
Weapons of Mass Destruction in the Middle East

While some Weapons of Mass Destruction (WMD) were presumed to have existed in the Middle East since the 1990s, concerns about their current and future proliferation have increased dramatically over the past few years. Several states in the Middle East are known or suspected to have accumulated chemical, biological, and, in the case of Israel, nuclear weapons. For example, the inventory of chemical agents in Iraq found by the United Nations Special Commission (UNSCOM) has astounded the international community. Three factors aggravated this general concern: first, the actual use by Iraq of chemical agents against the Kurdish population and possibly against the Iranian army, thus creating a precedent for the use of WMD; second, the active accumulation of WMD, including attempts to develop nuclear weapons, by three states that are considered to have destabilizing tendencies and that are clearly opposed to the current status quo in the Middle East—Iraq, Iran, and Libya; and finally, the strategic “dialogue” in the Middle East in which references to the possible use of WMD in various contexts have increased.

The introduction of long range surface-to-surface missiles (SSMs) into the Middle East has also created additional uncertainties in the strategic balances, thus complicating decision-making processes. On the one hand, such systems might encourage the possessors to make a first strike. On the other hand, in a situation of crisis, SSMs might provoke preemptive strikes by opponents fearing a first strike.

All these concerns have already stimulated various intellectual and political attempts to formulate and actually reach arms control agreements designed to limit current capabilities and prevent future proliferation of WMD in the Middle East.

This paper will analyze the current situation in the Middle East concerning weapons of mass destruction: the status of their inventories; the factors that determine their acquisition and deployment; the strategies that presumably define their use; and possibilities of arms control and confidence-building measures that could be applied to them.

The Changing Strategic Environment

Definitions of the geographic delineation of the Middle East vary considerably. For the purposes of this paper, the Middle East is defined narrowly as what used to be called the “heart” or “core” of the Middle East, viz., Egypt, the Fertile Crescent countries (Syria, Lebanon, Jordan, Israel, and Iraq), plus Libya. Iraq could be defined as belonging to both the Core and the Gulf region. Indeed, it is virtually impossible to avoid some discussion of the Gulf countries, since they continuously interact with the Middle East as defined here. Political and military conflicts and arms

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**Weapons of Mass Destruction
in the Middle East**

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Pragmatic steps toward ideal objectives



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Contents

Preface	iii
About the Author	vi
List of Abbreviations	vii
Weapons of Mass Destruction in the Middle East	1
The Changing Strategic Environment	1
The Arms Build-Up and Defense Expenditures	4
Current WMD Capabilities, Threat Perceptions, and Strategic Postures	5
Israel	6
Egypt	11
Syria	15
Iraq	19
Stability of the Current Strategic Balance	22
The Middle East Situation	23
Possible Effects of Nuclear Proliferation in the Middle East	25
Conditions for WMD Arms Control in the Middle East	30
Political Conditions	30
Security Architecture	31
International Developments	31
Verification	31
Israel	32
Arab States	37
Cut-Off of Production of Fissile Materials	40
Confidence Building Measures (CBMS)	41
Successful continuation of WMD controls in Iraq and Iran	41
No-first-use declaration of WMD	41
No political use	42
Arab-Israeli security discussions	42
Conclusion	43

Preface

In recent years, international concern about the proliferation of weapons of mass destruction (WMD) in the Middle East has increased significantly. The actual use of chemical agents by Iraq, the active accumulation of WMD by Iran, Iraq, and Libya, and the introduction of long range surface-to-surface missiles (SSMS) into the region have leant greater urgency to regional and international initiatives to achieve effective arms control measures. Yet, the prospects for creating the political conditions necessary to achieve such agreements, let alone the complete elimination of WMD in the region, remain very uncertain.

In his study, “Weapons of Mass Destruction in the Middle East,” Yair Evron analyzes the forces driving proliferation in the region as well as the prospects for preventing or reversing the spread of WMD. For the purposes of this paper, the Middle East is defined narrowly as what used to be called the “heart” or “core” of the Middle East, viz., Egypt, the Fertile Crescent countries (Syria, Lebanon, Jordan, Israel, and Iraq), plus Libya. Evron begins by noting that the Arab-Israeli peace process, the decline of Pan Arabism, and the increasing role and influence of the United States in the region have altered the political and security contexts in the region profoundly, creating the potential for greater stability in the region that could, over time, help to diminish the insecurities driving the process of arms accumulation in the region. Other economic, social, and political trends, however, are less favorable to arms control efforts. Economic and demographic trends are likely to diminish prospects for development in the non-oil producing and more populous states in the region, while militant Islam and other domestic processes could weaken governments and possibly lead to armed conflict between or among states in the region. Under these conditions, Evron observes, “. . .the salience and visibility of [WMDs in the region] have increased dramatically in the past decade.”

Regional trends in the acquisition of WMD reflect these dual pressures. Although political developments over the past two decades have enhanced the security of moderate and pro-Western states, concern about the role of WMD and SSMS in the region persists. Among the developments Evron notes:

- Despite its official policy of ambiguity, Israel is widely believed to possess a nuclear weapons capability, developed as a deterrent against major security threats; the perceived threat of Israel’s suspected nuclear program, along with its conventional military capabilities, in turn affect the calculations of Arab states regarding the need for, and utility of, WMD.
- Egypt has nuclear technology, although no nuclear weapons program, and previously had a chemical weapons capability. But Egypt’s past abstinence from nuclear weapons was due to limited resources and a decision to focus more on building a conventional capability. Egyptian leaders remain concerned about Israel’s suspected nuclear program and the possibility that another country, possibly a rival, will develop nuclear weapons.
- Syria, engaged in serious conflict with Israel over ownership of the Golan Heights and suspicious of Iraqi and Turkish intentions, has threatened to use force over the Golan Heights

- issue and has invested largely in developing SSMS. It is reportedly producing chemical warheads and possibly biological warheads for its SSMS.
- By late 1990, Iraq had amassed arsenals of conventional, chemical, and biological arms and had developed an extensive nuclear infrastructure. Despite the concerted efforts of the international community to eliminate Iraq's WMD arsenals, many observers believe that Iraq retains hidden capabilities.
 - Libya, which has engaged in past military provocations with Egypt, has SSMS and is considered to have chemical weapons.

Curbing the pressures for proliferation and rolling back existing programs will require significant political changes in the region, Evron concludes. Political relationships in the Middle East and in the Persian Gulf will influence decisively the prospects for effective arms control measures, as will the policies of external players, first and foremost the United States. A breakdown in the Arab–Israeli peace process or spread of WMD throughout the Persian Gulf would undermine political and strategic stability in the Middle East, and diminish the chances for a comprehensive arms control regime encompassing the Core Middle Eastern countries (Egypt, Syria, Lebanon, Jordan, Israel) and the Gulf countries. Other important factors affecting the prospects for WMD arms control include the willingness of suppliers to participate in arms control regimes, and the viability of verification measures.

In addition, Israel is unlikely to move toward controls on, or elimination of, its nuclear capability unless it concludes that Israeli security is not seriously threatened. And Israel is unlikely to feel secure unless basic political conditions in the region change. From the Israeli perspective, formal peace with the Middle Eastern countries, and the creation of effective alternative security instruments to insure against a reversal of improving political relations, would also be necessary before a process of nuclear arms control could commence.

Under current political and strategic conditions, Evron advises small steps. A cut-off of fissile material production, he notes, “could ultimately become one of the likely topics around which initial steps towards limits on WMD could evolve.” Other partial steps that could be taken in the interim to move the Middle East toward a WMD arms control regime include “no-first-use” and “no political use” declarations, and Arab–Israeli security discussions.

This case study is the third in a series that examines the role of weapons of mass destruction in regional politics and security. Using a common framework of analysis, these regional studies seek to assess the utility of WMD from the perspective of the states in the regions and determine the obstacles to pursuing policies aimed at eliminating mass destruction weapons. The studies are authored by experts with extensive understanding of non-proliferation issues and, importantly, of the domestic and regional politics of the countries under review. Other studies in this series examine the regions of the Persian Gulf and Northeast Asia.

This series is part of the Henry L. Stimson Center's Project on Eliminating Weapons of Mass Destruction, which seeks to encourage a national and international debate on the long-term nuclear

future. The project is based on the premise that the end of the Cold War, dissolution of the Soviet Union, and grave dangers of proliferation provide both reason and opportunity to reexamine fundamental assumptions regarding the relative benefits and risks associated with weapons of mass destruction. Through research and public education efforts, the Center seeks to explore the obstacles to, and implications of, the progressive elimination of all nuclear, chemical, and biological weapons from all states, and to consider measures that might bring all states closer toward that goal. A central focus of the project's research efforts are evolving national and international perceptions of the benefits, costs, and risks associated with weapons of mass destruction. Understanding the motivations for proliferation in the post-Cold War environment is essential to this task.

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His main publications include: *The Middle East: Nations, Superpowers and War* (Praeger, 1973); (ed.) *International Violence* (Jerusalem: 1977); *The Role of Arms Control in the Middle East* (Adelphi Paper, IISS, 1977); *War and Intervention in Lebanon: The Israeli-Syrian Deterrence Dialogue* (Croom Helm and Johns Hopkins University Press, 1987); *Israel's Nuclear Dilemma* (Routledge and Cornell University Press, 1994); *Confidence and Security Building Measures in the Middle East* (In Hebrew) (Tel-Aviv University, 1995).

List of Abbreviations

ACRS	Arms Control and Regional Security Committee
C3I	Intelligence command and control systems
CBM	Confidence Building Measure
CBW	Chemical and Biological Weapons
CSBM	Confidence and Security Building Measure
CWC	Chemical Weapons Convention
EMIS	Electromagnetic Isotope Separation Technology
GCC	Gulf Cooperation Council
GNP	Gross National Product
IAEA	International Atomic Energy Agency
MENWFZ	Middle East Nuclear-Weapon-Free Zone
WMDfZ	Weapons of Mass Destruction Free Zone
MW	Mega Watt
NPT	Nuclear Non-Proliferation Treaty
NFU	No-first-use
NNWS	Non-nuclear weapon states
NWFZ	Nuclear-Weapon-Free Zone
SSM	Surface-to-surface missile
UNSCOM	United Nations Special Commission
USSR	Soviet Union
WMD	Weapons of Mass Destruction
WMDfZ	Weapons of Mass Destruction Free Zone

ances in one region strongly impact the other.¹ This is the case regarding WMD. Since the security behavior of Gulf countries (including Iraq) is analyzed in another paper,² I shall address their capabilities and military postures only as they influence the formulation of the Core states' military postures. Acquisition of WMD and SSMS, and the threat perceptions they create can be considered only within the overall political and strategic context of interstate relations. Moreover, discussion of WMDs should take into account developments in conventional forces and conventional balances.

The past decade and a half has witnessed major changes in the Middle East and in the Gulf area:³ the Israeli–Egyptian peace treaty of 1979; the Iran–Iraq war and its termination; the collapse of the Soviet Union (USSR) and its (and Russia's) declining position in the Middle East; the Gulf crisis and the Second Gulf War (1990–1991); and finally the current Arab–Israeli peace process. Consequently, political and security contexts have been modified profoundly. While specific events during this period had an escalating impact on military postures and arms accumulation (the Iran–Iraqi war, for example, set in motion a huge new spiral of arms acquisitions throughout the 1980s), overall, these changes have created the potential for greater stability in the region, which in turn might have a restraining effect on the process of arms accumulation in the Middle East.

But it would be misleading to ignore other general developments that might have the potential to cause greater regional instability. First, economic and demographic trends indicate diminishing prospects for economic and social development in the non-oil producing and more populous states in the region. Thus, for example, compared with rapidly increasing rates of Gross National Product (GNP) per capita growth in the 1970s, most of the 1980s and 1990s have been characterized by a declining GNP per capita, due largely to diminishing oil revenues coupled with continued rapid population growth. Compounding the problem was the inability of all the Arab states (including the oil-rich countries) to develop solid economic infrastructures during the boom periods, which would have enabled them to overcome the problems of population growth and the shortfall in oil revenues. Rampant unemployment, yoked to falling GNP per capita, could threaten the stability of regimes, societies, and states.

¹ For various descriptions and analyses of the process of arms build-up throughout the whole Middle East, see, *The Middle East Military Balance* (Tel Aviv University, annual), and *The Military Balance* (IISS London, annual). Many studies of inter-state relations in the Middle East refer to the continued competition for political influence in the region between Egypt and Iraq from the 1940s on, with Saudi Arabia trying independently to develop an alliance to oppose Nasserist Egypt. The connections between the Gulf and the Core are also reflected in the aid that Arab countries from the Gulf extended to Arab states during periods of war and severe crisis with Israel. Finally, the 1990 Kuwait crisis and the 1991 Second Gulf War demonstrated yet again the various links between the Gulf and the Core.

² See Sharam Chubin, *Eliminating Weapons of Mass Destruction: The Persian Gulf Case* (Washington D.C.: The Henry L. Stimson Center, Occasional Paper No. 33, March 1997).

³ For an analysis of the changing “rules of the game” of the Middle East state system and the effects of the end of the Cold War and competitive bipolarity on the Middle East, see, Yair Evron, “Gulf Crisis and War: Regional Rules of the Game and Policy and Theoretical Implications,” *Security Studies* 4, no. 1 (Autumn 1994): 115–152.

Second, both militant Islam and other domestic processes might destabilize regimes and possibly spill over into interstate relations. The well-known phenomenon of militant Islamic fundamentalism, though possibly on the decline, still causes havoc in some countries (Algeria), places constant pressure on other regimes (Egypt), and is used by Iran to export terrorism. Additionally, some Middle Eastern states are driven by other social cleavages. The level of conflict and instability outside the traditional zone of the Arab–Israeli conflict is high, and there is a marked difference between stabilizing tendencies within the Arab–Israeli arena and continued instability in other parts of the Middle East. Despite the relative stability of Arab–Israeli relations, the current government in Israel is so half-hearted about the peace process that instability in the Core might yet increase. Finally, the continued introduction of long range SSMS into different countries of the Middle East and the Gulf, notably Iran, Iraq, and Libya, heightens the potential for armed conflict between them and states in the Core, especially Israel.

One of the major factors affecting the regional security structure has been the transformation in superpower relations. With the declining Soviet and later Russian position in the region, Syria lost its strategic patron, whereas Egypt and Israel, oriented toward the United States, could continue to rely on American political and strategic support. Indeed, the Gulf crisis and war demonstrated the significant change in the relative positions of the United States and the Soviet Union, and later Russia, in this region. This shift in the relative influence of the two states undoubtedly helped set in motion the peace process that formally began in Madrid in late 1991.

The peace process itself has further affected the security context. On the one hand, the increased likelihood of peace strengthens trends toward reduction in arms and in defense budgets, or at least their maintenance at current levels. Moreover, with economic pressures building up throughout the region, societies and leaderships are less willing to spend on defense. On the other hand, strong pressures persist to maintain and even increase existing military capabilities. If the peace process is successful, territorial concessions by Israel to Syria could force Israel to acquire additional military assets and capabilities as alternatives to lost strategic territorial positions. The peace process by itself will not alter the Arab states' perception of potential threats emanating from other quarters apart from Israel. Thus, for example, Syria still has to take into account potential conflicts with Iraq and Turkey, as well as its involvement in Lebanon, in focusing its military attention and allocating capabilities.

The Second Gulf War demonstrated the intricate relationships between Iraq and the other Core countries. Iraqi ambitions were perceived (justifiably) by Egypt and Syria as endangering the political status quo throughout the Arab world and the Middle East, and consequently they joined the international coalition and encouraged and legitimized American intervention. Iraq, for its part, tried to utilize the Arab–Israeli conflict, as well as general Arab grievances, in its political campaign for dominance in the region. Most importantly, by launching SSM strikes against Israel, Iraq demonstrated the potency of such weapons and the strategic link between the Gulf and the Middle East. Furthermore, Iranian attempts to enhance its influence in parts of the Middle East, using terrorism as an important instrument, coupled with its desire to acquire a nuclear weapon capability, also demonstrate that in some respects the Gulf and the Core are connected.

The Arms Build-Up and Defense Expenditures

Developments in the late 1980s and in the 1990s have reinforced the security of the moderate and pro-Western states in the region and allowed for a slowdown in the building of military capabilities. At the same time, there have been sporadic spurts of arms accumulations and continued modernization of arms, and there is persistent concern about the role of WMD and SSMS in the region.

Egypt began a process of cuts in its defense budget in the mid-1970s,⁴ signifying that it already viewed its conflict with Israel as amenable to diplomatic compromise. During the 1980s, however, its defense allocations rose again, to a large extent due to transfers of American weapons. Since the early 1990s, Egypt has been gradually reducing its defense budget, but it continues to modernize its military capabilities, mainly through the transfer of American arms based on grants and drawdowns from American stocks in Europe.

The growth in Israeli defense expenditures began to slow by the late 1970s to the early 1980s, and then maintained a plateau. This process resulted from changes in threat perceptions, in particular the peace treaty with Egypt, which enabled Israel to downscale the forces earmarked for its southwestern front. An additional factor was the Iran–Iraq war, which virtually guaranteed that conflict on Israel’s Eastern Front would not become a reality. Israeli concerns about Iraq’s military power, which reemerged in 1988 following the end of the First Gulf War, were laid to rest with the destruction of much of the Iraqi military power in the Second Gulf War. Since then, the absolute size of Israel’s defense budget has increased only moderately, but its proportion in the country’s fast-growing GNP actually fell. Thus, in the mid-1970s Israel’s defense budget (including American aid) constituted approximately 25 to 30 percent of GNP; by 1994 defense expenditures consumed only about 11 percent of GNP (including American aid).⁵

Syria continued its accelerated military build-up in the 1970s and 1980s.⁶ This policy emanated from its feeling of isolation vis-à-vis Israel since the visit of Egyptian leader Anwar Sadat to Jerusalem in 1977, and coupled with the effects of the Lebanon War of 1982, when it had to face

⁴ For details of defense budgets in the Middle East, see *The Military Balance* and *The Middle East Military Balance*. For a study emphasizing the restraints on the military build-up throughout the Middle East, see Aaron Karp, “The Demise of the Middle East Arms Race,” *The Washington Quarterly* 18, no 4 (Autumn 1995): 29–51. See also Yair Evron, “Economic Factors in the Middle East Peace Process” (unpublished manuscript, December 1995).

⁵ See *Statistical Abstract of Israel 1995*, Central Bureau of Statistics, Israel, 1995.

⁶ See *The Military Balance* and *The Middle East Military Balance*. For details about Syrian defense budgets, see Arms Control and Disarmament Agency, *World Military Expenditures and Arms Transfers* (Washington D.C.: ACDA), 1985 & 1990. From 1982 to 1985, Syrian defense budgets consumed approximately 20.5% of GDP. During 1986–89 they consumed only 12.4 percent of GDP. Syrian defense budgets rose again in the early 1990s and remained at the level reached in 1987. See *SIPRI Yearbook*, 1995.

Israel's superior military might on its own. By the late 1980s, however, Syria was suffering from declining economic resources and found it increasingly difficult to sustain its military build-up; in addition, with the Soviet retreat from active strategic involvement in the Middle East, Damascus lost a major source of military aid. As a result, Syrian defense budgets diminished in absolute terms. Syria's ability to modernize its armed forces was partly sustained through a generous Saudi grant of \$1.5 billion following the Second Gulf War. This funding was sufficient enough to upgrade part of Syria's armor and artillery, but stopped short of modernization of its air force and air defense assets.

Jordan continues to pursue a strategy of inferiority and, though maintaining an efficient military machine, lacks the capability to compete with any of the regional powers.⁷ In addition, because of major economic problems resulting from the Second Gulf War, Jordan began reducing its ground forces in the 1990s.⁸

By late 1990, Iraq had amassed arsenals of conventional, chemical, and biological arms and had developed an extensive nuclear infrastructure. Despite the concerted efforts of the international community to eliminate Iraq's WMD arsenals, many observers believe that Iraq retains hidden capabilities.

Arms build-up efforts in the region can be attributed, in part, to the experience of the Second Gulf War. Led by Saudi Arabia, the Gulf countries placed large-scale orders for state-of-the-art military equipment. The United States (and in the case of Israel, Germany as well) extended generous military aid to Israel and Egypt. Syria and Egypt in turn received large grants from the Gulf countries, which were earmarked primarily for the purchase of new armaments. Iraq's use of SSMS against Israel prompted the latter to invest in new capabilities designed to limit the damage that could be inflicted by enemies from afar. Finally, the performance of the American forces enormously impressed the military establishments of all the regional states. Many of them sought new arms as a way to emulate the American performance. The Core countries continue to modernize their military capabilities, however, and to maintain very large armies. Nevertheless, overall defense expenditures in the Core countries reached a plateau in the early 1990s and currently approximate the level of the mid-1980s.

Current WMD Capabilities, Threat Perceptions, and Strategic Postures

Regional states have been developing different types of WMD for many years, but the salience and visibility of these arms have increased dramatically in the past decade. Concern about their

⁷ See *The Military Balance* and *The Middle East Military Balance*.

⁸ The main step was to demobilize the Popular Army, which served as a militia and in any case was not trusted politically.

possible use was paramount during the Second Gulf War and anxieties about possible future use of WMD is widespread. In the following section the WMD capabilities, perceptions about their possible use, and the extent to which they fit into states' strategies, are analyzed. Since Jordan and Lebanon are not assumed to have any such capabilities, they are not discussed. Iran's and Iraq's capabilities, in the past, currently, and plans for the future, deserve considerable discussion, but as they are discussed extensively in Sharam Chubin's work on WMD in the Gulf, they are referred to here only briefly.⁹

Israel

Since its birth, Israel perceived its security as being considerably threatened by all its neighbors. Security concerns therefore, have always had a priority in Israel's decisionmakers' considerations. These concerns led to the Israeli decision to develop a nuclear infrastructure. At the same time, Israel is extremely concerned about the proliferation of WMD among its neighbors, especially those with which it does not have peaceful relations. Israel's nuclear posture, strategy, and threat perceptions are analyzed below.

WMD Capabilities

There is an international consensus that Israel has achieved a nuclear weapon capability. Estimates of that capability vary widely, but as long as Israel sustains an ambiguous nuclear posture, it is virtually impossible to substantiate any of these estimates. The following discussion is based exclusively on the international literature and not on any personal knowledge. Following the disclosure by former Israeli technician Mordechai Vanunu,¹⁰ it has been assessed by many international observers that Israel's nuclear arsenal contains between 100 and 200 warheads. Other estimates suggest a lower figure. According to the Vanunu/Barnaby account, Israel's Dimona reactor was able to produce approximately 40 kg of plutonium 239 a year. The reactor became critical in 1964. Various international reports have also suggested that Israel succeeded in designing nuclear warheads for its SSMs, particularly its Jericho missiles.¹¹

States may be motivated to arm themselves with nuclear weapons by four main incentives: security concerns; international or regional prestige and status; organizational lobbying and pressures, either by the military-scientific community or by other security agencies; and domestic political considerations.¹² Security concerns, which are based on threat perceptions, are widely

⁹ See Sharam Chubin's, "Elimination of Weapons of Mass Destruction: The Persian Gulf Case," *International Studies*, Washington, D.C., November 1995.

¹⁰ On the basis of the accounts made by Mordechai Vanunu, an ex-Israeli technician at the Dimona reactor, Frank Barnaby made several estimates of Israel's capability. See his *The Invisible Bomb: The Nuclear Arms Race in the Middle East* (London: I.B. Taurus, 1989).

¹¹ See *ibid*; See also Leonard Spector, *Nuclear Ambitions* (Boulder, Colorado: Westview Press, 1990).

¹² For analyses of states' decisions to develop a nuclear weapon capability, see, the various contributions to Regina Cowen Karp, ed., *Security with Nuclear Weapons? Different Perspectives on National Security* (Oxford: Oxford University Press, 1991); and *idem*, ed., *Security Without Nuclear Weapons: Different Perspectives on Non-Nuclear Security* (Oxford: Oxford University Press, 1992).

considered the most important factor. Decision-making elites embark on the nuclear path primarily as a way to balance major security threats that their states face. The other three motivations may reinforce this. In the Israeli case, the decision, taken in 1957, to develop an infrastructure for the eventual acquisition of a nuclear option was motivated exclusively by security concerns.¹³ The probable Israeli decision to exercise the nuclear option, which some observers suggest took place during the late 1960s, was again the result of security considerations. By then, the dynamics of the research and development effort, combined with organizational pressures originating in parts of the defense establishment and in the scientific community involved in developing the option, likely played a supplementary role in the decision as well.¹⁴

A brief account of the Israeli decision is relevant here. An interest in acquiring atomic weapons was apparently expressed by David Ben-Gurion, Israel's Prime Minister, in the early 1950s. The first Israeli initiatives vis-à-vis France in that respect were taken as early as 1955–56. It was only after the Sinai Campaign of 1956, partly motivated by the political and strategic lessons that it gleaned from that war, that Israel pushed ahead with its nuclear activity and signed an agreement with France for the purchase of a nuclear reactor. Eventually Israel adopted a strategy of ambiguity with regard to its program, which helped it in lowering American and international opposition to its nuclear effort.¹⁵

The strategy of ambiguity was neither calculated nor premeditated; it emerged as a result of certain opposing pressures. Internal debates within the decision-making elite about the desirability of the whole effort, coupled with strong American pressures, combined to lead Israel to adopt a mute strategy of deniability. This strategy allowed Israel to pursue its nuclear effort with only limited international, notably American, opposition. Furthermore, the strategy of ambiguity also dampened Arab opposition and concern for a lengthy period and weakened the motivation of various Arab states to try and develop their own nuclear capabilities.

The ambiguity surrounding Israel's nuclear capability has eroded over the years, however, as a result of continued references in international literature to Israel's assumed capability. Nevertheless, it still has considerable relevance in three senses. First, it enables the United States to maintain a moderate position vis-à-vis the Israeli capability both politically and legally; viz. if

¹³ For some accounts of the Israeli decisions on the nuclear issue, see Peter Pry, *Israel's Nuclear Arsenal* (Boulder, CO., and London: Westview and Croom Helm, 1984); Michael Bar Zohar, *Ben Gurion* (Tel-Aviv: Am Oved, 1977) (in Hebrew); Yair Evron, *Israel's Nuclear Dilemma* (Ithaca: Cornell University Press, 1994).

¹⁴ Further details on the Israeli nuclear effort are included in Leonard Spector, *Nuclear Ambitions* and *idem*, *The Undeclared Bomb* (Cambridge, Mass: Ballinger, 1988). The reference in the text to an Israeli decision to exercise the option is based exclusively on international sources and not on personal knowledge.

¹⁵ On the American–Israeli contacts regarding Dimona, see Avner Cohen, “Israel's Nuclear History: The Untold Kennedy–Eshkol Dimona Correspondence,” *The Journal of Israeli History* 16, no. 2, 1995, and Zaki Shalom, “From a ‘Low Profile’ Policy to a ‘Steamroller Strategy’—the Kennedy Administration and the Israeli Nuclear Build Up 1962–1963,” (in Hebrew), *Iyunim Bitkumat Israel: Studies in Zionism, the Yishuv and the State of Israel*, Research Annual, vol. 5 (The Ben-Gurion Research Center, Ben-Gurion University of the Negev Press, 1995).

Israel had adopted an explicit nuclear posture, it is highly likely that the United States would have adopted a tougher policy toward Israel. This would have presumably included strong diplomatic pressure. In addition, American financial aid to Israel might have been cut. American strategic cooperation with Israel could have been adversely affected, as well. Second, the strategy of ambiguity contributes to self-imposed constraints by potential suppliers of nuclear technology. The latter, specifically the European powers, are bound by the nuclear Non-Proliferation Treaty (NPT), as well as by other mechanisms and instruments of the non-proliferation regime, from transferring sensitive nuclear technology to non-nuclear weapon states (NNWS). These limitations might, however, be somewhat eroded if Israel explicitly adopted a nuclear strategy. As a result, other nuclear states might be more willing to transfer sensitive technology to other Middle Eastern states. Finally, Arab governments, especially Egypt, might find themselves under increased domestic pressure to begin nuclear weapon programs if Israel abandoned its strategy of ambiguity.

Over time, a quiet and somewhat tacit understanding has emerged between the United States and Israel concerning Israel's nuclear program. This understanding consists of Israeli commitments not to conduct nuclear tests, transfer sensitive nuclear technology to third parties, declare that it has such a capability, nor develop an open nuclear strategic doctrine. These understandings dovetail with the strategy of ambiguity and indeed have become part of it.

For some time Israel assumed that, even without an open declaration on its part, Arab suspicions that it might possess nuclear capability would serve as a powerful deterrent against major military moves by the Arab states. This assumption proved unfounded, however. Israel's suspected nuclear capability did not deter the Arab-initiated 1973 war, nor did it deter Damascus from strengthening its military position in Lebanon during the 1982 war and engaging Israeli forces there. It also did not deter Saddam Hussein from launching SSMS against Israel in the Second Gulf War.

Although there could be specific explanations for these failures of deterrence, it could be strongly argued that Israel's nuclear capability—even if declared—could serve as a credible deterrent in only two contingencies: first, if a major Arab war coalition enjoying clear and significant conventional superiority launched an all-out attack on Israel that was aimed at the ultimate destruction of Israel, an Israeli nuclear threat could be invoked in the mode of “last resort” weapons; second, if a regional state became nuclear, Israel's capability could serve as a “general” deterrent against nuclear attacks by that state. An additional, but even more problematic possible rationale has to do with deterrence of attacks with other types of WMD (see below).

While Israel's nuclear capability remains an instrument of deterrence, although credible only under extreme conditions, Israel continues to rely primarily on conventional forces both for deterrence and war fighting.¹⁶ Over the years, and under varying political and strategic conditions, Israel has succeeded in maintaining a qualitative conventional edge over the Arab forces. This

¹⁶ Ibid. See Jonathan Shimshoni, *Israel and Conventional Deterrence* (Ithaca: Cornell University Press, 1988); See also Avner Yaniv, *Deterrence Without the Bomb* (Lexington, M.A.: D.C. Heath, 1987); and Yair Evron, *Israel's Nuclear Dilemma*.

enduring advantage was based on a combination of tangible and intangible factors. Quality of manpower coupled with morale and better organization comprise the intangible assets; in tangible terms, advanced high-quality arms assured Israel that it could maintain its edge. The transfers of American state-of-the-art weapons to Egypt and the Gulf Cooperation Council (GCC) countries—Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates—could undercut this advantage, however, if these countries were to radically change their peaceful approach toward Israel.

Threat Perceptions and Strategic Postures

Israel's posture of nuclear ambiguity rules out its articulation of a declared strategic nuclear doctrine.¹⁷ Indeed, it is far from clear that Israel has even formulated a coherent nuclear strategic doctrine, albeit undisclosed. Available information suggests that Israeli leaders perceived nuclear weapons as a deterrent against an "existential threat." Needless to say, definitions of what constitutes such a threat could vary. A somewhat different conceptualization of the conditions under which nuclear threats might be invoked is that of "last resort," which, again, is an elusive concept amenable to various interpretations. Presumably, "existential threat" scenarios converge on situations in which Israel would be on the brink of total defeat and the state's very existence would hang by a thread. This contingency might result from a major attack by a grand coalition of Arab states enjoying significant conventional superiority. Use of nuclear weapons as a "last resort" similarly comprises alternative scenarios in which the country would face an existential threat and no other mode of military operation could save it. A looser definition of existential threat could also encompass situations in which the social coherence of the country would be imperiled by an external attack. Thus, for example, one eminent Israeli ex-decisionmaker has defined a scenario of existential threat as a massive attack on the country's population centers, in which missiles bearing chemical or biological warheads caused many casualties. In this case, the existential threat would be a possibly traumatizing psychological shock to Israeli society; in the case of biological warfare, the number of casualties could actually be very high.¹⁸ Israel's nuclear capability then would serve as a deterrent against such attacks, and if the deterrent fails, Israel would resort to a nuclear response.

The Gulf War is illuminating on this last point. During the war the nuclear issue became more pronounced in Israel than at any time before. Commentators in the media repeatedly made veiled, though never explicit, references to the country's nuclear capability, with some calling for a "devastating" Israeli reaction (probably meaning a nuclear response) to any Iraqi attack on Israel with chemical weapons. Such calls fit an additional rationale for threatening nuclear retaliation—the use of chemical or biological arms against Israel.

While being a powerful deterrent, there is a strong rationale against Israel's actual use of nuclear weapons to counter chemical and biological weapons (CBW) threats. Threatening nuclear

¹⁷ See Yair Evron, *Israel's Nuclear Dilemma*.

¹⁸ See Anthony Cordesman, *Weapons of Mass Destruction in the Middle East: War Fighting Implication for Arms Control Regimes* (Washington, D.C.: Center for Strategic and International Studies, November 1995).

retaliation for anything less than a real existential threat would render nuclear weapons more acceptable and also strengthen motivations for their regional proliferation. Indeed, one of the reasons that the United States and much of the international community “accepted” the Israeli nuclear monopoly in the Middle East was precisely the assumption that its sole mission would be to deter “real” existential threats. The use of nuclear weapons for anything short of such threats would undercut the “legitimate” justification for the Israeli monopoly.

Israeli strategists currently focus on four main security threats: (1) a conventional confrontation between Israel and one or several of the leading Arab powers, which would involve large formations equipped with modern offensive and defensive arms comprised of many state-of-the-art systems; (2) terrorism and guerrilla activity in the occupied territories and in South Lebanon; (3) the use of SSMS against Israeli population centers and military targets; and (4) the use of WMD against Israel.¹⁹ When combined, the third and fourth threats become particularly worrisome.

These last two threats belong in a different category from the first two. To begin with, the use of SSMS in a conflict against Israel would limit the Israeli air force’s superiority vis-à-vis the Arab air forces. From 1949 until 1991 both the Israeli civilian population and the country’s rear military bases were virtually immune to Arab air attacks, and in most cases the Israeli air force also controlled the airspace above the battlefield and above the Arab states. The appearance of SSMS in large quantities in Arab arsenals, however, has changed Israel’s complete mastery of the air. Specifically, the Israeli rear is no longer immune to air strikes. Moreover, while in the pre-SSM era the main threats to Israel originated from contiguous countries, now SSMS can be launched from distant states against which Israel cannot react directly with ground forces. In fact, because SSMS can be fired from mobile launchers, their target acquisition and pre-launch destruction of the launchers would entail extremely difficult missions. If the missiles are launched from a country to which Israel has territorial access, a quick victory on the battlefield could enable Israel to destroy the SSMS on the ground. If they are launched from afar, however, damage limitation or termination of the campaign would be extremely problematic, if not impossible.

The threat of nuclear weapons is, needless to say, of a totally different magnitude from that of any other type of arms, including other types of WMD (although in the case of biological warfare the effects could be devastating). In principle there could be four responses to a nuclear threat. First, Israel could mobilize support for the international effort to prevent regional proliferation. Second, it could launch preemptive strikes against nuclear production facilities, such as the attack on Osiraq in 1981.²⁰ Lessons from the Osiraq strike have been learned, however. The Iraqis, for example, demonstrated how, by a combination of secrecy, dispersal, and hardening of nuclear production facilities, it has become very difficult to locate and destroy them. Furthermore, the deployment of

¹⁹ Many Israeli strategists refer to these threats. For a recent in-depth analysis of such threats, see Yisrael Tal, *Bitachon Leumi* (National Security) (in Hebrew), (Tel Aviv: Dvir, 1996).

²⁰ On the attack on the Iraqi nuclear reactor in Osiraq, see inter alia, Amos Perlmutter et al., *Two Minutes Over Baghdad* (London: Vallentine, Mitchell and Co., 1982).

surface-to-air systems around the facilities could make their destruction by air a debatable proposition. Third, damage limitation could be effected by preemptive strikes at the airports or missile sites where nuclear arms were deployed. All the problems attendant on a strategy aimed at destruction of production facilities apply here as well. Fourth, Israel could deploy anti-ballistic missile systems. The latter, however, cannot guarantee perfect kill capability. Out of any number of missiles launched, some would probably succeed in penetrating the defensive belt. Even one missile carrying a nuclear warhead striking a city in Israel would cause enormous damage to Israeli society.²¹ Israel's only viable option, therefore, is credible deterrence, viz., nuclear deterrence. The problem with this option, however, is that the superpowers' model, which demonstrated how nuclear weapons could stabilize relations between two nuclear-armed states, cannot be replicated in the Middle East (see further analysis below).²²

Egypt

Egypt is the leading Arab state and has a wide range of regional political and strategic interests and concerns. While its conflict with Israel has ended with the peace treaty of 1979, Egypt is still concerned about Israeli military capability and perceives of it as a potential threat. In addition, it perceives of itself as representing the Arab world vis-à-vis Israel, a situation which might potentially involve the dangers of escalation.

WMD Capabilities

Although Egypt launched a nuclear weapons program in the 1960s, it never developed into a serious effort. Egypt has not neglected nuclear technology, however. A small research reactor has been in operation since it was received from the USSR in the 1960s, and because of its age, is to be replaced by one from Argentina. In September 1992, Egypt awarded Invap of Argentina a contract for a 22 Mega Watt (MW) research reactor. Work on the reactor is being conducted under International Atomic Energy Agency (IAEA) supervision, but it will take several more years until it is completed.²³ Egypt at various stages has also negotiated the acquisition of power reactors from different sources. Financial constraints, however, coupled with concern about the safety of nuclear energy, have interfered continuously with the finalization of these programs. The pro-nuclear lobby in Egypt has limited influence, and other needs apart from nuclear energy—to say nothing about a nuclear weapons option—usually get priority. Still, the pro-nuclear group might increase its

²¹ For a critical view of the Arrow project, see Reuven Pedhatur, "Evolving Ballistic Missiles Capabilities," *Security Studies* 3, no. 3 (Spring 1994): 527–570.

²² For a detailed analysis, see Yair Evron, *Israel's Nuclear Dilemma*. For a counter approach arguing that proliferation in the Middle East would stabilize the Middle East, see Shai Feldman, *Israeli Nuclear Deterrence: A Strategy for the 1980s* (New York: Columbia University Press, 1982). For the general argument that nuclear weapons tend to stabilize conflicts throughout the international system, see Kenneth Waltz, "The Spread of Nuclear Weapons: More May Be Better," *Adelphi Papers*, No. 171, Autumn 1981.

²³ *The Middle East Military Balance* (Tel-Aviv University, 1996).

influence if all efforts to reach an understanding with Israel regarding WMD arms control were to fail.²⁴

Egypt did maintain a chemical weapons capability for a lengthy period. An Egyptian facility for the production of blister and nerve agents operated during the 1960s and there was some suspicion that it was revived in the 1980s to produce chemical munitions for Iraq. Egypt denies that it has chemical munitions, although, as late as 1993, some American sources still suspected otherwise.²⁵ Egyptian pilots are known to have employed chemical agents in the bombings of villages in Yemen during that country's civil war in the early 1960s. It is not clear, however, what role chemical weapons play in current Egyptian military planning. Egypt did not resort to chemical warfare in either the 1967 or the 1973 wars with Israel, when its capability in that area was already more developed. There probably were three reasons for this forbearance. First, in 1967, bombing missions with chemical agents were rendered unfeasible due to the destruction of the Egyptian air force in the initial phase of the war. Second, both in that war as well as in 1973 (when the Egyptians carried out many strikes at Israeli ground forces), Egypt feared Israeli countermeasures. Finally, the Egyptian High Command saw no military utility in using chemical agents. It should be added that, by 1973, Egypt already had a small arsenal of SSMS; some were fired at military targets in the war that year, but not at Israeli population centers.²⁶

Threat Perceptions and Strategic Postures

As the central Arab power, Egypt could face different types of strategic or military threats to its vital interests. These could take the form of threats from rival neighboring states, political threats (backed by superior military power) to Egypt as the leading Arab and regional power, and, finally, domestic threats partly engineered and supported by other states in the region.²⁷

First, Egypt faces potential threats to the sources of the Nile. Egypt is extremely sensitive about the Nile and its control of the river, and has become even more so as a result of the hostile

²⁴ On Egyptian nuclear policy, see Jim Walsh, "The Riddle of the Sphinx: Egypt's Failure to Balance the Israeli Nuclear Threat," *Breakthrough*, no. 1 (Spring 1994); Shyam Bhatia, *Nuclear Rivals in the Middle East* (New York, N.Y.: Routledge, 1988). On the Egyptian pro-nuclear lobby, see Ahmed Hashim, "The State, Society, and the Evolution of Warfare in the Middle East: The Rise of Strategic Deterrence," *The Washington Quarterly* 18 (Autumn 1995): 4.

²⁵ For details, see *The Middle East Military Balance 1993–1994*: 232; *Proliferation of Weapons of Mass Destruction: Assessing the Risks* (Office of Technology Assessment, Washington, D.C., August 1993). See also, Anthony H. Cordesman, *Weapons of Mass Destruction in the Middle East* (Washington D.C.; Center for Strategic and International Studies, 28 November 1995).

²⁶ *Ibid.* See also Marvin Miller, *Weapons of Mass Destruction and Advanced Delivery Systems in the Middle East* (Paper prepared for the Project on Future Security Arrangements in the Middle East sponsored by The American Association for the Advancement of Science, 1995).

²⁷ On Egyptian threat perceptions and strategic postures see Abdel Monem Said Aly, "La politique de sécurité égyptienne," in Basma Kodmani-Darwish et May Chartouni Dubarry (eds.), *Perceptions de sécurité et stratégies nationales au Moyen-Orient* (Paris: Masson, 1994); Abdel Monem Said Aly, "From Geopolitics to Geo-Economics: Egyptian National Security Perceptions" in UNIDIR, Research Paper No. 37, 1995.

attitude of the current regime in Sudan. In its immediate environs, Egypt also has to maintain a limited military capability against Qaddafi's Libya because of past military provocations along the border and Libya's former anti-Egyptian involvement in Sudan, which could be revived. As potential military adversaries, however, both Sudan and even Libya are far inferior to Egypt.

The perceived Israeli threat is of a different nature. Egypt has had a stable peace with Israel for the last seventeen years. Moreover, since the return of the Sinai to Egyptian sovereignty, Egypt has no territorial claims vis-à-vis Israel. In addition, it borders on the fantastic to suggest that Israel might harbor military or territorial ambitions toward Egypt. Egypt, then, has no need to engage in military planning and a build-up aimed at Israel.

There are, however, several considerations—although of only remotely real application—that Egyptian strategists and decisionmakers possibly weigh in their overall political and military planning. First, the very existence of a powerful military neighbor could lead planners to consider various possible scenarios in which political relations with Egypt might deteriorate and a military crisis erupt. A stable and peaceful political relationship with Israel diminishes the probability of such a contingency, but some capability would have to be set aside for this hypothetical eventuality. Second, Egypt considers itself to be a central power in the Arab world and accordingly pursues an active Arab policy. As long as the Arab-Israeli conflict is not entirely settled, Egypt would consider itself to bear general Arab responsibilities. Regional military configurations, including the Arab-Israeli dispute, are therefore perceived in Cairo as being of direct interest to Egypt, particularly with regard to relative WMD capabilities. Third, a strong Egyptian military capability is also desirable, in Cairo's view, to cope with possible threatening political and strategic developments beyond the context of Arab-Israeli relations throughout the Middle East and the Gulf. Although the Gulf countries tend to rely primarily on American guarantees to deter Iranian or Iraqi threats, Egyptian planners probably assume that Egyptian arms also could play a role in future scenarios threatening their country's interests and influence.

In terms of conventional forces, the Egyptian deployment is tripartite: South, facing Sudan and the Nile Valley beyond it; west, in the direction of Libya; and northeast, facing Israel. In terms of military organization, Egypt has two army headquarters to control the forces earmarked for these missions.

Egypt's position on WMD is composed of several elements. As noted above, Egypt has never tried seriously to develop a nuclear weapon capability. During the first half of the 1960s, Cairo entertained the idea briefly, but the extremely limited financial, scientific, and technological resources at Egypt's disposal ruled out this track. Reports in the past referred to attempts to develop "radiological" arms, an ill-conceived idea with no real applicability. German scientists involved in the project probably provided the Egyptian authorities with inaccurate information about such "weapons," and the program quickly deteriorated.

Following the 1967 war, Egypt was so engrossed in trying to build a conventional capability designed to counter Israel's clear conventional superiority that an atomic program was well beyond

its thinking. The immediate tasks lay wholly in the conventional area. Following the 1973 war, Egypt turned to peace, seeking a diplomatic resolution to the conflict with Israel. From 1977 on, Egypt concluded that the most important prize—the return of the Sinai to its control—was within reach through diplomatic means, so there was no need to mobilize additional military assets. An American promise to provide two power reactors to Egypt was also an important incentive not to develop a nuclear weapons infrastructure.

Overall then, the Egyptian decision not to try to develop an independent nuclear capability stemmed from limited resources and from the assessment that the nuclear option should not necessarily have priority over the conventional arsenal. Cairo's position was based on a completely rational assessment of ends-means and of methods to counter security threats.²⁸ Until the 1973 war and even during the fighting, the suspected Israeli nuclear capability did not enter into Egyptian military calculations.²⁹ Thus, once the peace treaty was signed, the nuclear issue did not appear to be of immediate relevance.

In the long run, however, and bearing in mind wider regional considerations, Egypt is concerned about the Israeli capability.³⁰ Its concern has been aggravated by analysis of the Vanunu disclosures, which suggest that Israel's supposed nuclear arsenal totals, not some dozens of warheads, but between 100 and 200 warheads.³¹ Arab observers, particularly Egyptians, can not understand what kind of strategic missions such a large stockpile could serve. The existence of an Israeli nuclear capability was probably taken as a fact by Egyptian strategists from the late 1970s or early 1980s. Egypt, however, accepted the notion disseminated by some Israeli and international analysts, namely, that the Israeli capability was designed only for deterrence purposes in a last resort situation.³² The Egyptian analysts found it difficult to envisage a situation in which this contingency might arise, however. After all, they are no different from other Arab observers in believing that the balance of conventional military power in the Middle East in any case is heavily tipped in Israel's favor.

Estimates of the presumed Israeli arsenal based on the Vanunu account therefore might have suggested to Egyptian strategists that Israel was pursuing options beyond pure deterrence against last resort situations. One option, the Egyptians suspect, would be battlefield uses of nuclear weapons, a second, deterrence of less extreme contingencies than last resort situations. The possible lowering of the Israeli threshold for a nuclear response provoked concern among Egyptian officials.³³

²⁸ For further analysis see Yair Evron, *Israel's Nuclear Dilemma*.

²⁹ See Yair Evron, *Israel's Nuclear Dilemma*.

³⁰ See the analysis below.

³¹ See for example, the analyses presented in Spector, *Nuclear Ambitions*, and in *The Military Balance*.

³² For example, the analysis presented to the author by Tahsin Bashir, the late President Sadat's adviser, in a private discussion.

³³ Such concerns were voiced by Egyptian academics and officials in various academic conferences on arms control in the Middle East, for example, the UCLA Conference on Arms Control in the Middle East, held in

Beyond that, the Egyptian leadership is most probably concerned about the possibility that another regional power might develop a nuclear weapon capability. An Iraqi or Iranian bomb under the current regimes, for example, would pose a major threat to Egypt's political influence in the Middle East. An Israeli capability, especially one that is much larger and more varied than previously assumed, in turn could increase the motivation of other regional powers to try and develop a similar capability. This concern heightens Egyptian opposition to the Israeli capability.

Syria

Syria is deeply in conflict with Israel. It has demands of Israel—namely the return of the Golan Heights—and threatens to use force in order to achieve this goal. Simultaneously, Syria also fears Israeli power and suspects that Israel would attack it. In addition, Syria has leadership ambitions within its Arab neighborhood but is also extremely suspicious about Iraqi and Turkish intentions. Thus, a mix of ambitions and fear forms the backbone of Syrian strategic behavior. Within that context, Syria developed some WMD capabilities which could be used either as a deterrent or as warfighting assets.

WMD Capabilities

Syrian strategic and military postures have been designed to respond to several challenges and threats. First and foremost has been the Israeli challenge. Since 1967, Syria's political and strategic goal has remained constant: Liberation of the Golan Heights. In addition, Syria has to contend with the Israeli military threat to the heart of Syria, and primarily to Damascus, resulting from Israeli occupation of the Golan. Until 1977, Syrian military planning was based on the assumption that in a war, Syria would fight in coalition with Egypt. By the end of 1977, however, this basic strategic conception had become irrelevant after Sadat's visit to Jerusalem and the beginning of the Israeli–Egyptian peace negotiations. Even earlier, Syria had tried to form an “Eastern Front,” in which Iraq and Jordan would participate and share with Syria the fight against Israel. This proved impossible, however, and consequently Syria ultimately had to rely on itself. But its hope of achieving “strategic parity” with Israel through its own efforts also proved untenable. Syria's weak economy and the disappearance of Soviet strategic and political backing rendered such a project totally unrealistic.³⁴

Cyprus in October 1995, and at a conference on the same topic organized by the Carnegie Commission on Preventing Deadly Conflict in Belagio, December 1994.

³⁴ On the Syrian strategic conception and on Syria's perception of the Israeli threat, see Bassma Kodmani-Darwish, “Syrie: ancien dilemme, nouvelles strategies,” in Bassma Kodmani Darwish et May Chartouri-Dubarry (eds.) *Perceptions de sécurité et strategies nationales au moyen orient*; Abdoulah Sayed, “Overcoming Prejudice: A Syrian Perception of the Israeli Threat in the Arab–Israeli Region of Conflict,” in *UNIDIR Research Paper* no. 37; Alasdair Drysdale and Raymond Hinnebusch, *Syria and the Middle East Peace Process* (New York: Council on Foreign Relations, 1994). On the evolution of the concept of ‘strategic parity,’ see also Michael Eisenstadt, *Arming for Peace? Syria's Elusive Quest for “Strategic Parity,”* The Washington Institute, Policy Papers, no. 31, Washington 1992.

The Syrian perception is that Israel enjoys all-encompassing conventional military superiority at all times and against all Arab states.³⁵ First and foremost, Israel has clear-cut air superiority. In order to offset this advantage, Syria, like Egypt, developed two capabilities: first, an extensive air defense system based on anti-aircraft guns and on various systems of surface-to-air missiles; second, accumulation of SSMS. The deployment of the latter had begun by the late 1960s and their number increased significantly from the mid-1970s on. By 1994, Syria's SSM capability comprised the following types: Frog-7, 18 launchers; SS-1 (Scud B), 18 launchers; SS-1 (Scud C variant from North Korea), 7 to 8 launchers; SS-21, 18 launchers.³⁶

Several rationales for this large investment in SSMS have been advanced. First, SSMS are the only weapon that the Israeli air force is incapable of defeating or defending against, other than through a preemptive strike. Second, Syrian deployment of the accurate SS-21 in the 1980s gave it the capability to strike at Israeli military facilities deep inside Israel. Third, the use of SSMS is relatively simple and does not require highly developed or sophisticated military machinery. Finally, one of the lessons gleaned from the Gulf War is Israel's sensitivity to attacks on population centers. This probably encouraged Syria to strengthen its SSM arm and to upgrade its investments in SSMS and in chemical warheads.

The most important development has been the purchase from North Korea of the Scud-C and facilities for its indigenous production. The Scud-C has a range of 500 km, carries a 700-kg warhead and has a CEP of 1 km. In other words, it can reach most parts of Israel from Syria and, of equal importance, the missiles can be deployed in protected areas deep inside Syria.³⁷ There also have been unconfirmed reports that Syria was negotiating a deal with China for the purchase of the M-9 missile with a range of 600 km. Under American pressure to abide by the Missile Technology Control Regime, however, China backed out of the deal. It is still not clear whether the transfer will take place at some future date.

Interestingly, the Syrians launched very few SSMS during the 1973 war and none during the 1982 war in Lebanon. In both cases, this self-imposed limitation probably resulted from fear of Israeli retaliation and the emergence of a set of tacit "rules of the game" in the Arab-Israeli zone, which inhibit attacks on population centers. This tacit understanding broke down, however, due to Iraq's behavior in 1991. It is not clear whether these "rules" will be revisited in the future.

According to various reports, Syria is independently producing chemical warheads for its SSMS. It also has been suggested that a chemical warhead independently produced in Syria was tested in the spring of 1992. Currently Syria has more than 100 chemical warheads for its SSM and

³⁵ See for example, the lecture given by the Syrian chief negotiator with Israel Ambassador Moufek el-Alaf on the Middle East Peace Process, Vienna, 17 February 1995, quoted in Abdoul ah-Sayed. See also Drysdale and Hennesbusch, *ibid*: 137.

³⁶ See *The Middle East Military Balance*.

³⁷ *Ibid*.

thousands of aerial bombs which could be primed with chemical agents. Syria is also involved in the development of biological weapons. Little is known about its activity in that area, but unconfirmed reports suggest that Syria is experimenting with the development of biological warheads for its SSM.³⁸

Threat Perceptions and Strategic Postures

The Syrian military posture has served several functions and missions. The conventional capability (apart from capabilities earmarked for response to threats from Turkey and Iraq, and the need for forces to control the situation in Lebanon) was developed in order to create a viable instrument for war against Israel with the objective of liberating the Golan. As mentioned above, Syria hoped to create a war coalition to counter Israeli conventional superiority. Failing that, the war option became a highly debatable proposition. Two scenarios appeared possible, however, at least theoretically. First, in a limited and stationary attrition war, Syrian forces might not try to breach the Israeli lines but rather rely on artillery to harass Israeli positions. Another scenario is a repetition of the 1973 operation—a surprise mobile attack designed to capture part of the Golan Heights and then defend it against the expected Israeli counterattack. To prepare for this contingency, Syria developed a solid in-depth system of defense, hoping that it would be able to bear the brunt of the Israeli attacks. The objective of both operations would be political: on the one hand to impress upon Israel the costs of continued occupation of the Golan and, on the other, to demonstrate to the superpowers the inherent instability of the status quo. Both scenarios might also have a regional objective: to shatter the Israeli–Egyptian peace treaty and bring Egypt back to an extreme position. Syria’s overall military capabilities, both conventional and non-conventional, also serve as a deterrent to an Israeli-initiated attack. In order to deter and defend against such an attack from the Israeli-occupied Golan Heights, Syria erected a very thickly defended security belt extending from its front on the Golan to Damascus. Indeed, some authors have argued that even the notion of “strategic parity” was designed as a defensive rather than an offensive strategy.³⁹

In both scenarios, Syria would have to contend with absolute Israeli air superiority. The threat of Syrian use of SSMs armed with chemical warheads possibly could deter Israel at least from attacking Syrian civilian centers. In this case, Syria’s SSMs would acquire a primary deterrent function. An additional potential mission for the accurate SS-21 could be a surprise attack on Israeli military targets, thus increasing the likelihood of success in the second scenario, a surprise attack on the Golan. Thus, while most of the SSMs probably have a first-priority deterrent mission, the SS-21 has a battlefield function as well.

International and regional developments make a Syrian-initiated war (of all possible scenarios) of low probability. First, Syria has never gone to war against Israel by itself, only within a coalition. Second, Syria has lost its superpower patron, and with this an important strategic asset.

³⁸ See Anthony Cordesman, *Weapons of Mass Destruction in the Middle East* (London: Brassey’s, 1991).

³⁹ See *The Middle East Military Balance*.

Third, after Iraq extricated itself from its war with Iran, Syrian concern focused on Iraqi claims to leadership in the Arab world as much as on the Israeli threat. Persisting concern about Iraqi ambitions consequently caused Syria to move toward an alliance with Egypt. Fourth, the aftermath of the Gulf War and the emergence of the United States as the single dominant external power in the region made the military option even less appetizing for Syria. Still, the probability of war would increase should the peace process collapse and other Arab states join a war coalition.

Nevertheless, the liberation of the Golan remains a high Syrian priority. Although currently Syria has resorted to diplomacy to resolve its conflict with Israel, its sizable armed forces provide the regime with a military option should the peace process fail. Under such conditions, SSMS, many of them armed with chemical warheads, could serve as a general deterrent against an Israeli attack; as a deterrent against Israel's use of its air force against the heart of Syria if war erupted at either side's initiative; and, finally, to bolster the Syrian attack option against Israeli military and strategic installations in a Syrian-initiated war.

Syria began to introduce chemical weapons into its arsenal long before its leaders came to believe that Israel had a nuclear capability. But since then they probably perceive of Syria's capacity to inflict punishment on Israeli population centers with gas as a deterrent against the Israeli nuclear threat. Although nuclear weapons are clearly in a class by themselves, Damascus probably adheres to the perception of its chemical capability as a counter to Israel's nuclear capability. Syrian officials, however, refrained from admitting that Syria has a chemical weapons capability.⁴⁰ Overall, Syria is more immediately concerned about Israeli conventional capabilities. Damascus believes, with good reason, that there are enormous constraints on Israel's freedom to utilize its nuclear capabilities and that only the most extreme circumstances would provoke their use.⁴¹ Indeed, while nuclear weapons are immeasurably more destructive than chemical weapons, Syria's ability to deliver a sizable chemical payload in the form of SSM warheads has already become a strategic threat to Israel. Moreover, precisely because nuclear weapons are so unique in their capacity for destruction, an Israeli decision to use nuclear weapons against Syria under conditions less extreme than a "last resort" situation would be much more difficult to make than a Syrian decision to use chemical weapons against Israel. Hence, although chemical weapons cannot really be considered a deterrent on the same scale as a nuclear deterrent, paradoxically, their use can be more credibly threatened. This paradox might be partly resolved if the Israeli nuclear threat were to be presented

⁴⁰ Syrian decisionmakers and officials never articulated any strategy for the chemical weapons Syria possess. One can adduce the Syrian perception of these weapons from the Syrian position on the CWC, viz., that joining the CWC depends on Israel joining the NPT. A direct reference to a Syrian perception of chemical weapons as a deterrent to Israel's nuclear capability was made by Isa Darwish, Syrian ambassador to Egypt 1 November 1996. See FBIS-NEW-96-233, 27 November 1996 (quoting al-Ahram 27 November 1996 p. 8). The next day this report was denied by Sana the Syrian news agency. See FBIS-NES 96-234, 28/11/96. For an account stressing that Syria's chemical weapons are a deterrent against an Israeli possible use of nuclear weapons see Zuhair Diab, "Syria's Chemicals and Biological Weapons: Assessing Capabilities and Motivations" *Non-proliferation Review* (Fall 1997): 104-111.

⁴¹ See Marvin Miller, *op. cit.*

as a credible response to a chemical attack on Israel. Although such a “maximalist” threat is difficult to articulate, some ambiguity in regard to the possible use of nuclear weapons as a response to a chemical attack has already developed in the Middle East.

The Second Gulf War probably affected Syrian military thinking in several ways. The performance of American forces in general, and of the high-quality air force, the intelligence command and control systems (C3I), and the precision guided munitions in particular, along with the highly advanced operational doctrine, undoubtedly made a powerful impression on the Syrian commanders who took part in the war. Nor could it have escaped Syrian commanders that the Israeli armed forces operate according to the same doctrine and use many of the same weapons systems as the American forces, and hence are even a more formidable opponent than in the past. Following the war, Syria planned a major modernization of its conventional arms. It was only able to modernize part of its armor and upgrade its artillery, however; economic constraints precluded the enhancement of its air force and air defense systems.

Iraq

Since the mid-1970s, Iraq, under the leadership of Saddam Hussein, has begun a major effort in the military in general and in the WMD category in particular. This effort had begun even before the Iraq–Iran War, but was accelerated during the 1980s. This military buildup had several rationales and motivations, but the upshot of it was that by the eve of the Second Gulf War in late 1990, Iraq had succeeded in developing a very impressive array of conventional, chemical, and biological arms. It had also succeeded in developing an extensive nuclear infrastructure.

WMD Capabilities

Before its defeat in the Second Gulf war, Iraq had built a powerful military machine. Both quantitatively and qualitatively, its conventional capability was unparalleled among the Arab states. The enormous financial resources that it diverted from its own oil revenues, coupled with huge loans and grants that it received from other Gulf countries as well as from international creditors, enabled Iraq during the 1980s to cover the expenditures of its long war with Iran and to build up its military machine.⁴²

In the area of WMD, Iraq invested billions of dollars in a nuclear effort and, in addition, produced and weaponized both chemical and biological agents.⁴³ According to recent estimates, the

⁴² For the build-up of the Iraqi military capability during the 1980s and the financial grants and credits it received from the Gulf countries and international creditors, see, Roland Dannreuther, *The Gulf Conflict: A Political and Strategic Analysis*, Adelphi Papers no. 264 (London: IISS, 1991); and *Final Report to Congress, The Pentagon Report on Desert Shield and Desert Storm Conduct of the Persian Gulf War*, (Department of Defense, April 1992). The latter report suggests that the Iraqi defense budget during the year before the invasion of Kuwait took place reached 12.5 billion dollars. On Iraqi defense budgets during the 1980s, see also *The Middle East Military Balance and The Military Balance*.

⁴³ *Jane's Defence Weekly*, 2 September 1995, which refers to Rolf Ekeus' reports. The November 1997 American and UN crisis with Iraq took place just before the UNSCOM team was about to inspect a facility which

Iraqi nuclear effort had reached an advanced stage before its destruction during and after the Second Gulf War. Following the Israeli attack on the Osiraq reactor in 1981, Iraq established a ramified, secret, highly dispersed nuclear infrastructure. It concentrated on two technologies for uranium enrichment—electromagnetic isotope separation technology (EMIS) and the centrifuge method—apparently with greater success in the first. At the same time, Iraqi engineers worked on the design of the bomb. Estimates vary as to how far Iraq was from the actual production of a nuclear device, with some speculating that Iraq was possibly no more than a few years from weapons production. When the crisis of 1990 erupted, Saddam Hussein ordered a crash program to produce at least one bomb. Apparently this program revolved around Uranium-235 of low enrichment, which France gave Iraq as the first installment for the activation of Osiraq and which was left under its ruins, as well as a batch of low enriched Uranium given by the Soviet Union for the activation of a research reactor. Whether the level of enrichment would have been sufficient for weaponization is not entirely clear. If so, the Iraqis might have succeeded in producing some kind of weapon in a short period of time.⁴⁴

During 1995, the international inspection teams responsible for investigating and destroying Iraq's WMD program gained access to information suggesting that on the eve of the war, Iraq already had at its disposal fifteen Scuds that had been fitted with chemical warheads in addition to several warheads containing biological agents. Iraq's biological warfare effort was very significant, concentrating on the development of both butulinum and anthrax. Much time and energy were also devoted to attempts to weaponize biological agents.⁴⁵

Altogether, Iraq had at the time approximately 400 SSMS comprising different Scud versions. Most of these were destroyed during the 1991 war or by the international inspectors, although some may still be hidden in various places. In any event, since the end of the 1991 war and the imposition of international sanctions, Iraq most likely has been unable to pursue its WMD effort. But there are many Iraqi engineers and technicians who probably have the know-how to launch the effort again once the sanctions and the inspection regime are removed.

Threat Perceptions and Strategic Posture

Iraq developed its nuclear infrastructure, starting with the Osiraq reactor, for a combination of reasons. First, it had security concerns, principally Iran. Given the latter's greater size and its superior overall capabilities, nuclear weapons were most likely seen in Iraq as a counter and deterrent instrument against Iran. In addition, the Israeli nuclear capability was probably perceived as a potential threat. Beyond security, an important motivation was the Iraqi search for political

apparently stored a significant quantity of the biological agent anthrax.

⁴⁴ On the Iraqi nuclear effort see, Marvin Miller, *The Iraqi Nuclear Program*, (Research Memorandum, MIT, 1991); Rolf Ekeus, "The United Nations Special Commission on Iraq: Activities in 1992," in *SIPRI Yearbook 1993*, and the UNSCOM report on Iraq, S/1995/1038, 17 December 1995.

⁴⁵ The most recent UNSCOM report on Iraq's biological weapons effort is about to be published. This has been reported by Richard Butler, who replaced Rolf Ekeus as head of the UN Special Commission on Iraq. The UNSCOM report will be based on Iraq's latest report, see Reuters Limited, 17 September 1997.

prestige in the Gulf, the Arab world, and the Middle East in general. Historically, Iraq has been one of the contenders for hegemony within the Arab state system. During the 1950s it competed with Egypt for positions of influence in the Middle East. It renewed this search for influence during the 1960s, and since Saddam Hussein became sole ruler of Iraq in the 1970s, Iraq has tried to achieve a hegemonic position in the political environment of the Middle East. Finally, the Iraqi leadership was totally committed to rapid modernization, and nuclear technology appeared to be an instrument for attaining this goal.

The destruction of Osiraq by the Israeli air force aroused frustration and tremendous anger in Iraq. The desire to take vengeance on Israel became a potent motivation in Iraqi calculations. But when news about the renewed Iraqi nuclear effort began to circulate in the West, Baghdad feared that Israel would try to destroy the new facilities. As a deterrent against that possibility, Saddam Hussein warned on several occasions that Iraq would retaliate for such an attack using SSMS fitted with chemical warheads.⁴⁶

During the Second Gulf war, Iraq launched dozens of conventionally-armed SSMS against both Israel and Saudi Arabia. In the case of Israel, the objective was not to deter a military move, but to provoke Israel to take military action against Iraq. The Iraqis hoped that if Israel intervened in the war, Arab backing for the international coalition would weaken and possibly the war would stop.

Although Iraq attacked both Saudi Arabia and Israel with SSMS, it refrained from using chemical warheads against them; nor did it use chemical weapons against American forces. Several explanations could account for this self-restraint. First, use of these weapons may not have been deemed strategically necessary by the Iraqi regime. Second, Iraq possibly was deterred by the threats of American or Israeli retaliation. Some experts have suggested that implied threats by Israel to resort to nuclear retaliation if Iraq used chemical warfare against it were the major deterrent in this case. From the existing evidence, it is difficult to either accept or reject this assertion. It is clear, however, that the United States transmitted an unequivocal and direct message of deterrence to Iraq, threatening devastating retaliation if nonconventional warfare were to be used during the war. While this message could have been interpreted to include retaliation with nuclear weapons, such retaliation could have been executed with devastating effect through conventional arms as well.⁴⁷

⁴⁶ See, for example, Saddam Hussein's speech on 29, May 1990 and his talk to a group of American senators on 12 April 1990. For full texts see Ofra Bengio, *Saddam Speaks on the Gulf Crisis*, (Tel Aviv: Moshe Dayan Center for Middle Eastern and African Studies, Shiloah Institute, 1992).

⁴⁷ See James Baker, *The Politics of Diplomacy* (New York: G.P. Putnam's & Co, 1995) 359.

Stability of the Current Strategic Balance

Various political factors have contributed to the reduced probability of inter-state war in the Middle East. Primary factors include the peace process, the greater role of the United States in the region and its clear commitment to peace and stability and, finally, the fragmentation of the Arab state system and the altered priorities of several leading Arab powers. Against this background, several questions arise. First, to what extent has the current strategic balance, which is based on power configurations of regional alliances, conventional capabilities, and some WMD capabilities, contributed to stability? Second, under what conditions would changes in conventional capabilities affect strategic stability? Third, would the further proliferation of WMD and SSMS increase or diminish stability? Similarly, would control of and reductions in WMD heighten stability?

Several authors have argued that the probability of inter-state wars globally and also in the Middle East has virtually disappeared. In this view, future wars might erupt within states (i.e., civil wars) and some level of subwar violence between states may occur. But, in both cases, such conflicts would not attain the level of full-scale inter-state wars. Arguably, then, the phenomenon of inter-state war would disappear.⁴⁸

Four basic arguments have been adduced to substantiate this proposition. First, the Cold War and the East–West struggle were the main sources of conflict and wars in the world. With their termination, the probability of war has declined considerably. Second, nuclear weapons stabilized the relations between East and West, particularly between the United States and the Soviet Union. They are also therefore likely to stabilize relations among other nuclear powers. Even if some states remain non-nuclear, the possibility that allies of belligerents might be nuclear-armed will restrain every actor in the international system. Third, conventional wars have become so costly that states will refrain from recourse to war. Almost all alternatives will appear more acceptable than military conflict. Fourth, the spread of democracy and the greater emphasis on economic development make wars less attractive to publics and to political elites.

This is not the place for a detailed analysis of these propositions as they apply globally. Suffice it to say that each assertion has some validity and might apply to part of the international system. At the same time, there appears to be no inherent structural reason to anticipate the disappearance of inter-state conflict and war. This applies to the Middle East as well.

The end of the Cold War eliminated the possibility of a global war and also reduced great power readiness to extend aid to regional proxies in their wars. The probability of regional wars, however, has not necessarily declined with the end of competitive bipolarity. The disintegration of the USSR brought about fierce open warfare in several regional disputes, which previously had been

⁴⁸ See, for example, Martin Van Creveld, *The Transformation of War* (New York: The Free Press, 1991).

contained by Soviet imperial power. Moreover, bipolarity itself served partly as a constraining factor, limiting the inclination of regional powers to become involved in hostilities. With the disappearance of the superpower competition, the great powers need not be concerned that a regional war might intrude on their mutual relations and possibly escalate uncontrollably. Hence, unless the war threatened their immediate interests, the United States and Russia would lack the motivation to pursue a joint policy aimed at terminating a regional conflict.

Moreover, the emergence of the United States as the sole global power (in addition to being a superpower) enhances its ability to exert diplomatic pressure on different states, in most cases mitigating tendencies toward escalation into major inter-state wars. On the other hand, Washington's ability to act throughout the international system is constrained both by the American public and by various international barriers. Calculations of costs and priorities of interests would clearly modify American readiness to translate its enormous capabilities into a worldwide intervention strategy.

The effectiveness of modern conventional weapons has been greatly augmented (even apart from WMD) on two accounts: first, in their ability to wreak vast destruction in a very short period of time; and second, in their enhanced accuracy. The latter quality, when married to the huge leap in target-acquisition capabilities, creates the potential for surgical, albeit extremely painful, strikes at ultra-sensitive military and civilian targets. This development would seemingly make wars in the Middle East improbable, as states would be reluctant to face the destruction that modern conventional weapons could inflict. But the historical experience has been that societies and leaderships, when pushed to the brink, were ready to sustain tremendous sacrifices over long periods of time.

Finally, processes of democratization are not necessarily a barrier against aggressive foreign policies, especially when long standing ethnic and territorial conflicts exist in the region. Economic considerations appear increasingly important, and statesmen belonging to all types of regimes are much more aware than before of the importance of economic development and social welfare. As many cases since the end of the Cold War have demonstrated, however, economic considerations do not always serve as a major barrier against the escalation of fierce conflicts to the level of war.

The Middle East Situation

In the Middle East, the main positive changes have been basically political: the Arab-Israeli peace process, the decline of Pan Arabism and the attendant emphasis on particularist state interests, and the emergence of the United States as the principal external actor with very significant ability to influence political and strategic developments. These three developments have contributed to greater stability in inter-state relations and have reduced considerably the likelihood of another major inter-state war in the region in general and between Israel and Arab states in particular. Two additional political factors have been the sharp rivalry between Iraq and Syria, and Egypt's awareness of the Iraqi threat. These factors also reduce the likelihood of an Arab-Israeli war. A negative factor that makes the peace process more difficult is the common threat of militant Islam in Egypt, Syria, and Jordan, and extremist tendencies within Israel.

The conventional balance contributed to stability in the sense that an anti-Israeli war appeared to be loaded with very high costs and highly doubtful potential gains. Even a broad war coalition among Arab states could not have hoped to reverse that likely outcome. In light of recent political changes, such a coalition in any case seems at present very unlikely. A war initiated by Israel, similar, for example, to the 1982 war, also appears unlikely, as it would lack any political rationale or cause. The danger, however, lies in a combination of several concurrent and interacting developments: a breakdown in the peace process; increased violence in south Lebanon; miscalculations that might generate escalation; instability in Syria, which then spills over into Lebanon and leads to a flare-up with Israel; internal instability in Egypt; or a spillover from instability in the Gulf to the Middle East.

Under such circumstances, the current conventional balance, coupled with probable American diplomatic intervention, could guarantee an early termination of hostilities. As long as there is a high political motivation to change the status quo, the conventional balance, by itself, does not promise a very high degree of stability. It certainly makes a greater contribution to stability than was the case from the 1950s through the 1970s. Moreover, an Arab-initiated war would have to take into account that the conventional balance has shifted even further in Israel's favor due to the peace process and the reduced likelihood of a wide Arab war coalition. In that sense, the conventional balance promises more stability at present. But the possibility of limited war, however low the probability, still exists, particularly if some of the escalatory pressures mentioned above materialize. Another possibility is a process of escalation to which both sides contribute.

While limited war and escalation are still possible, all the Core countries have forsaken attempts to achieve clear-cut superiority in conventional arms. This is demonstrated by the plateau in defense budgets and the limited volume of weapons purchases. A major change in the political atmosphere of the region, however, might produce a new wave of defense expenditures. Israel is quite capable of this in view of the enormous growth in its GNP over the past decade and its American support. But other Core countries might take a similar route with the financial aid of the oil countries if they felt that their vital security interests were threatened.

Overall, however, the conventional balance, within the context of current political developments, appears to bolster stability in relative terms. Furthermore, Core states have accepted tacitly their relative position within the overall balance and are not trying to change it. On the other hand, if the inter-state political situation were to develop in the manner described above, i.e., breakdown in the political process coupled with domestic changes in some of the key states and with miscalculation, the conventional balance by itself does not appear to be sufficiently robust to deter war initiation or to halt escalatory processes.

An additional issue is the offense/defense equation. Does the current conventional balance favor offense or defense? The large concentrations of firepower in the various military machines may have reduced somewhat the element of movement and enhanced that of fire. On a very simplistic level, defense has thus gained in comparison to offense. On the other hand, the increase in firepower as compared to movement might encourage the initiation of limited stationary wars and

undercut somewhat the credible threat of retaliation by mobile forces, which could serve to deter states from launching war. It is therefore rather difficult to be confident about the effects of changes in the relationship between movement and fire in terms of offense/defense, and therefore about its impact on stability.

While the conventional balance appears to be relatively stable, although by no means sufficiently robust to withstand major negative political developments, the historical experience suggests paradoxical effects of WMD on regional strategic stability.⁴⁹ On the one hand, WMD basically have been irrelevant to stability. Israel's image as a possible nuclear power did not deter Egypt and Syria from launching their major attack in 1973, nor did it deter Syria from fighting to defend its positions during the 1982 war in Lebanon, or even improving its positions significantly at a later stage. Finally, Israel's suspected nuclear capability did not deter Iraq from launching its missiles against Israel in 1991. Israel's nuclear image arguably was also not the main factor that ultimately convinced Sadat to launch his peace initiative in the 1970s. And the Israeli capability does not appear to play an important role in the current Israeli–Syrian peace dialogue, either. In sum, the Israeli capability has neither deterred war nor served as an overwhelming factor in bringing about peace. In both cases, political factors have been more relevant. It could therefore be argued that if the political situation deteriorates significantly in the future, the Israeli nuclear capability would not be a major deterrent to the initiation of limited wars against Israel.

A second issue concerns the extent to which the Israeli nuclear capability has been a destabilizing factor. Some proliferation analysts point to the considerable dangers associated with Israel's position. Contrary to expectations, however, instability has not resulted from Israel's assumed nuclearization. While, the Israeli capability did not enhance stability by means of successful deterrence or conflict resolution, it did not by itself cause instability. Nor was it the cause in the past of extraordinary attempts by regional powers to develop a nuclear capability. In the case of Iraq, it was most probably only one of several factors figuring in its decision to seek a nuclear capability. It was, however, an important input in the decisions taken by several regional powers to develop other weapons of mass destruction.

Possible Effects of Nuclear Proliferation in the Middle East

Although the nuclearization of one state, Israel, has not significantly destabilized the region in the sense of contributing to major violence and war, additional proliferation might—under some circumstances—be very dangerous. Before discussing this, it is useful to review the theoretical debate on the implications of proliferation for global and regional stability.

The subject of global nuclear proliferation has become a major focus of debate between several theoretical approaches in the discipline of international relations. “Realists” and “neo-realists” of varying persuasions argue that even in the post-Cold War era, states will continue to consider security their most important national interest, and that the international system (or at least

⁴⁹ The following argument is based on Yair Evron, *Israel's Nuclear Dilemma*.

large parts of it) will continue to be “anarchic.” Some realists argue that states will continue to try to maximize whatever capabilities they have and translate them into military assets.⁵⁰ Therefore, in this realist view, unless major steps are taken in the security dimension, there is a high likelihood of nuclear and other WMD proliferation. Realists and neorealists do not necessarily agree on the direction proliferation will take, and to what extent it should be welcomed or prevented. Some consider it inevitable, others believe it is preventable. Some believe it will stabilize the international system, others perceive it as a volatile element in international relations that should be suppressed.⁵¹

Neoliberal and institutionalist theorists, on the other hand, insist that the most important variables according to which states formulate foreign and defense policy are, first, the nature of their domestic regimes, and second, their mode of economic interaction with the rest of the world. Thus, they argue, liberal-democratic states tend to be moderate, avoid conflicts, channel existing conflicts away from military confrontations, and prefer economic development over maximization of their military capabilities. Moreover, neoliberals say that most states, irrespective of their regimes, will gradually become more interested in their economic development. With the growth of global free trade, interdependence will increase and proneness to military competition and aggressive foreign policies will diminish concomitantly.

In the Middle East as well as in the Gulf, it seems likely that security considerations and “realist” political approaches will continue to color the nature of inter-state relations for the foreseeable future. This is not to say, however, that the regional states will try to maximize their military capabilities without any reference to political, economic, and social considerations. In fact, as noted before, states in the Middle East did control the armaments race over time. Egypt and Israel modified their defense policies in view of the peace between them. And Egypt, Israel, and Jordan decided to divert scarce economic resources into investment and into civilian projects and civilian consumption.

In the past, Arab regimes in the Middle East refrained from trying to develop a nuclear weapons capability for a combination of reasons. They lacked the necessary resources and/or they

⁵⁰ For various realist or neo-realist views on proliferation, its relevance or lack of relevance to stability, and on the question of whether proliferation is preventable or not, see, Kenneth Waltz, “The Emerging Structure of International Politics,” *International Security*; see also Kenneth Waltz and Scott Sagan, *The Spread of Nuclear Weapons: A Debate* (N.Y.: Columbia University Press, 1995); Benjamin Frankel, “The Brooding Shadow: Systemic Incentives and Nuclear Weapons Proliferation,” and Zachary Davis, “The Nuclear Realist Regime,” both in Zachary Davis and Benjamin Frankel, eds., *The Proliferation Puzzle*. For an analysis that combines a realist and other approaches, see Yair Evron, *Israel’s Nuclear Dilemma*. For neoliberal and domestic politics interpretations see Etel Solingen, “Domestic Aspects of Strategic Postures: The Past and Future in a Middle East Nuclear Regime,” in Efraim Inbar and Shmuel Sandler, eds., *Middle Eastern Security: Prospects for an Arms Control Regime* (London: Frank Cass, 1995).

⁵¹ Kenneth Waltz argued that proliferation would stabilize the international system. See also Van Creveld, *The Transformation of War*; Zachary Davis who in “The Nuclear Realist Regime” elaborates on the destabilizing effects of proliferation; and Scott Sagan, *The Spread of Nuclear Weapons: A Debate*, who points out the dangers involved in proliferation.

thought that their defense budgets could be more cost-effective if invested in conventional capabilities and in chemical and biological weapons. Similarly, they probably concluded that Israel's nuclear capability could not be used effectively against them. Thus, their decisions were grounded in sound rational security considerations. The policy of the superpowers played a role as well. The United States applied pressure on allies or counseled them against proliferation and the Soviet Union followed suit with its allies. In addition, Arab allies of the Soviet Union possibly assumed that Israel would not use its nuclear capability for fear of Soviet retaliation. This also tended to reassure Arab states and dampen motivations to develop their own nuclear capabilities. In sum, even according to a realist interpretation of Middle Eastern political and strategic behavior, it appears that states behaved rationally in deciding not to "go nuclear." Projecting into the future, it could be assumed that with the appropriate mix of pressures and reassurances, WMD proliferation might be checked and controlled.

As mentioned above, some theorists argue that proliferation would enhance stability, either globally or in the Middle East. The proponents of this view tend to rely on the experience of the superpowers as a model for future nuclear relationships between pairs of conflicting states. In the Middle East, however, strategic, political, social, organizational, and technological conditions differ fundamentally from those that obtained between the superpowers during the Cold War period.

(a) The superpowers equipped themselves with nuclear weapons after being allies during the Second World War, and after the Soviet Union had endured terrible suffering in that conflict. Their readiness to become involved soon in another major war therefore was quite limited. The experience in the Middle East is very different.

(b) In both superpowers, societies were basically stable and each in its own way had structured patterns for managing a change of government and for decision making. In contrast, some Middle Eastern societies are not stable, and there is, in some countries, an inherent possibility of violent or unstructured change of government or regime. Under such conditions decisionmakers would lack caution in dealing with and making decisions about nuclear weapons, which could produce dangerous results.

(c) In the superpower context, the two parties "learned to live with the bomb" following lengthy experience involving a number of major crises. Indeed, the learning process took several decades, and even then, doubts persisted about the stability of their relations. Time and again the superpowers thought that nuclear war was possible and developed strategies for the actual use of such weapons. Thus, even in the superpower context the possibility of nuclear war was ever present. In the Middle East, decisionmakers lack experience in the intricacies of nuclear deterrence and in the nature of nuclear crises. Given the background of intensive inter-state conflicts and potential domestic instability, the possibility of miscalculation is much higher than in the superpower context.

(d) Proponents of the view that proliferation will stabilize conflict situations are not concerned about the number of states in a nuclear international system. The stability of the central balance of nuclear deterrence was to a large extent the result of a bipolar relationship, however.

Bipolarity simplified decision making on nuclear strategy; decision making became far more difficult and uncertain when they had to contend with the potential initiatives and reactions of third parties. The Middle East is a multipolar system and thus very different. Decisions on nuclear issues will have a bearing on several poles of power, some likely to be nuclear.

(e) To a large extent, the stability of the superpowers' nuclear balance depended on the absence of direct territorial friction between them. The enormous distances and lack of any real mutual territorial claims certainly reduced the risks of direct military confrontation. In the Middle East, on the other hand, territorial issues are very salient in ongoing inter-state conflicts. The danger of direct military friction is a constant given.

(f) The superpowers' stability depended also on the elaborate systems of command and control they had developed and deployed. Such systems are absent or exist only at a low level of sophistication in the Middle East. Moreover, even if the regional powers were to acquire more sophisticated systems, the situation in the Middle East is much less controllable than in the American–Soviet context. For example, the very short distances in the Middle East that delivery systems have to cover make decision taking during nuclear crises that much more difficult. The very wide distribution of dual-use delivery systems makes it difficult to distinguish between different missions. These and other conditions mean that miscalculations and misjudgments are likely to be far more prevalent.

(g) The stability of the US–Soviet balance of deterrence depended to an extent on second-strike capabilities. It is not impossible to develop similar capabilities in the Middle East. Even primitive capabilities could suffice to create sufficient uncertainty about the survivability of nuclear weapons to deter would-be aggressors from launching first strikes against nuclear systems. The importance of second-strike capabilities in the superpower context is widespread knowledge among Middle Eastern strategists—much more than the other requirements for the creation of a stable nuclear balance. Its absence in the initial stages of nuclear proliferation in the Middle East therefore might become a cause of instability precisely because of its perceived importance.

(h) One of the main arguments concerning the dangers involved in proliferation has to do with assumptions of rationality or its absence. Some maintain that leaders in the Third World (including the Middle East) are less rational than those in the five established nuclear powers. Because successful nuclear deterrence entails a high degree of rationality, its absence in new proliferators would result in either failures of deterrence and therefore the outbreak of non-nuclear wars, or similarly, in the unnecessary actual use of nuclear weapons. Those who believe that new proliferators would behave rationally assume that the unique destructiveness of nuclear weapons will force any decision maker to act rationally, i.e., to be deterred by the fear of total and instant annihilation. Consequently, nuclear deterrence would lead to total stability.

Both arguments are misleading. In the Middle East, almost all decisionmakers, while at times miscalculating, have not been irrational in the sense of lacking sanity. They have always applied cost/benefit calculations in their decision making processes and have been very sensitive to

changes in inter-state power relationships, an important element in rational international behavior. In that sense, it is likely that nuclear weapons proliferation potentially could contribute to greater caution and to rational decisions aimed at preventing escalation, including the possible escalation to the use of nuclear weapons. On the other hand, for some of the reasons outlined above, Middle Eastern leaders also are likely to make many more miscalculations in crises that might lead to nuclear escalation: they are not aware of the inherent complexities, paradoxes, and dangers associated with nuclear weapons; they might have less control over their own societies and military establishments; and, they might face enormous difficulties in assessing the impact of their decisions in the context of a multipolar regional system. In addition, the proliferation of other types of WMD also might lead to mistaken decisions concerning the possible use of nuclear weapons. The existence of deep societal conflicts and the major threats to regimes resulting from the mix of domestic instability and inter-state crisis might lead to major miscalculations. There is the extreme case of radical fundamentalist revolutionary regimes in the initial phase of coming to power. If such regimes get control of nuclear weapons, they might be less cautious than the current leaders. Neighboring states might be driven to the use of massive violence in order to preempt what they consider an impending irrational decision by the new regime to use nuclear weapons against them. Moreover, the new regime might fear that such violence was aimed at it and therefore decide that it must exercise its nuclear capability first.

Even this brief analysis suggests that nuclear proliferation is not likely to stabilize the Middle East much beyond its current situation, and indeed, that the superpower model cannot be replicated in the region. If the societies and regimes of new proliferators remained stable, then the possibility of escalation to the nuclear level would cause decisionmakers to behave more cautiously than before concerning decisions on war. Given the persistence of deep political conflicts and the possible interactions between domestic instability and inter-state relations, however, the probability of escalation to conventional warfare is still high and would remain higher than in the superpower context. If such escalation does take place, there is a grave danger that WMD, including nuclear weapons, would be used. Needless to say, this would lead to incalculable devastation throughout the region.

Conditions for WMD Arms Control in the Middle East⁵²

The potential for WMD arms control in the region depends on the interaction between political and strategic conditions. Specifically, it depends on the nature of the political relationships in the Middle East and in the Gulf; on the role of external powers in the region; and on the possible evolution of a “new architecture of security” in the region. The evolution of these three factors depends in turn on the future and direction of the Arab–Israeli peace process; on the ways in which Iraq and Iran find their place in the political and strategic context of the Gulf, and on their policies toward the Middle East; on the role that the US is likely to play in the region; on the possible emergence of various kinds of Confidence and Security Building Measures (CSBMs) in the region; on the demands for conventional and nonconventional arms by the regional powers, and, conversely the readiness of suppliers to participate in arms control regimes; and finally, on the possibility and feasibility of various verification measures. In addition, because WMD controls will have different outcomes for the different regional powers, the issues of trade-offs is, of course, very central. There is also the major problem of correlating policies relating to regional developments with worldwide developments.

Each of these issues is reviewed briefly below, followed by a discussion of the perspectives of each state in the region.

Political Conditions

The principal preconditions for WMD arms control are political. Consequently, the continued success of the Arab–Israeli peace process is essential to any arms control regime in the Core region. A major breakdown in the peace process might lead to a political crisis and to intensified perceptions that war might erupt. This would inevitably bring about a change in current policies of conventional arms acquisition, which have created a relatively stable plateau in the Core states. It would also destroy the chances for WMD arms control in the foreseeable future.

⁵² For works on WMD arms control in the Middle East see, the various contributions to Efraim Inbar and Shmuel Sandler, eds., *Middle Eastern Security: Prospects for an Arms Control Regime*; see especially Avner Cohen, “The Nuclear Issue in the Middle East in a New World Order”; Gerald Steinberg, “Israel and the Changing Global Non-Proliferation Regime: The NPT extension, CTBT and Fissile Cut-Off”; Etel Solingen, “Domestic Aspects of Strategic Postures: The Past and Future in a Middle East Nuclear Regime”; Mounir Zahran, “Arms Control and the Peace Process: The Egyptian Perspective;” and Jean Pascal Zanders, “Towards Understanding Chemical Warfare Weapons Proliferation.” See also Peter Herby, *The Chemical Weapons Convention and Arms Control in the Middle East*, (Oslo: International Peace Research Institute, 1992); Avner Cohen and Marvin Miller, “How to Think About—and Implement—Nuclear Arms Control in the Middle East,” *The Washington Quarterly* 16, no. 2 (Spring 1993); Geoffrey Kemp, “The Middle East Arms Race: Can it be Controlled,” *Middle East Journal* 3, no. 3 (Summer 1991); and Jan Prawitz and James Leonard, *A Zone Free of Weapons of Mass Destruction in the Middle East* (UNIDIR, 1996).

What is the impact of political stability in the Gulf countries on arms control in the Core? The armament process currently prevailing in the Gulf countries is primarily focused on threats emanating from within the Gulf. The spread of WMD and long range SSMS in the Gulf, however, could threaten countries in the Core. Such a threat could become even more profound if political instability spreads in the Gulf and/or if the peace process breaks down. Therefore, a certain measure of political and strategic stability is needed in that region as well for a comprehensive arms control regime to evolve in the Core. Moreover, an arms control regime for WMD in the Core would require the participation of all the Gulf countries.

Security Architecture

Political stability coupled with various security arrangements might evolve into a more structured and cooperative security regime. While relations in the Core and the Gulf are likely to remain much less ordered than, for example, interstate relations in Europe or even in South East Asia, possibilities exist to create a security system that would comprise various CSBM systems linked with different arms control regimes. Within such a system, both conventional and WMD arms control could gradually be applied. It is likely, however, that peace agreements and various security agreements coupled with sets of CSBMs are easier to achieve than wide-ranging formal arms control agreements. The latter might emerge gradually, over long periods of time, if states were to sustain political and strategic assessments that the likelihood of war has diminished very significantly.

International Developments

Although the Middle East and the Gulf have their own region-specific problems and concerns, there is also an interaction between international and regional developments. The worldwide concern about proliferation, together with the significant nuclear arms control agreements between the United States and the Soviet Union (Russia); the reversals in the nuclear policies of Brazil, Argentina, and South Africa; the agreement with North Korea, and the international adoption of the Chemical Weapons Convention, all appear to create a "window of opportunity" for further concentrated international efforts to achieve regional controls on WMD. Nevertheless, regional developments must be taken into account and efforts at arms control should be tailored to region-specific situations. Thus, for example, the United States, which is the main international power that could spearhead the efforts at arms control, is currently focusing all its diplomatic efforts on the continuation of the peace process. This will clearly limit its readiness to focus its attention on WMD arms control.

Verification

Verification of nuclear developments is difficult in several respects. Facilities can be hidden and dispersed. Moreover, while it may be possible to detect facilities for the production of fissionable materials, it is much less certain that the clandestine transfer of weapons' grade materials from a third party would be detected. The task of verification becomes even more complex regarding chemical and especially biological weapons. Therefore, the problem of verification is liable to create difficulties in achieving any comprehensive WMD arms control regime.

Israel

Since the early 1960s, the United States demanded that Israel halt its nuclear program and accept control over Dimona. When the NPT came into force in 1970, Washington again insisted that Israel become a signatory. In response, Israel argued that the real threat to stability in the Middle East was the conventional arms race. This was also the government's response to members of the Knesset who were increasingly uneasy over the nuclear development program and urged that the Middle East be declared a nuclear-free zone.

Gradually, Israeli policy makers began to formulate a new strategy on nuclear arms control in the region. This shift in strategy culminated with Israel's qualified positive response to the Iranian–Egyptian proposal of 1974 to the UN General Assembly, which called for the establishment of a nuclear-weapon-free zone in the Middle East. In 1980, Israel also put forward the idea of a “Middle East Nuclear-Weapon-Free Zone” (MENWFZ). The Israeli position on a MENWFZ emphasized the following elements. First, the NPT issue should be separated from the idea of making the Middle East a zone free of nuclear weapons. While Israel endorsed the idea of regional denuclearization, it continued to refuse to sign the NPT. Second, Israel insisted on the connection between nuclear and conventional arms and on the need to control both. Third, it insisted that a prior condition to the establishment of a MENWFZ must be the signing of peace agreements between Israel and all the states in the region. Fourth, verification should be mutual and conducted by the regional states. Fifth, Israel endorsed the Egyptian position articulated in the early 1990s (see below) concerning the establishment of a WMD free zone in the Middle East rather than limiting such a zone to prohibiting only nuclear weapons.

Since the beginning of the Madrid peace process, negotiations on regional arms control have become a central element in the multilateral process within the context of the Arms Control and Regional Security Committee (ACRS). In that forum, the Egyptians emphasized the demand that Israel sign the NPT and denuclearize completely. Israel, for its part, has argued for a gradual approach to nuclear arms control. On 23 February 1995, then-Foreign Minister Shimon Peres, following a meeting with Egyptian President Mubarak, declared that two years after peace treaties between Israel and all the regional countries were signed, Israel would be ready to hold negotiations for the establishment of a Weapons of Mass Destruction Free Zone (WMDFFZ) in the Middle East.⁵³

Driven by security concerns, Israel is unlikely to denuclearize unless it concludes that its security is not seriously threatened. Extreme caution is therefore likely to guide Israeli policy. Indeed, one might speculate that Israel would be willing to accept only partial measures of nuclear arms control, such as lowering the size, possible missions, and salience of its nuclear capability, once

⁵³ References to the Israeli position include: Israeli Draft Resolution presented to the United Nations General Assembly on 31 October 1980; Address by Prime Minister Shamir to the UN General Assembly, 7 June 1988; Address by Prime Minister Shamir to the UN General Assembly on 12 December 1990; Israel's reply of 22 October 1991, to the study contained in the Secretary-General's report (A/45/435, annex); Address by Foreign Minister Peres at the signing ceremony of the Chemical Weapons Convention, Paris, 13 January 1993.

various political and strategic conditions were met.⁵⁴ First and foremost, is the need for a change in the basic regional political conditions. Formal peace with all the Middle Eastern countries (both Core and Gulf states) is clearly a precondition for beginning the process of nuclear arms control. Israel is also likely to expect a process of normalization in its relationship with its regional neighbors. Beyond that, Israel must be confident that alternative security instruments would assure its existence if a reversal of political conditions occurred. The three main alternatives are cumulative: first, sufficient conventional capabilities; second, firm American military guarantees; and third, regional security arrangements.

Regional-Political

As mentioned before, Israel is officially ready to begin negotiations on a WMDFZ in the Middle East once peace agreements with all the regional powers are signed. As for the definition of the Middle East, Israel insists that this be as wide as possible and include Iran for the purpose of WMDFZ negotiations, given Iran's quest for a nuclear weapon capability and the current extreme anti-Israeli position that Iran has adopted. It is not clear what Israel's demands might be regarding other non-Arab states in the region or on its periphery. Since Israel might perceive Pakistan as a potential supplier of nuclear know-how and possibly—in the future—even of nuclear weapons to Arab states, it might also suggest that Pakistan be included in a WMDFZ for the Middle East. Such a broad approach appears unrealistic, however, given the specific conditions in the Indian subcontinent, i.e., the Indian-Pakistani nuclear relationship. A more reasonable approach would be for Israel to demand a peace treaty with Pakistan and an undertaking by the latter of special, verifiable obligations not to transfer WMD technology or know-how to states in the Middle East. In fact, there are already signs of change in the Pakistani position vis-à-vis Israel. Whereas previously there were no contacts whatsoever between the two countries, several meetings have taken place between Israeli and Pakistani officials since the Oslo agreements. The general impression is that—provided the peace process continues—Pakistan is moving toward a more positive position toward Israel.

The only international power that could guarantee a Pakistani undertaking not to transfer WMD technology is the United States, because of its close relationship with Pakistan and the latter's need for American support. In addition, it is unlikely that Pakistan will be interested in getting over-involved in Middle Eastern conflicts, especially while its conflict with India persists.

Regional-Strategic

It is assumed that Israeli adherence to a WMDFZ in the Middle East would also require a regional arms control regime for conventional weapons, allowing for continued Israeli qualitative superiority. The Israeli insistence on conventional qualitative superiority results from three sets of objective conditions: first, the permanent territorial and demographic asymmetries between Israel and the neighboring Arab countries as well as those on the periphery; second, the inherent uncertainty involved in political relationships in the Middle East; and third, the continuing Israeli need to rely on a military reserve system.

⁵⁴ These are the author's own ideas and do not reflect any official Israeli position.

The evolution of elements of a cooperative security system in the “heart” of the Middle East could also contribute to a general (and Israeli-specific) feeling of security. This could entail physical limitations on deployment of forces such as partial or full demilitarization of zones, various CSBMs, mechanisms for crisis management, and elements of strategic cooperation among the participating states.

American Reassurances

Several types of American guarantees could contribute to a reduction in Israeli security concerns and thus to a greater willingness to accept controls on its nuclear weapon capability. First, the United States could offer to enter into a bilateral defense treaty with Israel, according to which the United States would be bound to intervene militarily on Israel’s side (if the latter asked for such intervention) in case of a military attack. Second, the United States could guarantee the various peace agreements and their attached security arrangements. Concretely, this could consist of the continued participation of American troops in the multilateral force in the Sinai and a similar deployment of American forces in a demilitarized Golan. In addition, there could be a formal American undertaking attached to the peace treaties to use force in consultation with Israel if the security arrangements in the treaties were violated by the Arab side. Another possible mechanism would be American participation in a collective regional security system involving several states. In such a structure, the United States would underwrite the stability of all the participants in the collective system. This would of course diminish the exclusive connection between the United States and Israel that would be entailed in a bilateral defense treaty, but the United States would nevertheless be committed to act against aggressors who threaten the parties to the regional alliance. A regional defense alliance with American participation would, of course, blunt Arab criticisms of the US–Israeli bilateral relationship. The fourth area in which the United States could be expected to bolster Israel is in terms of military aid. This stems from Israel’s need to maintain its qualitative military conventional superiority in the era of peace, particularly if its nuclear deterrent is given up.

It should be noted that there is an ongoing debate within Israel as to the desirability of deep American involvement in the country’s defense.⁵⁵ Both hawks, who oppose further Israeli withdrawals from the territories, and many moderates object to the idea of deploying American forces on the Golan and to an American–Israeli defense treaty. They argue that Israel should always continue to rely on its own military capabilities and never pass the burden of defense to others. A variation of the same theme holds that reliance on outside military guarantees would diminish the readiness of Israelis to fight for their land. Israel should, therefore, not abandon the policy of “self reliance.” A second argument is that an American military guarantee would be preconditioned on strategic coordination with the United States, which might compromise Israel’s ability to determine its own defense priorities and prevent Israel from employing its armed forces until American consent

⁵⁵ See, for example, Yair Evron, *An American–Israeli Defense Treaty* (Tel Aviv University: The Jaffee Center for Strategic Studies, 1981); Dory Gold, *Israel as an American Non-Nato Ally* (Jerusalem: Jerusalem Post Press, 1992); Ze’ev Schiff, “The Cost of Defense Alliance,” *Ha’aretz*, 12 December 1995.

was extended. Such a treaty, then, would curtail Israel's freedom of military action. A third argument is that Israeli–American relations might be compromised if American soldiers had to fight in far away military operations as Israel's ally. Fourth, opponents of a US–Israeli defense treaty claim that in the post-Cold War period, the United States could be reluctant to engage in active combat and hence might not honor its commitment. Finally, it is argued, Arab states could look on such a guarantee during a period of evolving peace as a sign of ill will on Israel's part and the perception that Israel acts as a foreign agent in the service of American imperialism would be reaffirmed. Similarly, Arab states could become even more concerned about the depth of American–Israeli relations and view the American role with even greater suspicion.

Those who favor an American–Israeli defense treaty argue that such a treaty would considerably enhance deterrence against any attack on Israel from any quarter. This will outweigh the various mentioned arguments against the discussed treaty. More specific counter arguments are: First, all historical experience abounds with the phenomenon of defense treaties, which are common instruments in international security. Their main test is their usefulness as a deterrent. This has become even more emphasized with the big military alliances of the post-World War II international system. Israel should not feel different in that sense from NATO members, for example. The notion of complete “self reliance” is rooted in a psychological climate belonging to a different era. Indeed, as will be clarified below, Israel would in any case have to fight against an attack, thus relying on itself. American aid would come as an additional measure. What is important is that close coordination with the United States would increase even more the deterrent effect against attacks on Israel.

Second, with a US–Israeli defense treaty in place, Israel indeed would be required to coordinate its strategic behavior with the United States even more closely than before. But this need not necessarily be a disadvantage, as it might also inhibit some unwarranted Israeli military initiatives. Third, even though American public support for Israel could weaken as a result of the possibility of American soldiers being killed for Israel, a formal bilateral commitment will strengthen the overall strategic links between the two states. In any event, the probability of direct American military intervention in general, and by ground forces in particular, will be very low; if the peace process continues, the probability of war will decline considerably. American formal guarantees would make such a probability even more remote. Were the political situation to completely deteriorate and deterrence to fail, Israeli military capability should be sufficient to defend itself. American intervention—if needed at all—could come, for example, in the form of air strikes or missile strikes against the aggressor. The accuracy of various types of stand-off precision munitions could increase manifold the importance of such an intervention. This type of involvement would not incur many American casualties, if at all, and thus would lessen potential public reluctance to get involved in military activities in the Middle East. It is true that the image of Israel might be negatively affected in some quarters if it was seen as even closer to the United States than before. But then, many Arab governments and elites in the post-Cold War era also have been cultivating very close relations with the United States. In that respect some profound changes have taken place in Arab public opinion.

Two basic arguments against an Israeli–American defense treaty do have greater relevance. First, the strategic relations between the two countries are currently so close that most of the advantages of a formal agreement exist in any case, and it is likely that the United States would aid Israel in time of need. Second, in a peaceful Middle East, the need for a stronger American military guarantee to Israel would be superfluous, and indeed, might raise unneeded suspicions in Arab quarters and be politically counterproductive.

The counter arguments to these particular points are first, that while current American–Israeli relations are already very close, a formal guarantee is unequivocal and would therefore further enhance deterrence. Second, even in a future peaceful Middle East, there are various potentialities for destabilizing forces, as noted above. One of the instruments to enhance stability is a continued American strategic presence. An Israeli–American defense treaty could be one dimension of this presence.

The Israeli position on the Chemical Weapons Convention

Israel signed the Chemical Weapons Convention (CWC) in January 1993 but to date has declined to ratify it.⁵⁶ Israeli calculations in regard to ratification are complex. For Israel, ratification is contingent upon all the regional countries signing and ratifying the CWC. The position of the Arab states all along, has been that their chemical capability (to the extent they admit it) is in response to Israel's nuclear capability. Therefore, unless Israel signs and ratifies the NPT or at least undertakes various steps of nuclear disarmament, they will not join the CWC. In line with its overall position, Israel demands that verification of the CWC be regional and reciprocal.

Once the CWC went into force in April 1997, Israel found itself in a new position. It seems likely that the great majority of countries in the world will become parties to the CWC, in which case American and international pressure on Israel to ratify the CWC will increase. Moreover, according to the CWC, economic sanctions would be imposed beginning in 2000 on states that refused to join the treaty. This might cause considerable damage to the Israeli chemical industry.

Israel has never admitted that it has a chemical weapons capability. Therefore it is possible only to speculate on the possible role that chemical weapons could play in Israel's overall strategic posture. Chemical weapons have only limited military effect and many of the modern conventional arms that Israel has are far more accurate and effective than chemical weapons for use on the battlefield. Hence, the utility of chemical weapons is primarily in the antipopulation mode. Here again, conventional arms could be far more effective and destructive than chemical ones, and chemical agents should be considered primarily as an additional deterrent against the use of similar weapons against either military or (primarily) Israeli civilian populations. As mentioned before,

⁵⁶ The necessity for normal peaceful relations between Israel and all the Middle Eastern countries is an official Israeli position. See the address by Foreign Minister Shimon Peres at the signing ceremony of the Chemical Weapons Convention, Paris, 13 January 1993; Eytan Ben Zur, Director General of Israel's Foreign Ministry, at the opening of the United Nations Conference on Disarmament in September 1997, declared that Israel was not as yet going to ratify the CWC.

some Israeli strategists refer to Israel's assumed nuclear capability as the proper deterrent against the use of all types of WMD against Israel. It could be speculated, however, that if Israel indeed has a chemical capability, the proper deterrent against the use of chemical agents against Israel could be a response in kind by Israel. If Israel were to rely on chemical weapons rather than nuclear weapons to deter the use of chemical weapons against it, this would raise the threshold for the threat to use nuclear weapons. Conversely, abolition of chemical arms would lower the threshold of nuclear deterrent threats. Such an argument could be put forth against Israel joining the CWC, which in this case also fits nuclear arms control considerations.

But altogether there are powerful reasons why Israel should join the CWC. First, as mentioned, non-ratification might lead, over time, to considerable economic costs. Second, Israeli ratification of the CWC would enable the United States and the international community to increase its pressure on the Arab states to join the CWC. This would certainly serve Israeli diplomatic and strategic interests. Finally, by ratifying the CWC, Israel could further improve its international political position and demonstrate its readiness to enlarge the scope of arms control in the region.⁵⁷

Arab States

In the view of Arab observers, Israel's overall strategic and military capability provides it with a significant qualitative advantage vis-à-vis the whole Arab world. That qualitative edge is discernible, according to Arab perceptions, in all areas, both nonconventional and conventional. Arab states are intent on narrowing that gap, both before peace and during peace. Thus their policy on the elimination of WMD is grounded in their desire to narrow Israel's qualitative edge. Among Israel's immediate neighbors this applies primarily to Egypt and Syria. Beyond that, each Arab state has its own political and security interests and concerns. A plan for a Nuclear-Weapon-Free Zone (NWFZ) in the Middle East, as well as a ban on other types of weapons of mass destruction, would therefore certainly serve interests of the Arab States. Clearly a WMD-free zone would deny them possible future nuclear capability as well as a chemical and biological capability, but in view of the Israeli nuclear monopoly, such a plan would serve their interests as it would mean the denuclearization of Israel.

Several Arab states came to view chemical arms as a strategic response to Israel's nuclear monopoly. Thus, the Arab League formulated a common position of the Arab countries that stipulates that their joining the CWC depends on Israel's accession to the NPT. Altogether, eight Arab states—Egypt, Syria, Iraq, Libya, Jordan, Lebanon, Sudan, and Somalia—have not signed nor ratified the CWC. Out of these, the first four are considered to have chemical weapon capabilities. In August 1997, however, Jordan declared that it would join the CWC.⁵⁸

⁵⁷ For some articles on these issues, see Steve Rodan, "Bitter Choices: Israel's Chemical Dilemma," *The Jerusalem Post*, 15 August 1997; Aluf Ben, "Does Israel Believe in the CWC?" *Ha'aretz*, 12 November 1996; Reuven Pedhatur, "Treaty in a Deadlock," *Ha'aretz*, 12 March 1997; Reuven Pedhatur, "The Trap of the CWC," *Ha'aretz*, 30 August 1997.

⁵⁸ For the Jordanian declaration on joining the CWC see *A-Rai* (Jordan) 4 November 1997.

Egypt

As has been pointed out above, from the Egyptian point of view, Israeli nuclear capability does not pose an immediate and direct military threat. In the first place, Egypt is not at war with Israel or planning such a war. Second, even if the peace with Israel were to deteriorate, nuclear weapons could not serve as a useful coercive or battlefield instrument in all imaginable scenarios. Egypt's concern results from more extreme and less probable scenarios. Moreover, as has been pointed out before, its concern is grounded in very general political and grand strategic (on the regional level) considerations of political influence and power.

In 1974 Egypt presented a proposal to the United Nations General Assembly concerning the establishment of a nuclear-weapon-free zone in the Middle East and calling on all regional powers to join the NPT.⁵⁹ Iran had already put forward a similar idea that year, and eventually this became a joint Egyptian–Iranian proposal. Egypt stressed adherence to the NPT as a central element of the proposal, although its approach was modified as it gradually “learned” about Israeli security concerns. The Egyptian leadership subsequently acknowledged that Israeli security interests must be addressed when dealing with arms control measures. Thus, Egyptian negotiators in the multilateral talks on arms control have adduced a more varied and nuanced position. Cairo has expanded its position and calls for making the Middle East completely free of all weapons of mass destruction, not just of nuclear arms.⁶⁰ Some Egyptian officials and academics have accepted the Israeli position that complete regional denuclearization will have to wait until peace treaties are signed between Israel and all the regional countries. Nevertheless, Egypt continued to demand that Israel accept the NPT.

At the same time, some Egyptians have appeared to be ready to accept a phased approach to nuclear arms control: In the first stage Israel would have to accept the principle of transparency, i.e., disclose its capability and allow verification. Following that and in parallel with the peace process, Israel would be required to dismantle gradually its nuclear capability. As that dismantling proceeded, all regional powers would accept complete and verifiable dismantling of all their chemical and biological weapons and means of production. The process could be protracted and graduated. Planning for all stages would commence at the beginning of the process, and the final outcome would be the complete denuclearization of the Middle East, which would also become an area free of all weapons of mass destruction.

⁵⁹ The Egyptian position on WMD/FZ has been continuously presented by Egyptian officials in various international forums, conferences, and public declarations. Egyptian civilian strategists have also elaborated on it in various international conferences. For a few examples, see Ambassador Amro Mussa's (who later became Egypt's Foreign Minister) statement to the UN General Assembly on 9 November 1990; Nabil Fahmy, “Controlling Weapons of Mass Destruction in the Middle East,” *American–Arab Affairs*, no. 15, Winter 1991.

⁶⁰ On the general Egyptian position on the process leading to WMD/FZ in the Middle East and also on the negotiations in ACRS, see inter alia, Shai Feldman, *Nuclear Weapons and Arms Control in the Middle East* (Cambridge, Mass.: MIT Press, 1997).

Since the beginning of the activities of ACRS, the Egyptians have focused increasingly on the problem of the Israeli nuclear capability. Egyptian pressure on that score intensified in 1994 and early 1995 in the run-up to the NPT Review and Extension Conference, which was convened in New York in April–May 1995.

While Israeli representatives to the ACRS meetings emphasized political accommodation, conventional arms control, and CBMS as the first priority, the Egyptian representatives placed denuclearization of the Middle East at the top of their agenda. Eventually, these deep disagreements prompted the Egyptians to suspend the ACRS process; its meetings were subsequently terminated.

Would Egypt be ready to accept some measure of quantitative control over its conventional capability in exchange for Israeli acceptance of an NWFZ? After all, the Egyptian demands on that score are grounded in the first place in the political-strategic assessment of the power relationship that would exist in a Middle East that had already entered an era of peace, in which, the need for continued investment in massive military formations would decline as threat perceptions were modified. This would allow for some diversion of economic resources from military to civilian uses—the oft referred to “dividend of peace.”⁶¹ On the other hand, Egypt is convinced of Israel’s conventional qualitative edge and will be hesitant to halt the various modernization programs it has been pursuing since the 1980s. Here, however, limits on the transfer of American arms could facilitate a program for control over conventional armaments. Thus, the extent of restraints in the conventional area that Egypt would be willing to accept remains to be seen.

Syria

The Syrian position is possibly somewhat different in emphasis. Once peace was achieved, Syrian regional ambitions would be more limited than those of Egypt but its desire to limit the perceived Israeli qualitative edge would be similar to Egypt’s. Syria—always worried about Iraqi power—would also be interested in a NWFZ, as this would eliminate the significant advantage in nuclear know-how that Iraq gathered during the period of its active effort in that field.

Syria would probably have to reduce its conventional forces, or at least the offensive component, as part of a peace treaty with Israel. In fact, this would be commensurate with its greater economic constraints and the need to revitalize the economy. It is not clear, however, how far Syria would be willing to go in the direction of further conventional cuts in exchange for Israeli readiness to accept a NWFZ. A thornier question will be the Syrian reaction to a possible Israeli demand for cuts in Syria’s arsenal of SSMS. Syria built up its SSM capability primarily as a counter to Israel’s superior air force, and its reduction or elimination would leave Syria exposed to Israeli air power with no deterrent.

⁶¹ See, for example, Heba Handoussa and Nemat Shafik, “The Egyptian Case” in Stanley Fischer, Dani Roobik, and Elias Tuma, eds., *The Economics of Middle Eastern Peace* (Cambridge, Mass.: MIT Press, 1993).

Jordan

Jordan, for its part, would certainly go along with a NWFZ or WMDFZ, as this would limit other states' capabilities that Jordan in any case lacks. As mentioned above, Jordan has already declared that it would join the CWC. It should also be mentioned that in the Israeli–Jordanian peace treaty there is direct explicit reference to the need to make the region free of all weapons of mass destruction. It should also be emphasized that Jordan had been very active in ACRS and also in several Track 2 forums designed to promote arms control and CSBMs in the region.⁶² It has tried hard to reactivate the ACRS process and to strike a compromise between Israel and Egypt in that process.

Cut-Off of Production of Fissile Materials

In 1991, after the end of the Gulf War, the United States proposed the idea of a cut-off of production of fissile materials, i.e., U235 and Pu239, in the Middle East as part of a larger plan for arms control.⁶³ In 1993 the United States came out with the idea of a universal cut-off of production of these materials for weapons use.⁶⁴ In fact, already in 1989, the United States had halted such production. Britain and France also stopped similar production in the early 1990s, and Russia stopped most production, except for Pu239 produced as a byproduct in two of its peaceful nuclear reactors, which will be halted under a US–Russian agreement reached in September 1997.⁶⁵ The countries suspected of continuing production of fissile materials are China and the three threshold countries. It is, of course, possible that additional countries are trying, or will try in the near future, to develop facilities for the production of fissile materials. Iran and Iraq are among the potential candidates.

The reaction in the Middle East to the American proposal for a cut-off was hesitatingly negative. Israel, the only regional country suspected of continuing production of fissile materials (in its Dimona facility), perceived the proposal as being directed primarily at its ongoing nuclear effort. Arab countries perceived it as a measure that could freeze for a very long time, but not reverse, Israel's nuclear monopoly. Thus, altogether, the idea did not receive much attention and elaboration. The breakdown in the ACRS process also stopped negotiations on any measures concerning nuclear arms control.

⁶² Several research organizations and institutes have, over the last few years, initiated meetings designed to discuss various possible arms control and CSBM arrangements in the Middle East. Among them are the Quakers, the Carnegie Commission on Preventing Deadly Conflict, and the UCLA Center for International Relations.

⁶³ See President Bush announcement of 19 May, 1991, Press Release White House.

⁶⁴ The American initiative was proposed in September 1993. For details see *Strategic Survey 1993–1994* (London: IISS): 56.

⁶⁵ US-Russian Agreement on the modification of the Tomsk and Krasnoyarsk plutonium production reactors agreement, signed 23 September, 1997, at the ninth meeting of the Gore-Chernomyrdin Commission, in Moscow.

From an Israeli point of view, a freeze—while not immediately affecting current capabilities—might, in the more distant future, gradually affect such capabilities. Another problem is defining the kinds of quid pro quo that Arab states will have to provide. A very stringent and intrusive verification system in the Arab world (especially in Iraq and Iran) would naturally be a necessary measure. Beyond that, Israel may find it necessary to also insist on other measures in the area of conventional arms control and in the area of chemical and biological agents.

While such Israeli demands are consistent with Israeli strategic preferences and therefore have an internal logic, it is doubtful that the Arab states would be ready to accept them. From their point of view, a regional freeze on the production of fissile materials that is not followed by concrete steps designed to reverse the Israeli nuclear capability might leave them in a permanently inferior position. Israel would be left with its current capabilities, while the Arab states would not be able to develop even a nuclear option. One major redeeming feature, for the Arab states would be that the Israeli capability would cease to expand. It is possible that because of this the Arab states may after all be inclined to accept this particular measure. It is more doubtful whether the linkage of the fissile material production freeze to a ban on chemical and biological weapons would be acceptable to the Arab states, however. They view this CBW capability as a counter to Israel's nuclear one, and as long as the latter remains intact, they would probably find it difficult to forgo their chemical weapons option.

Looking into the future, however, it appears that cut-off options could ultimately become one of the likely topics around which initial steps towards limits on WMD could evolve. Various “packages” involving cut-off proposals and limits on other WMD could be worked out and assessed.

Confidence Building Measures (CBMs)

Various possible CBMs in regard to WMD provide a useful and potentially successful approach in the short and mid term to the threats of regional WMD proliferation. While far reaching and comprehensive arms control measures designed to reverse existing arsenals appear to be very difficult in the short run, CBMs could provide a promising avenue leading ultimately to arms control agreements. Some of these are suggested below.

Successful continuation of WMD controls in Iraq and Iran

Successful continued inspections of WMD in Iraq would increase confidence both in reference to security of Gulf and Core countries and trust in inspection and verification systems. Continued obligation of measures controlling WMD in Iran would also have a similar effect.

No-first-use declaration of WMD

A CBM that might match the deterrence dimension of the assumed Israeli nuclear capability would need to address the missions of that capability. As argued above, the two rational functions of Israeli nuclear capability are deterrence of “last resort” contingencies and of an Arab or Iranian

nuclear capability, or of a use of other WMD that could bring about an existential threat. Further clarifying these missions may be an important measure in restraining proliferation.

One measure that could help clarify the role of Israel's nuclear weapons would be a declaration of "no first use" (NFU) of weapons of mass destruction by all regional powers, which Israel would join. Such a NFU would allow Israel to maintain its ambiguous nuclear posture yet, at the same time, would contribute to the delineation of the limits of such use. This declaration could also reduce the threat of a first use of chemical or biological weapons by Arab states. Sheer declarations may indeed have only a limited effect, yet they do have some efficacy. Furthermore, the possibility that the United States might play a role in underwriting such an undertaking should be weighed and considered. Such a guarantee could increase the effectiveness of the declaration. An Israeli no-first-use posture might reduce the credibility of the deterrent against a massive conventional attack on Israel that would threaten its very existence. On the other hand, however, such an attack is unlikely to succeed because of the conventional balance. Furthermore, within a wider context of security arrangements, there would be other intermediate measures that would apply. Finally, in such a severe and critical situation, Israel could resort (and have international legitimization for it) to a nuclear threat. Altogether then, no-first-use declarations could reduce tensions and anxieties. Such a CBM should therefore become a topic for discussion between the parties within ACRS or outside it.

No political use

Another CBM could be the undertaking by all regional powers to refrain from using threats of utilizing weapons of mass destruction for political purposes. Again, the United States could play a role in making such an undertaking more binding. Such a measure could possibly reduce Egyptian concern about Israel's political power in the Middle East. As mentioned before in this paper, such a concern is not valid, but the said undertaking could further clarify the political context of WMD arms control negotiations.

Arab-Israeli security discussions

Further steps toward beginning negotiations on various dimensions of nuclear capability specifically, and WMD generally, depend on the political climate in Arab-Israeli relations. While overall developments toward the creation of a developed security regime in the Arab-Israeli region depend on the peaceful solution of the Israeli-Palestinian impasse, as well as on a peace agreement between Israel and Syria, much would also depend on extended discussions concerning the security perceptions, perceived threats and strategic and military responses of all the regional states. Here it should be noted that there had been a serious and dangerous gap primarily between Israel and Egypt. This gap was very clear in the ACRS negotiations. Israel, deeply concerned about its security environment, and continuously aware of the possibility of reverses in the peace process, had to encounter continuous Egyptian demands for nuclear disarmament as well as for limiting the gap in its qualitative edge in conventional weapons. It appeared to Israeli decisionmakers that the only real motivation behind the Egyptian demands was not genuine disarmament, but rather the reduction of Israel's ability to defend itself. Therefore, Israel demanded that prior to detailed negotiations about arms control, the two sides should first focus on the overall security approaches of all the parties and

assess general principles for strategic stability. This was not accepted by the Egyptian side. As mentioned above, such discussions could contribute to the mutual socialization of all parties in the security concerns of the parties. A proper forum for such meetings would be a renewed ACRS. In addition, seminars within an informal Track 2 could be beneficial.

Conclusion

The proliferation of WMD in the Middle East has already caused great anxiety in the region and throughout the world. In addition, arms accumulation, military modernization, and concern about the role of WMDs and SSMS persist in the region. Partial steps to control current and future proliferation have been taken, but unless substantial control measures are applied, the threat of further proliferation and possible use in the long run is significant. Such measures, however, are linked to future positive political developments coupled with enhanced self confidence in the security of the regional states.

In the foreseeable future, it seems likely that security considerations will continue to color the nature of inter-state relations in the Middle East and in the Gulf. Indeed, if conventional escalation occurs, not improbable given the instability in the region, there is the possibility that WMD, including nuclear weapons, could be used. Tense relations in the region, particularly those between the Arab States and Israel, create threat perceptions and impact strategic postures. The current strategic balance, while it has resulted in the reduced likelihood of inter-state war in the Middle East, is fragile.

The potential for WMD arms control measures in the Middle East is dependent upon various political and strategic conditions in the region including: the outcome of the Arab–Israeli peace process; the roles of Iraq and Iran in the Gulf and their policies towards the Middle East; the role of the United States; the role of CBMs; the demands for conventional and nonconventional arms, and the readiness of suppliers to participate in arms control regimes; and the viability of verification measures. Furthermore, a comprehensive WMD arms control regime must extend to both the Arab–Israeli region as well as to the Gulf area.

While such a regime is unlikely to emerge very soon, partial steps toward it could be taken. Various arms control measures and CBMs could be pursued even without the implementation of wider security and political frameworks. A gradual approach combining advances in the political, security, and arms control areas should be pursued and designed to improve regional security.