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CRITICAL THINKING PUBLICATION IN THE MID-1980s

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CHEMICAL WEAPONS PROLIFERATION  
IN THE MIDDLE EAST

AN INDIVIDUAL STUDY PROJECT

by

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# ABSTRACT

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Since the early 1980s, chemical weapons proliferation in the Middle East has been a growing problem. Most recently, the eight year Iran-Iraq War, marked by the repeated use of chemical weapons, has set an alarming precedent in this region that can no longer be ignored. The threat is acute and the implications for the Middle East, an area where animosities are high and relations tense, are significant. This study will address chemical weapons proliferation in the Middle East. It will examine why proliferation occurred and look at initiatives and efforts to prevent proliferation. This study will also discuss the chemical weapons capabilities of the Middle East states, the threat to the region posed by chemical weapons, and some of the implications for balance and stability in the region. Finally, this study will examine future prospects for the region in terms of chemical weapons proliferation there.

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# CHEMICAL WEAPONS PROLIFERATION IN THE MIDDLE EAST

## CHAPTER I

### INTRODUCTION

Since the early 1980s chemical weapons proliferation has been a growing problem. During this period incidents of suspected and actual use of chemical weapons in Southeast Asia and Afghanistan alerted the world that the chemical warfare genie was escaping from the bottle.<sup>1</sup> Surprisingly, response of the international community to these disturbing developments was lukewarm. The worldwide concern to halt proliferation of nuclear weapons and the emphasis on "vertical proliferation" of chemical weapons between the U.S. and Soviet Union prevented the international community from focusing on "horizontal proliferation" of chemical weapons-their spread to other countries.<sup>2</sup> All the while, trends in the Middle East and Southwest Asia were moving in the opposite direction. The eight year Iran-Iraq War marked by repeated use of chemical weapons significantly eroded the taboc in regard to chemical weapons use and set an alarming precedent that other countries in the region could not ignore.<sup>3</sup> Moreover, chemical weapons are no longer limited to the major industrialized countries. The technology is accessible to lesser developed countries and an increasing number of Middle East nations are acquiring an offensive chemical warfare capability. Most recent estimates indicate that

worldwide as many as 20 countries are suspected of possessing or developing an offensive chemical capability.<sup>4</sup> Among these 20 are Iraq, Egypt, Iran, Israel, Syria, and Libya-all nations considered to have a credible chemical capability<sup>5</sup>

Compounding this disturbing trend of chemical weapon proliferation is the spread of ballistic missiles throughout the Middle East region. When armed with chemical warheads, the ballistic missiles make the consequences of war in the volatile Middle East much more dangerous. The terrorist dimension of chemical warfare must also be considered. The possibility of chemical weapons falling into terrorist hands presents significant concerns to the region and the international community.

The threat posed by chemical weapons is far more acute than ever before. The implications for the Middle East region, an area where animosities are high and relations tense, are significant.

This study will address chemical weapons proliferation in the Middle East. It will examine why proliferation occurred and look at initiatives and efforts to prevent proliferation. The study will also discuss the chemical weapons capabilities of the Middle East states, the threat to the region posed by chemical weapons, and some of the implications for balance and stability in the region. Finally, this study will examine future prospects for the region in terms of chemical weapons proliferation there.



# ENDNOTES

1. Joseph D. Douglass, Jr. and Neil C. Livingstone, America The Vulnerable: The Threat of Chemical and Biological Warfare, p. 3.
2. International Institute for Strategic Studies, Strategic Survey 1987-1988, p. 59.
3. Pierre Morel, "The Paris Conference on Chemical Weapons," Disarmament, Vol. XII, No. 2, Summer 1989, p. 127.
4. "U.S. Chemical Weapons Production: Poisoning the Atmosphere," The Defense Monitor, Vol. XVIII, No. 3, 1989, p. 5.
5. John J. Fialka, "Chemical Weapons Spread in Third World Pose Challenge to West," Wall Street Journal, 15 September 1989, p. A24.

## CHAPTER II

### THE PROLIFERATION PROBLEM

Use of chemical weapons in the Middle East first surfaced during the civil war in Yemen between Saudi Arabian backed Royalists and Egyptian and Soviet armed Republican forces. Since 1963, the Royalists, international journalists, and American Red Cross had charged that the Republicans were using poison gas. Finally, in 1967, following an investigation by the American Red Cross and the United Nations of an alleged gas attack on the village of Kitaf, the headquarters of the Royalists, it was concluded from collective evidence that poison gas had been used.<sup>1</sup>

Over the next 20 years, reports of actual or suspected chemical weapons use in the Middle East became more frequent and more and more countries added a chemical warfare capability to their arsenals of modern warfare. The grim reality of chemical warfare was brought home to Israel when nerve agent shells were discovered among munitions captured in the Sinai during the Six-Day War.<sup>2</sup> Iraq entered the chemical club in the late 1960s when the Soviet Union provided Iraq with chemical weapons.<sup>3</sup> During the 1973 Yom Kippur War chemical weapons again entered the scene. Egypt was reportedly prepared to employ chemical munitions against Israel. This concern grew especially serious

when the Israelis captured an extensive array of Soviet supplied individual and collective chemical protective equipment.<sup>4</sup> The most recent and alarming incident of chemical weapons use in the Middle East has been the Iran-Iraq War. United Nations investigating teams determined that the Iraqis, a party to the Geneva Protocol, employed chemical weapons against Iranian formations in 1984, 1986, and 1987. Also, in 1984 and 1987, United Nations teams reported use in Abadan and Khorramshahr, two Iranian cities near the war front.<sup>5</sup> The most horrific use of chemicals by Iraq occurred in March 1988 in the Kurdish village of Halabja in northern Iraq, then held by Iran. Iraq used mustard, cyanide and nerve gas. When the deadly clouds settled, hundreds, perhaps thousands of Kurdish civilians died.<sup>6</sup> Most recently, Libya entered the headlines over the controversy of its alleged chemical plant at Rabta, 80 kilometers southwest of Tripoli. Strong evidence indicates that the plant is not a pharmaceutical plant, as Libya asserts, but the world's largest poison gas factory.<sup>7</sup>

What are the reasons for this growth in chemical weapons production and use among countries in the Middle East region? Why has the 50 year tradition against chemical weapons use collapsed? Many theories and opinions have been explored, but generally I believe they can be classified into four broad categories: Self-preservation and Deterrence, Effectiveness and Military Utility, Technology Transfer, and Worldwide Complacency.

## SELF-PRESERVATION AND DETERRENCE

The chemical weapons threat in the region appears here to stay and the intent to use these weapons has been demonstrated by several countries. Accordingly, other governments have not turned a blind eye towards this threat and have taken the only predictable course of action - to become prepared.

Developing nations facing a threat from conventional forces of others have a strong incentive for acquiring chemical weapons. Iraq's emphasis on chemical weapons is seen as a response to Iran's 'human-wave' assaults during the Iran-Iraq War. Egypt's and Syria's programs may be related to Israel's conventional superiority. And, Libya is reported to have acquired and used chemical weapons in its war with Chad.<sup>8</sup>

Some Middle East countries have armed themselves with chemical weapons because their enemies have nuclear weapons. Chemical weapons are cheaper and easier to produce than nuclear arms, and they require less technical sophistication and less exotic materials. Syrians claim that they are developing chemical weapons to counterbalance Israel's nuclear capability.<sup>9</sup> Indeed this view was strengthened among Arab nations at the five day Paris Conference on Chemical Weapons held in January 1989. Following the conference, a senior European diplomat was reported to have said that the combination of ballistic missiles and lethal chemical weapons has given Arab nations such as Syria and Iraq a retaliatory threat against Israel's superior conventional weapons and reported nuclear monopoly among Middle East nations.<sup>10</sup> Similarly, some U.S. and

Israeli analysts are concerned that the Rabta facility is Libya's bid to offset Israeli's nuclear weapons capability with "the poor man's bomb"- a substitute for Gadhafi's thwarted efforts to obtain his own atomic bomb.<sup>11</sup>

Moreover, the lessons of chemical warfare history virtually guarantee proliferation. Since World War I, no belligerent has ever launched a chemical strike against an opponent known to be capable of responding in kind, not even Adolf Hitler at his most desperate hour.<sup>12</sup> Hitler's memory of his exposure to British mustard gas as a young corporal, coupled with larger fears of retaliation, may have helped to explain why the Nazi's never unleashed their chemical weapons during World War II. It is precisely that deterrent effect that has persuaded some countries to pursue the development of chemical weapons.<sup>13</sup> One can conjecture that perhaps Iraq would not have been so quick to unleash chemical attacks if Iran had a similar credible capability during the Iran-Iraq war.

#### EFFECTIVENESS AND MILITARY UTILITY

The use of chemical weapons is operationally constrained by logistics factors and their unpredictability. However, notwithstanding these constraints, chemical weapons have become the "poor man's atomic bomb" in the Middle East. Chemical weapons are cheap, simple to use, effective, and are not, in any sense, inferior weapons. With chemical weapons, even the smallest nations can join "the first team."<sup>14</sup> Looking at it another way, chemical weapons promise a devastating impact at

little cost and offer "have not" nations a way to balance their military capabilities against a more powerful enemy.<sup>15</sup> The Iran-Iraq War broke the moral barriers against chemical warfare and reinforced the effectiveness and military utility of chemical weapons as tools of modern warfare. The military benefit gained by Iraq outweighed any price paid in terms of international censure or economic sanctions.<sup>16</sup> Some Arab officials have expressed the conviction that Iraq's use of chemical weapons finally forced Iran to accept a cease-fire.<sup>17</sup> There is also the perception shared by some that Iran negotiated for peace because the troops were demoralized by repeated gas attacks.<sup>18</sup> In the last year of the war the fear of poison gas in the Iranian ranks was so great that Iraqi officers boasted they could start mass Iranian retreats simply by firing smoke grenades.<sup>19</sup> Israeli officials have also suggested that the introduction of chemical weapons by opposing Arab forces might prevent a decisive Israeli victory in future conflicts.<sup>20</sup> The military utility of chemical weapons has likewise been enhanced by the U.S. decision to modernize its own chemical arsenal. The decision, in 1987, to begin production of binary weapons is perceived by some as clear evidence of renewed interest in offensive chemical weapons and attaches a legitimacy to the new weapons that will encourage other countries to possess them.<sup>21</sup> Julian Robinson, one of Europe's leading experts on chemical warfare, suspects that the U.S. deployment of binary weapons will make chemical weapons seem "fashionable" in the arms industry.<sup>22</sup>

## TECHNOLOGY TRANSFER

The U.S. has identified Soviet military assistance, training, and technology transfer as key factors in the proliferation problem.<sup>23</sup> The Soviets provided Iraq with chemical agents in 1967 and in 1973 provided the Egyptians with substantive chemical protective equipment (and rumors of various offensive munitions).<sup>24</sup> Likewise, the significant amount of evidence concerning the employment of chemical agents in Afghanistan, Cambodia, Laos, and Angola substantiates Soviet complicity in proliferation by making delivery systems and agents available to its surrogates.<sup>25</sup>

The Soviet Union is not the only nation contributing to chemical weapons proliferation. Other foreign suppliers have also provided technical and operational expertise, facility construction, precursor chemicals, production equipment, parts, and training.<sup>26</sup> In the past year, West Germany has been at the center of international controversy concerning exports of chemical weapon technology. U.S. and West German investigations revealed that at least five West German companies and their subsidiaries in France and Austria helped Iraq obtain chemical weapons technology and helped Libya build its plant at Rabta.<sup>27</sup> The Japanese played a role too. A Japanese firm built the metal working plant next to the Rabta factory that presumably will produce the artillery shells and bomb casings to hold the output.<sup>28</sup> In addition French, Dutch, Swiss, and Italian chemical companies have also been identified as assisting Iran, Iraq, Syria, and Libya to develop the chemical arms

facilities.<sup>29</sup> Iraqi Foreign Minister Tariq Aziz said in response to criticism of his country:

If Iraq or Iran or any other state is suddenly in a position to produce chemical weapons, the raw materials and facilities were obtained from industrial countries. Europe is the main source. For Europe to be outraged and shed crocodile tears is pure hypocrisy.<sup>30</sup>

Companies in developing countries are also beginning to play a role in regional production programs, as evidenced by the recent involvement of Indian firms in the sale of chemicals to various countries in the Middle East.<sup>31</sup> A country looking to build a chemical warfare plant need only search for a chemical engineering firm hungry for business and then purchase the necessary equipment and chemicals on the international market without arousing suspicion. Companies often protest, after the fact, that they did not know what the plant would be used for. One government expert says this is hogwash:

The guy at the center specifies the chemical storage, what comes in and what goes out, the size of vessels needed. It is unlikely that someone could perform that role without knowing what's going on. Most countries seeking this technology don't have the level of expertise to do it themselves.<sup>32</sup>

Developing countries may also provide chemical weapons and technical assistance to one another. Egypt is believed to have supplied chemical weapons to Syria in the early 1970s. More recently, Syria is believed to have helped Iran with its program and Iran is said to have supplied chemical weapons to Libya in return for Soviet-made mines.<sup>33</sup>



## WORLDWIDE COMPLACENCY

Another reason why proliferation of chemical weapons continues is the apparent failure of the international community to take positive action against known or suspected violators. Reaction to the Halabja carnage in diplomatic circles and the international media was somewhat muted. Iraq's flagrant violation of the 1925 Geneva Protocol, the international convention which prohibits the use of chemical weapons, did not precipitate an enraged outcry from its signers, nor did it inspire any attempt to bring Iraq before the International Court of Justice.<sup>34</sup> It is interesting to note also the U.S. non-action. When Iraq was using mustard and nerve gas to break up the human-wave assaults during its war with Iran, the U.S. essentially turned a blind eye towards this flagrant violation of the Geneva Protocol.<sup>35</sup> Moreover, following the Iraqi attacks on the Kurdish rebels, the Administration opposed congressional action aimed at economic sanctions on Iraq.<sup>36</sup> The distressing silence is difficult to explain. Perhaps the international community did not want to be seen siding with Iran in the Gulf War. Analysts speculate that Iran's pariah status may have been cause for the silence. Neither Washington nor Moscow, they note, had been eager to impede Iraq's effort against Iran.<sup>37</sup>

The results of the 1989 Paris Conference on Chemical Weapons were as equally disappointing. While attendees at the conference reaffirmed the commitments to the 1925 Geneva Protocol, the delegates failed to censure Iraq for its gassing thousands of civilians and soldiers during the Iran-Iraq War and

failed to achieve a consensus on sanctions for nations who proliferate or use chemical weapons. Generally, there was avoidance of finger pointing at any culpable nation.<sup>38</sup> Iranian Foreign Minister Ali Akbar Velayati suggested in a blistering speech at the Paris Conference that the reluctance of the world community to criticize Iraq while the attacks were occurring "corroborated the fact that if favorable political grounds and international bargains are provided, the international community will appease such a use."<sup>39</sup>

The international community must now, because of their inaction, face up to the reality that the taboo on the use of chemical weapons has been weakened, if not destroyed.

#### ENDNOTES

1. Terry M. Weekly, LTC, The Proliferation of Chemical Weapons: Putting the Genie Back in the Bottle, p. 18-19.
2. Douglass and Livingstone, p. 146.
3. Ibid.
4. Ibid.
5. Weekly, p. 21.
6. Jill Smolowe, "Return of the Silent Killer," Time, 22 August 1988, p. 46.
7. R. Jeffrey Smith and David Ottaway, "U.S. Aims to Pressure Gadhafi on Plant," Washington Post, 5 January 1989, p. A32.
8. Elisa D. Harris, "Stemming the Spread of Chemical Weapons," The Brookings Review, Winter 1989/90, p. 42.
9. Smolowe, p. 48.

10. Edward Cody, "Talks Show Growing Arab Consensus That Chemical Arms Balance Nuclear," Washington Post, 13 January 1989, p. A24.

11. David B. Ottaway, "Middle East Weapons Proliferate," Washington Post, 19 December 1988, p. A1.

12. Joseph L. Galloway, "Bad Chemical Reactions," U.S. News & World Report, 16 January 1989, p. 30.

13. Smolowe, p. 48.

14. Douglass and Livingstone, p. 157.

15. Association of The United States Army, Special Report: Chemical Warfare-A Real and Growing Threat, p. 12.

16. Stephen Rose, "The Coming Explosion of Silent Weapons," Naval War College Review, Summer 1989, p. 8.

17. Cody, p. 24.

18. Isabel O'Keefe, "Flanders Fields Revisited," World Press Review, March 1989, p. 12.

19. James T. Hackett, "The Ballistic Missile Epidemic," Global Affairs, Winter 1990, p. 42.

20. Harvey J. McGeorge, "Chemical Addiction," Defense and Foreign Affairs, April 1989, p. 32.

21. "U.S. Chemical Weapons Production: Poisoning the Atmosphere," The Defense Monitor, Vol. XVIII, No. 3, 1989, p. 6.

22. O'Keefe, p. 13.

23. Harris, p. 42.

24. Douglass and Livingstone, pp. 145-146.

25. David G. Harrison, LTC and Jan R. Roberts, LTC(P), United States National Strategy and Defense Policy Objectives After Chemical Disarmament, p. 15.

26. William H. Webster, Statement of the Director, Central Intelligence Agency before the Subcommittee on Europe and the Middle East of the Committee on Foreign Affairs, p. 31.

27. Smith and Ottaway, p. A32.

28. Galloway, p. 31.

29. Harrison and Roberts, p. 16.
30. Galloway, p. 30.
31. Harris, p. 43.
32. Galloway, p. 31.
33. Harris, p. 42.
34. Weekly, p. 21.
35. Rose, p. 17.
36. Harrison and Roberts, p. 17.
37. Smolowe, pp. 46-47.
38. Edward Cody, "149 Nations Vow to Shun Poison Gas," Washington Post, 11 January 1989, p. A1.
39. R. Jeffrey Smith, "Conferees Refuse to Name the Guilty," Washington Post, 8 January 1989, p. A24.

CHAPTER III  
PREVENTING PROLIFERATION  
HISTORICAL OVERVIEW

Efforts to achieve a ban on the production and possession of chemical weapons have a long history. As early as 1868, the Declaration of St. Petersburg had stated that no weapon could be used that created superfluous suffering or made death inevitable.<sup>1</sup> Later, in 1874, the Conference of Brussels specifically forbade the "employment of poison or poisoned weapons", but this declaration was not adopted by the represented governments.<sup>2</sup> Nevertheless, these conferences led to the Hague Peace Conference of 1899 at which contracting parties agreed to "abstain from the use of projectiles the sole object of which is the diffusion of asphyxiating or deleterious gases."<sup>3</sup> Eight years later, the Hague Conference of 1907 added language forbidding the "use of poisons."<sup>4</sup> Following World War I which saw the use of chemical warfare, the Versailles Treaty forbade the manufacture or importation of gas weapons for the Central Powers.<sup>5</sup> A few years later, the Washington Conference of 1922 essentially restated the Versailles Treaty and Hague Conventions and accepted a resolution condemning the use in war of

asphyxiating gases. The Washington Conference of 1922 also adopted prohibiting language similar to that which subsequently appeared in resolutions at the 1923 Conference of Central American States, the 1923 Fifth International Conference of American States, and ultimately the 1925 Geneva Protocol. Further proposals were developed for the General Disarmament Conference of the League of Nations (1932-1934).<sup>6</sup> In the post World War II period the United Nations has pursued chemical disarmament through the Disarmament Commission (1953), the Ten Nation Committee on Disarmament (1960), the Eighteen Nation Committee on Disarmament (1962-1968) and the Conference of the Committee on Disarmament (1969-present).<sup>7</sup> The issue of chemical weapons is also addressed in the 1972 Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction. Article IX of this Convention states:

Each State Party to this Convention affirms the recognized objective of effective prohibition of chemical weapons and, to this end, undertakes to continue negotiations in good faith with a view to reaching early agreement on effective measures for the prohibition of their development, production and stockpiling and for their destruction, and on appropriate measures concerning equipment and means of delivery specifically designed for the production or use of chemical agents for weapons purposes.<sup>8</sup>

#### THE GENEVA PROTOCOL OF 1925

The Geneva Protocol resulted from a League of Nations sponsored Conference for the Supervision of the International Trade in Arms and Ammunition and in Implements of War. The conference was called to attempt to provide some controls on

international arms trade between the U.S., Great Britain, and Japan. The agenda did not include controls on chemical or biological weapons until after the U.S. proposed a ban on the use of asphyxiating gases in warfare.<sup>9</sup>

Today, the Geneva Protocol of 1925 is widely recognized as the main international legal constraint on chemical arms. This international convention prohibits "the use in war of asphyxiating, poisonous, or other gases, and all analogous liquids, materials, or devices...."<sup>10</sup> While the protocol prohibits the use in war of chemicals of all kinds, it does not prohibit the development, production, stockpiling or transfer of chemical weapons. Further, it provides for no means of verification and no formal sanctions for treaty violators. The Protocol is at best a "no first use" agreement rather than a total prohibition.<sup>11</sup>

Today there are over 140 Parties to the Geneva Protocol.<sup>12</sup> Most countries in the Middle East are signatories to the agreement, including Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Libya, Saudi Arabia, and Syria.<sup>13</sup> Forty of these nations have entered reservations.<sup>14</sup> These reservations essentially permit retaliatory use of chemical weapons if first used against them by enemies or nonparties.<sup>15</sup> Kuwait, Libya, and Syria attached reservations to their ratification indicating that this "does not constitute recognition of or involve treaty relations with Israel."<sup>16</sup>

While the Geneva Protocol continues to influence the international community concerning chemical warfare, its overall

effectiveness does not inspire confidence, especially in light of violations by its signatories, for example, Egypt and Iraq.<sup>17</sup>

#### UNITED NATIONS CONFERENCE ON DISARMAMENT

Another major international effort to prevent proliferation is the United Nations Conference on Disarmament. This forty member Conference, created in 1969, is a successor body to the twenty-five member Conference on the Committee on Disarmament established in Geneva in 1960. In 1980, when U.S.-Soviet bilateral negotiations broke down over the Afghanistan invasion, consideration of a multilateral ban on chemical weapons was added to the Conference on Disarmament.<sup>18</sup> The Middle East member states are Egypt and Iran.<sup>19</sup> Recently Iraq, Libya, and Syria applied to the Conference on Disarmament for observer status.<sup>20</sup> There is now agreement among the forty member nations on achieving the basic goal of a complete ban on the development, production, acquisition, possession, transfer, or use of chemical weapons.<sup>21</sup> The basis for the negotiations is the draft treaty (CD/500), tabled by then Vice President Bush in 1984, which calls for a comprehensive, global, effectively verifiable ban on chemical weapons.<sup>22</sup> While there may be agreement on a basic goal, there are a number of critical issues which must be resolved before a chemical weapons ban can be concluded. The Conference still must negotiate detailed provisions that will assure reliable and effective verification, provide undiminished security for all parties to the agreement during the period of stockpile destruction, and monitor civil chemical industries.<sup>23</sup>



Additionally, it has proved difficult to reach agreement on lists of prohibited toxic and precursor chemicals, especially when so-called "dual-use" chemicals with legitimate civilian uses are involved. Likewise, procedures for monitoring compliance and "anytime-anywhere" on site challenge inspections are troublesome issues.<sup>24</sup>

#### THE PARIS CONFERENCE ON CHEMICAL WEAPONS

Sparked by Iraq's use of chemical weapons in its successful effort to force a cease fire on Iran and to subdue rebellious Kurds, 149 nations met in Paris in January 1989 to reaffirm their opposition to the use of chemical weapons.<sup>25</sup> Most countries in the Middle East participated. The Paris Conference's final declaration expressed "grave concern" about the spread of chemical weapons, reaffirmed the participants' commitment to the 1925 Geneva Protocol, and reaffirmed support for a "global, comprehensive, and effectively verifiable" chemical weapons convention. Unfortunately, the Paris Conference stood clear of efforts to condemn Iraq's use of chemical weapons, could not agree on provisions for economic sanctions, and provided only modest impetus to efforts to strengthen export controls.<sup>26</sup> While the results of the Paris Conference disappointed some attendees, the discussions are expected to provide significant political impetus to the forty nation Geneva Conference on Disarmament.<sup>27</sup>

## OTHER INITIATIVES

Several other initiatives have contributed to the prevention and control of proliferation and are worthy of mention. The U.S. is engaged in major diplomatic efforts specifically to prevent the acquisition by problem countries of a chemical weapons capability. The U.S. has publicly called on all governments to halt whatever assistance they, their firms, or citizens, might be providing Libya. Privately and confidentially the U.S. has also raised specific concerns with Japan and West Germany concerning reported involvement by firms in their countries with Libyan chemical weapons program. They have subsequently taken specific steps to insure that Libya and other would-be proliferators do not succeed in achieving full-scale chemical weapons production.<sup>28</sup>

Regular bilateral discussions also take place between the U.S. and Soviet Union on chemical weapons treaty issues and on the dangerous proliferation of chemical weapons to problem countries. Two recent events in bilateral negotiations have raised hopes for a global ban on chemical weapons. First was President Bush's proposal at the United Nations on 25 September 1989 for mutual reductions of U.S. and Soviet chemical weapons stocks. Second was the summit at Jackson Hole, Wyoming (22-23 September 1989) at which Secretary of State Baker and Soviet Foreign Minister Shevardnadze agreed to intensify efforts towards a global ban and underscored their concern about the problem posed by the proliferation of chemical weapons.<sup>29</sup> While these initiatives drew mixed reviews from legislators and independent

experts, they do maintain the dialogue open on preventing chemical weapons proliferation and offer some hope for future progress.<sup>30</sup>

Through the Department of State Office of Munitions Control, the U.S. governs the export of munitions items including chemical agents and related equipment. The U.S. currently exercises foreign policy exports controls on forty designated chemical weapons precursors, which require validated export licenses. The licensing policy is to deny applications for Iran, Iraq, Syria and Libya.<sup>31</sup>

In the multilateral arena, the Australia Group consisting of nineteen Western chemical supplier countries, is an important element in efforts to curb chemical weapons proliferation. Under the auspices of Australia, the group has been consulting informally since 1984 to improve the effectiveness of export controls on dual use chemicals and to find ways to curb illegal use and proliferation of chemical weapons. The group has an informal Chemical Warning List of fifty chemical weapon precursors which it shares with the chemical industry to alert them to programs which may be associated with the chemical weapons programs of Iran, Iraq, Libya and Syria.<sup>32</sup> The Australian Group has had a measure of success. But as indicated by the extensive involvement of West German firms with Libya, as well as aid by Western firms to Iran and Iraq, the supply problem is far from contained.<sup>33</sup> Many of the chemicals needed to be curbed to prevent poison gas manufacture have legitimate uses in

commercial products like pesticides, lubricants, paints, and fertilizers. The same is true of laboratory equipment. The chemical trade is a highly competitive business which puts a premium on confidentiality.<sup>34</sup>

More recently, the Government of Australia sponsored the International Government Industry Conference Against Chemical Weapons on 18-22 September 1989. This unique conference brought together for the first time representatives of both government and industry to discuss elimination of chemical weapons. It was an essential conference because the cooperation of industry is necessary for a comprehensive chemical weapons ban.<sup>35</sup>

#### ENDNOTES

1. Terry M. Weekly, "Proliferation of Chemical Warfare: Challenge to Traditional Restraints," Parameters, December 1989, p. 54.

2. Peter K. Raymore, LtCol, Chemical Weapons Treaty: Perspectives and Prospects, p. 3.

3. LeChene, p. 23.

4. Ibid.

5. Weekly, p. 55.

6. Hugh Stringer, Deterring Chemical Warfare: U.S. Policy Options for the 1990s, p. 22.

7. Ibid., pp. 22-23.

8. Raymore, pp. 6-7.

9. Raymore, p. 4.

10. Stringer, p. 23.

11. Weekly, p. 55.

12. Rodney J. McElroy, Briefing Book on Chemical Weapons, p. 18.
13. W. Seth Carus, Chemical Weapons in the Middle East, p. 2.
14. Raymore, p. 5.
15. Stringer, p. 23.
16. Carus, p. 2.
17. Stringer, p. 24.
18. Raymore, p. 8.
19. Peter Herby, The United Nations and Multilateral Disarmament: The Conference on Disarmament, p. 3.
20. McElroy, p. 18.
21. Lewis A. Dunn, "Chemical Weapons Arms Control," Survival, May/June 1989, p. 211.
22. Reginald Bartholomew, Statement of the Under Secretary for Security Assistance, Science, Technology, before the Subcommittee on International Finance and Monetary Policy of the Senate Committee on Banking, Housing and Urban Affairs, p. 1.
23. Bailey, pp. 749-750.
24. Dunn, pp. 212-213.
25. Wayne, p. 7.
26. Dunn, p. 214.
27. Harrison and Roberts, p. 36.
28. Bartholomew, pp. 2-3.
29. Elisa D. Harris, "U.S. Proposal on Chemical Weapons: Not Much," New York Times, 26 September 1989, p. A31.
30. Peter Grier, "US, USSR Maneuver in Chemical Arms Debate," The Christian Science Monitor, 24 October 1989, p. 1.
31. Bartholomew, p. 2.
32. Ibid.
33. Dunn, pp. 213-214.

34. John J. Fialka, Western Industry Sells Third World the Means to Produce Poison Gas," The Wall Street Journal, 16 September 1988, p. A1.

35. Richard A. Clark, Statement Before the International Government Industry Conference Against Chemical Weapons, Department of State Bulletin, November 1989, p. 45.

## CHAPTER IV

### CAPABILITY AND THREAT

The full extent of the chemical threat in the world is not known. Detailed and reliable information concerning the development, possession, or use of chemical weapons is often publicly unavailable, and without more and better intelligence it is essentially impossible to gauge the true extent of the proliferation problem.<sup>1</sup> Several factors contribute to this dilemma. Governments are generally reluctant to identify which countries have chemical weapons and characterize the proliferation problem in terms of the number of countries. Another factor is how to define a chemical weapons state. Possessing the capacity to produce chemical agents is very different from possessing a stockpile of chemical weapons.<sup>2</sup> Furthermore, many of the precursor chemicals and most of the processing equipment required for agent production have numerous legitimate industrial applications. Production is simple, possession is not easily detected, and latent capabilities exist almost everywhere.<sup>3</sup>

Published reports of nations possessing chemical weapons vary. The State Department estimates that there are ten to twelve such countries and the Chemical Warfare Review Commission

appointed by the President estimated that there were sixteen such countries in 1985.<sup>4</sup> A recent Soviet estimate is between nine and fifteen states and the United Kingdom has claimed that there may be more than twenty states which either possess chemical weapons or are considering acquiring them.<sup>5</sup> In early 1988 Kathleen Bailey, assistant director of the Arms Control and Disarmament Agency (ACDA), stated that about fifteen countries were estimated to possess chemical weapons. In October 1988 CIA Director William H. Webster noted that "more than 20 countries may be developing chemical weapons." In January 1989, however, ACDA Director William F. Burns testified that although "about" twenty countries were capable of producing militarily significant amounts of chemical agents, "no more than a handful, five or six," actually possessed stockpiles of these weapons.<sup>6</sup>

Those Middle East nations which have acknowledged they possess chemical weapons are Iraq and Iran and significant evidence of chemical weapons possession exists for Egypt, Israel, and Libya. Those Middle East nations for which rumors and allegations abound and little is known for certain are Jordan and Saudi Arabia.<sup>7</sup>

Coupled with the threat of chemical weapons in the Middle East is the proliferation of ballistic missiles. The combination of chemical weapons with missile delivery capabilities has accorded these systems renewed status as military instruments.<sup>8</sup> CIA Director Webster and others have voiced considerable concern over mating chemical agents with ballistic missiles possessed by Syria, Iraq, Iran, Libya and others. The systems in question are



the SCUD-B, Iraqi Al-Husan and Al-Abbas missiles, and the Condor II missile which is a joint Egyptian-Argentinian project sponsored by Iraq. To place the threat in perspective, consider an urban target 1 km in diameter. Assuming certain environmental and population conditions, an attack with two SCUD-B missiles equipped with non-persistent nerve agent warheads could be expected to result in greater than 20 percent casualties in a city 300 km distant.<sup>9</sup>

There is also a new dimension to the chemical weapons threat-the possibility of terrorist use. Terrorists, as a group, have not rushed to use chemical weapons because conventional explosives are familiar and still sufficiently effective. However, as explosive detection technology improves making targets fewer and harder to reach and as media demands ever spectacular events to maintain headline coverage, the attractiveness of chemical weapons may increase.<sup>10</sup>

Chemical weapons are ideal terrorist weapons. They can cause fear and intimidation in populations, they are cheap and easily produced in a relatively short period of time, they are hard to detect, and virtually any target is vulnerable.<sup>11</sup> Of particular concern are states, like Libya, which sponsor terrorism and use it as an instrument of foreign policy. Their acquisition of a chemical capability and their willingness to support terrorist organizations give them the capability to conduct chemical warfare by proxy through international terrorist organizations without fear of direct retaliation.<sup>12</sup> U.S. and Israeli analysts fear that Libyan leader Moammar Gadhafi may be

planning to provide Palestinian or Japanese terrorists with the means to launch the first chemical attack on Israel or Israel's worldwide interests. Gadhafi has already provided the Irish Republican Army with SA7 missiles and tons of plastic explosive and they regard this as convincing evidence that he has few inhibitions about turning over chemical weapons to terrorists.<sup>13</sup>

The willingness of some nations to employ chemical munitions against their enemies will also greatly increase the likelihood of chemical attacks on U.S. forces as they deploy to meet emergencies in the region.<sup>14</sup> Thomas J. Welch, a deputy assistant secretary of defense, says that while the U.S. is prepared for a chemical war with the Russians, it lacks adequate planning for a Third World crisis where an enemy has poison gas. Further, Mr. Welch says the Marine Corps, whose mission includes the Middle East, is giving much thought to this scenario:

The first hint of the attack is a blip on a radar screen—a SCUD B in flight. Soon the blip arcs down from the stratosphere into the vicinity of a Marine amphibious landing force, the warships still miles from the beachhead. The blip disappears, seemingly harmlessly. But a few thousand feet before it hits the sea, small explosive charges pop open vents in its warhead.

The vents expose the liquid inside to the tremendous force of air rushing past. The liquid is atomized, forming a mist of lethal droplets that descend in the night. The cloud forms undetected over an oval encompassing three square miles of ocean. Within a few hours several thousand troops are experiencing nausea, impaired vision, then convulsions and finally paralysis. Rescue efforts are extremely difficult because many areas of the tightly packed ships are contaminated. The killing power of nerve gas persists for days.<sup>15</sup>

The threat is clear. The introduction of chemical weapons into this region promotes instability and increases the potential for use in regional conflicts. CIA Director William Webster told a World Affairs Council audience, "the spread of chemical weapons among the Arab states, principally Iraq, Libya and Syria, could seriously alter the regional balance of power."<sup>16</sup>

#### EGYPT

The Soviets supplied Egypt with chemical weapons, defensive equipment, and training in the early 1960s. Egypt is reportedly currently producing its own chemical agents which presumably include nerve and blistering agents.<sup>17</sup> Egypt may be producing precursor chemicals needed to make poison gases. Egypt is also able to make the munitions needed to deliver chemical agents, including aircraft bombs, short-range artillery rockets, and artillery shells.<sup>18</sup>

#### SYRIA

Acquisition of a chemical warfare capability began with nerve agent filled artillery projectiles, allegedly provided by Egypt in 1972, followed by Soviet assistance beginning in 1973. Czechoslovakia may have also provided training or munitions. With the help of West German firms, Syria began production of nerve agents, reportedly Sarin, by 1986. Syria is believed to

have manufactured a number of chemical warheads for its SCUD-B and SS-21 missiles as well as significant stocks of artillery projectiles and aircraft bombs.<sup>19</sup> Syria is considered the most advanced Arab country in chemical warfare.<sup>20</sup> In the spring of 1988 Syria was reported to have received a visit by the Commander of Soviet Chemical Forces and that subsequently Syrian FROG and SCUD missiles were armed with payloads of Vx, the highly toxic nerve agent.<sup>21</sup>

#### IRAQ

With significant help from West German firms, Iraqi chemical weapons production capability became operational in the early 1980s. Five facilities are believed involved in the Iraqi program including, Samarra which produces mustard as well as Sarin and Tabun nerve agents, Salman Pak which is believed to conduct research on advanced chemical agents, and three others devoted to testing or producing chemical precursors. The Samarra facility has its own "test grids", extending over a surface of 25 sq km and has the ability to produce 1,000 tons of poison gas per year.<sup>22</sup> Iraq is known to have produced and used nerve agents, blistering agents, cyanide, riot control agents, and possibly others.<sup>23</sup>

#### LIBYA

The Libyans were trained in chemical warfare by the Soviets and may have received chemical agents from Poland in 1980. They

apparently obtained poison gas in 1987 from Iran.<sup>24</sup> Described as the largest chemical weapons facility in the third world, the Rabta complex is allegedly nearly ready to go into production and may be capable of producing multiple tons of mustard and nerve agents per day. Located in the same complex is a metal fabrication facility apparently intended to produce the empty artillery projectiles and aircraft bombs. Both facilities were built by West European and Asian firms.<sup>25</sup> Libya also has a production capability in Matan-as-Sarra.<sup>26</sup>

#### ISRAEL

During both the 1967 and 1973 wars, Israel allegedly captured small stocks of Egyptian chemical weapons which stimulated a program of their own. By the mid-1970s, Israel had established a capability to produce nerve agents, mustards and riot control agents. Having stockpiled 4 million masks, Israel has the largest civilian protection scheme in the Middle East.<sup>27</sup> The Israelis are reported to have manufacturing capabilities for chemical agents in the Negev.<sup>28</sup>

#### IRAN

Iran established a chemical weapons production plant near Tehran in the mid-1980s and is producing limited quantities of nerve agents, blood agents and mustard which it loads into artillery rounds and bombs. Iran admits having a chemical warfare capability but denies having used chemical weapons. Early Iranian chemical attacks on Iraq apparently relied on

captured Iraqi munitions and weapons possibly received from Syria.<sup>29</sup> According to British reports, in early 1988 a German chemical company agreed to build a pesticide plant for Iran which will probably be used to make nerve agents. There is some evidence that Iran is trying to develop chemical warheads for some of its surface-to-surface missiles.<sup>30</sup> A reported agreement, said to have come into effect early in 1988, to provide Libya's Gadhafi with chemical weapons in return for deliveries of missiles would also indicate that Iran is already producing.<sup>31</sup>

#### ENDNOTES

1. International Institute for Strategic Studies, Strategic Survey 1987-1988, p. 60.
2. Elisa D. Harris, "Stemming the Spread of Chemical Weapons," The Brookings Institute, Winter 1989/90, p. 40.
3. Burdeshaw Associates, Ltd., Chemical Warfare in the Third World, p. 2-6.
4. Douglass and Livingstone, p. 145.
5. International Institute for Strategic Studies, Strategic Survey 1987-1988, p. 59.
6. Harris, p. 40.
7. McGeorge, pp. 17-18.
8. Janne E. Nolan, "Ballistic Missiles in the Third World-The Limits of Nonproliferation," Arms Control Today, November 1989, p. 9.
9. McGeorge, p. 32.
10. McGeorge, p. 33.
11. Douglass and Livingstone, pp. 16-17.
12. Harrison and Roberts, pp. 20-21.

13. Ottaway, p. A4.
14. Harrison and Roberts, pp. 14-15.
15. Fialka, p. A24.
16. Ottaway, p. A4.
17. McGeorge, p. 33.
18. Carus, p. 3.
19. McGeorge, p. 33.
20. Harrison and Roberts, p. 87.
21. LeChene, p. 19.
22. Ibid., p. 19.
23. McGeorge, p. 33.
24. Harrison and Roberts, p. 89.
25. McGeorge, p. 33.
26. LeChene, p. 19.
27. McGeorge, p. 33.
28. Carus, p. 3.
29. McGeorge, p. 33.
30. Carus, p. 4.
31. LeChene, p. 19.

## CHAPTER V

### REGIONAL IMPLICATIONS

The dangerous proliferation of chemical weapons constitutes a serious threat to regional stability. The acquisition of a chemical warfare capability by states in the region increases the likelihood that other states will also pursue a similar capability and as a result increase the risk of use. It has already been shown how the use of chemical weapons in the Iran-Iraq War established the dangerous precedent that such weapons may be used without fear of serious political, economic, or military consequences. Likewise, there is an increasing risk that some countries may also be tempted to use chemical weapons in an effort to overcome the disparity in the conventional weapons capabilities between rivals.<sup>1</sup> The seriousness of this trend is reflected by the Israelis in what they see as the world's laissez-faire attitude toward Iraq's use of chemicals. Says Colonel Zeev Eytan, a leading Israeli military analyst, "the danger is that chemical weapons become as conventional as planes and tanks."<sup>2</sup>

U.S., Israeli, and Arab analysts grimly contemplate several Middle East scenarios resulting from chemical weapons proliferation. These scenarios envision the Syrians making a



sudden grab for the Israeli occupied Golan Heights; the Palestinian uprising on the West Bank spilling over into Jordan; a particularly bloody terrorist incident against Israel, provoking a massive Israeli retaliation, or another Israeli-Syrian confrontation in Lebanon, as in 1982, getting out of control.<sup>3</sup> These scenarios are not so far fetched considering the tensions that exist between the Arab states and Israel today. In fact, many American, Israeli, and Arab scholars see some disturbing parallels between the buildup of war fever in the Middle East before the 1973 Arab-Israeli War and the climate of nervousness today.<sup>4</sup> In an unbalanced situation the temptation to gain an advantage is great. Cutthroat competition for markets between suppliers, a myriad of unresolved borders disputes, disregard for human life, and limited respect for the laws of war all contribute to this alarming trend.<sup>5</sup>

Indeed, the strategic balance in the Middle East has appeared to shift because of the proliferation of chemical weapons. Traditionally, Israel's Air Force has struck with impunity behind enemy lines. Now, Israel must consider the risk of a retaliatory chemical attack. Likewise, chemical warheads will now allow hostile parties that don't border Israel to play a major role in future conflicts. "The overall impact is that we've lost much of our traditional edge," says a senior Israeli defense analyst.<sup>6</sup>

What then is the impact of chemical weapons in this region and on the Arab-Israeli balance? Would Arab states with a chemical warfare capability employ them against Israel? What are

some of the impacts on the policies and strategies of Israel and the Arab countries?

Considerations which could induce the Arab states, and in particular Syria, to use chemical weapons against Israel are the dictates of Soviet doctrine and the desire to achieve rapid operational achievements. The Syrians and other Arab states base their military orientation on Soviet military doctrine and the use of chemical weapons is an integral part of the offense. The temptation also exists, particularly for Syria, to seek to inflict heavy loss of life on Israel in order to secure and retain military achievements in a first strike.<sup>7</sup> According to a widely held view, the massive employment of chemical munitions in the opening stages of a war could provide Syria with substantial military benefits.<sup>8</sup> Chemical strikes against the perceived source of Israeli superiority and strength, i.e., at the airfields, command posts, mobilization centers, and storage depots would thoroughly disrupt Israeli military activities in the opening stages of a war.<sup>9</sup> Contamination of air bases would prevent Israeli aircraft from operating during the critical early hours of the conflict. Attacks on mobilization sites and equipment sites would inhibit mobilization of reserve units.<sup>10</sup> Because reserves make up more than 75 percent of the Israeli Army, "mobilization is the Achilles heel of our whole military system," says a senior Israeli official.<sup>11</sup>

Based on the lessons of the Iran-Iraq War, chemical weapons may also be used to influence events in the case of imminent military collapse. During the Iran-Iraq War Iraq relied

extensively on chemical warfare when its army found itself in distress.<sup>12</sup> In addition to causing large scale loss of life, the use of chemical weapons against both military forces and civilians in Israel could impact significantly on morale. This risk could be mitigated if effective defensive and protective measures were available. However, Gulf experiences shows that even military forces equipped with advance protection means cannot guarantee a low casualty rate.<sup>13</sup>

Conversely, mitigating against the threat of the use of chemical weapons against Israel are several factors. First, the Israeli Defense Forces and Israel's civilian rear have significantly enhanced their defensive capability. Israeli soldiers are well equipped and exercise regularly in chemical warfare kits. Israel has also made special efforts to protect critical military installations. Israeli air bases are very well protected and are equipped with environmental protection systems for aircraft shelters and hangers.<sup>14</sup> Civil defense precautions include the distribution of large numbers of chemical warfare protection kits, gas masks, and protective injections.<sup>15</sup> Israel is one of the few countries in the world to provide chemical defense equipment to its entire population and to conduct periodic drills to train civilians to respond to chemical attacks.<sup>16</sup> The Arabs must also consider Israel's strong retaliation potential and the possibility of a devastating Israeli response using nuclear weapons at its disposal. Recently, Israel has implied that it would use nuclear weapons in response to a chemical attack.<sup>17</sup> Israeli security and

intelligence analysts point out that chemical warfare is no match operationally to the Israeli nuclear threat. For instance, the most likely scenario involving an Israeli nuclear option is as a weapon of "last resort." Such circumstances could arise if the Israeli Defense Forces could not stop a conventional Arab assault, were suffering intolerable losses on the battle front, or were threatened with mass destruction weapons. Under such circumstances it would be foolhardy to assume that the threat of chemical warfare could deter Israel from resorting to nuclear arms.<sup>18</sup>

The Israelis also have the ability to mount retaliatory chemical attacks. Syrian military operations against Israel are therefore likely to be severely impeded if Israel uses chemicals. While the Syrians are relatively well equipped defensively, it is unlikely they could mount a serious offensive under chemical conditions.<sup>19</sup> In addition, the use of gas on the war front must take into consideration technical problems that render it at times troublesome and possibly even counter productive. The prevailing westerly winds in the region and constricted areas like the Golan Heights pose problems.<sup>20</sup>

As for civilian targets, most analysts believe that rational Arab leaders will recognize the consequences and refrain from using chemicals. Says Aharon Levran, a senior researcher at the Jaffee Center for Strategic Studies, "Israel isn't Iran. We have reprisal measures and Arabs respect them."<sup>21</sup> Israel has made it clear that use of chemical weapons against civilians is likely to result in massive retaliatory strikes. Israel's

sensitivity to loss of life, together with the association of chemical weapons with the Holocaust, would insure a swift, disproportionate response.<sup>22</sup> Moreover, the use of chemical weapons against Israel would generate serious political problems for the user, not the least of which would be strong international public opinion, and these predictable problems would generate a certain deterrent effect.<sup>23</sup> Finally, Syria's leaders believe that they must achieve "strategic parity" before they will be able to launch an all-out military attack against Israel. They recognize they have not achieved this. As a result, most military experts agree that during the next few years a Syrian attack on Israel is most likely to have limited objectives. So long as the Syrians fight for limited objectives, they are unlikely to employ chemical weapons.<sup>24</sup>

Given these mitigating factors against the use of chemical weapons by Arab states against Israel, why are the Arabs developing their chemical warfare capability so intensely? Using Syria as an example, this can be examined. Syria's chemical warfare program could indicate adoption of several strategies. First, the chemical warfare option is perceived as an effective counter to Israel's strategic edge. As Israel is generally considered to be far ahead of Arab nations in strategic potential, particularly in the nuclear capability, the Syrians have elected for the chemical weapons option which is easy and quickly attainable.<sup>25</sup> They see the chemical warfare option as a means of holding Israeli cities or troops hostage against Israel launching a nuclear first strike.<sup>26</sup> It is a guarantee

against total Syrian defeat and has raised the threshold over which Israel will risk an all out offensive. In a limited war scenario the Syrians would benefit. As long as Syria can threaten Israel with the use of chemical weapons, Israel would have powerful incentives to prevent a limited war from escalating out of control.<sup>27</sup> From now on the Israelis must consider the costs they would be willing to pay for any hostile actions against Arab states.

Another aspect of the Syrian concept of achieving overall "strategic parity" with Israel is that Syria's chemical weapons are seen as a deterrent to Israel from conventionally preempting its military buildup. Specifically, the possibility of chemical retaliation for an Israeli penetration or ground offensive may limit Israel's freedom of action and thus undermine its ability to take a decisive strategic initiative against Syria.<sup>28</sup>

Finally, Syria's chemical weapons could be the first step in a Syrian nuclear weapons program. If the Syrians view chemical weapons as a deterrent against a preemptive strike, similar to what occurred on the Ozirak reactor in 1981, chemical weapons can be viewed as an "umbrella" designed to achieve true parity with Israel by nullifying Israel's nuclear monopoly.<sup>29</sup>

While all these strategies seems plausible, their feasibility is open to question. Israel may perceive the chemical weapons capability as part of Syria's preparations for war against Israel, and it may indicate to the Israeli's that the

Syrians were planning on causing massive civilian or military casualties. Such a strategy could provide Israel with an incentive for conventional preemption in the foreseeable future.<sup>30</sup> Operationally it would be difficult for Israel to launch preemptive strikes to curb the spread of chemical weapons. "If a country is serious about acquiring chemical weapons, it is hard for another country to eliminate that capability the way Israel knocked out Iraq's atomic bomb program," concludes one analyst. "These weapons can be made and stored in small sites all over a country, and you can never be sure you got them all."<sup>31</sup> Deterring Israel from preemptively destroying Syria's growing military arsenal by threatening first use of chemical weapons also has its problems. Such a posture could not physically prevent the Israeli Defense Forces from reaching deep into Syrian territory. Moreover, it would not prevent an Israel nuclear retaliation and may even ensure a response.<sup>32</sup>

In the final analysis, the proliferation of chemical weapons into the region raises serious issues which impact across the spectrum of each of the nations' offensive and defensive strategies and doctrine. There is little disagreement among U.S., Israeli, and Arab analysts that the Middle East is entering a frightening new military era. It is one in which cities are no longer safe from missile attacks or the employment of weapons of mass destruction. That which yesterday was unthinkable, has suddenly become thinkable.<sup>35</sup>

# ENDNOTES

1. Kathleen C. Bailey, "Chemical Weapons Proliferation," Vital Speeches of the Day, 1 October 1988, p. 750.
2. Tony Horwitz, "Israel's Enemies Develop Alarming Poison Gas Potential," Wall Street Journal, 15 September 1989, p. A24.
3. David B. Ottaway, "Middle East Weapons Proliferate," Washington Post, 19 December 1988, p. A4.
4. Ottaway, p. A4.
5. Raymond Cohen and Robin Ranger, "Enforcing Chemical Weapons Ban," International Perspectives, July/August 1989, p.10.
6. Horwitz, p. A24.
7. Aharon Levran and Zeev Eytan, The Middle East Military Balance 1987-1988, p. 226.
8. Carus, p. 8.
9. Levan and Eytan, p. 228.
10. Carus, p. 9.
11. Horwitz, p. A24.
12. Levan and Eytan, p. 228.
13. Ibid., pp. 228-229.
14. Carus, p. 9.
15. Jonathan Marcus, "The Politics of Israeli's Security," International Affairs, Spring 1989, p. 241.
16. Carus, p. 9.
17. Foreign Policy Association, Great Decisions 1990, p. 54.
18. Avigdor Haselkorn, Arab-Israeli Conflict: Implications of Mass Destruction Weapons," Global Affairs, Winter 1988, p. 123.
19. Carus, p. 9.
20. Horwitz, p. A24.



21. Horwitz, p. A24.
22. Carus, p. 10.
23. Levran and Eytan, pp. 226-227.
24. Carus, p. 9.
25. Levan and Eytan, p. 227.
26. Haselkorn, p. 131.
27. Carus, p. 10.
28. Haselkorn, p. 131.
29. Haselkorn, pp. 131-132.
30. Haselkorn, p. 132.
31. Rose, p. 9.
32. Haselkorn, p. 132.
33. Ottaway, p. A4.

## CHAPTER VI

### PROSPECTS FOR THE FUTURE

A situation now exists in the Middle East which appears to be immune to traditional restraint systems and controls. Chemical weapons proliferation continues at an alarming rate and the strategic balance in the region has shifted with many nations reluctant to give up the "poor man's atom bomb." We are confronted with the question-as the nations of this region establish national military strategies what roles will be played by chemical weapons?

CIA Director Webster said that the U.S. expects the rank of chemical weapon producers to grow "despite ongoing multilateral efforts to stop their proliferation."<sup>1</sup> Unfortunately, this will probably be the trend for the future in this region.

Iraq's program expansion and Iran's efforts to develop a creditable chemical weapons capability will simply encourage other Middle East states to do the same, if only for the basic reason of self-preservation. This is a most compelling argument in the Middle East hair trigger environment. Moreover, the success that Iraq achieved against Iran with no international censure proved that chemical weapons are an effective force multiplier for conventional military forces. It is hard to argue

with that conclusion. There is simply no way of telling how many other states will want to get on the bandwagon. The future will surely bring proliferation, production, and use among the Middle East states. Can this course of chemical weapons proliferation be slowed or altered?

Much depends on efforts now being pursued in the international community. The forty member Conference on Disarmament continues to press forward on achieving a global ban. Bilateral negotiations between the U.S. and the Soviet Union render new initiatives in chemical arms reduction which can only positively influence the situation in the Middle East. Similarly, multilateral negotiations and conferences, such as the Paris Conference, also contribute to the effort. Yet these international efforts seem stonewalled by insurmountable obstacles and issues which may impede efforts to achieve a ban or even a slowing of the proliferation.

Monitoring and verification problems remain the ultimate issue. In fact, opinion appears to have solidified that a chemical weapons treaty would not be verifiable. The problems lie in detecting hidden stockpiles, guarding against rapid conversions of facilities to chemical weapon production facilities, and preventing development of new weapons.<sup>2</sup> For example, Israel, the Arab states, Iran, and Iraq would have predictable concerns about anytime-anywhere intrusion inspections, a current provision of the draft treaty (CD/500).

As discussed earlier, and as became clear at the Paris Conference, the Middle Eastern states seek to link the

elimination of chemical weapons with nuclear weapons controls. From the Arab perspective, a ban on chemical weapons appears discriminatory as long as Israel keeps their weapons of mass destruction.<sup>3</sup> This could become a convenient rationale for nonadherence to a treaty by the Middle Eastern countries.<sup>4</sup>

Similarly, there is no reason to believe that all states with an actual or potential chemical warfare capability would sign a treaty imposing a ban, even if an agreement could be reached. Iraq, for example, is not even a formal member of the Conference on Disarmament.<sup>5</sup> Iraq, Libya, and Syria only recently joined the negotiations as observers.<sup>6</sup>

Political and conceptual differences between the West and Middle Eastern countries about chemical warfare can also impact on chemical weapons control. The Conference on Disarmament include nations as diverse as Australia, Algeria, Italy, and Iran. Attempting to get such a politically contradictory group to agree on conventions will complicate rather than simplify a final agreement.<sup>7</sup> Conceptually, the dominant Eastern view is that chemical weapons are militarily effective weapons. The Western abhorrence of chemical weapons, "this hellish poison," in Churchill's graphic phrase originating from the experience of World War I, is not shared by the Middle East nations. As has been demonstrated, use or non-use will be governed by the normal strategic calculations of costs versus benefits. Middle East powers may be reluctant to accept a chemical weapons convention which simply mirrors Western ideas.<sup>8</sup>

The proliferation of chemical weapons in the Middle East

region could prove to be an intractable problem. Perhaps these words from a U.S. Arms Control and Disarmament Agency report sum up the future:

Given the many technical and political difficulties which remain to be resolved, conclusion of a chemical weapons prohibition is not likely to occur in the near term. Verification issues will be difficult to resolve and will require prolonged negotiation. Until the verification and other issues are satisfactorily resolved, an effective and comprehensive chemical weapons prohibition which fully protects U.S. and Free World interests will not be possible.<sup>9</sup>

#### ENDNOTES

1. Michael R. Gordon, "C.I.A. Sees A Developing World With Developing Arms," New York Times, 10 February 1989, p. A3.
2. David T. Jones, "Eliminating Chemical Weapons: Less Than Meets the Eye," The Washington Quarterly, Spring 1989, p. 84.
3. Rose, p. 18.
4. Dunn, p. 213.
5. Jones, p. 88.
6. McElroy, p. 18.
7. Jones, p. 88.
8. Cohen and Ranger, p. 12.
9. LeChene, pp. 25-26.

## CHAPTER VII

### CONCLUSION

It goes without saying that a total worldwide ban on chemical weapons would offer the best prohibition against chemical weapons proliferation in the Middle East. However, given the evidence previously presented, this will probably not occur for quite some time into the future. This is not to say that hope for a global ban must be totally abandoned.

In the interim, the Geneva Protocol will probably remain the primary constraint against chemical weapons use. However, there is a lot that can be done to stem the current trends and prevent further illegal use of chemical weapons in the Middle East. It will take the efforts of the entire international community to put the chemical weapons genie back into the bottle.

First, the international community must become more galvanized in a common position against the threat of proliferation by strengthening its commitment to the principles laid down in the Geneva Protocol. Support for and participation in the negotiations of multilateral bodies and international fora such as the Geneva Conference on Disarmament, the Paris Conference, and the United Nations must continue. These bodies provide a means for nations to address global issues vital to

their security. They are indispensable tools to accomplishing a renewed commitment against chemical weapons proliferation. Next, much more needs to be done internationally to tighten export controls of precursor chemicals to problem countries. We have seen, in the case of Iraq and Libya, that this is easier said than done, but such initiatives as the recent International Government and Industry Conference held by the Government of Australia will reap significant gains in the long run. Third, nations must take a more active role in establishing sanctions against those countries which insist on ignoring existing prohibitions. Sanctions could include the suspension of diplomatic relations and economic measures such as freezing of assets or suspension of favored trade status. Finally, the superpower nations themselves must take the lead on the international scene and set the example for the rest of the world. Total commitment to a global ban, consistent strategies and policies for dealing with violator nations, and continuing bilateral and multilateral negotiations and initiatives will make an impact. The above efforts are but the first steps that must be taken to stem the chemical weapons proliferation in the Middle East. The primary objective of the international community must remain a global ban. Anything less sends the wrong message to the world and chemical weapons could easily become weapons of the future in the Middle East.

## BIBLIOGRAPHY

1. Adams, Valerie. Chemical Warfare, Chemical Disarmament. Indianapolis, Indiana: Indiana University Press, 1977.
2. The Aspen Strategy Group and The European Strategy Group. Chemical Weapons and Western Security Policy. Lanham, Maryland: 1987.
3. Association of The United States Army. Special Report: Chemical Warfare-A Real and Growing Threat. Arlington, Virginia: 1989.
4. Bailey, Kathleen C. "Chemical Weapons Proliferation," Address Before Dallas Market Rotary Club, 16 July 1988. Vital Speeches of the Day, 1 October 1988, pp. 749-751.
5. Baker, James A., III and Shevardnadze, Eduard. "The Wyoming Papers: Documents From the Baker-Shevardnadze Meeting." Arms Control Today, p. 22.
6. Bartholomew, Peginald. "U.S. Efforts Against the Spread of Chemical Weapons." Statement of the Under Secretary for Security Assistance, Science, and Technology, before the Subcommittee on International Finance and Monetary Policy of the Senate Committee on Banking, Housing, and Urban Affairs. Washington: U.S. Department of State, 22 June 1989.
7. Burdeshaw Associates, Ltd. Summary Report: Chemical Warfare in the Third World. Bethesda, Maryland: 1987.
8. Carnegie Endowment for International Peace. The Control of Chemical and Biological Weapons. New York: 1971.
9. Carus, W. Seth. Chemical Weapons in the Middle East. Washington: The Washington Institute for Near East Policy, 1989.
10. Chemical Warfare Review Commission. Report of the Chemical Warfare Review Commission. Washington: Government Printing Office, 1985.
11. Clarke, Richard A. "Statement at the International Conference Against Chemical Weapons." Department of State Bulletin, November 1989, pp. 45-46.
12. Cody, Edward. "149 Nations Vow to Shun Poison Gas." Washington Post, 11 January 1989, p.A1.



13. Cody, Edward. "Talks Show Growing Arab Consensus That Chemical Arms Balance Nuclear." Washington Post, 12 January 1989, p. A24.
14. Cohen, Raymond and Ranger, Robin. "Enforcing Chemical Weapons Ban." International Perspectives, July/August 1989, pp. 9-12.
15. Cordesman, Anthony H. "Creating Weapons of Mass Destruction." Armed Forces Journal International, February 1989, pp. 54-57.
16. Douglass, Joseph D., Jr. "The Challenges of Biochemical Warfare." Global Affairs, Winter 1988, pp. 156-169.
17. Douglass, Joseph D., Jr. and Livingstone, Neil C. America the Vulnerable: The Threat of Chemical and Biological Warfare. Lexington, Massachusetts: Lexington Books, 1987.
18. Dunn, Lewis A. "Chemical Weapons Arms Control." Survival, May/June 1989, pp. 209-224.
19. Fialka, John J. "Chemical Weapons Spread in Third World, Pose Challenge to West." Wall Street Journal, 15 September 1988, p. A1.
20. Fialka, John J. "Western Industry Sells Third World the Means to Produce Poison Gas." Wall Street Journal, 16 September 1988, p. A1.
21. Foreign Policy Association, Great Decisions 1990. New York: Foreign Policy Association, 1989. pp. 48-58: "Third World Arms Bazaar."
22. Galloway, Joseph L. "Bad Chemical Reactions." U.S. News & World Report, 16 January 1989, pp. 30-31.
23. Geissler, Erhard. Biological and Toxin Weapons Today. New York: Oxford University Press, 1986.
24. Gordon, Michael R. "C.I.A. Sees A Developing World With Developed Arms." New York Times, 10 February 1989, p. A3.
25. Gordon, Michael R. "Libya Says It Can Make Chemical Arms If Others Do." New York Times, 10 January 1989, p. A12.
26. Green, Stephen. "Chemical Charades." The Christian Science Monitor, 23 October 1989, p. 19.
27. Grier, Peter. "US, USSR Maneuver in Chemical Arms Debate." The Christian Science Monitor, 24 October 1989, p.1.

28. Hackett, James T. "The Ballistic Missile Epidemic." Global Affairs, Winter 1990, pp. 38-57.
29. Harris, Elisa D. "Stemming the Spread of Chemical Weapons." The Brookings Review, Winter 1989/1990, pp. 39-45.
30. Harris, Elisa D. "U.S. Proposal on Chemical Weapons: Not Much." New York Times, 26 September 1989, p. A31.
31. Harrison, David G., LTC and Roberts, Jan R., LTC(P). United States National Strategy And Defense Policy Objectives After Chemical Disarmament. Thesis. Carlisle Barracks: U.S. Army War College, 19 March 1989.
32. Haskelkorn, Avigdor. "Arab-Israeli Conflict: Implications of Mass Destruction Weapons." Global Affairs, Winter 1989, pp. 120-137.
33. Herby, Peter. The United Nations and Multilateral Disarmament: The Conference on Disarmament in Geneva. Indianapolis: Universities Field Staff International, Inc., 1987.
34. Horwitz, Tony. "Israeli's Enemies Develop Alarming Poison-Gas Potential." Wall Street Journal, 15 September 1988, p. A24.
35. International Institute for Strategic Studies. The Military Balance 1989-1990. London: 1989.
36. International Institute for Strategic Studies. Strategic Survey 1987-1988. London: 1988.
37. International Institute for Strategic Studies. Strategic Survey 1988-1989. London: 1989.
38. Jones, David T. "Eliminating Chemical Weapons: Less Than Meets the Eye." The Washington Quarterly, Spring 1989, pp. 83-92.
39. Kidron, Peretz. "Panic in Israel." Middle East International, 8 July 1988, pp. 5-6.
40. LeChene, Evelyn. Chemical And Biological Warfare-Threat of the Future. Toronto: Harmony Printing, Ltd., 1989.
41. Ledeon, Michael. "The Curious Case of Chemical Warfare." Commentary, July 1989, pp. 37-41.
42. Leonard, James E., COL. Chemical Warfare-A Urgent Need for A Credible Deterrent. Thesis. Carlisle Barracks: U.S. Army War College, 19 April 1992.

43. Levran, Aharon and Eytan, Zeev. The Middle East Military Balance 1987-1988. Boulder, Colorado: Westview Press, 1988.
44. Levran, Aharon and Eytan, Zeev. The Middle East Military Balance 1986. Boulder, Colorado: Westview Press, 1987.
45. Livingstone, Neil C. and Douglass, Joseph D., Jr. CBW: The Poor Man's Atomic Bomb. Washington: Corporate Press, Inc., 1984.
46. McCain, John. "Gas Warfare and The Proliferation of Weapons of Mass Destruction: The Need for American Action." Letter to the President of the U.S., 30 September 1988.
47. McElroy, Rodney J. Briefing Book on Chemical Weapons. Boston: Council for World Education Fund, 1989.
48. McGeorge, Harvey J. "Chemical Addiction." Defense & Foreign Affairs, April 1989, pp. 17-19.
49. "7 More Countries Join Chemical Arms Talks." New York Times, 17 February 1989, p. A11.
50. Morel, Pierre. "The Paris Conference on Chemical Weapons." Disarmament, Summer 1989, pp. 127-143.
51. Nolan, Janne E. "Ballistic Missiles in the Third World." Arms Control Today, November 1989, pp. 9-14.
52. O'Keeffe, Isabel. "Flanders Fields Revisited." World Press Review, March 1989, pp. 12-13.
53. Ottaway, David B. "Middle East Weapons Proliferate." Washington Post, 19 December 1988, p. A1.
54. Quigley, Kevin. "Recapturing the Chemical Weapons Genie." The Christian Science Monitor, 9 February 1989, p. 19.
55. Rajagopalan, Rajesh. Chemical Weapons: Paris Conference and After." Strategic Analysis, April 1988, pp. 73-84.
56. Ramati, Yohanan. "Iraq and Arab Security." Global Affairs, Winter 1990, pp. 116-129.
57. Raymore, Peter K., LtCol. Chemical Weapons Treaty: Perspectives and Prospects. Research Report. Maxwell Air Force Base: Air University, May 1988.
58. Rose, Stephen. "The Coming Explosion of Silent Weapons." Naval War College Review, Summer 1989, pp. 6-29.

59. Smith, Jeffrey R. "Conferees Refuse to Name the Guilty." Washington Post, 8 January 1989, p. A24.
60. Smith, Jeffrey R. "Experts Differ on Chemical Arms Plan." Washington Post, 26 September 1989, p. A10.
61. Smolowe, Jill. "Chemical Reaction." Time, 16 January 1989, pp. 18-22.
62. Smolowe, Jill. "Return of the Silent Killer." Time, 22 August 1988, pp. 46-49.
63. Stringer, Hugh. Detering Chemical Warfare: U.S. Policy Options for the 1990s. Washington: Pergamon-Brassey, 1986.
64. Tesko, Steven R. "It's Not Just The Soviets Anymore." National Defense, April 1989, pp. 31-33.
65. "U.S. Chemical Weapons Production: Poisoning the Atmosphere." The Defense Monitor, Vol. XVIII, No. 3, 1989, pp. 1-7.
66. U.S. Congress. House. Subcommittee on Europe and the Middle East of the Committee on Foreign Affairs. Developments in the Middle East, October 1988. Hearings, 100th Cong., 2d Sess. Washington: Government Printing Office, 1989.
67. U.S. Congress. Senate. Committee on Foreign Relations. Chemical and Biological Weapons Threat: The Urgent Need for Remedies. Hearings, 101st Cong., 2d Sess. Washington: Government Printing Office, 1989.
68. U.S. Government. Fiscal Year 1990 Arms Control Impact Statements, March 1989. Washington: Government Printing Office, 1989.
69. Watson, Russell. "The Winds of Death." Newsweek, 16 January 1989, pp. 22-25.
70. Wayne, E.A. "US View of Chemical Arms Meeting." The Christian Science Monitor, 6 January 1989, p. 7.
71. Weekly, Terry M. "Proliferation of Chemical Warfare: Challenge to Traditional Restraints." Parameters, December 1989, pp. 51-66.
72. Weekly, Terry M., LTC. The Proliferation of Chemical Weapons: Putting the Genie Back in the Bottle. Thesis. Carlisle Barracks: U.S. Army War College, 24 February 1989.