least a temporary power vacuum in the Gulf. Like the Gulf War and Afghan conflict before it, the Iraq War also demonstrated the power of new battle management, targeting, intelligence, surveillance and reconnaissance systems, and the potential value of "netcentric warfare." It also demonstrated the crushing power that precision air and missile power, as well as advanced armor and artillery, can have against a technologically inferior opponent.

At the same time, the Iraq War demonstrated just how different the military capabilities of truly professional armed forces are against the high politicized, poorly trained, and weakly led forces of most Middle Eastern countries. It also demonstrated the importance of the ability to coordinate its different military services, or "jointness," and of realistic training and extensive combat experience. The same is true of readiness: operations and maintenance, the ability to project military power at long distances, and the capability to sustain forces in intense combat. These are all capabilities that the US and Britain posses but most of the military powers in the Middle East lack or have never properly funded and organized. They too illustrate that force quality is often as important, if not more so, as force quantity.

Other important changes are taking place in the very nature of the military balance. The attacks by Al-Qaeda on the World Trade Center and the Pentagon on September 11, 2001, illustrated that non-state actors, and violent Islamic extremism, are creating a new security threat in the region that has transformed "terrorism" into a major military force. Low intensity conflict is scarcely new to the region. Algeria and Morocco have fought such conflicts for well over a decade. At the same time, the fall of Saddam Hussein's regime has been followed by a "war after the war" in Iraq where a combination of former regime loyalists and Islamists have shown they can pose a major challenge to even the most advanced conventional forces, and that conflict termination and nation building are as critical to the military balance as combat capability. It is all too clear that the struggle to win a conventional war may increasingly be only a prelude to asymmetric war and the struggle to win the peace.

Finally, proliferation and weapons of mass destruction are changing the calculation of the military balance as it applies to both regular military forces and the use of terrorism. The US, Britain, and their coalition allies, did not find any weapons of mass destruction in Iraq. They did find evidence that Iraq continued to acquire the technology to produce such weapons, however, as well as long range missiles. Furthermore, reports by the Director General of the IAEA showed that that there have been low and highly enriched uranium contamination in Iranian nuclear sites. They also provided significant indications that Iran continued its nuclear development program. They indicated that

it had already sought to create centrifuge enrichment facilities, experimented with laser isotope separation, and may have had a design for more advanced P-2 centrifuges. They do not confirm that Iran is actively pursuing nuclear weapons and cite a number of other explanations for its activities. They did, however, cite case after case where major questions remain and Iran may well remain committed to a nuclear weapons program.

Nuclear weapons technology was intercepted on the way to Libya, which then admitted it was developing CBRN weapons and missiles and agreed to abandon its efforts. Israel is a major nuclear power, and Algeria, Egypt, Libya, and Syria are all believed to have programs to develop weapons of mass destruction, or are believed to have acquired and deployed them.

The end result is that the regional military balance is becoming more and more asymmetric, and nations and non-state actors are increasingly likely to use radically different types of military force in terms of strategy, tactics, and technology. This, in turn, means that the military balance is becoming progressively harder to measure. Force strength, and the sheer size of the military forces a given country possesses, still matters. Mass tells. Numbers, however, increasingly are only part of the story, and a modern assessment of the balance must focus more and more on force quality and the capability for asymmetric warfare.

II. Defining the Middle East Military Balance?

Defining the Middle Eastern military balance, and even the areas to be included in this balance, is not easy. While definitions differ, the Middle East and North Africa is an area that includes a geographic range from Morocco, at the western end of the Atlantic, to Iran on the edge of Central Asia; and from Yemen to the Red Sea and Indian Ocean. It includes over 20 countries, each of which has taken a different approach to shaping its military forces. There are major regional military powers like Egypt and Israel, and small states which have only token forces like Bahrain and Tunisia.

Figure 2.1 summarizes the military strength of each of these nations, as well as that of major nearby powers. It provides a rough picture of the complexity of the region and the differences between the forces involved. At the same time, the moment force strengths are presented in this manner; it becomes clear why the entire region will never go to war in any cohesive way. Even a cursory reading of the list of countries shows that their national interests involved are too diverse, their interests too localized, and many nations face threats from outside the Middle East.

Equally important, most states cannot project significant amounts of their total military forces much beyond their own borders, much less throughout the region. Out of all the nations in the region, only Egypt and Israel can project and sustain significant conventional forces for long distances, and even these powers face severe limits on how much of their strength they can really project in a combat effective form. In some cases, such as Libya, countries cannot even deploy the bulk of their forces within the boundaries of their own country. They lack the manpower and support capabilities to use their present pool of weapons with any effectiveness.

The Sub-regionalization of the Middle East Military Balance

There are, however, patterns within the regional military balance which do reflect the military dynamics of the region, and which simplify the analysis of the balance. In practice, the military forces of the Middle East can be divided into several key sub-balances that do reflect the history of warfare in the region, and provide a more tangible basis for estimating the mix of forces that might be involved in future conflicts:

- ***The trends within the individual states of North Africa:*** These states include Algeria, Libya, Morocco, and Tunisia, with Egypt having a major impact. These countries differ from those of the rest of the Middle East in that they have sometimes had civil conflicts or border clashes, but have had no major external conflicts with each other since achieving independence.

  Libya has had major regional ambitions in the past, and fought a war with Chad on its southern border, but never became a significant military power. Morocco has long fought a war to fully annex the former Spanish Sahara, fighting with local forces called the Polisario. This has been a highly localized struggle, although Algeria has provided the Polisario with sanctuary and support. The bloodiest war in the region since independence, however, has been a civil conflict: The Algerian Civil War, which has now gone on for well over a decade.

In broad terms, the military balance in North Africa has not consisted of planning to go to war as much as creating forces that can defend a nation's borders, maintain internal security, and serve the purposes of national prestige. While several states have sent token forces to past Arab-Israeli forces, such forces have been a truly "token" and have had no military significance.

- ***The trends affecting the Arab-Israeli conflict, dominated by Israel versus Syria:*** The "Arab-Israeli" states include Egypt, Israel, Jordan, Lebanon, Syria; and a Palestinian entity or proto-state. Their forces have been involved in major Arab-Israeli wars in 1948, 1956, 1967, 1970, 1973, and 1982. These conventional conflicts have had some elements of a broader regional conflict, and some Gulf and North African countries have sent forces to these conflicts.

  Egypt and Israel – the two most important military powers in the region – have been at peace since the late 1970s, however, and Jordon reached a peace treaty with Israel on October 26, 1994. Lebanon has never been a significant conventional military power, or threat to Israel. This essentially makes the present "Arab-Israeli balance" a largely Israeli-Syrian balance, although it remains possible that Egypt and/or Jordan could again become hostile to Israel in the future.

  There have also been three significant asymmetric Arab-Israeli conflicts. The first is the "First Intifada" between Israel and the Palestinians of Gaza and the West Bank between 1988 and 1993. The second is a struggle between Israel and an allied Christian-led Lebanese force, and Shiite factions in Southern Lebanon led primarily by the Hezbollah with Iranian and Syrian support. This war grew out of the Israeli occupation of Southern Lebanon in 1982, and lasted until Israel withdrew from Southern Lebanon on May 24, 2000. The third is the Israel-Palestinian War that began in September 2000, led to the collapse of the Arab-Israeli peace process, and which has gone on ever since.

- ***The Gulf military balance, divided largely into the Southern Gulf states, Iran, Iraq, and Yemen:*** The military balance in the Gulf has long been a "four cornered" balance between Iran, Iraq, Saudi Arabia and the Southern Gulf states, and the power projection forces of the United Kingdom and the United States. Yemen has only been a limited military power, but has still been a significant factor in regional security because of its history of civil wars, large population, common borders with Oman and Saudi Arabia, and strategic position at the entrance to the Red Sea.

- ***There have been several major tests of the Gulf balance.*** Egypt attempted to dominate North Yemen by intervening in its civil war during the 1960s, and only left in 1967. South Yemen supported Marxists rebels in Oman in what came to be called the "Dhofar Rebellion." Iraq invaded Iran in 1980, and a bloody war lasted until 1988. This led to US reflagging of Kuwait's tankers in 1987, and a series of US and Iranian clashes between 1987 and 1988 that came to be called the "Tanker War." Iraq first threatened to invade Kuwait when Britain withdrew from its role in protecting the Gulf, and then invaded and conquered Kuwait in 1990 – only to be driven out by a US-led coalition in 1991.

- The fall of Saddam Hussein as a result of the Iraq War of 2003, and the virtual destruction of Iraq's military capabilities, has had a much more decisive impact on the balance. The US and Britain occupy Iraq and are fighting a low intensity conflict against insurgency. Tensions between the US and Saudi Arabia have led the US to withdraw its military forces from Saudi Arabia, but have not led to a severing of US and Saudi military ties. The US has created new facilities in Kuwait, Qatar, and the UAE as well as improved its facilities in Oman.

Looking Beyond the Numbers: The Scenario Problem

Breaking down the military balance into functional sub-regions, however, is only part of the story. There are trends within the Middle Eastern and North African military balance that make traditional counts of force strength less and less relevant. There are also aspects of the balance like proliferation, asymmetric warfare, and terrorism which cut across the sub-regions outlined above, and link the military balance in the MENA region with that in many other areas, including the US, Europe, Central Asia, South Asia, and Southeast Asia. There trends all have one thing in common: There are no simple or reliable ways to quantify them.

This analysis does, however, provide important tools for the scenario analysis of contingencies involving these forces and trends. It examines different ways to count conventional forces, and possible ways of relating force numbers to force quality. It examines the quality of manpower and weapons by country and service, and the impact

of changes in military technology. It then integrates such analysis with an examination of the kinds of contingencies and scenarios most likely to affect the future and how changes in both force quantity and force quality are likely to affect future wars.

There is one problem that cannot be avoided. Counts of national military forces are scarcely definitive measures of warfighting capability. The most important questions about the military balance, and the most important answers, are scenario and contingency dependent. Even if countries were foolish enough to publish their war plans, history has shown that wars and crises occur in ways that planners do not anticipate and cannot control. Even when conflicts do roughly fit the conditions planners consider in terms of the forces involved, timing, motive, the deployment and sustainability of specific forces engaged, and factors like geography, mobilization and preparation shape the outcome of any clash or conflict.

Moreover, efforts to guess at the classified details of comparative doctrine, war plans, and the details of intentions, escalation management, and conflict termination are critical, but ultimately can only be guesses. No one can predict what portion of a given nation's forces will actually be engaged in future conflicts. The only thing that is certain is that no country can ever commit its entire pool of manpower and equipment, and the warfighting balance almost always differs significantly from one based on a nation's entire order of battle or total inventory of weapons and equipment.

The Strengths and Limitations of Numbers

Like all analytic tools, numbers have inherent limitations. Aside from the many uncertainties inevitable in trying to quantify what every government in the region does its best to conceal, no one can predict what element of a given nation's forces will be used in a given scenario or conflict. Quantitative balances do not apply to many aspects of the asymmetric wars in the region, or provide a meaningful measurement of the capabilities of extremist, guerilla, or terrorist groups. Wars are also often dominated by "intangibles" like leadership, training, manpower quality, and tactics. Important as manpower and equipment numbers can be in some respects, unquantifiable factors like innovation, flexibility, effective use of combined arms and jointness, command and control capability, and battle management skills shaped the outcome of each conflict. No real-world conflict has ever had an outcome determined by easily quantifiable force ratios or pre-conflict orders of battle.

The inability to predict the forces that will be engaged in a given scenario, and the many "intangibles" that shape the outcome of war, do not mean, however, that comparisons of force strength are not important. Numbers still tell. Force ratios, manpower, and equipment numbers have an important impact on both political perceptions of the balance, and they have value in estimating war-fighting capabilities. Force numbers can be particularly valuable when they show the full range of major combat weapons, and show the different force mixes involved in different countries. Simple counts of total manpower, or a few weapons categories like tanks and combat aircraft, often disguise as much as they reveal.

Deciding What to Count

Much depends on what is counted. It is easy to alter a count of total forces to exaggerate or underestimate a threat. As a result, there is no "right" count of Arab-Israeli forces, or of the Gulf or North African military balance. There are rather many different comparisons, which represent valid pictures of possible scenarios. These can range from counts of the forces that might be involved in a relatively low-intensity conflict to counts estimating the forces in a theater-wide conflict in "worst case" scenario. No matter how this is done, there also is no way to avoid the fact that counts of total national forces do not reflect the portion of the total force that a given country can actually deploy and sustain in combat, and ignore many aspects of force quality. As a result, some estimates are provided of deployable versus total forces. Such estimates are rough judgments.

For example, "classic" Israeli estimates of the Arab-Israeli military balance used to be based on the total conventional forces the Arab states near Israel could deploy against Israel. This "worst case" method of comparison greatly exaggerated both the probability that such coalitions would occur, and the total forces Arab states could actually deploy and sustain. In practice, however, few Israeli military analysts and planners ever based their force planning and war fighting assessments on comparisons of Israel's total forces with the total forces that all Arab states could conceivably deploy against Israel. At the same time, some Arab counts only exaggerate Israel's weapons, understate Arab inventories, and ignore factors like geography and Israel's inherent vulnerability as a small "thin" state with a narrow exposed territory. Forces are counted and assessed largely on a national basis to avoid creating regional conflict scenarios that may never occur, and reflect the fact that many states are at peace or

have good relations with their neighbors. At the same time, "region-wide" coalitions cannot be totally ignored. Iraq did play a significant role in the October War.

Problems in Counting Major Combat Units

This analysis does not make detailed assessments of unit strength for several reasons. First, few Middle Eastern and North African states have anything approaching standardized combat units with a fixed number of men and equipment per unit. Instead, each unit differs sharply, and some "divisions" are little more than brigade or regimental in size, while a "brigade" or "regiment" may actually be little more than a reinforced battalion. The same is true of air and air defense regiments and squadrons. Units also differ sharply in terms of manpower and equipment quality, and in readiness and sustainability.

Conventional order of battle analysis has limited value in assessing the Middle Eastern military balance. It can be useful in understanding the way in which individual powers organize their forces, but only if such data can be tied to a realistic estimate of the manpower and equipment strength of such units, and how they differ by individual unit as well as by unit type. It should also be noted that many of the unclassified sources on Middle Eastern and North African major combat unit and air unit strength are badly outdated or simply wrong, and that much of the data that is available will produce invalid comparisons even if one ignores the differences in unit manning and equipment. In general, the International Institute of Strategic Studies has the most accurate counts for land and air units, and Jane's has the most accurate count for combat ships.

The Strengths and Weaknesses of Manpower Numbers

There are other strengths and weaknesses in the numbers provided. Total manpower numbers provide a rough picture of the level of effort given nations devote to their military forces and of the war fighting capabilities of armies. At the same time, manpower training and experience are as important as manpower numbers. Conscripts, with short terms of service, have less and less value in an era of high technology forces and rapid tactical maneuver. The quality of a given force's NCO, technician, and junior officers, and the experience of its enlisted men operating as teams, shapes the ability to use modern combat equipment effectively. The value of conscript forces depends heavily on their funding and training. For example, Egypt and Syria grossly under fund conscript training, most of their conscripts have too little experience and training, and never realistically train in complex war fighting scenarios and exercises.

Active manpower is hard to compare to reserve manpower. Much of the reserve manpower in Arab and Iranian forces has limited value due to a lack of training, modern equipment, sustainability, and adequate C^4I/BM capability. The Israeli reserve system is far more effective than that in any of its Arab neighbors, in part because Israel has such a small population that it has no alternative. Even Israel, however, has found it increasingly difficult to give reserve forces the training they need to maintain a capability for advanced maneuver warfare, and most Arab land force reserve manpower has little training, second or third rate equipment, and little capability in maneuver and demanding combined arms warfare.

Money is a steadily increasing problem that affects both manpower quantity and quality. Modern military forces are so expensive that Middle Eastern states cannot afford to use much of their total manpower pool because they cannot fund suitable equipment, training, and sustainability. At the same time, states cannot use much of the manpower in their military forces in missions tailored to large-scale wars with their neighbors. Internal security and low-intensity operations degrade training for war fighting, and this presents a serious manpower quality problem for Israel, Egypt, and Syria. It is a problem both countries face difficulties in addressing because of the need to avoid additional unemployment and the feeling that mass conscription aids in political indoctrination and "nation-building."

The Strengths and Weaknesses of Equipment Numbers

Comparisons of equipment numbers have somewhat similar strengths and weaknesses. Past Arab-Israeli conflicts, the Iran-Iraq War, and the Gulf War have all shown that equipment quality is often more important than equipment numbers. For example, most regional ground forces experienced a major build-up from continued from the late 1950s to the early 1990s. Holdings of armored forces and artillery increased significantly in size during this period. However, much of the present total inventory of Arab land weapons is now the result of the fact that states have continued to retain large numbers of older and low quality systems that have only limited capability. The war fighting value of much of this equipment is uncertain at best, and so is the ability of Arab forces to effectively man and sustain it.

Force quality can also improve strikingly, even if force numbers drop or remain constant. Israel has cut aircraft numbers to fund major improvements in the quality of its combat aircraft. Reductions have also taken place in the size of Arab forces because of factors like attrition and the rising cost of aircraft. At the same time, the combat aircraft in a number of these Arab states has also improved strikingly in relative quality.

Changes in force mix affect the meaning of equipment numbers as well as any counts of major combat unit strength. For example, counts of fixed-wing aircraft not reflect the fact that many countries now have significantly larger numbers of attack helicopters. Further, such totals usually overstate the strength of regional air forces by counting some aircraft in storage or training units.

Comparisons of Military Effort and Resources

Comparisons of defense expenditures and arms sales provide additional insights into the broad trends in regional and national military efforts – and put the analysis of both force numbers and force quality in perspective. Countries differ sharply in the size of their economy, and in the relative military effort they make at any given time. Comparisons of the size of national economies, and the strain that military spending puts on economies provides a measure of both their willingness and capability of given countries to sustain their current military effort, and their ability to pay for future modernization and to "recapitalize" their forces.

The data on military spending as a percentage of GNP and national budgets are a morass of partial reporting and definitional and comparability problems. Nevertheless, enough data is available from declassified US intelligence sources to make the correlation between the size of total national military spending and the burden it places in the economy and state budget relatively clear. It is also obvious in some cases that countries simply do not come close to spending the amount on their armed services and arms imports to keep their forces effective. There are four major sources for directly comparable data on military expenditures and arms sales: the Arms Control and Disarmament Agency (ACDA) which is now part of the US State Department, the Congressional Research Service, the Stockholm International Peace Research Institute (SIPRI), and the International Institute of Strategic Studies (IISS).

Out of these sources, only the US State Department and the Congressional Research Service have access to US intelligence data, and can draw on the major analytic effort that goes on within the US intelligence community. The SIPRI data has to be based largely on the estimates of a small group of private analysts. The IISS data relies on a mix of official sources, but only reports total military expenditures, and sometimes in ways that vary in definition from year to year and country to country in ways that limit the value of both trend and inter-country comparisons.

While the State Department and Congressional Research Service data are taken from material provided by the US intelligence community, they too have problems. These problems include:

- The data do not track with national reporting on military expenditures in budget documents, and the data on military expenditures for Egypt, Jordan, Lebanon, and Syria are rough estimates.
- The data on military expenditures are not fully comparable in definition from country to country. They generally exclude expenditures on weapons of mass destruction, and exclude many imports of long-range missiles.
- The data are not fully comparable in terms of the amount of military imports included or in terms of the extent to which they include new foreign debt and/or past interest payments on military foreign debt -- data excluded from the budget reporting of all of the Arab states listed.
- The data are not fully comparable in terms of the amount of non-military goods and services used by the military, and include very different levels of military infrastructure expenditures.
- There is no way to adjust for the very different costs each country pays for manpower. Israel, for example, pays for high quality regular manpower, but is primarily a reserve force. Arab states pay almost nothing for conscripts and very low salaries for other ranks and many junior officers.

Comparisons of Arms Sales and Imports

Comparing the data available on arms imports presents many of the same problems as comparing military expenditures. In addition to the problems mentioned earlier, the data on arms purchases exclude much expenditure on weapons of mass destruction, and exclude many imports of long-range missiles. They are not comparable in

terms of the kind of contractor services and advisory efforts, military construction, and civil/dual use equipment included.

Comparing data on the dollar value of arms imports presents further problems because there often is only a limited correlation between the dollar figure and the number of weapons transferred or the importance of technology transferred. Dollar-oriented comparisons can be particularly misleading in examining the balance because Israel has a major military industry and often imports components that are not included in the figures for arms imports. Egypt is the only Arab state with significant military industrial output, although the sophistication of its output does not approach that of Israel.

Many of the data on arms sales have to be based on educated guesses about the very different prices given nations pay for given weapons. It may or may not properly adjust for the fact that some countries get weapons that are provided as surplus equipment or pay far less for given types of weapons than other countries. These factors need to be kept in mind in comparing the data. The trends in the figures are probably broadly accurate but they do not portray directly comparable data.

Throughout the Cold War the Arab states buying from the Soviet bloc paid far less per weapon than states buying from the West. Since the end of the Cold War, states buying from Russia, the PRC, and Central Europe had to pay more than in the past, but have still paid far less per weapon than nations buying similar types of weapons from Western countries. These price differences were so striking in the case of some arms transfers to the Middle East that there was sometimes an inverse correlation between the trends reflected in cost estimates of the size of the arms transfers to given states and the trends in the number of weapons transferred.

Egypt and Israel present special problems. The data on their total arms imports rarely reflect the data available on the size of the US military assistance provided to Egypt and Israel, and there is no way of relating dollar cost to the value of the weapons technologies being purchased. There is an uncertain correlation to actual expenditures in foreign currencies, and to data on military foreign assistance and borrowing. There is little correlation between the State Department) estimates of arms imports and the flow of US foreign military aid and sales. Israel, for example, receives billions of dollars of annual military assistance from the US, and much goes to imports of parts and munitions for Israel's arms, but this often is not counted as arms imports in State Department estimates of Israel's total annual arms imports.

Looking Beyond the Numbers: The Unquantifiable Aspects of Force Quality

There are other important limits to numbers that must be kept firmly in mind. Unquantifiable factors like morale and training are as important as force strength, and repeated efforts to create models to quantify force and equipment quality have had uncertain results at best. Historically, force quality has always been as – or more – important than force numbers. As a result, the assessments of the balance in this report look at factors like investment in new weapons, the relative quality of major weapons, and acquisitions of advanced intelligence and command and control systems.

The analysis does take a detailed look at the level of resources available to each country and the flow of arms into the region over a period of decades, as another method of measuring force quality both now and in the future. The resulting comparisons show that various countries have grossly different total military expenditures and access to modern arms, and that the forces of some nations have benefited far more from recent arms transfers than those of others. Unfortunately, reliable data are often missing on critical factors like munitions types and numbers, stock levels and sustainability, and support equipment. Moreover, almost no data are available on other critical "intangibles" like training or manpower quality in terms of numbers of officers, other ranks, technicians, and experienced manpower.

Scoring Systems, War Gaming, and Simulation

An evaluation of the various scoring systems currently available reveals that these systems only have value in a few cases where the structure of the forces on both sides is consistent, and there is something approaching a common mix of combined arms, and capability for joint operations. These conditions simply do not apply to the forces of virtually all Middle Eastern and North African countries, and the scoring systems involved ultimately breakdown in reflecting meaningful differences between equipment types and direct and indirect fire. They may have value for bureaucratic reasons in the organizations and countries that use them, but even a cursory review of the scores by unit

or weapon shows that such scoring is either little more than guesswork, or grossly exaggerates the value of older weapons types.

For similar reasons, no use has been made of computer gaming and simulation. Such techniques can be very useful in interactive modeling, where the course of the game or simulation is transparent to the modelers and the assumptions made are continuously corrected to reflect human judgment as to what might happen under real world conditions. The key, however, is that the modelers be directly involved in the game, that no part of the computerized model is treated as a "black box" or as valid without an explicit examination of all of the data and assumptions made, and that the game scenario be as realistic as possible, rather than be based on force ratios per se. These conditions cannot be met in an analysis of this kind, and where they cannot be met, the end result of gaming and simulation is simply to create a true "black box" which adds new layers of complexity and random error to all of the problems inherent in static force ratios.

Figure 2.1

The Military Forces of the Greater Middle East 2005

Country	Total Active Manning	Total Active Army Manning	Tanks	OAFVs	Artillery	Combat Aircraft	Armed Helicopters
North Africa							
Algeria	127,500	110,000	1,000	1,792	920,	175	91
Libya	76,000	45,000	985	2,065	1,921	380	60
Morocco	196,300	175,000	520	1,279	452	95	24
Tunisia	35,000	27,000	84	391	117	29	15
Chad	30,350	25,000	60	203	5	2	2
Mauritania	15,750	15,000	35	75	75	8	0
Arab-Israeli							
Egypt	450,000	320,000	3,755[a]	4,682[d]	1,647[a]	571	121
Israel	168,000	125,000	3,090	8,770	1,542	399	95
Jordan	100,500	85,000	1,120[a]	1,595	968	101	20
Lebanon	72,100	70,000	310	1,463	172	0	0
Palestine[b]	(35,000)	(35,000)	-	-	-	-	-
Syria	296,000[d]	200,000	4,600	4,600	2,540	520	71[d]
Gulf							
Iran[c]	540,000	350,000	1,613	1,365	3,196	306	69
Iraq[e]	389,000	350,000	2,600	3,400	2,300	316	62
Bahrain	11,200	8,500	140	382	95	34	40
Kuwait	15,500	11,000	368	760	140	81	20
Oman[c]	41,700	25,000	117	371	132	40	0
Qatar	12,400	8,500	30	331	44	18	19
Saudi Arabia[c]	199,500	150,000	710	4,504	468	294	33
UAE	50,500	44,000	469	1479	346	106	59
Yemen[a]	66,700	60,000	790	1,040	695	72	8
Peripheral							
Afghanistan	60,000-70,000	60,000-70,000	500	345+	210+	5	5
Djibouti	9,850	8,000	0	31	6	0	0
Eritrea	201,750	200,000	150	80	155	18	?
Ethiopia	182,500	180,000	270+	400	400	48	25
Somalia[b]	(35,900)	(35,900)	-	-	-	-	-
Sudan	104,500	100,000	200	604	1,070	27	10
Turkey	514,850	402,000	4,205	4,543	2,990	480	0

Notes: Totals count all "active" equipment, much of which is not operational. They do not include stored equipment, but are only approximate estimates of combat-ready equipment holdings. Light tanks, APCs, AIFVs, armored recce vehicles, and misc. AFVs are counted as OAFVs (Other Armored Fighting Vehicles). Artillery counts towed and self-propelled tube weapons of 100-mm+ and multiple rocket launchers, but not mortars. Only armed or combat-capable fixed wing combat aircraft are counted, not other trainers or aircraft.

a: Egypt has 100 additional M-1A1 Abrams MBT, 179 M-109A2/A3 SP ARTY on order. Jordan is awaiting 114 additional Challenger 1 MBT. Yemen has an additional 5 MiG-29S/UB on order.

b: No current data available for Palestine and Somalia due to recent combat.

c: Iranian totals include Revolutionary Guard Corps, Saudi totals include the Saudi National Guard and Omani totals include the Royal Household Guard.

d: Egypt has 500 BTR-50/OT-62s in storage. Syria has around 1,200 tanks in static positions and an indeterminate number in storage. It is suspected that many of Syria's helicopters are in storage as well.

e: These are pre-conflict numbers.

Source: Adapted by Anthony H. Cordesman, CIA, World Factbook, various editions and IISS, The Military Balance, various editions.

III. Developments in the Middle East Military Balance

The problems in quantifying and counting Middle Eastern and North African forces are only part of the story in assessing the Middle East military balance. The very nature of warfare is changing in a region where nations have previously tended to focus on building the largest possible forces and obtaining the most advanced major weapons. The force comparisons and trend analyses should be analyzed with the understanding that major changes are taking place in the way that military forces are shaped and used at a time when many Middle Eastern powers either cannot afford to make the necessary force improvements, or lack the capacity to do so.

Changes in the Nature of Warfare

Like all regions in the world, the Middle East is being affected by radical changes in tactics, technology, and training. The most critical of these changes include:

- ***The "Revolution in Military Affairs:"*** Changes in tactics, technology, and training which exploit new intelligence, surveillance, and reconnaissance (IS&R) systems, precision targeting and munitions, long range strike systems, high mobility, and other assets to fundamentally change the pace and intensity of warfare, and exploit a qualitative "revolution" in military technology,
- ***Combined Arms and Joint Warfare:*** Methods of warfare that eliminate the traditional organization and tactical barriers between the elements of a given military service ("combined arms") and which integrate the operations of different military services (joint warfare)**.**
- ***C4I/BM/IS&R and "Net-centric Warfare":*** C4I (command, control, communications, computers, and intelligence); BM (battle management), and IS&R (intelligence, surveillance, and reconnaissance) are all subsets of the "revolution in military affairs," but the advances in each area are so great that each is a driving force behind changes in the regional balance**.** Moreover, the growing ability to link these advances in a "net" that ties the together in ways that can provide a comprehensive, near-real time, picture of the battlefield is make fundamental differences in the nature of warfare.
- ***Precision and platform upgrades:*** Military investment and modernization have seen a shift in emphasis to more advanced munitions and precision weapons, with less investment in new platforms like tanks, aircraft, and ships. Major investments are being made in military electronics.
- ***Professionalism and manpower quality:*** *New human factors and capabilities:* Advances in both tactics and technology have made human factors steadily more important. Modern forces, combined arms, and joint warfare all require a far higher degree of professional, training, and experience than in the past. They have created a new premium for giving junior officers and other ranks more initiative, and for developing cadres of effective and well trained non-commissioned offers (NCOs) and technicians. Conversely, they have made short service conscripts and reserves with limited training steadily less valuable.
- ***Sustainability:*** Logistics, maintenance, readiness, and repair and recovery have always been critical aspects of military operations. During the last four decades, however, the value of highly ready forces that can be sustained for prolonged periods of intense warfare has become steadily more apparent, while it has become clear that forces without high levels of sustainability cannot fight at rates of maneuver and intensity that allow them to compete.
- ***Asymmetric warfare:*** The development of new approaches to warfare where each side uses a radically different mix of strategy, tactics, technology and methods of warfare to best exploit its opponents' weaknesses while minimizing its own weaknesses and vulnerabilities**.**
- ***Proliferation:*** The acquisition and deployment of chemical, biological, radiological, and nuclear (CBRN) weapons, and long-range delivery systems like ballistic missiles. Algeria, Libya, Egypt, Israel, Syria, Iran, and Iraq have all at least made efforts at developing CBRN weapons, and Saudi Arabia has acquired long-range surface-to-surface missiles.
- ***Terrorism:*** Terrorism is the systematic use of terror, especially as a means of coercion. It has become part of the way in which both states and non-state actors conduct warfare. The region has suffered from major terrorist attacks since the early phases of the Arab-Israeli conflict, but secular terrorism became a major

aspect of the military balance in the late 1960s, and religious terrorism has been a major aspect of the balance since the mid-1990s.

- ***Covert and proxy warfare:*** Many powers have not been able to keep up in the race to modernize their military forces or are simply too small to confront the major regional military powers or the power projection forces of outside nations like the US. Shifting to the use of covert warfare, or proxy forces like terrorist and extremist groups provides a means of asymmetric warfare where states can seek to avoid direct confrontation or combat with larger powers.
- ***Superterrorism:*** The growth of extremist and terrorist threats is increasing the risk of an escalation of terrorism, covert, or proxy warfare to use chemical, biological, radiological, and nuclear (CBRN) weapons against states or other opponents, and potentially the use of precision weapons or other devices to produce catastrophic damage by attacking critical infrastructure targets like desalination plants, major energy facilities, etc.
- ***External and regional coalitions*:** State to state and internal civil conflicts are still a major aspect of the Middle East balance. Recent wars have shown, however, that coalitions can be rapidly developed which involve states from outside the Middle East and North Africa, and assemblies of "coalitions of the willing" that draw together disparate force elements from throughout the region.
- ***Information warfare:*** Middle Eastern conflicts have always had a significant political and propaganda dimension. The political and information aspects of the Arab-Israeli conflict, Gulf War, Iraq War, and War on Terrorism have all shown, however, that information warfare per se has become steadily more important over time. This process has been accelerated by developments like satellite television, the emergence of major independent broadcasters, the Internet, cell phones, and fax machines.
- ***Economic warfare and sanctions:*** Oil exporting nations first tried to use oil as a weapon in the mid-1960s, but did not succeed until after the October War of 1973. Since that time, the US, Britain, and UN have made aggressive use of economic sanctions, most notably against Libya, Iran, and Iraq.

The Impact of the Revolution in Military Affairs and its Impact on Asymmetric Warfare

Not all of these changes can be covered in detail in this analysis, particularly those dealing with complex advances in military technology and tactics. There are several broader developments, however, which need to be considered in evaluating both the changes in the nature of regional warfare and how well a given country is coping with these changes:

- **Figure 3.1** describes the key features of the "revolution in military affairs." Middle Eastern and North African states differ radically in the degree to which h they have adapted to these changes, and often individual services and force elements have made very different levels of progress – even within a given country. So far, MENA nations lag badly behind the progress of advanced military powers like the United Kingdom and the United Stated, although Israel and Egypt are limited exceptions.
- **Figure 3.2** describes the challenges poorer and less developed MENA powers face in coping with the "revolution in military affairs." Many of the points in this figure help explain the scale and speed of the coalition victories against Iraq in 1991 and 2003, and Israel's military "edge" in comparison with most of its neighbors.
- **Figure 3.3,** however, makes it clear that advanced military powers have vulnerabilities as well, and helps to explain why challenges poorer and less developed MENA powers have turned to asymmetric warfare, proliferation, covert warfare, and terrorism as possible counters to the "revolution in military affairs."

Several key points emerge from **Figures 3.1 to 3.3**. First, the ability to exploit the "revolution in military affairs" gives those few countries with the capability to do so a tremendous advantage as long as warfare remains relatively conventional in terms of the forces engaged. Second, few nations will passively cede this advantage to more powerful neighbors or outside powers, and this is even more true of non-state actors like extremist or terrorist organizations. Finally, there are alternative tactics and "countervailing strategies" that military weak nations and powers can use to try to offset the "revolution in military affairs," tactics which are now being employed in the Afghan War, Israeli-Palestinian conflict, and Iraq.

What may be less obvious is the importance of human factors and of having the kind of well educated, well trained, and experienced forces capable of adapting to new forms of warfare. Manpower quality is an "intangible" that there are no easy ways to quantify, but which is even more critical to succeeding in dealing with these changes than investments in equipment and technology. All of the forces in **Figures 3.1** to **3.3** are exacerbating long-standing problems in the quality of regional military manpower. The value of conscripts is increasingly uncertain when military forces have to execute complex tactics and operate advanced military equipment. Experience in realistic exercise training, in operating as combat teams, and joint and combined arms training have become far more important. So is the ability to create and retain technical cadres, NCOs, and "hands on" officers capable of a high degree of initiative and leading by example.

Figure 3.1

The "Revolution in Military Affairs" (RMA)

- ***Decoupling of political and military responsibility:*** No war is ever free of command controversy or friction between political and military leadership. However, the Coalition forces fought the Gulf War with effective delegation of responsibility for military decisions to military commanders. RMA forces are likely to enjoy the same advantage in mid-to-high-intensity wars where rival military forces will be more politicized, and organized more to suit the regime's internal security needs than to conduct modern joint operations.

- ***Unity of command:*** The level of unity of command, and "fusion," achieved during the Gulf War was scarcely perfect, but it was far more effective than that possible in most states. Advanced powers have improved its unity of command and ability to conduct joint operations.

- ***Jointness, Combined operations, combined arms, and the "AirLand Battle":*** Advanced powers can use technology to train and integrate in ways that allow far more effective approaches to jointness, combined arms and combined operations. They have developed tactics that closely integrated air and land operations.

- ***Emphasis on maneuver:*** The US had firepower and attrition warfare until the end of the Vietnam War. In the years that followed, it converted its force structure to place an equal emphasis on maneuver and deception. This emphasis has been adopted by Britain and France and other advanced states.

- ***Emphasis on deception and strategic/tactical innovation:*** No country has a monopoly on the use of deception and strategic/tactical innovation. High technology powers with advanced battle management and information systems will, however, be able to penetrate the enemy's decision-making system and react so quickly that the opponent cannot compete.

- ***"24 hour war" - Superior night, all-weather, and beyond-visual-range warfare:*** "Visibility" is always relative in combat. There is no such thing as a perfect night vision or all-weather combat system, or way of acquiring perfect information at long-ranges. Advanced technology air and land forces, however, have far better training and technology for such combat than they ever had in the past, and are designed to wage warfare continuously at night and in poor weather. Equally important, they are far more capable of taking advantage of the margin of extra range and tactical information provided by superior technology.

- ***Near Real-Time Integration of C^4I/BM/T/BDA:*** New C^4I/BM/T/BDA organization, technology, and software systems make it possible to integrate various aspects of command, control, communications, computers, and intelligence (C^4I); battle management (BM); targeting (T); and battle damage assessment (BDA) to achieve a near real time integration and decision making-execution cycle.

- ***A new tempo of operations:*** Superiority in virtually every aspect of targeting, intelligence gathering and dissemination, integration of combined arms, multi-service forces, and night and all-weather warfare make it possible to achieve both a new tempo of operations and one far superior to that of the enemy.

- ***A new tempo of sustainability:*** Advanced forces will have maintainability, reliability, reparability, and the speed and overall mobility of logistic, service support, and combat support force activity that broadly match their maneuver and firepower capabilities. The benefits of these new capabilities are already reflected in such critical areas as the extraordinarily high operational availability and sortie rates of Western combat aircraft, and the ability to support the movement of heliborne and armored forces

- ***Beyond-visual-range air combat, air defense suppression, air base attacks, and airborne C^4I/BM:*** The Coalition in the Gulf had a decisive advantage in air combat training, beyond-visual-range air combat capability, anti-radiation missiles, electronic warfare, air base and shelter and kill capability, stealth and

unmanned long-range strike systems, IFF and air control capability, and airborne C^4I/BM systems like the E-3 and ABCCC. These advantages allowed the Coalition to win early and decisive air supremacy. Advanced forces will steadily improve the individual capability of these systems and their integration into "net-centric" warfare.

- ***Focused and effective interdiction bombing*:** Advanced forces will organize effectively to use its deep strike capabilities to carry out a rapid and effective pattern of focus strategic bombing where planning is sufficiently well coupled to intelligence and meaningful strategic objectives so that such strikes achieve the major military objectives that the planner sets. At the same time, targeting, force allocation, and precision kill capabilities will advance to the point where interdiction bombing and strikes are far more lethal and strategically useful than in previous conflicts.

- ***Expansion of the battle field: "Deep Strike":*** As part of its effort to offset the Warsaw Pact's numerical superiority, US tactics and technology emphasized using AirLand battle capabilities to extend the battlefield far beyond the immediate forward "edge" of the battle area (FEBA). The Coalition exploited the resulting mix of targeting capability, improved air strike capabilities, and land force capabilities in ways during the Gulf War that played an important role in degrading Iraqi ground forces during the air phase of the war, and which helped the Coalition break through Iraqi defenses and exploit the breakthrough. Even in Kosovo, the US and NATO were only beginning to employ advanced "deep strike" targeting technologies and precision strike systems and far more advanced systems are in development.

- ***Technological superiority in many critical areas of weaponry:*** The West and GCC scarcely had a monopoly on effective weapons during the Gulf War, but they had a critical "edge" in key weapons like tanks, other armored fighting vehicles, artillery systems, long-range strike systems, attack aircraft, air defense aircraft, surface-to-air missiles, space, attack helicopters, naval systems, sensors, battle management, and a host of other areas. This superiority went far beyond the technical "edge" revealed by "weapon on weapon" comparisons. Coalition forces exploited technology in "systems" that integrated mixes of different weapons into other aspects of force capability and into the overall force structure.

- ***Integration of precision-guided weapons into tactics and force structures:*** Advanced forces will exploit a technical "edge" in the ability to use precision-guided weapons with far more realistic training in using such weapons, and the ability to link their employment to far superior reconnaissance and targeting capability.

- ***Realistic combat training and use of technology and simulation:*** During the Gulf War, the US and Britain used training methods based on realistic combined arms and AirLand training, large-scale training, and adversary training. These efforts proved far superior to previous methods and were coupled to a far more realistic and demanding system for ensuring the readiness of the forces involved. They show the value of kinds of training that allow forces to rapidly adapt to the special and changing conditions of war.

- ***Emphasis on forward leadership and delegation:*** Technology, tactics, and training all support aggressive and innovative leadership.

- ***Heavy reliance on NCOs and highly skilled enlisted personnel:*** Advanced forces will not rely on conscripts or reserves, but will place heavy reliance on the technical skills, leadership quality, and initiative of non-commissioned officers (NCOs) and experienced enlisted personnel.

- ***High degree of overall readiness:*** Military readiness is a difficult term to define since it involves so many aspects of force capability. RMA forces, however, will have more realistic standards for measuring readiness and ensuring proper reporting, and adequate funding over a sustained period of time.

Figure 3.2

Technology Vulnerabilities of Less Advanced Powers

- ***Authoritarianism and over-centralization of the effective command structure:*** The high command of many countries is dependent on compartmentalized, over-centralized C^4I/BM systems that do not support high tempo warfare, combined arms, or combined operations and lack tactical and technical sophistication. Many forces or force elements report through a separate chain of command. C^4I/BM systems often are structured to separate the activity of regular forces from elite, regime security, and ideological forces. Systems often ensure major sectors and corps commanders report to the political leadership, and separations occur within the branches of a given service. Intelligence is compartmentalized and poorly disseminated. Air force command systems are small, unit oriented and unsuited for large-scale force management. Coordination of land-based air defense and strike systems is poorly integrated, vulnerable, and/or limited in volume handing capability. Combined operations and combined arms coordination are poor, and command interference at the political level is common.

- ***Lack of strategic assessment capability:*** Many nations lack sufficient understanding of Western war fighting capabilities to understand the impact of the revolution in military affairs, the role of high technology systems, and the impact of the new tempo of war. Other countries have important gaps in their assessment capabilities reflecting national traditions or prejudices.

- ***Major Weaknesses in battle management, command, control, communications, intelligence, targeting, and battle damage assessment:*** No Middle Eastern country has meaningful access to space-based systems, or advanced theater reconnaissance and intelligence systems. Most lack sophisticated reconnaissance, intelligence, and targeting assets. Beyond-visual-range imagery and targeting is restricted to largely vulnerable and easily detectable reconnaissance aircraft or low performance UAVs. Many rely on photo data for imagery, and have cumbersome download and analysis cycles in interpreting intelligence. Many have exploitable vulnerabilities to information warfare. Most are limited in the sophistication of their electronic warfare, SIGINT, and COMINT systems. Their communications security is little better than commercial communications security. They have severe communications interconnectivity, volume handling, and dissemination problems. Additionally, they cannot provide the software and connectivity necessary to fully exploit even commercial or ordinary military systems. They lack the C^4I/BM capability to manage complex deep strikes, complex large-scale armor and artillery operations, effective electronic intelligence, and rapid cycles of reaction in decision-making.

- ***Lack of cohesive force quality:*** Most countries' forces have major land combat units and squadrons with very different levels of proficiency. Political, historical, and equipment supply factors often mean that most units have much lower levels of real-world combat effectiveness than the best units. Further, imbalances in combat support, service support, and logistic support create significant additional imbalances in sustainability and operational effectiveness. Many states add to these problems, as well as lack of force cohesion, by creating politicized or ideological divisions within their forces.

- ***Shallow offensive battlefields:*** Most states face severe limits in extending the depth of the battlefield because they lack the survivable platforms and sensors, communications, and data processing to do so. These problems are particularly severe in wars of maneuver, in wars involving the extensive use of strike aircraft, and in battles where a growing strain is placed on force cohesion.

- ***Manpower quality:*** Many states rely on the mass use of poorly trained conscripts. They fail to provide adequate status, pay, training, and career management for NCOs and technicians. Many forces fail to provide professional career development for officers and joint and combined arms training. Promotion often occurs for political reasons or out of nepotism and favoritism.

- ***Slow tempo of operations:*** Most military forces have not fought a high-intensity air or armored battle. They are at best capable of medium tempo operations, and their pace of operations is often dependent on the survival of some critical mix of facilities or capabilities.

- ***Lack of Sustainability, Recovery, and Repair:*** These initial problems in the tempo of operations are often exacerbated by a failure to provide for sustained air operations and high sortie rates, long-range sustained maneuver, and battlefield/combat unit recovery and repair. Most forces are heavily dependent on re-supply to deal with combat attrition whereas Western forces can use field recovery, maintenance, and repair.

- ***Inability to prevent air superiority:*** Many states have far greater air defense capability on paper than they do in practice. Most have not fought in any kind of meaningful air action in the last decade, and many have never fought any significant air action in their history. C^4I/BM problems are critical in this near real-time environment. Most countries lack sophisticated air combat and land-based air defense simulation and training systems, and do not conduct effective aggressor and large-scale operations training. Efforts to transfer technology, organization, and training methods from other nations on a patchwork basis often leaves critical gaps in national capability, even where other capabilities are effective.

- ***Problems in air-to-air combat:*** Air combat training levels are low and unrealistic. Pilot and other crew training standards are insufficient, or initial training is not followed up with sustained training. There is little effective aggressor training. AWACS and ABCCC capabilities are lacking. EW capabilities are modified commercial grade capabilities. Most aircraft lack effective air battle management systems, and have limited beyond-visual-range and look down shoot down capability. Most Soviet/Communist supplied air forces depend heavily on obsolete ground-controlled vectoring for intercepts. Key radar and control centers are static and vulnerable to corridor blasting.

- ***Problems in land-based air defense:*** Many states must borrow or adapt air defense battle management capabilities from supplier states, and have limited independent capability for systems integration — particularly at the software level. They lack the mix of heavy surface-to-air missile systems to cover broad areas, or must rely on obsolete systems that can be killed, countered by EW, and/or bypassed. Most Middle Eastern short-range air defense systems do not protect against attacks with stand-off precision weapons or using stealth.

- ***Lack of effective survivable long-range strike systems:*** Many nations have the capability to launch long-range air and missile strikes, but also have severe operational problems. Refueling capabilities do not exist or are in such small numbers as to be highly vulnerable. Long-range targeting and battle damage assessment capabilities are lacking. Training is limited and unrealistic in terms of penetrating effective air defenses. Platforms are export systems without the full range of supplier avionics or missile warheads. Assets are not survivable, or lose much of their effective strike capability once dispersed.

- ***Combined (Joint) Operations, Combined Arms, and the Air-Land Battle:*** Many states fail to emphasize the key advances in the integration of warfighting capabilities from the last decade. When they do emphasize combined arms and joint operations, they usually leave serious gaps in some aspects of national warfighting capability.

- ***Rough/Special terrain warfare:*** Although many forces have armed helicopters, large numbers of tracked vehicles, and can create effective rough terrain defenses if given time, they have problems in conducting high tempo operations. Many tend to be road-bound for critical support and combined arms functions, and lack training for long-range, high-intensity engagements in rough terrain. Many are not properly trained to exploit the potential advantages of their own region. They are either garrison forces, or forces that rely on relatively static operations in pre-determined field positions. These problems are often compounded by a lack of combat engineering and barrier crossing equipment.

- ***Night and All-Weather Warfare:*** Most forces lack adequate equipment for night and poor weather warfare, and particularly for long-range direct and indirect fire engagement, and cohesive, sustainable, large-scale maneuver.

- ***Armored operations:*** Most countries have sharply different levels of armored warfare proficiency within their armored and mechanized forces. Few units have advanced training and simulation facilities. Most land forces have interoperability and standardization problems within their force structure — particularly in the case of other armored fighting vehicles where they often deploy a very wide range of types. Many are very tank heavy, without the mix of other capabilities necessary to deploy infantry, supporting artillery, and anti-tank capabilities at the same speed and maneuver proficiency as tank units. Most forces have poor training in conducting rapid, large-scale armored and combined operations at night and in poor weather. Effective battle management declines sharply at the force-wide level — as distinguished from the major combat unit level — and sometimes even in coordinating brigade or division-sized operations.

- ***Artillery operations:*** Many states have large numbers of artillery weapons, but serious problems in training and tactics. They lack long-range targeting capability and the ability to rapidly shift and effectively allocate fire. Many rely on towed weapons with limited mobility, or lack off-road support vehicles. Combined arms capabilities are limited. Many units are only effective in using mass fire against enemies that maneuver more slowly than they do.

- ***Combat training:*** Training generally has serious problems and gaps, which vary by country. Units or force elements differ sharply in training quality. Training problems are complicated by conversion and expansion, conscript turnover, and a lack of advanced technical support for realistic armored, artillery, air-to-air, surface-to-air, and offensive air training. Mass sometimes compensates, but major weaknesses remain.

- ***Inability to use weapons of mass destruction effectively:*** Any state can use weapons of mass destruction to threaten or intimidate another or to attack population centers and fixed area targets. At the same time, this is not the same as having an effective capability and doctrine to obtain maximum use of such weapons, or to manage attacks in ways that result in effective tactical outcomes and conflict termination. Many states are acquiring long-range missiles and weapons of mass destruction with very limited exercise and test and evaluation capabilities. This does not deny them the ability to target large populated areas, economic centers, and fixed military targets, potentially inflicting massive damage. At the same time, it does present problems in more sophisticated military operations. Many will have to improvise deployments, doctrine, and war fighting capabilities. In many cases, weaknesses and vulnerabilities will persist and they will only be able to exploit a limited amount of the potential lethality of such systems.

Figure 3.3

Asymmetric Warfare and the Vulnerabilities of Advanced Technology Powers

- ***Sudden or surprise attack:*** Power projection is dependent on strategic warning, timely decision making, and effective mobilization and redeployment for much of its military effectiveness.
- ***Saturation:*** There is no precise way to determine the point at which mass, or force quantity, overcomes superior effectiveness, or force quality — historically; efforts to emphasize mass have been far less successful than military experts predicted at the time. Even the best force, however, reaches the point where it cannot maintain its "edge" in C^4I/battle management, air combat, or maneuver warfare in the face of superior numbers or multiple threats. Further, saturation may produce a sudden catalytic collapse of effectiveness, rather than a gradual degeneration from which the Israeli Defense Force could recover. This affects forward deployment, reliance on mobilization and reliance on defensive land tactics versus preemption and "offensive defense."
- ***Taking casualties:*** War fighting is not measured simply in terms of whether a given side can win a battle or conflict, but how well it can absorb the damage inflicted upon it. Many powers are highly sensitive to casualties and losses. This sensitivity may limit its operational flexibility in taking risks, and in sustaining some kinds of combat if casualties become serious relative to the apparent value of the immediate objective.
- ***Inflicting casualties:*** Dependence on world opinion and outside support means some nations increasingly must plan to fight at least low and mid-intensity conflicts in ways that limit enemy casualties and collateral damage to its opponents, and show that Israel is actively attempting to fight a "humanitarian" style of combat.
- ***Low-intensity combat:*** Low-intensity conflict makes it much harder to utilize most technical advantages in combat — because low-intensity wars are largely fought against people, not things. Low-intensity wars are also highly political. The battle for public opinion is as much a condition of victory as killing the enemy. The outcome of such a battle will be highly dependent on the specific political conditions under which it is fought, rather than RMA-like capabilities.
- ***Hostage taking and terrorism:*** Like low-intensity warfare, hostage-taking and terrorism present the problem that advanced technology powers cannot exploit their conventional strengths, and must fight a low-level battle primarily on the basis of infantry combat. HUMINT is more important than conventional military intelligence, and much of the fight against terrorism may take place in urban or heavily populated areas.
- ***Urban and Built-Up Area Warfare:*** Advanced military powers are still challenged the problem of urban warfare. They did not perform particularly well in urban warfare. Most western forces are not trained or equipped to deal with sustained urban warfare in populated areas during regional combat — particularly when the fighting may affect large civilian populations on friendly soil.
- ***Extended conflict and occupation warfare:*** Not all wars can be quickly terminated, and many forms of warfare — particularly those involving peacekeeping and peace-enforcement — require prolonged military occupations.
- ***Weapons of mass destruction:*** The threat or actual use of such weapons can compensate for conventional weakness in some cases and deter military action in others.

The Problem of Resources

Shifts in the nature of warfighting and the Middle Eastern and North African military balance interact with major shifts in military resources. In general, the cost of modern forces has gone steadily up while the resources available to fund them have either dropped in real terms, or have been constant. At this point in time, no Middle Eastern state is currently spending the resources necessary to fully sustain the present size of its force structure, modernize it in ways that are competitive with military modernization in the West, and bring it to the proper level of readiness and sustainment.

Many nations face a crisis in terms of recapitalizing their forces. They cannot afford modernization at anything like the rate required to maintain their current equipment numbers and force strengths. In some cases, this underfunding has been chronic for more than a decade. These problems have been particularly serious in countries that relied on Soviet bloc aid, low cost arms, and/or low cost loans. They have also affected countries under sanctions or where the US and other Western powers have made efforts to limit arms exports. Only a few countries have funded the same rate of new arms purchases as in the past, or increased them, and none of these countries are serious regional military powers. Even Egypt and Israel -- countries receiving massive US military aid – are experiencing serious recapitalization problems.

These problems are compounded by a lack of investment in manpower quality and readiness that is far harder to quantify, but obvious to anyone who studies the region. Far too many Middle Eastern nations still attempt to create the largest possible forces, or invest in the latest and most modern weapons, rather than create balance mixes of capability. Many governments also distrust their military and put emphasis on loyalty and security than on military effectiveness. When they are forced to compromise for financial reasons, they continue to fund force size at the expensive of readiness and sustainability. The end result is often impressive force numbers with limited real-world military capability.

Barring a massive change in military spending, these problems will generally get worse for at least the next half decade. The major cutbacks in military investment and modernization that began in the late 1980s and early 1990s could be absorbed for a while because many countries then had large pools of relatively modern equipment. It is now more than a decade since many countries bought new major platforms and other weapons at anything like their past rates, and most countries sharply cut their new weapons orders in the late 1990s and early 2000s. Even if they placed major orders today, it would take half a decade to obtain delivery and convert to the new weapons systems, and there is little evidence such orders will be placed.

Proliferation and internal security expenditures put further pressure on Middle Eastern and North African resource problems. Most countries face serious budget constraints, but some are funding major programs to acquire long-range surface-to-surface missiles and CBRN programs, and most have had to make major increases in their internal security efforts. These cannot be funded by cutting civil expenditures because massive population growth requires more and more civil spending, and any cutback in civil programs create added civil unrest and increase the threat from Islamic extremists.

In short, Middle Eastern and North African countries are less and less able to pay for the necessary changes in their military forces at a time such changes are becoming more and more necessary.

Key Analytic Issues Affecting the Middle East Military Balance

There are other military and analytic issues that must be considered in assessing the force trends and comparisons shown in this analysis:

- ***Arms control and the Arab-Israeli peace process are, and will remain, an extension of war by other means:*** arms control and peace are both valid ends in themselves, but they are also security struggles and extensions of war by other means. Their impact on regional scenarios, military planning, and war fighting capability is as meaningful as manpower numbers or equipment modernization.
- ***Military resource problems do not bring stability:*** The recapitalization problem does create an incentive for some forms of force reduction, but reductions eliminating older and lower-quality forces will have little impact on warfighting capability. Recapitalization is also an incentive to proliferate. Moreover, most countries have historically spent twice their present percentages of GNP on military forces. Middle East states have tremendous “surge” capability to make major, unpredictable new equipment purchases.

- ***Proliferation is far more complex than nuclear proliferation or the acquisition of long-range missiles:*** Proliferation cannot be seen in terms of one type of weapon — i.e. nuclear. In fact, the inability to acquire nuclear weapons creates an incentive to acquire biological and chemical weapons. Delivery systems for proliferation are not ballistic missile driven: They may involve terrorism, unconventional, and proxy systems as well as cruise missiles and aircraft.

- ***The number and type of major weapons platforms is increasingly less important than associated equipment like:*** C4I (Command, Control, Communications, and Computers/Intelligence/Battle management/Strategic reconnaissance-Targeting/Battle Damage Assessment) can now greatly enhance the capabilities of conventional forces, and .smart munitions and highly lethal warheads can compensate for force numbers. The resulting changes in warfare require new methods of reporting on modernization, and assessing its impact, that existing unclassified reporting does not support. Reporting still focuses on major weapons platforms by basic type. Existing sources do not report accurately or in depth on platform upgrades, developments in net-centric warfare, or the acquisition of precision weapons and the systems necessary to use them.

- ***New measures are needed of manpower and training quality:*** Total active and reserve manpower are uncertain measures of military capability at best. Estimates of the balance need to consider ratios of officers and NCOs to enlisted men, numbers of technicians, training cycles, dependence on conscripts, retention rates, numbers of combat experience personnel, and other critical factors relating to manpower quality. Such data are rarely, if ever, available in unclassified form.

- ***New measures are needed of readiness and sustainability:*** Support and sustainability are critical in determining war fighting; and have high technology, infrastructure, and training dimension. Existing sources do not reporting meaningful on support equipment, supply and stock levels, combat engineering capability, repair and recovery capability, logistic structures and capability, deadline line rates or operational availability, or any of the other measures of this aspect of warfighting capability.

- ***Paramilitary, counterterrorism, and asymmetric warfare capabilities need separate reporting and assessment:*** Limited data is available on paramilitary and special forces, largely in the form of manpower totals or reporting on special forces and other light units with special value in asymmetric warfare. Such reporting does little to describe the real-world capabilities of the forces involved, however, and they are grossly inadequate as a means of assessing capabilities for counterterrorism and asymmetric warfare.

It is valid to argue that none of these issues are new. There have long been similar problems in assessing the military balance in the Middle East and North Africa, as in other regions. This last decade has seen a steady rise in the importance of such factors, however, and conflicts like the Gulf War of 1991 have been followed by wars like the Kosovo conflict, Israeli-Palestinian War, Afghan War, and Iraq War which have all demonstrated both the importance of the revolution in military affairs and of asymmetric warfare. Unfortunately, many of these developments simply cannot be assessed without far better data on the qualitative aspects of the military balance than is currently available.

Changing the Strategic Context of Military Operations

The military forces of the MENA region must evaluate these issues in terms of their particular local threats and balances of power, but in many cases changes will also be required in the strategic context of military operations. The regular military mission must have primacy when there are major conventional military threats and/or the threat that regular military forces will acquire or use weapons of mass destruction.

If, however, the primary threat is transnational terrorism, internal terrorism and insurgency, and ideological and religious attacks on government, society, and culture, the strategic context of operations changes fundamentally. Military operations cannot then be separated from political, economic, and social efforts without risking prolonged internal instability, and even serious reversals or defeat.

Military operations must be part of a broader national strategy designed to deal with very different types of threats. In most cases, there are five key elements to such a strategy:

- ***Developing or reinforcing a national consensus:*** The nation must unify around a consensus that legitimizes government and the mainstream religious and social structure, and that can find a “golden mean” between the different goals and expectations of a nation’s different ethnic and religious elements.

- ***Reinforcing the legitimacy of government*:** There is no one political system that meets the needs of every nation or people. It is critical, however, that the government demonstrate that it is acting in the interest of all the people, developing the economy, establishing a universal rule of law, developing effective human rights policies, and is capable of both governing and providing security to all the people – including religious and ethnic minorities. The regime must be capable of effective governance that is responsive to the views and needs of the people at the local, regional, and national level. States that fail to meet this test become the natural prey of transnational threats, extremism, and asymmetric attacks.

- ***Creating effective security, and police forces*:** The priority for national security shifts to creating paramilitary and police forces capable of bringing security to the entire country, of eventually replacing all outside forces – if involved, and capable of conducting effective operations while winning the support of the vast majority of the people.

- ***Broad-based economic reform:*** This means economic reform efforts that – coupled to effective security -- move the nation back on the path to stable economic development where wealth and economic growth are distributed in ways that meet the needs of all the people. Here economic growth per se is no longer the key issue. Short and medium term employment, broadly based economic opportunity, incentive to invest and participate, security of property and business rights.

- ***Attention to demographics*:** There is no one cause of vulnerability to extremism, but the Middle East is particularly vulnerable to demographic pressure. The regional birth rate remains higher than the rate the economies and infrastructure of many nations can sustain. A UN estimate shows that the population of the MENA area has risen from 112 million in 1950 to 415 million in 2000, and will rise to 500 million in 2010, 590 million in 2020, 678 million in 2030, 760 million in 2040, and 833 million in 2050 – even if the birth rate drops steadily during this period at faster rates than have occurred to date.

- ***Coping with a "youth explosion:"*** There is a virtual "youth explosion, complicated by the steadily growing role of women in the work place. If one looks at the critical age group between 15 years of age and 24 – often the source of radical and extremist recruits, the total population rose from 21 million in 1950 to 79million in 2000, and will rise to 90 million in 2010. The number will then begin to level out and reach 95 million in 2020, 101 million in 2030, 109 million in 2040, and 112 million in 2050

- ***Shifting the focus of regional security*:** In many cases, the issue of border and coastal security, and counterinfiltration is becoming more critical than direct military threats. The same is true of neighboring or regional powers that tolerate or host extremist movements, terrorist and insurgent groups or cells. Missions like joint efforts at maritime surveillance, critical infrastructure protection, border surveillance, tracking of movements, halting terrorist or insurgent financing, eliminating training camps and sanctuaries now have similar priority. This means finding a new balance of security relationships with s neighbors that will ensure that they do not threaten, or interfere in a nation's affairs, while making it clear that nations no longer poses a threat to any neighboring state.

- ***Information warfare and focused preventive and public diplomacy*:** Nations need to counter outside and inside attacks on their legitimacy, and deal with media issues in an era where extremist and terrorist movements use charges and attacks as "weapons of mass media." Perceptions and media reporting are a critical aspect of asymmetric warfare.

- ***Meeting the religious challenge:*** In much of the MENA region, nations must directly meet the challenge of Islamist extremist – largely neo-Salafi extremism – to their government, religious establishment, their alliances, and the rights of any Islamic elements that are Shi'ite or lead to charges that they are apostate. The ideological battle is a religious one.

IV. "The Most Militarized Area in the World:" Regional Military Expenditures, Arms Transfers, and Manpower Resources

The Middle East has long been the most militarized region in the world in terms of raw defense effort. As **Figure 4.1** shows, the Middle East spends far more than any other region in the world on military forces as a percent of GNP, as a percent of central government expenditures, and in terms of arms as a percent of total imports. North Africa ranks second, although North Africa scarcely reaches the levels of military effort of the Gulf states and the Arab-Israel states.

One key issue shaping the future military balance throughout the region is how well such spending levels can be sustained, and what their impact is on the ability of Middle Eastern and North Africa states to fund their civil programs and economic development, and create the conditions for internal stability. In many cases, even the current level of military spending is probably too high for nations to sustain, and the pressures to reduce conventional military expenditures are growing.

The Growing Resource Challenge

Important as military security may be, it is economics and demographics that may well prove to present the most serious future challenge to the region's stability. Economic development has been poor since the end of the oil boom in the late 1970s. The Middle East only averaged 1.5% annual economic growth from 1990-2000, only half of its average annual population growth. This situation has improved since 1990, but growth averaged less than 3% before the economic collapse in Asia and similar collapse in world oil prices in late 1997. Population growth slightly outpaced real economic growth throughout the 1990s.

The World Bank's report on Global Economic Development for 2003 shows a sharp decline in economic growth in GDP in constant prices from 6.5% during 1971-1980 to 2.5% during 1981-1990. While growth rose to 3.2% during 1991-2000, it barely kept pace with population growth. This is reflected in the fact that growth in per capita income in constant prices dropped from 3.6% during 1971-1980 to –0.6% during 1981-1990, and was only 1% from 1991-2000 – reflected static income over nearly twenty years in a region with extremely poor equity of income distribution.

While inter-regional comparisons may be somewhat unfair, the economic growth in East Asia and the Pacific was 6.6% during 1971-1980, 7.3% during 1981-1990, and 7.7% during 1991-2000. The growth in real per capita income was the economic growth in East Asia and the Pacific was 3.0% during 1971-1980, 4.8% during 1981-1990, and 5.4% during 1991-2000.

Some states like Kuwait, Qatar, and the UAE have so much oil and gas wealth per capita that they may still be able to buy their way out of their mistakes indefinitely. Most Middle Eastern states, however, suffer severely from economic mismanagement and excessive state control of the economy. Structural economic reform has begun in Algeria, Morocco, Tunisia, Egypt, Jordan, Saudi Arabia, Lebanon, and Bahrain. This reform, however, remains highly uncertain and no country has yet carried out such reform to the point where it has a serious prospect of success.

The other Middle Eastern states have uncertain near to mid-term economic prospects, and this is true of most oil exporters as well. The Israeli and Palestinian economies have been crippled by war, Egypt Jordan Lebanon and Syria are all experiencing serious economic and demographic problems, and the Iraqi economy is weak and may soon face the shock of a new war. The Iranian economy is in a serious crisis, compounded by deep ideological conflicts over how to deal with the issue.

Algeria's efforts at economic reform have been partially blocked by corruption and civil war. Qadhafi's mismanagement, and the sanctions imposed by the UN and the US have blocked much of Libya's development. Bahrain no longer has significant oil reserves. Saudi Arabia has experienced over a decade of budget deficits and has only about 40% of the real per capita income it had at the peak of the oil boom. Oman is also experiencing serious development problems. While sources differ according to reporst, work by the World Bank shows that many Middle Eastern states have had rates of economic growth that lag behind their population growth, and that Middle East development has fallen badly behind the rate of growth in East Asia and China.

Population Growth, Demographic Pressures, and a "Youth Explosion"

These economic pressures are compounded by major demographic problems. The total population of the Middle East and North Africa has grown from 78.6 million in 1950 to 101.2 million in 1960, 133.0 million in 1970, 177.9 million in 1980, 244.8 million in 1990, and 307.1 million in 2000. Conservative projections put it at 376.2 million in 2010, 449.3 million in 2020, 522.3 million in 2030, 592.1 million in 2040, and 656.3 million in 2050. This growth will exhaust natural water supplies, force permanent dependence on food imports, and raise the size of the young working age population aged 15 to 30 from 20.5 million in 1950 to 87.8 million in 2000, and 145.2 million in 2050.

The end result is that a combination of fluctuating oil revenues, high population growth rates, and a failure to modernize and diversify the overall economy threatens to turn the past oil wealth of the oil exporting states into oil poverty. The Southern Gulf states have only about 40% of the real per capita income they had at the peak of the oil boom in the early 1980s, and little prospect for anything other than a slow decline. Kuwait, Qatar and the UAE maintain high per capita incomes, but Saudi Arabia's "oil wealth" is becoming increasingly marginal, as its population grows far more quickly than its economy.

The resulting social turbulence is compounded by the region's extremely young population, overstretched and outdated educational systems, and the failure of the labor market to create productive jobs, or any jobs at all for many of the young men entering the labor force. The fact that the age group of 14 years or younger now totals over 40% of the population of the region creates an immense bow wave of future strain on the social, educational, political, and economic system. Emigration creates another source of social turbulence, while religious and cultural barriers to the effective employment of women compound other problems in productivity and competitiveness with other developed regions.

Political structures remain fragile, and largely authoritarian, regardless of the formal structure of government. Traditional monarchies often interfere less in human rights and normal social conduct than supposed democracies. In broad terms, however, no state in the region has yet managed to create a secular political culture that provides effective pluralism, and most competing secular ideologies have failed: Pan-Arabism, socialism, capitalism, Marxism, statism, and paternalism have all failed to provide adequate development and meet social needs, and all governments are to some extent repressive. The fact that so many in the region have turned back to more traditional social structures and religion is scarcely surprising, but it is far from clear that they offer any meaningful solution to the problems involved.

Declines in Military Expenditures and Arms Transfers

These economic and demographic pressures may explain why the overall trends in Middle Eastern and North African military and arms spending have generally dropped in real terms since the late 1980s and early 1990s. In the most recent year reported by official US sources, the Middle East only spent about half the percentage of GNP in did during the late 1980s and early 1990s, the time of the Gulf War. The economic burden created by military expenditures has generally dropped significantly, as has the burden on central government expenditures. Arms imports are also down, both as a percentage of total imports and in absolute terms, and new arms orders have generally dropped far more quickly than deliveries – indicating that this aspect of the military burden will drop even more quickly in the future than in the past.

Drops have also occurred in terms of military manpower as a percent of total population, although this is not a particularly valid measure of military effort. Virtually all Middle Eastern and North African powers have rapidly increasing populations, and manpower quality has become steadily more important relatively to manpower quantity. Few nations have needed massive increases in manpower. Instead, they have needed more career professionals, better trained and educated forces, and forces with better and more sophisticated combat and support equipment. The cost per effective solider has risen sharply over time, not only in capital terms (the amount of military equipment and supplies needed by man), but in terms of the salaries, support, and overhead needed to attract and retain qualified personnel.

There are also several reasons to be careful about giving the trends in military expenditures and arms sales too much importance. Such trends are cyclical. Wars lead to major increases and then decreases. Major acquisitions often lead to short-term increases in arms orders followed by cuts as nations pay for previous orders, and are then followed by new waves of military expenditures and arms purchases as new crises or wars arise.

The Strengths and Weaknesses in Current Sources

As is the case with all of the data on the Middle Eastern military balance, there are problems with the data on military expenditures, demographics, and arms transfers. Some are generic. There is usually no way to estimate what MENA nations are spending on weapons of mass destruction, or even long-range missiles. As a result, the figures available under count the military effort in most proliferating states. The problem of terrorism and asymmetric warfare has also created a situation where many nations have had steadily greater internal security expenditures, sometimes making trade-offs that reduce military spending in order to fund stronger national security. This leads to an undercounting of national security expenditures, although not necessarily military expenditures as they have been defined in the past.

Other problems are more country specific. Some governments do not report meaningful data on military expenditures, and most countries do not use comparable definitions. The estimates of military expenditures and arms sales made by most research institutes are little more than sophisticated guesstimates, and the member countries of the United Nations often either do not report to the UN or report highly politicized figures. Many other sources of international statistics, like the CIA World Factbook, either do not report or report very erratically.

There are, however, three sources that have a reasonable degree of reliability. The US State Department issues a report called World Military Expenditures and Arms Transfers that draws on declassified US intelligence estimates that are based on a serious and comprehensive effort to create directly comparable trend estimates. Another report by Richard F. Grimmett of the Congressional Research Service, called Conventional Arms Transfer to Developing Nations, provides more current data on arms deliveries and orders. Finally, the International Institute of Strategic Studies receives data from a variety of sources, including governments with major intelligence resources, and its reporting has significantly higher credibility than that of most independent research organizations.

Detailed Trends in Military Effort and Expenditures

If one looks at the trends in military effort in detail, they reveal the following trends in the balance:

- **Figure 4.1** provides an overview of how the military efforts of the Middle East and North Africa compare with those of other regions in the world. It shows that even though the annual level of military expenditure as a percent of GNP dropped by nearly 50% from 1985 to 1995, it was still nearly twice as high as in other regions in 1999 – the last year for which there are declassified estimates. It also shows that Middle Eastern military expenditures remain a major burden on central government expenditures at a time that sharply rising populations and poor economic development have created a rising need for civil expenditures. The data for North African countries reflect a smaller percentage burden, but they do not fully reflect the burden of civil war in Algeria or the expenditures Morocco has made in its conflict against the Polisario.

  The data on Middle Eastern arms imports as a percent of total imports in **Figure 4.1** show that the percentage in 1999 was only about one-third of the percentage in 1999 that it was in 1985, but that it was still far higher than in any other region. This was partly a result of the failure of Middle Eastern economies to diversify and grow at the rate of the economies in several other developing regions.

- **Figure 4.2** shows these data by country for each of the MENA countries in 1999, and compares the impact of such expenditures on each state. Such statistical "snap shots" can be misleading, -- because they do not shows averages or trends – but it is clear that burdens vary sharply by country, and often in unexpected ways. This illustrates the damagers of talking in regional terms without examining nations as separate cases.

- **Figure 4.3** shows the trend in both military expenditures and arms transfers since the Arab-Israeli conflict of 1967 – a conflict that transformed the Middle East and helped trigger a regional arms race that has continued ever since. It should also be stressed that such measures of military effort increasingly interact with demographic pressures on state budgets that force states to spend more on services and leave states less and less discretionary money for investment in infrastructure and economic development.

  The data on military expenditures show just how quickly a war or crises can lead to radical shifts in military effort, and reflect the fact that expenditures have not dropped as much in absolute terms as they have as a percent of GNP, largely because of economic growth, The impact of the Iran-Iraq War (1980-1988) and the Gulf War (1990-1991) is particularly apparent.

The various cycles in arms imports are different for several reasons. A sharp rise took place during the Iran-Iraq War because sufficient time existed for both nations to place major orders, take delivery, and need constantly rising levels of sustainment. The Gulf War led to major arms orders over time, but too little time occurred for major deliveries between Iraq's invasion of Kuwait and its liberation, and most regional expenditures went to paying for the deployment of US, British, French, Egyptian, and Syrian forces.

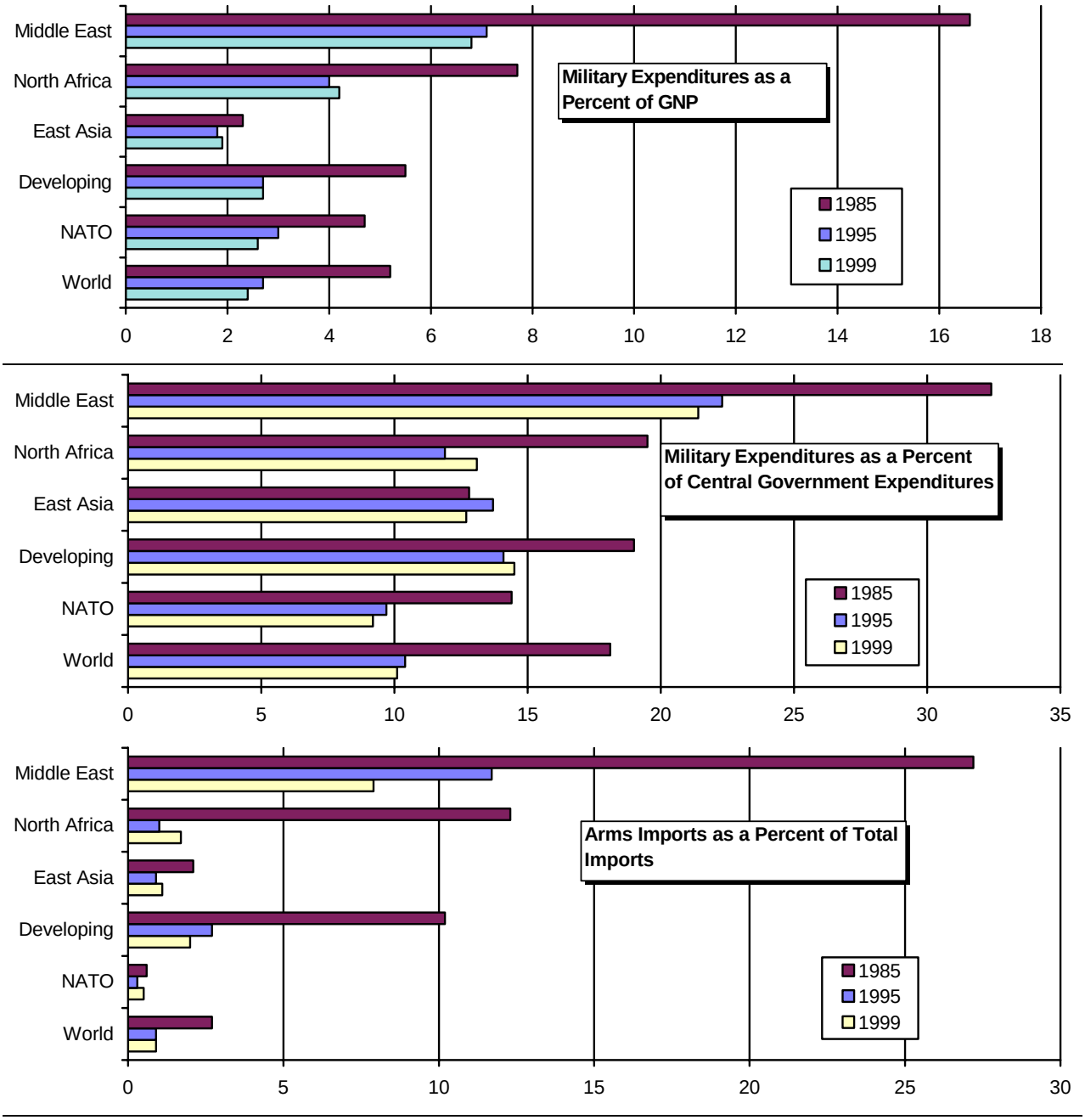
Interestingly enough, if the data covered the Iraqi War of 2003, there would be little change in either military expenditures or arms imports as this time, the US and Britain essentially self-financed their operations. Similarly, the Israel-Palestinian War that began in September 2000 has had a major impact on those two nations, but is not large enough to impact heavily on the regional total. Much of the "war on terrorism" is also not reflected in military expenditures or arms imports because it is classified as internal security expenditures.

- **Figure 4.4** shows the cumulative burden military expenditures and arms transfers, and military manpower, has placed on the nations in the region since 1984. The dramatic cuts after 1991 are product of the cumulative impact of the end of the Iran-Iraq War, the end of the Gulf War, and sanctions on Iraq after 1980. They are also the result of the fact Syria ceased to try to compete with Israel in military spending and arms imports after it lost access to low-cost Russian loans, and the fact Israel and Jordan signed a peace treaty.
- **Figure 4.5** shows that this enabled both the region's total GNP and civil expenditures to grow relative to military spending and arms imports.
- **Figure 4.6** highlights the major cuts in military spending after 1991 by Iran and Iraq, and the trends in Libya and Syria. These nations have often been the source of wars and instability in the region.

Figure 4.1

"The Most Militarized Region in the World"

(Military Expenditures and Arms Imports as an Economic Burden in the Middle East Relative to Other Regions)

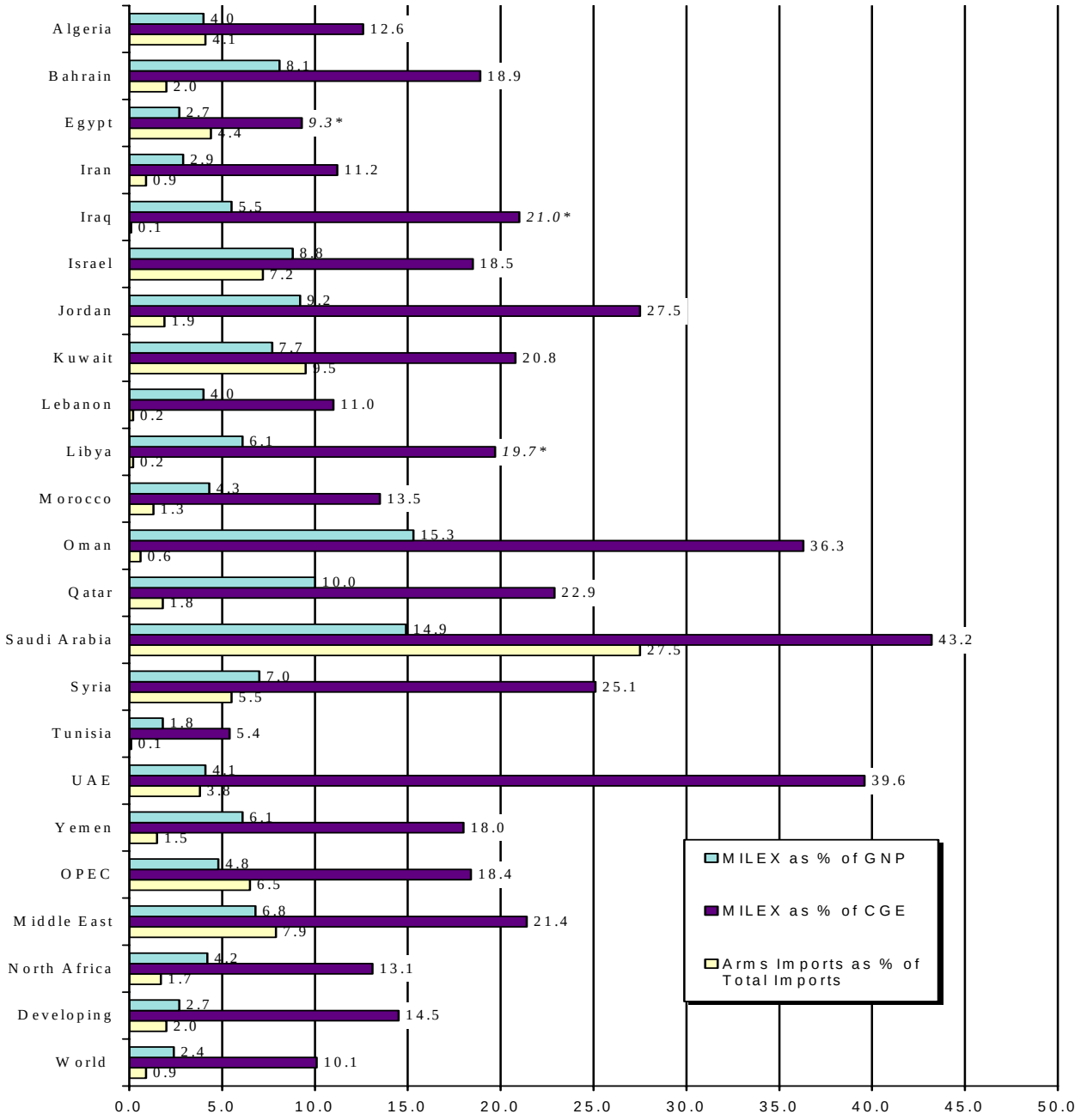


Source: Adapted by Anthony H. Cordesman from US State Department, Bureau of Verification and Compliance, World Military Expenditures and Arms Transfers, 1989-1999. Middle East does not include North African states other than Egypt.

Figure 4.2

The Burden of Military Expenditures and Arms Transfers on the Economies of Individual Middle Eastern Countries in 1999

(Military spending as a percent of Central Government Expenditures (CGE) and Gross National Product (GNP); and Arms Imports as a percent of Total Imports)

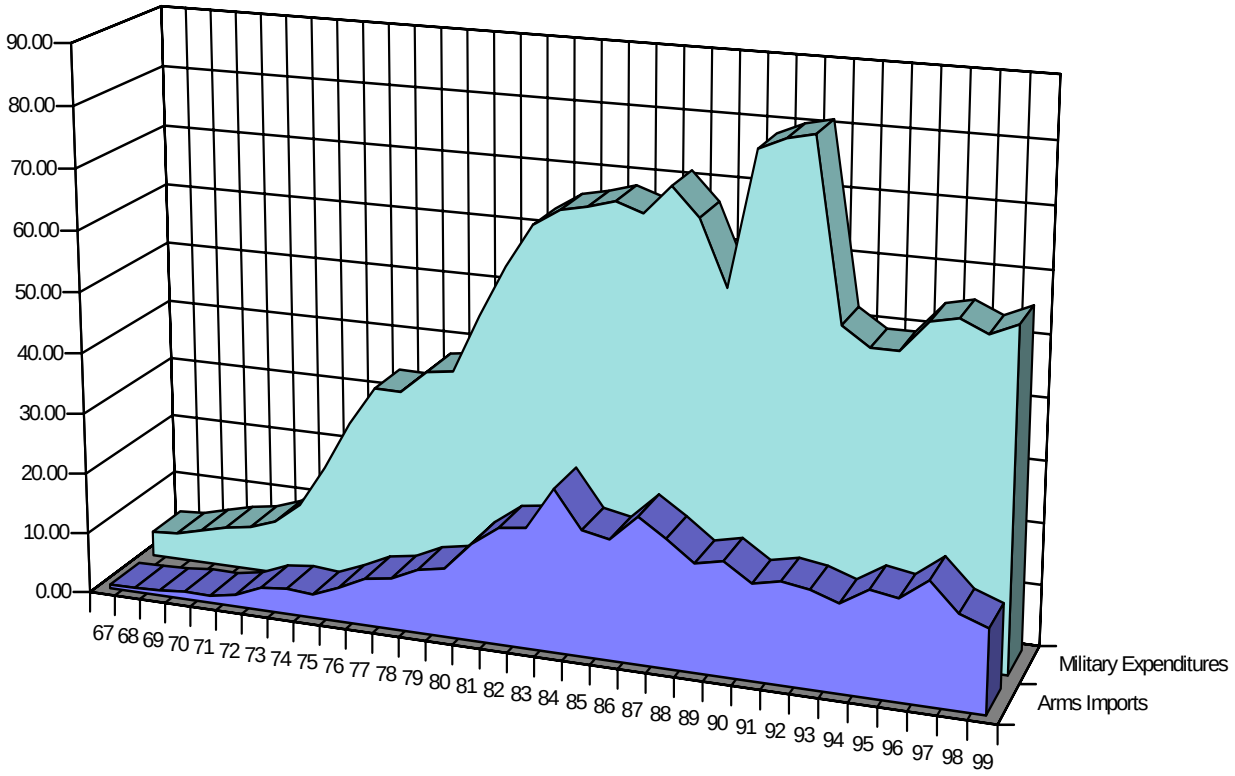


Note: Figures marked with asterisks are estimated or older data.
Source: Adapted by Anthony H. Cordesman from US State Department, Bureau of Verification and Compliance, World Military Expenditures and Arms Transfers, various editions.

Figure 4.3

The Trend in Middle Eastern Military Expenditures and Arms Transfers since 1967

(1967-1999 in $Current Billions)

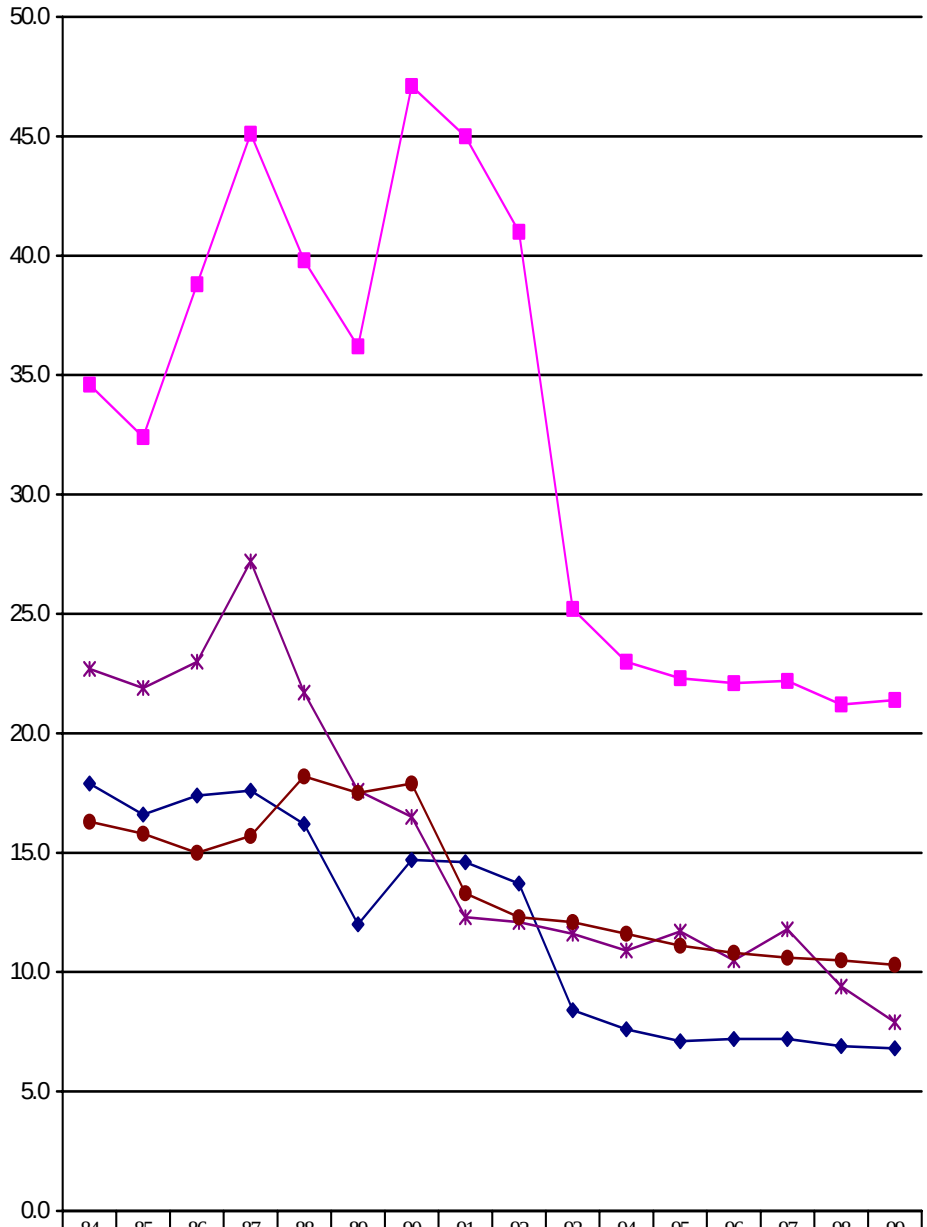


	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
Arms Imports	0.5	60.6	20.8	31.2	51.1	71.9	43.7	54.2	03.8	65.5	97.6	88.3	610.4	11.2	15.8	19.0	19.6	26.4	20.4	19.5	23.7	20.8	17.4	18.4	15.5	16.4	15.7	14.2	17.0	16.2	19.7	15.1	13.5
Military Expenditures	4.1	04.4	05.5	06.6	07.3	08.8	012.2	19.1	27.1	33.5	33.4	37.2	37.8	47.3	55.8	62.9	65.7	66.6	67.9	66.4	71.1	66.5	56.0	78.0	80.0	81.0	52.0	49.0	49.0	54.0	55.0	53.0	55.0

Source: Adapted by Anthony H. Cordesman from US State Department, Bureau of Arms Control, World Military Expenditures and Arms Transfers, various editions. Middle East does not include North African states other than Egypt.

Figure 4.4

Middle Eastern Military Efforts Dropped Sharply as a Percent of GNP, Government Expenditures, Total Population, and Arms Imports: 1984-1999



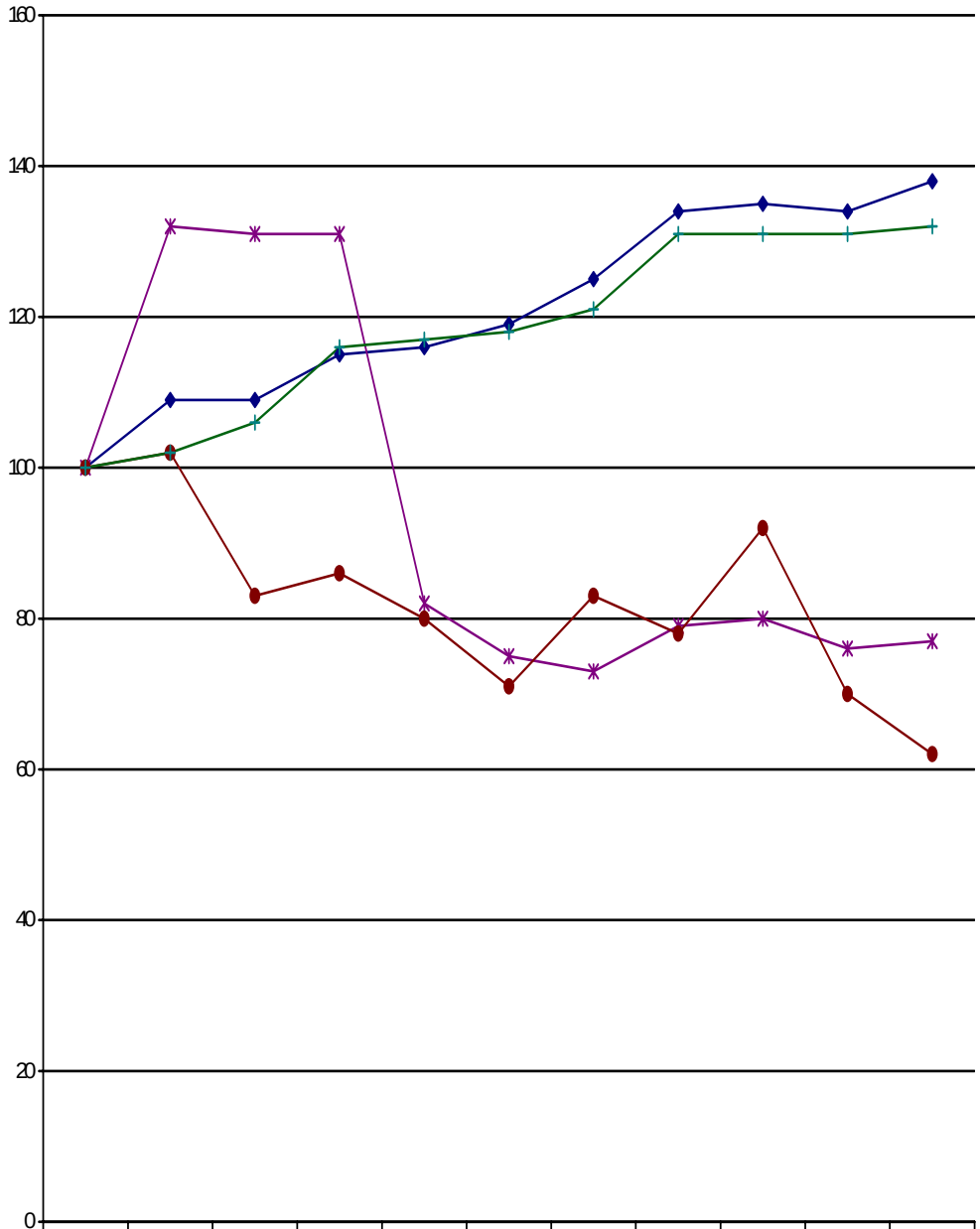
	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
Military Spending as a Percent of GNP	17.9	16.6	17.4	17.6	16.2	12.0	14.7	14.6	13.7	8.4	7.6	7.1	7.2	7.2	6.9	6.8
Military Spending as a Percent of Central Government Expenditures	34.6	32.4	38.8	45.1	39.8	36.2	47.1	45.0	41.0	25.2	23.0	22.3	22.1	22.2	21.2	21.4
Arms Imports as a Percent of Total Imports	22.7	21.9	23.0	27.2	21.7	17.6	16.5	12.3	12.1	11.6	10.9	11.7	10.5	11.8	9.4	7.9
Active Military Manpower per 1,000 People	16.3	15.8	15.0	15.7	18.2	17.5	17.9	13.3	12.3	12.1	11.6	11.1	10.8	10.6	10.5	10.3

Source: Adapted by Anthony H. Cordesman from US State Department, World Military Expenditures and Arms Transfers, various editions. Middle East does not include North African states other than Egypt.

Figure 4.5

Middle Eastern Military Expenditures and Arms Imports Dropped Sharply Relative to Economic Growth and Government Spending During 1989-1999

(1989=100, and all following years are percentages of 1989 as base year. All expenditure totals are measured in constant 1989 US dollars.)



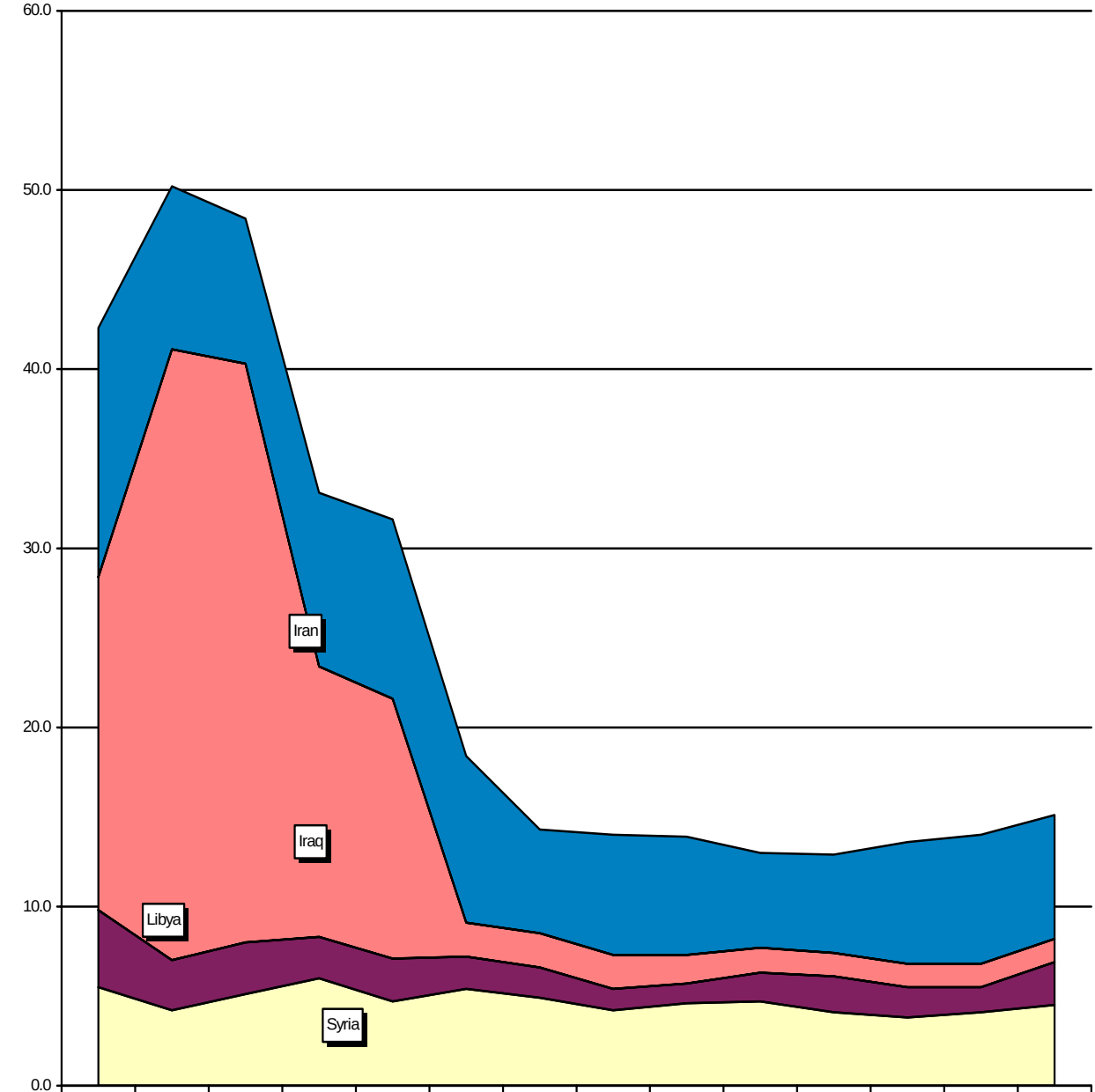
	89	90	91	92	93	94	95	96	97	98	99
Gross National Product	100	109	109	115	116	119	125	134	135	134	138
Military Expenditures	100	132	131	131	82	75	73	79	80	76	77
Arms Imports	100	102	83	86	80	71	83	78	92	70	62
Central Government Expenditures	100	102	106	116	117	118	121	131	131	131	132

Source: Adapted by Anthony H. Cordesman form US State Department, Bureau of Verification and Compliance, World Military Expenditures and Arms Transfers 1999-2000. Middle East does not include North African states other than Egypt.

Figure 4.6

The Cumulative Decline in Military Spending by Selected Major Buyers: 1986-1999

(Constant $US 1999 Billions)



	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Iran	13.9	9.1	8.1	9.7	10.0	9.3	5.8	6.7	6.6	5.3	5.5	6.8	7.2	6.9
Iraq	18.6	34.1	32.3	15.1	14.5	1.9	1.9	1.9	1.6	1.4	1.3	1.3	1.3	1.3
Libya	4.3	2.8	2.9	2.3	2.4	1.8	1.7	1.2	1.1	1.6	2.0	1.7	1.4	2.4
Syria	5.5	4.2	5.1	6.0	4.7	5.4	4.9	4.2	4.6	4.7	4.1	3.8	4.1	4.5

Source: Adapted by Anthony H. Cordesman from US Arms Control and Disarmament Agency, World Military Expenditures and Arms Transfers, various editions. Some data adjusted or estimated by author.

Broad Patterns in Middle East Arms Transfers

There has been a substantial "de-radicalization" of Middle East arms transfer since the early 1990s. This shift in the flow of arms to the more aggressive countries has been shaped by the following trends:

- The Arab-Israeli peace process, end of the Iran-Iraq War, end of the Cold War, and Gulf War have reduced the threat far more than orders of battle would indicate.
- Mismanagement of the economy, lower oil prices, and regional recession have reduced arms buys.
- New arms orders agreements states are down to token share of past levels.
- Iran, Iraq, Libya, and Syria have had to sharply cut their purchases. Moderate states have signed 93% of all recent new arms import agreements versus 67% before Gulf War.
- Southern Gulf states have signed over 90% of all new arms import agreements – excluding grant aid to Egypt and Israel -- versus 53% before Gulf War.
- The most aggressive country — Iraq —only had token imports after 1990.
- Iran did not choose to renew the arms race after its defeat in 1988, and made major further cuts in 1992, after the Coalition weakened Iraq.
- Syria lost any source of free arms and low cost credit.
- Libya faced economic problems and UN sanctions.

At the same time, the trends in the dollar value of new arms agreements and past deliveries do not always tell the whole story:

- The previous data do not include many aspects of proliferation and the acquisition of CBRN weapons.
- The end of the Cold War has meant more rapid transfer of first line weapons and technologies to the world market.
- Arms imports are only part of the story. Nations with major defense industries do not have to import as many arms, and "dual use" technologies aid in proliferation and the C^4I/BM/SR side of the "RMA."
- Such trends are scarcely stable: Past flows of arms highly cyclical in terms of rises and falls, and Russia may rebuild former volume of sales of FSU.
- There is a relatively free transfer of technology and equipment for new types of wars and battles: Information and economic warfare.
- The capability to fight many forms of asymmetric warfare is not affected.
- Modifying platforms is increasingly as important as obtaining new platforms.
- Transfers of "smart" weapons are very difficult to categorize, monitor, and control: BVR/advanced air-to-air missiles, smart precision and area munitions, black boxes, sensors and secure communications, etc.
- Controlling or limiting conventional arms can push nations towards proliferation and asymmetric warfare.

The following Figures show the broad patterns in regional arms sales far more clearly. They reinforce the fact there has been a major drop in the cost of both new agreements and actual deliveries. At the same time, massive amounts of weapons and equipment are still involved:

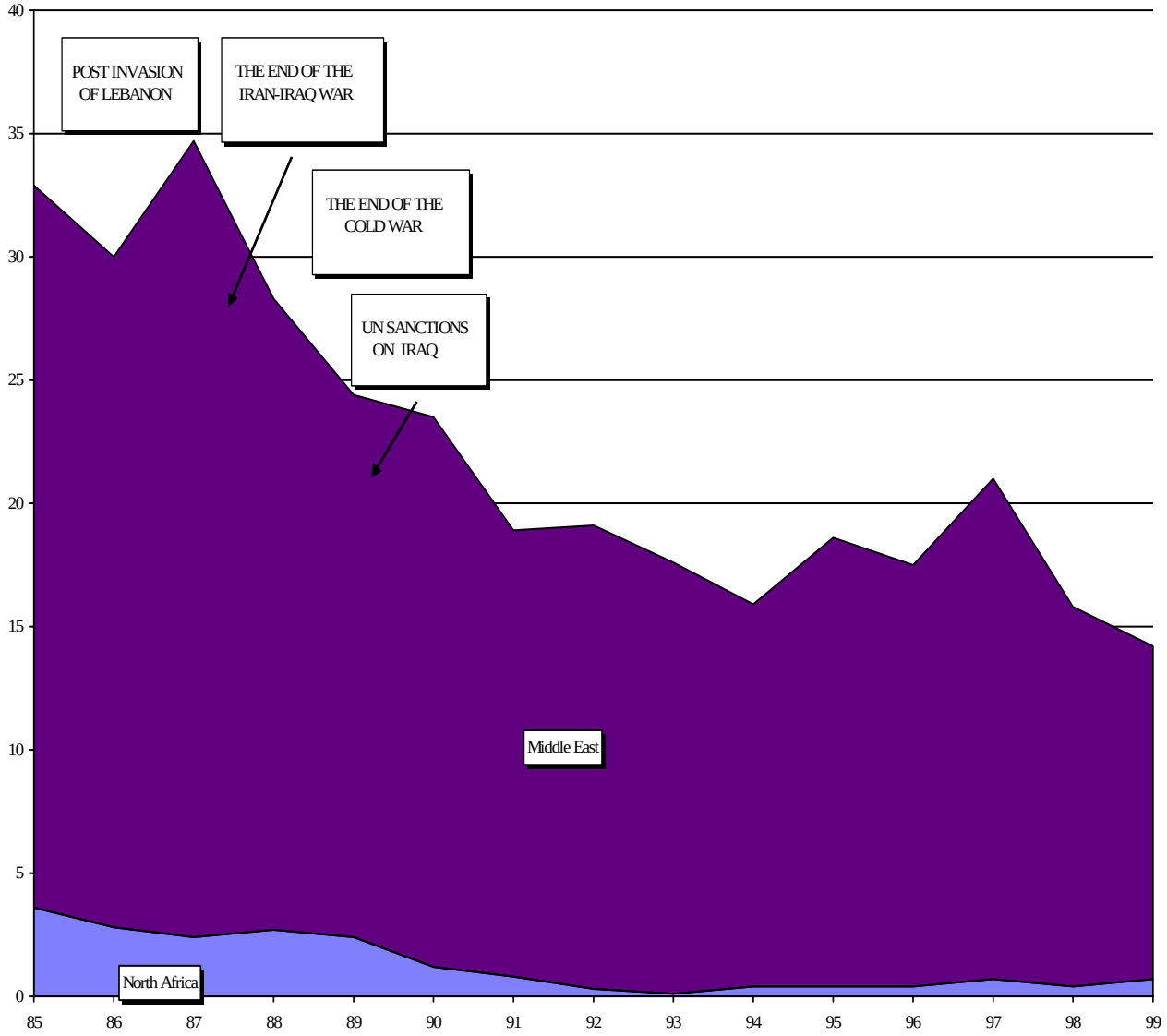
- **Figure 4.7** shows the cumulative downward trend in arms deliveries in constant dollars. It also shows how Middle Eastern arms deliveries compare with those in other regions. The Middle East is clearly remains the dominant world market for arms.
- **Figure 4.8** compares the Middle East and North Africa to the deliveries to the total world and total developing world. It is clear that the MENA area has dropped relative to the both totals in recent years.

- **Figure 4.9** shows that military expenditures have shrunk faster than military expenditures. This is the result of a major "recapitalization" problem in the military modernization efforts of a number of regional powers discussed in detail in the other parts of this study.
- **Figure 4.10** shows more recent data on both new arms orders and deliveries. It shows the trend in new orders has continued to drop in recent years although the backlog in deliveries had led to a much lower drop in this category.
- **Figures 4.11, 4.12, and 4.13** provide a warning, however, that major deliveries of weapons still flow into the area.

Figure 4.7

The Cumulative Impact of the Arab-Israeli Peace Accords, Sanctioning of Libya, End of the Iran-Iraq War, End of the Cold War, Gulf War, and Economic Recession: 1985-1999

(Arms Deliveries in Constant $US 1999 Billions)



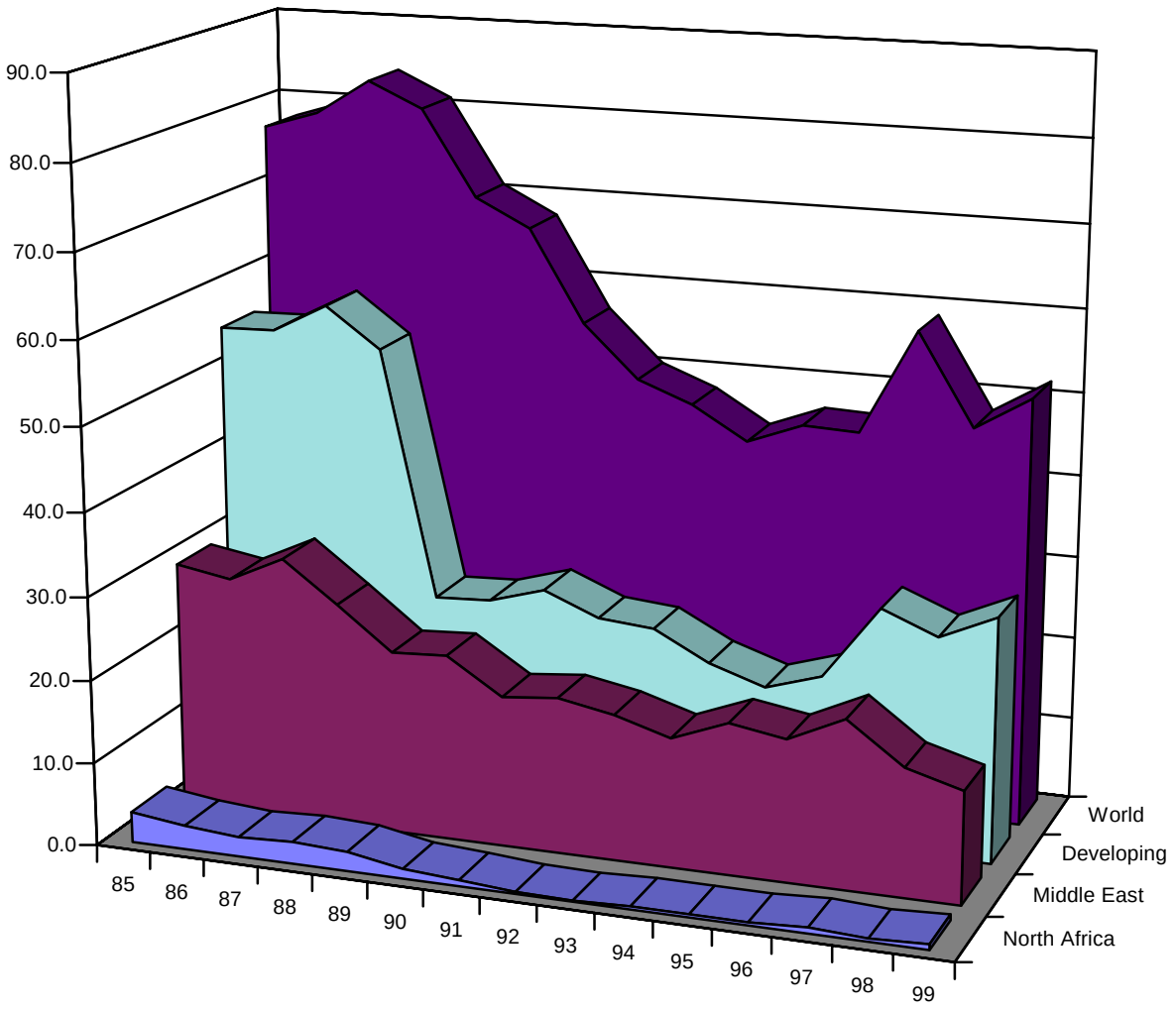
	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
Oceania	1.5	1.1	1.3	1.7	1.7	1.6	1.4	1.2	1.4	1.5	1.5	1.5	1.9	1.7	1.7
South America	1.5	1.4	1.6	1.7	1.4	0.9	1.5	0.8	0.8	0.8	1.6	1.3	1.5	1.2	0.8
North Africa	3.6	2.8	2.4	2.7	2.4	1.2	0.8	0.3	0.1	0.4	0.4	0.4	0.7	0.4	0.7
Central America	4.2	3.4	3.4	3.3	2.2	2.0	0.9	0.3	0.3	0.1	0.2	0.2	0.1	0.1	0.1
Sub-Saharan Africa	4.2	4.1	7.1	5.8	3.9	2.5	1.3	0.9	1.0	1.4	0.7	0.7	0.7	1.0	1.2
South Asia	5.5	6.9	6.6	8.2	9.4	7.9	4.2	1.5	1.2	0.8	1.4	0.8	1.4	1.2	1.8
East Asia	8.8	8.4	10.3	9.6	8.6	8.4	8.5	8.3	7.5	9.1	9.8	10.3	17.2	12.3	11.4
Developed World	21.7	20.7	26.6	24.8	24.7	25.1	27.0	24.3	23.7	20.3	18.1	20.2	29.1	26.4	29.5
Middle East	29.3	27.2	32.3	25.6	22.0	22.3	18.1	18.8	17.5	15.5	18.2	17.1	20.3	15.4	13.5

Source: Adapted by Anthony H. Cordesman from US State Department, Bureau of Verification and Compliance, World Military Expenditures and Arms Transfers, various editions. Middle East does not include North African states other than Egypt.

Figure 4.8

Rate of Arms Technology Transfers to MENA is Declining but Is Still an Issue

(Arms Deliveries in Constant $US 1999 Billions)



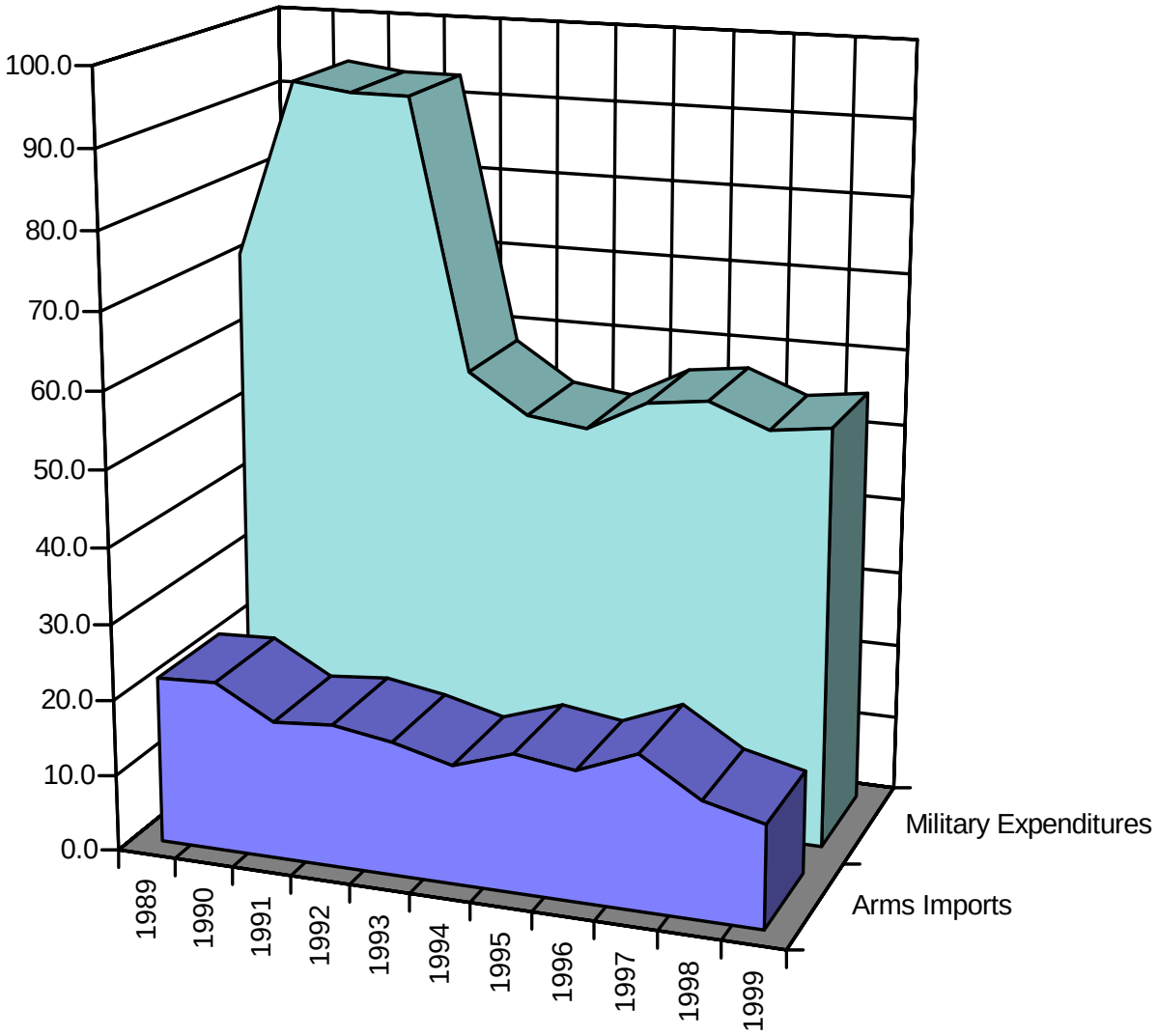
	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99
North Africa	3.7	2.9	2.3	2.6	2.4	1.2	0.8	0.3	0.1	0.4	0.4	0.4	0.7	0.4	0.7
Middle East	29.8	28.7	31.9	27.0	22.0	22.3	18.1	18.8	17.5	15.5	18.2	17.1	20.3	15.4	13.5
Developing	55.4	55.6	59.1	54.3	24.7	25.1	27.0	24.3	23.7	20.3	18.1	20.2	29.1	26.4	29.5
World	77.4	79.4	83.7	80.7	70.5	67.2	56.2	49.9	47.4	43.5	46.1	45.8	58.4	47.5	51.6

Source: Adapted by Anthony H. Cordesman from Bureau of Arms Control in the US State Department (formerly US State Department, Bureau of Arms Control), World Military Expenditures and Arms Transfers, various editions. Middle East does not include North African states other than Egypt.

Figure 4.9

The Trend in Middle Eastern Military Expenditures and Arms Transfers Since 1989

(1989-1999 in $US 1999 Constant Billions)



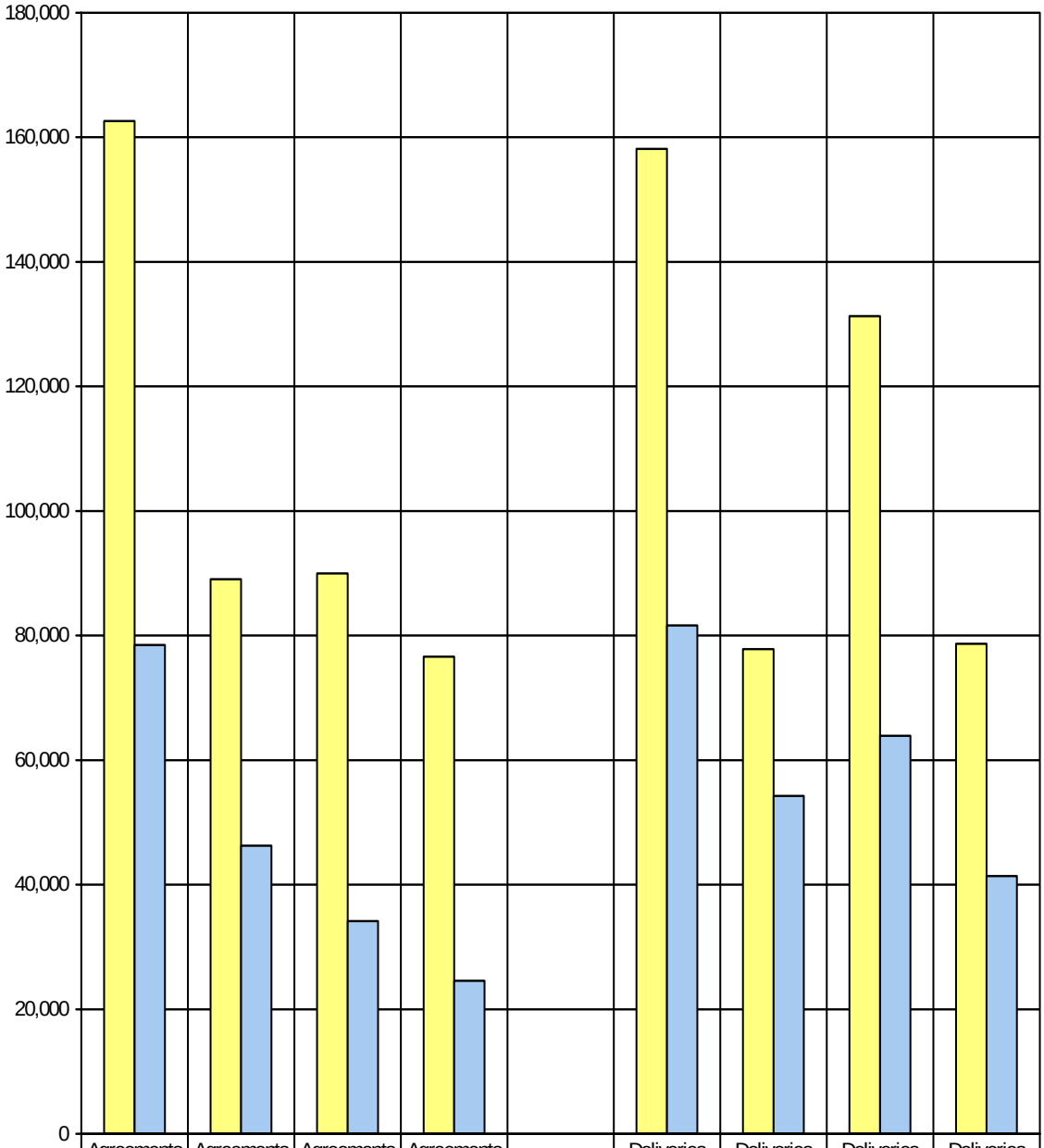
	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Arms Imports	22.0	22.3	18.1	18.8	17.5	15.5	18.2	17.1	20.3	15.4	13.5
Military Expenditures	71	94	93	93	58	53	52	56	57	54	55

Source: Adapted by Anthony H. Cordesman from US State Department, Bureau of Verification and Compliance, World Military Expenditures and Arms Transfers 1999-2000. Middle East does not include North African states other than Egypt.

Figure 4.10

New Arms Agreements Are Dropping Faster than Deliveries 1988-2003

(Arms Agreements and Deliveries to the Developing World vs. Total Sales to the Middle East in $US Current Millions)

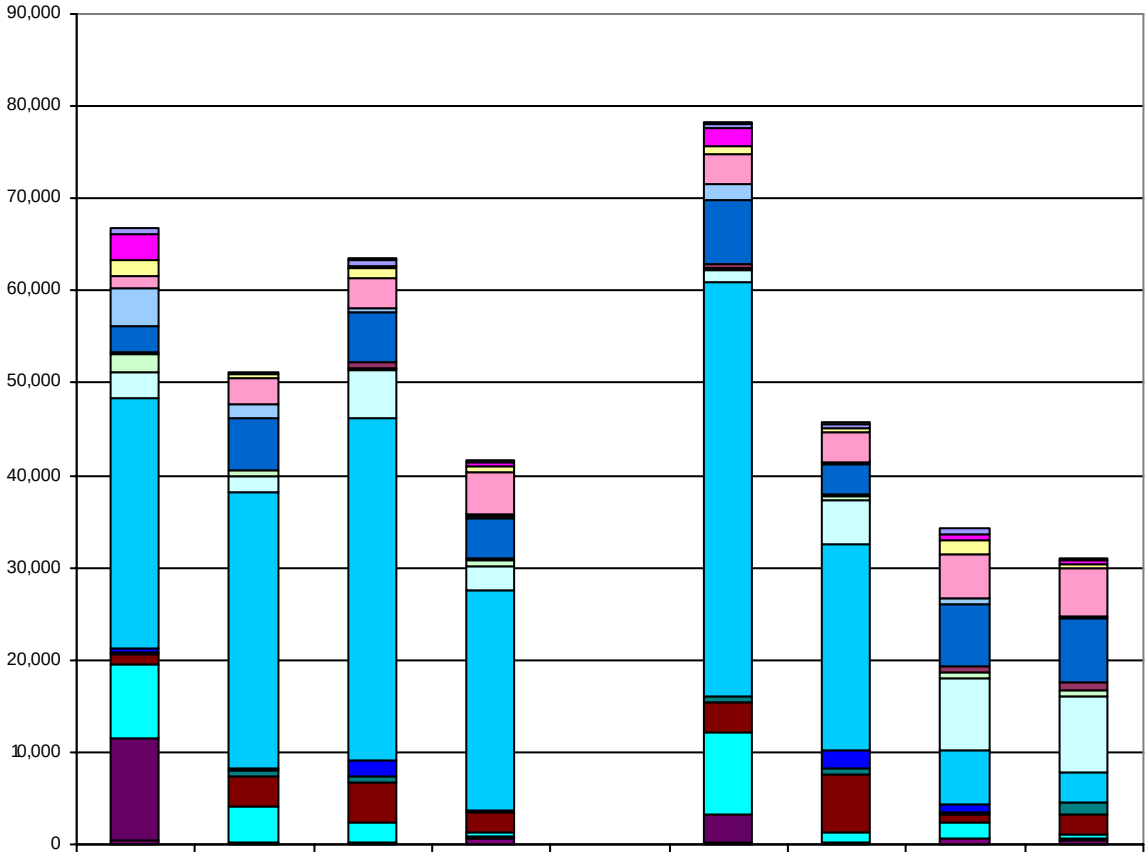


	Agreements 88-91	Agreements 92-95	Agreements 96-99	Agreements 00-03		Deliveries 88-91	Deliveries 92-95	Deliveries 96-99	Deliveries 00-03
Developing Nations	162,612	89,051	89,989	76,631		158,132	77,824	131,300	78,685
Near East	78,504	46,283	34,135	24,583		81,636	54,272	63,900	41,400

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

Figure 4.11

The "De-Capitalization" of Military Forces: Weapons Agreements and Deliveries by Country: 1988-2003
($US Current Billion)

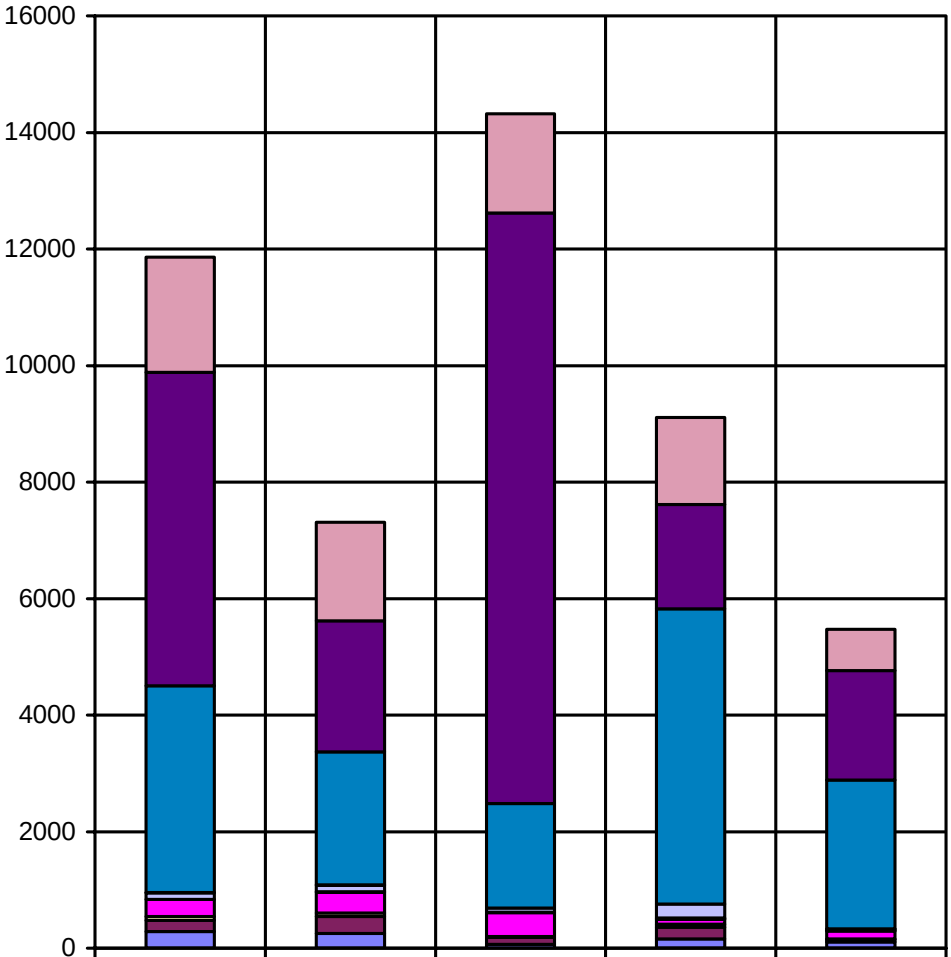


	88-91	92-95	96-99	00-03		88-91	92-95	96-99	00-03
		Deliveries					Agreements		
Tunisia	100	100	200	0		100	200	0	0
Morocco	600	200	600	300		500	500	600	100
Libya	2,900	0	200	400		2,000	0	700	500
Algeria	1,800	400	1,200	700		700	400	1,500	500
Israel	1,300	2,700	3,200	4,500		3,400	3,200	4,700	5,200
Lebanon	0	100	0	200		0	100	100	0
Syria	4,000	1,400	500	200		1,600	300	500	300
Egypt	2,900	5,700	5,400	4,400		7,000	3,200	6,800	6,800
Jordan	100	100	600	300		500	100	700	1,000
Yemen	2,100	500	200	600		100	500	700	600
UAE	2,700	1,800	5,100	2,600		1,400	4,800	7,600	8,100
Saudi Arabia	27,200	30,000	37,200	23,900		44,800	22,300	6,000	3,400
Qatar	300	100	1,800	0		0	2,000	800	0
Oman	200	800	600	100		700	600	300	1,200
Kuwait	1,200	3,100	4,400	2,100		3,300	6,200	900	2,200
Iran	7,900	3,900	2,000	600		8,800	1,200	1,700	500
Iraq	11,100	0	0	200		3,000	0	0	200
Bahrain	500	300	300	600		300	200	600	400

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

Figure 4.12

Total Middle Eastern Arms Deliveries by Major Weapon: 1985-1999



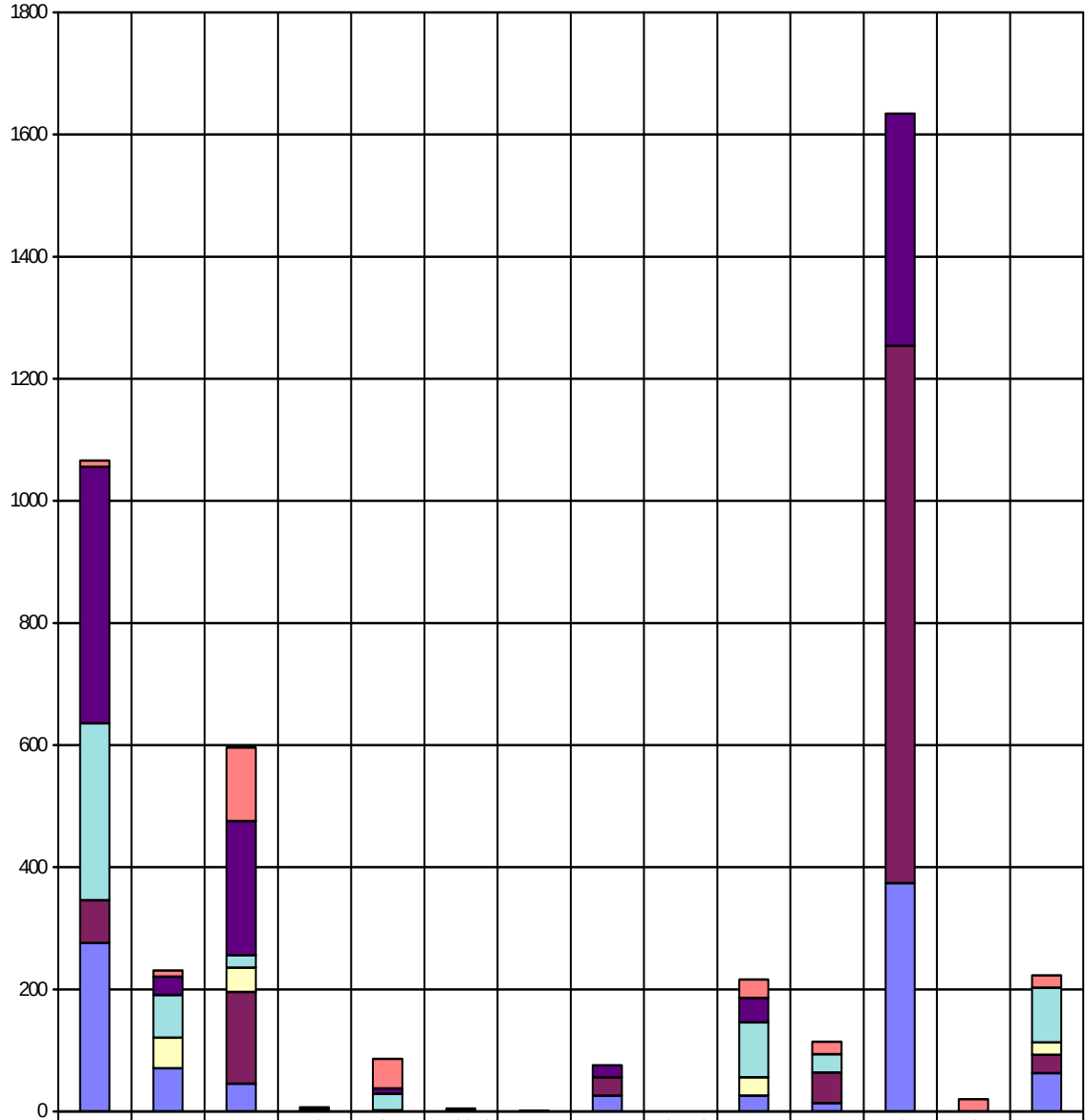
	1985-87	1988-90	1991-93	1994-96	1997-99
Tanks	1977	1694	1706	1496	714
Artillery & AA	5376	2245	10139	1790	1872
APCs/AFVs	3549	2285	1787	5067	2556
Major Surface Combatants	8	4	4	4	7
Other Surface Combatants	113	116	70	238	19
Missile Attack Boats	1	3	4	15	12
Submarines	3	1	2	1	3
Supersonic Combat Aircraft	288	358	414	92	133
Subsonic Combat Aircraft	70	60	10	50	10
Other Aircraft	192	293	121	202	41
Helicopters	283	253	66	156	107

Source: Adapted by Anthony H. Cordesman from Bureau of Arms Control in the US State Department (formerly ACDA), World Military Expenditures and Arms Transfers, various editions. Middle East does not include North African states other than Egypt

Figure 4.13

Transfers of New Weapons Are Still Substantial 2000-2003

(Numbers of New Weapons Delivered by Major Suppliers to Near East During 2000-2003)



	Tanks/SP Guns	Towed Artllery	APCs and OAFVs	Major Surface Combata	Minor Surface Combata	Guided Missile Boats	Submarines	Supersonic Combat	Subsonic Combat Aircraft	Other Aircraft	Helicopters:	Surface to Air Missiles	Surface to Surface	Anti-Ship Missiles
All Others	10	10	120	0	48	0	0	0	0	30	20	0	20	20
All Other Europe	420	30	220	1	9	0	0	20	0	40	0	380	0	0
Major W. Europe	290	70	20	4	27	4	1	0	0	90	30	0	0	90
China	0	50	40	0	0	1	0	0	0	30	0	0	0	20
Russia	70	0	150	0	0	0	0	30	0	0	50	880	0	30
US	276	71	46	2	2	0	0	26	0	26	14	374	0	63

+Includes Gulf states, Arab-Israeli states, North Africa, and Yemen
Source: Richard F. Grimmett, Conventional Arms Transfers to the Developing Nations, Congressional Research Service, various editions.

The Dynamics of Middle Eastern Manpower and Demographics

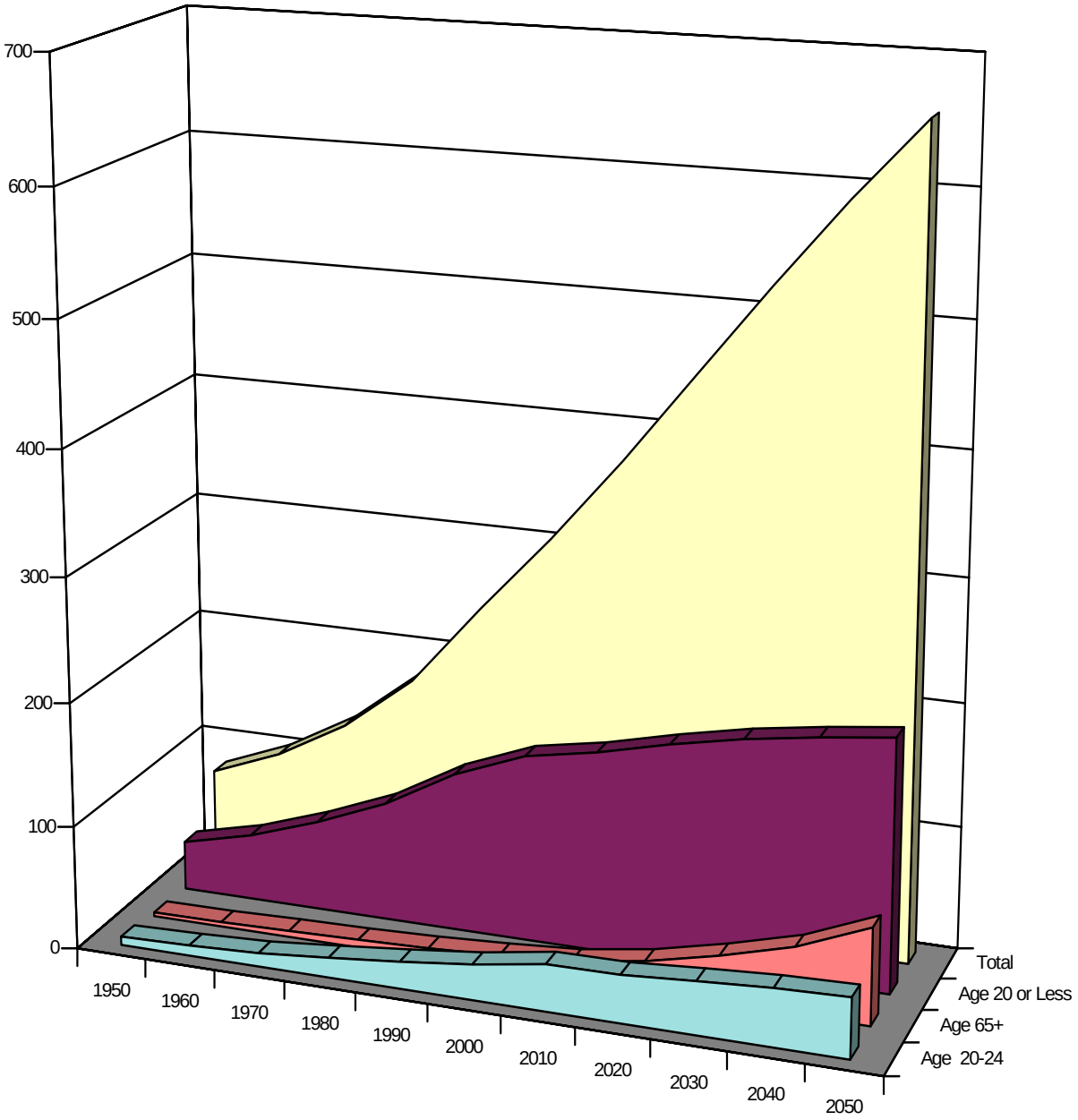
When most of the Middle Eastern states emerged as independent nations in the 1940s and 1950s, they have relatively small populations and a lack of military age manpower was a serious problem. **Figure 4.13,** however, shows that these days are long over. Rapid population manpower, and a lack of economic reform and diversification, have create a military manpower pool that most MENA states have no way to train and equipment, and where unemployment is so high that the resulting impact on internal stability has become a major security problem.

- **Figure 4.15** dramatizes these problems by showing the projected growth in both the number of youths entering the labor market and the burden placed on regional civil budgets by the growth of pension age men and women.
- **Figure 4.16** shows this population increase takes place in spite of projections of a major drop in the population growth rate. So far, such projections of a decline in the growth rate seem optimistic. Urbanization and the education of women are not producing the rate of decline that has occurred in the West and Asia.
- **Figures 4.17** and **4.18** show the projected increases in population by large and small country through 2050 and that sheer population momentum will ensure high growth for decades.
- **Figure 4.19** shows the comparative military demographics of the region by country. The growth in military age males in virtually every country – with the exception of Qatar and the UAE – has limited the ability of regional states to fund anything like the manpower pool now available.

Figure 4.14

Living in a Crowded Desert: Massive Ongoing Population Growth (MENA)

(UN Estimate - Population in Millions)



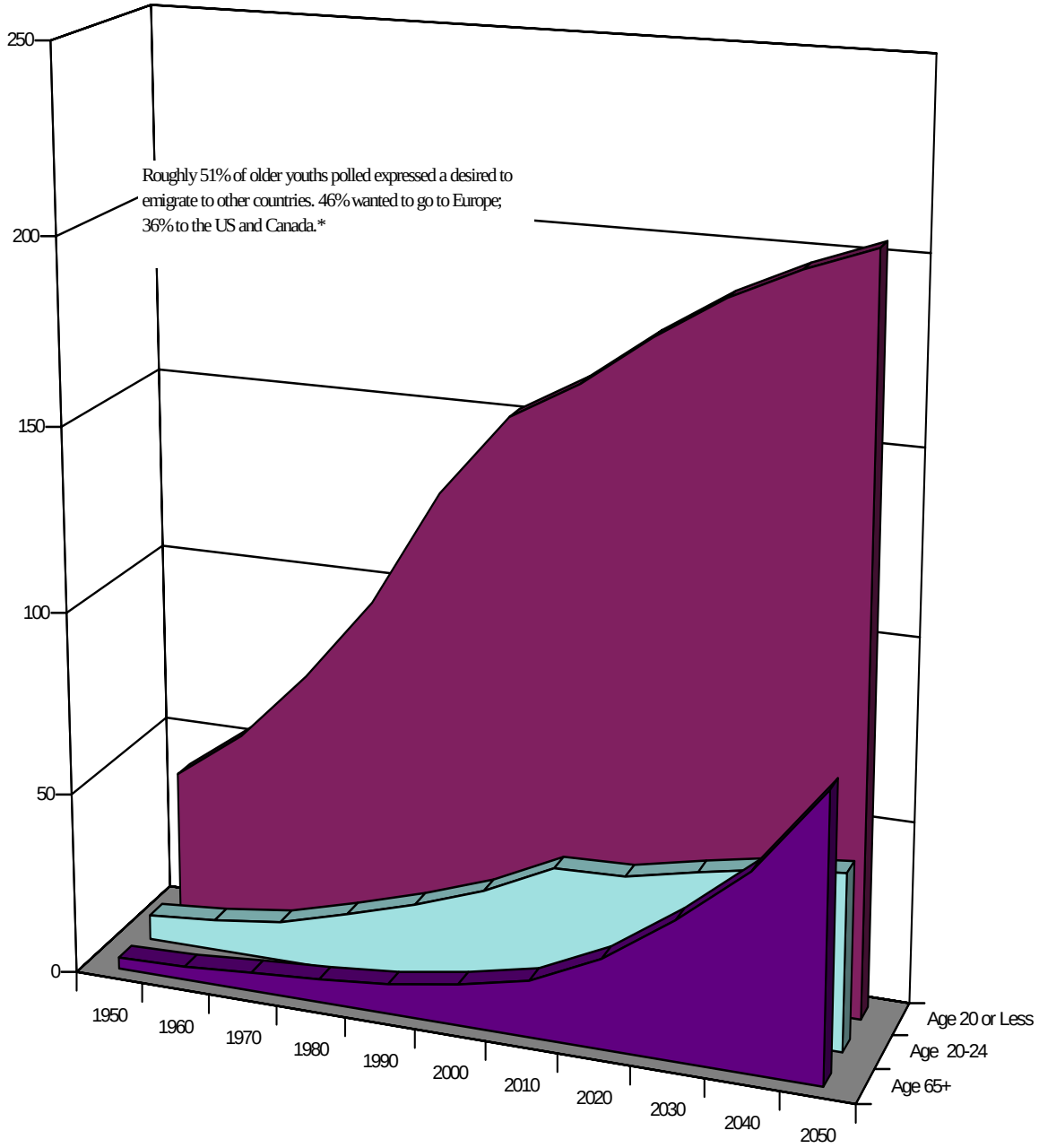
	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
Age 20-24	6.8	8.4	10.9	16.2	21.9	28.7	37.9	38.6	42.7	46.4	48.3
Age 65+	3.1	3.6	5.1	6.4	8.2	11.3	15.5	24.6	38	53.9	77.9
Age 20 or Less	39.9	53.6	73.1	96.2	128.4	151	161.7	175.7	187.6	196.5	203.6
Total	78.7	101.2	133	177.9	244.8	307.7	376.2	449.3	522.4	592.1	656.3

Source: Adapted by Anthony H. Cordesman from data provided by the US Census Bureau.

Figure 4.15

MENA Youth Explosion and the Pensioner Burden

(UN Estimate - Population in Millions)

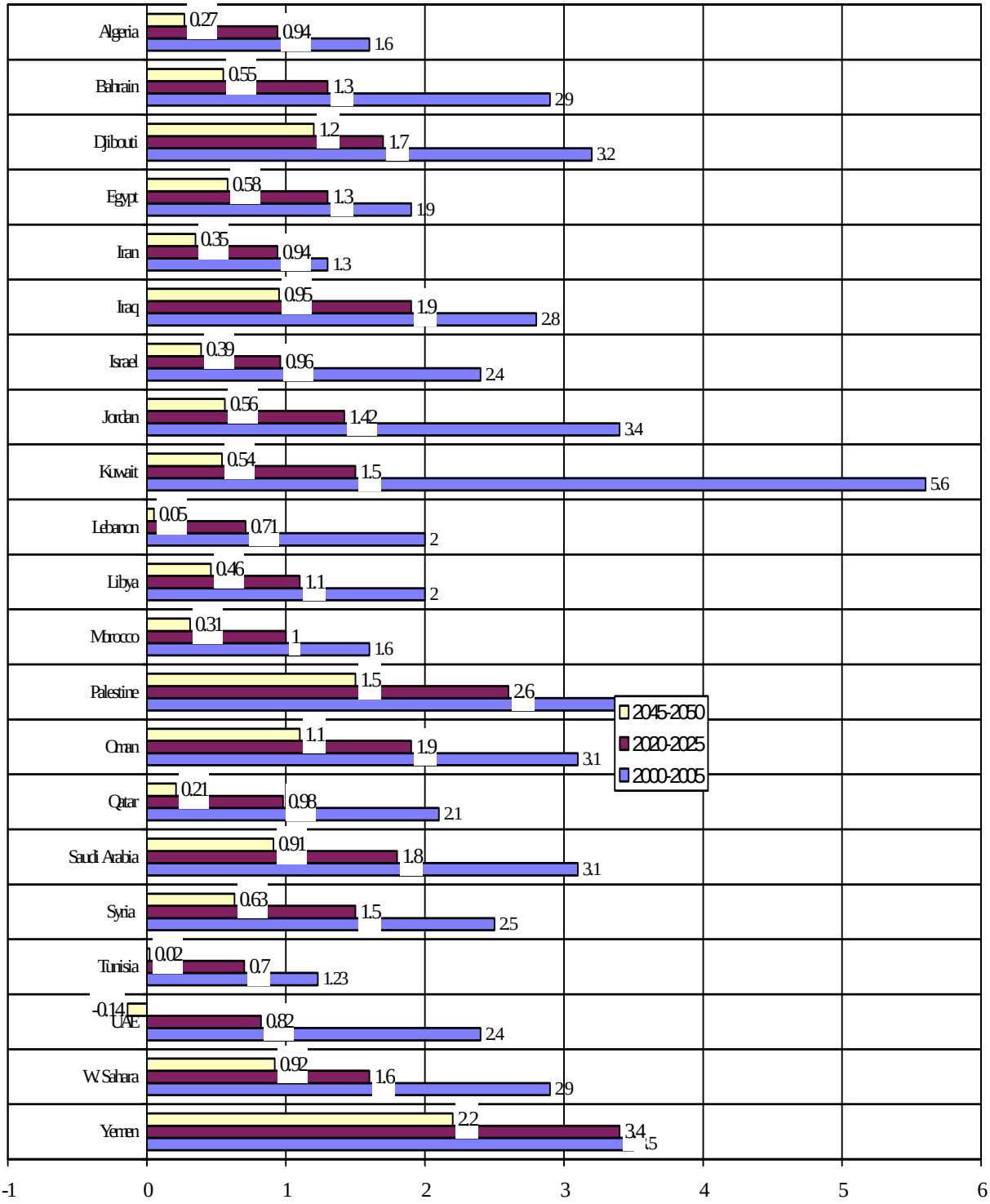


	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
Age 65+	3.1	3.6	5.1	6.4	8.2	11.3	15.5	24.6	38	53.9	77.9
Age 20-24	6.8	8.4	10.9	16.2	21.9	28.7	37.9	38.6	42.7	46.4	48.3
Age 20 or Less	39.9	53.6	73.1	96.2	128.4	151	161.7	175.7	187.6	196.5	203.6

Source: Adapted by Anthony H. Cordesman from data provided by the US Census Bureau. *From Arab Human Development Report, 2202, p. 30.

Figure 4.16

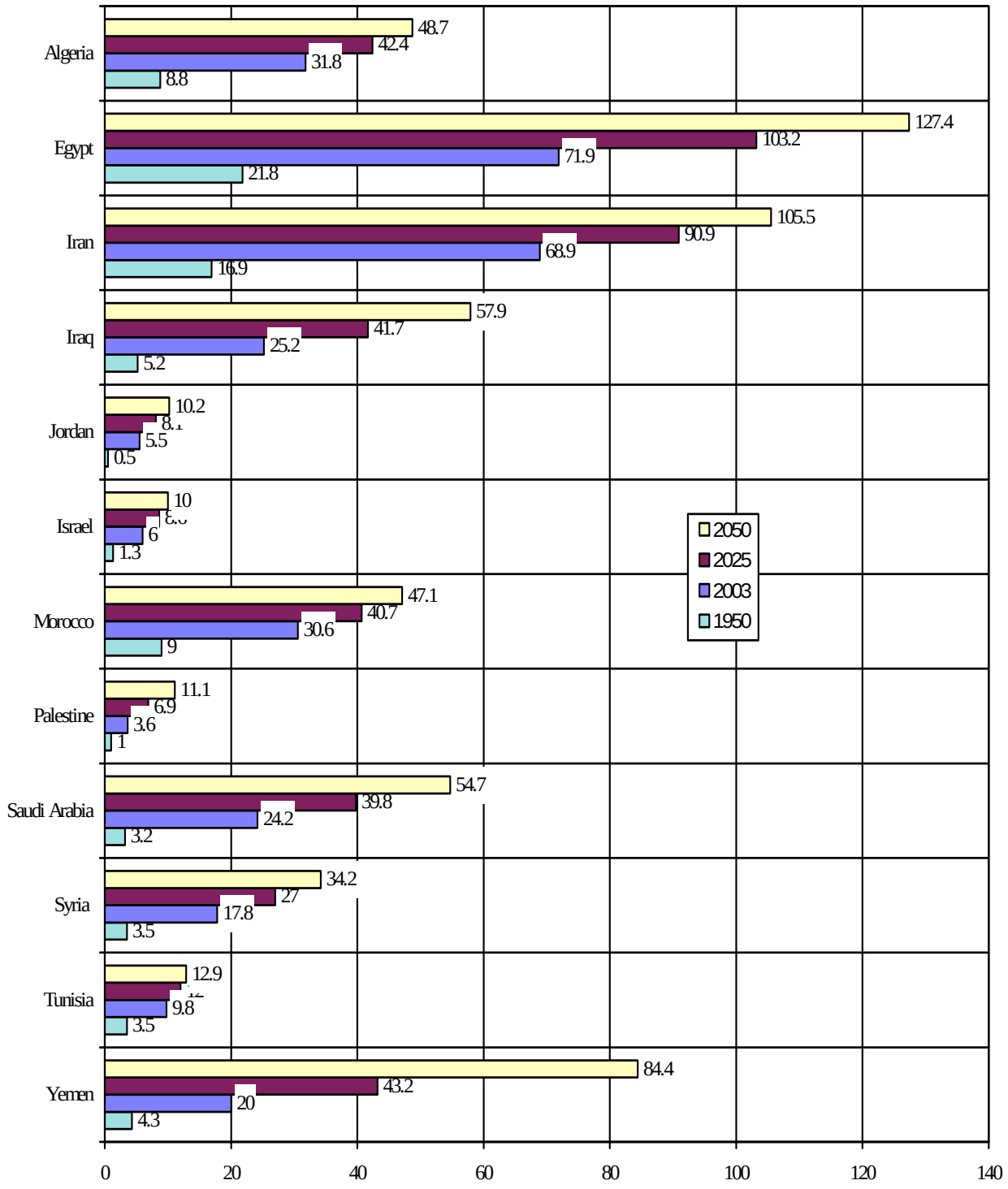
Population Growth Rates Are Projected to Decline



Source: Adapted by Anthony H. Cordesman from United Nations, World Population Prospects, The 2002 Revision, New York, United Nations, ESA/WP 180 February 26, 2003.

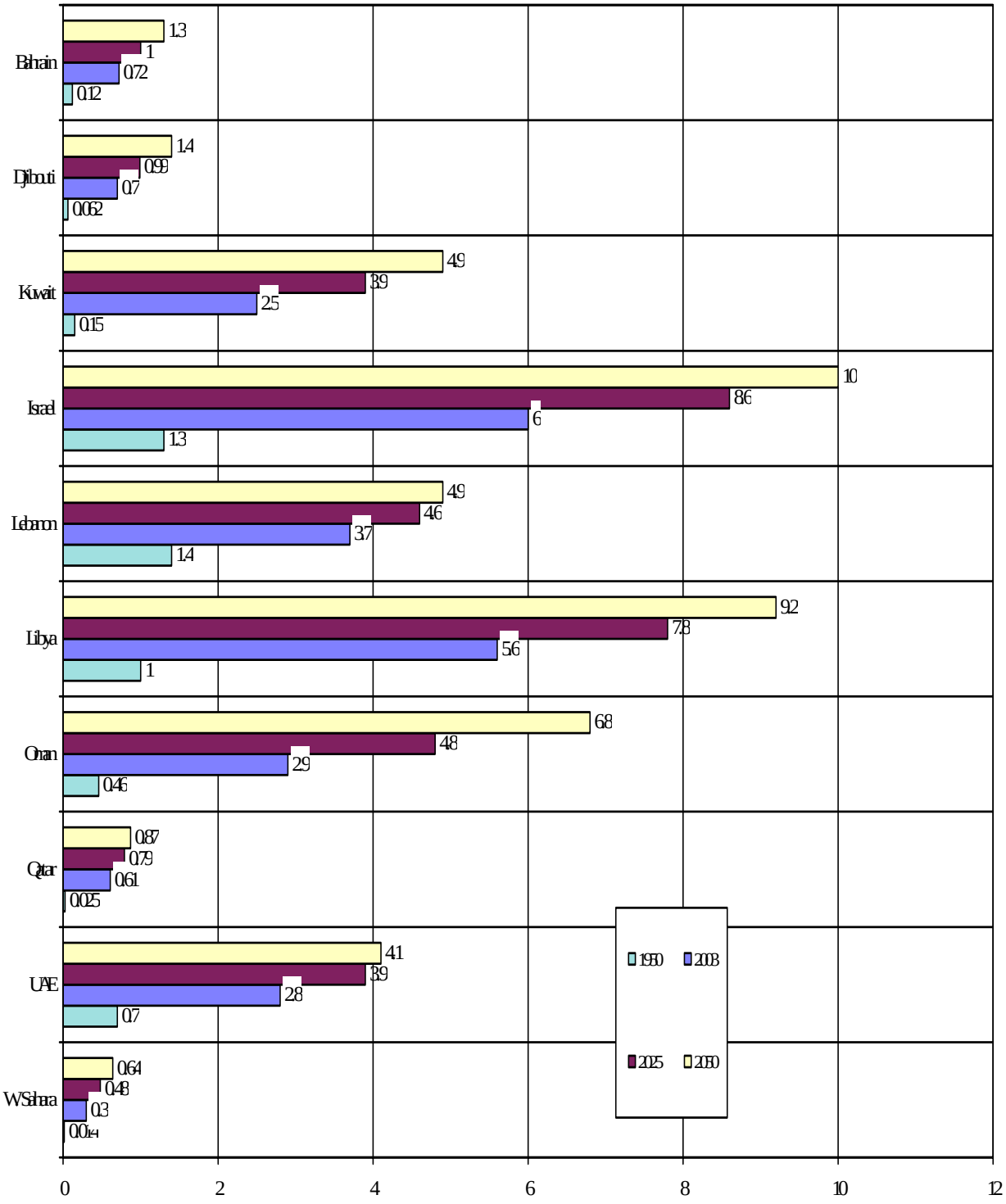
Figure 4.17

Population Momentum Continues: Total Population by Larger MENA Countries



Source: Adapted by Anthony H. Cordesman from United Nations, World Population Prospects, The 2002 Revision, New York, United Nations, ESA/WP 180 February 26, 2003.

Figure 4.18
Total Population by Smaller MENA Countries



Source: Adapted by Anthony H. Cordesman from United Nations, World Population Prospects, The 2002 Revision, New York, United Nations, ESA/WP 180 February 26, 2003.

Figure 4.19

The Military Demographics of the Greater Middle East

Country	Total Population	Males Reaching Military Age Each Year	Males between the Ages of 13 and 17	18 and 22	23 and 32	Males between 15 and 49 Total	Medically Fit
Egypt	70,993,000	743,305	3,707,000	3,313,000	5,150,000	19,030,030	12,867,160
Gaza	1,274,868*	-				-	-
Israel	6,296,000	51,080	284,000	272,000	535,000	1,542,835	1,279,277
Jordan	5,215,000	58,840	280,000	247,000	454,000	1,517,751	1,113,787
Lebanon	3,532,000	-	216,000	194,000	397,000	1,003,174	630,657
Palestinian	3,510,000*	-	163,000	140,000	233,000	-	-
Syria	16,986,000	210,941	1,076,000	883,000	1,274,000	4,550,496	2,629,148
West Bank	2,237,194*	-				-	-
Iran	72,499,000	870,711	4,735,000	3,960,000	5,959,000	18,868,571	12,094,551
Iraq	24, 027,000	292,930	1,472,000	1,270,000	1,899,000	6,135,847	3,541,467
Bahrain	721,000	6,126	35,000	26,000	40,000	222,572	121,739
Kuwait	2,082,000	18,885	124,000	107,000	148,000	812,059	508,399
Oman	2,719,000	29,485	163,000	140,000	233,000	780,292	428,326
Qatar	610,000	7,192	26,000	22,000	38,000	316,885	168,416
Saudi Arabia	21,397,000	253,685	1,391,000	1,177,000	1,725,000	6,007,635	3,431,281
UAE	2,852,000	26,636	87,000	87,000	143,000	773,938	416,963
Yemen	19,909,000	249,292	1,008,000	803,000	1,328,000	4,272,156	2,493,612
Algeria	32,242,000	412,545	1,986,000	1,834,000	2,962,000	9,016,048	5,646,418
Libya	5,398,000	61,511	387,000	320,000	492,000	1,503,647	914,649
Morocco	30,846,000	351,671	1,780,000	1,612,000	2,726,000	8,393,772	5,411,846
Tunisia	9,697,000	106,513	529,000	505,000	869,000	2,806,881	1,629,241
Chad	8,375,000	86,953	408,000	332,000	518,000	1,881,769	1,015,982
Mauritania	2,774,000	-	149,000	121,000	194,000	644,294	322,288
Western Sahara	261,794*	-	-	-	-	-	-
Afghanistan	22,336,000	275,223	1,499,000	1,194,000	2,053,000	6,896,623	3,837,646
Djibouti	632,000	-	42,000	35,000	57,000	110,221	63,459
Eritrea	3,837,000	-	252,000	210,000	320,000	-	-
Ethiopia	64,734,000	714,165	3,977,000	3,172,000	4,780,000	14,925,883	8,040,381
Somalia	9,234,000	-	626,000	511,000	726,000	1,881,634	1,072,689
Sudan	32,304,000	429,334	1,990,000	1,693,000	2,542,000	8,739,982	5,558,462
Turkey	68,652,000	679,882	3,264,000	3,251,000	6,242,000	19,219,177	11,801,267

Note: Totals include non-nationals, Total population, males reaching military age, and Males between 15 and 49 are generally CIA data, and the rest are IISS data. * Totals for Palestinians are IISS, totals for Gaza, the West Bank, and the Western Sahara are CIA.
Source: Adapted by Anthony H. Cordesman, CIA, World Factbook, 2002, 2004, IISS, The Military Balance, various editions.