3. The Continuing Threat of NBC/M Proliferation and NBC Terrorism

This section is devoted to a description by U.S. Intelligence of NBC/M proliferation and NBC terrorist threats. These threats drive the policy, strategy, and R&D and acquisition program responses discussed in the subsequent sections of this report. Topics discussed in this section include the global scope of the problem, the threat of nuclear diversion, the CW/BW terrorist threat, the military threat of CW/BW and their means of delivery. A brief country study of Iraq's BW and CW programs is also provided.

3.1 Introduction: Scope of the Problem

At least 20 countries – some of them hostile to the United States – already have or may be developing nuclear, biological, or chemical weapons, or their missile delivery systems. Others are heavily engaged in the sale or transfer of NBC/M technology. Chemical and/or biological weapons are believed to have been used in recent conflicts (e.g., the Iran - Iraq War), and, as the 1995 Tokyo subway incident shows, terrorist attacks using CW agents have become a reality. The NBC/M problem is serious and growing, and, as illustrated in Figure 3.1, it is global — politically, economically, militarily, and technologically.

The Cold War, and the period of stability which accompanied global deterrence, is over. Unstable regimes, shifting regional power balances, and terrorism dominate the landscape today. The potential for catastrophic use of NBC weapons is greater than it has been in many decades. Intelligence on the potential use of NBC/M is crucial in efforts to control emerging NBC/M crises or avoid imminent disasters.

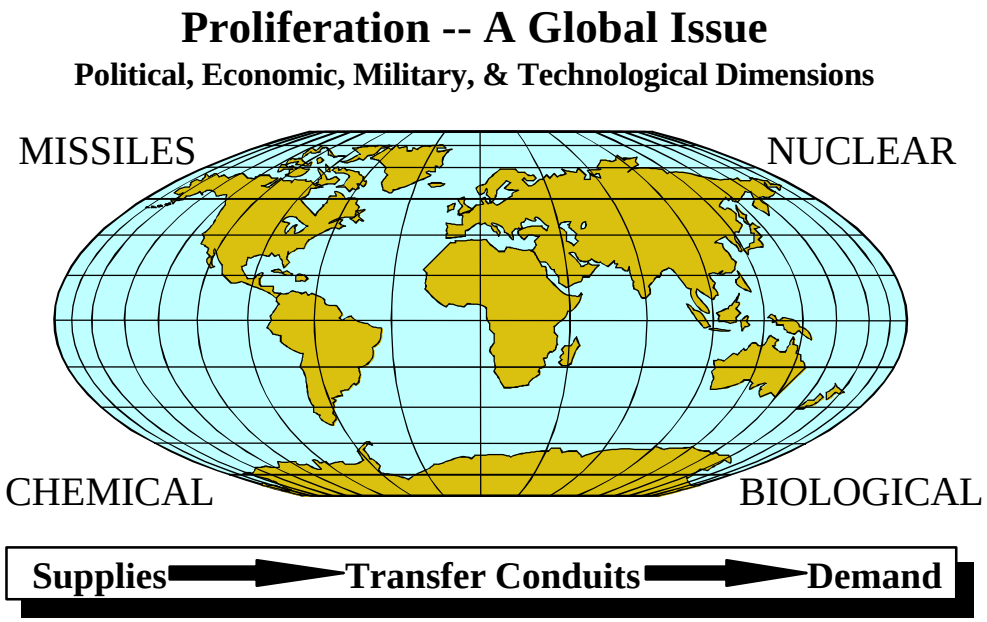

Figure 3.1 Proliferation — A Global Problem

In the event that the use of force becomes necessary, military forces are being equipped and trained to operate in an NBC environment. The success of such efforts depends heavily on intelligence to identify the specific threats forces will face at a given location and time. The potential for rapid proliferation of sophisticated biological and chemical capabilities makes this problem even more urgent today. In order to combat the NBC/M threat, U.S. and allied forces must know the characteristics of that threat *very well*. Military intelligence needs are specific and detailed, with a high premium on rapid delivery of analytical products in an operational environment.

In recognition of the serious threat posed by NBC/M proliferation, U.S. Intelligence has developed, and is implementing, a strategic plan which draws on the resources of the entire Intelligence Community. These intelligence activities are closely coordinated with activities in the policy, defense, and law enforcement communities. In many cases, the activities are joint. The goal is to provide policy makers with the intelligence support they need to:

- Prevent the acquisition of NBC/M – and of related technology and technical insight – by countries and terrorist organizations seeking such capabilities;
- Roll back existing programs and capabilities worldwide;
- Deter the use of these weapons; and
- Adapt military forces and emergency assets to respond to the threat posed by these weapons.

The following sections examine various facets of the NBC/M proliferation threat, including: the threat of nuclear diversion from the FSU; the CW/BW terrorist threat; and the military threat posed by CW/BW, ballistic and cruise missiles, and underground and hardened NBC facilities. In addition, a brief study of Iraq's CW/BW programs is also provided. For additional information on proliferation threats, the reader is referred to the April 1996 OSD report entitled *Proliferation: Threat and Response*.

3.2 The Threat of Nuclear Diversion

Although the threat of a massive nuclear attack involving hundreds or even thousands of nuclear weapons from the FSU has diminished, other threats have arisen: the potential acquisition of nuclear materials or even nuclear weapons by states hostile to the United States or by terrorists intent on staging incidents harmful to U.S. interests.

The chilling reality is that nuclear materials, technologies, and expertise are more accessible now than at any other time in history – due in part to the dissolution of the Soviet Union and the region's worsened economic conditions and political instabilities. This problem is exacerbated by the increasing diffusion of modern technology through the growth of the world market, making it

harder to detect illicit diversions of materials and technologies relevant to a nuclear weapons program.

U.S. Intelligence is taking all possible measures to support aggressively U.S. Government efforts to ensure the security of nuclear materials and technologies. There are several reasons why U.S. Intelligence is concerned about the security of nuclear materials.

- Russia and the other states of the FSU are not the only potential sources of nuclear weapons or materials. The reported theft of approximately 130 barrels of enriched uranium waste from a storage facility in South Africa, which was covered in the press in August 1994, demonstrates that this problem can begin in any state where there are nuclear materials, reactors, or fuel cycle facilities.

- A few countries whose interests are inimical to the U.S. are attempting to acquire nuclear weapons – Iraq and Iran being two of the greatest concerns. Should one of these countries, or a terrorist group, acquire one or more nuclear weapons, they could enormously complicate U.S. political or military activity, threaten or attack deployed U.S. or allied forces, or even threaten to conduct an attack against the U.S. itself.

- The effort required to become a nuclear power is being reduced. Years ago there were two impediments to would-be proliferators: the technical know-how for building a bomb and the acquisition of the fissile material. While it is by no means easy to make a nuclear weapon, knowledge of weapons design is sufficiently widespread so that a concerted effort could succeed in at least developing a workable, albeit crude, design. The single greatest impediment to a nation acquiring a nuclear capability is the acquisition of fissile material. Nuclear weapons require fissile material in the form of highly enriched uranium or plutonium, both of which require large multi-billion dollar development programs to produce independently. Today, fissile material is more susceptible than ever to being purchased, stolen, or otherwise acquired.

The protection of fissile material in the FSU has thus become more critical at the same time that it has become more difficult. Many of the institutional mechanisms that once curtailed the spread of nuclear materials, technology, and knowledge no longer exist or are present only in a weakened capacity. Effective new methods of control have yet to be fully implemented for a large portion of the world's nuclear related materials, technology, and information.

The list of potential proliferators is not limited to states with nuclear weapons ambitions. There are many non-state actors, such as separatists and terrorist groups, criminal organizations, and individual thieves who could choose to further their cause by using fissile or non-fissile (but radioactive) nuclear materials. Despite press articles claiming numerous instances of nuclear trafficking worldwide, U.S. Intelligence has no evidence that any fissile materials have been acquired by terrorist organizations. There are no indications of state sponsored attempts to arm terrorist organizations with nuclear material, fissile or non-fissile. Furthermore, conventional weapons such as improvised explosives remain the most likely option for terrorist groups because they are much easier to use and can be effective as tools of terror. Unfortunately, this does not

preclude the possibility that a terrorist group could acquire enough nuclear material, potentially through illicit trades, to conduct an operation, especially one specifically designed to incite panic.

A non-state actor does not necessarily need fissile material – which is more difficult to acquire – for its purposes. Depending upon the group's objectives, any radioactive material could suffice, but the use of non-fissile materials would likely result in low levels of contamination with very little physical damage. But non-fissile radioactive materials dispersed by a conventional explosive or even released accidentally could cause damage to property and the environment, and cause social, political, and economic disruption. Examples of non-fissionable, radioactive materials seen in press reports are cesium-137, strontium-90, and cobalt-60. These cannot be used in nuclear weapons but could be used to contaminate water supplies, business centers, government facilities, or transportation networks. Although it is unlikely they would cause significant numbers of casualties, they could cause physical disruption, interruption of economic activity, and psychological trauma to the work force and general populace, and require some measure of post-incident clean-up. Non-state actors already have attempted to use radioactive materials in recent operations. For example:

- In November 1995, a Chechen insurgent leader threatened to turn Moscow into an "eternal desert" with radioactive waste, according to press reports. The Chechens directed a Russian news agency to a small amount of cesium-137 in a shielded container in a Moscow park which the Chechens claimed to have placed there. Government spokesmen told the press that the material was not a threat, and would have to have been dispersed by explosives to be dangerous. According to DoD assessments, there was only a very small quantity of cesium-137 in the container. If it had been dispersed with a bomb, an area of the park could have been contaminated with low levels of radiation. This could have caused disruption to the populace, but would have posed a minimal health hazard for anyone outside the immediate blast area.

- The Japanese cult Aum Shinrikyo, which twice attacked Japanese civilians with deadly sarin nerve agent, also tried to mine its own uranium in Australia and to buy Russian nuclear warheads.

Traditional terrorist groups with established sponsors probably will remain hesitant to use a nuclear weapon, for fear of provoking a worldwide crackdown and alienating their supporters. In contrast, a new breed of multinational terrorists, exemplified by the Islamic extremists involved in the bombing of the World Trade Center in 1993, might be more likely to consider such a weapon if it were available. These groups are part of a loose association of politically committed, mixed nationality militants, apparently motivated by revenge, political grievances, or a general hatred for the West.

3.3 The Terrorist Threat of Chemical and Biological Weapons

The danger that a terrorist organization like the Aum Shinrikyo could acquire the capability to launch an attack using CW or BW continues to exist. U.S. Intelligence continues to assess and analyze the threat of a terrorist CW or BW attack, a threat that remains ever present. The Aum

Shinrikyo attacks in June 1994, in Matsumoto, Japan, which killed seven and injured 500, and on the Tokyo subway in March 1995, which killed 12 and injured 5,500, were the first instances of large-scale terrorist use of CW agents, but a variety of incidents and reports over the last two years indicate continuing terrorist interest in these weapons. These incidents include, but are not limited to:

- In February 1996, German police confiscated from a Neo-Nazi group a coded diskette that contained information on how to produce the CW agent mustard gas. German police have stated that there are no indications yet of intent or effort to manufacture the agent.

- Tajik opposition members laced champagne with cyanide at a New Year's celebration in January 1995, killing six Russian soldiers and the wife of another, and sickening other revelers.

- Press reports indicate that the Kurdistan Worker's Party (a guerrilla group that opposes Turkish rule of historically Kurdish regions) poisoned water supplies in southeast Turkey with cyanide.

Terrorist interest in CW and BW is not surprising, given the relative ease with which some of these weapons can be produced in simple laboratories, the large number of casualties they can cause, and the residual disruption of infrastructure they can precipitate. Although popular fiction and national attention have focused on terrorist use of nuclear weapons, CW and BW are more likely choices for such groups.

- In contrast to the fabrication of nuclear weapons, the production of BW requires only a small quantity of equipment.

- Even very small amounts of BW and CW can cause massive casualties. The fact that only 12 Japanese died in the Tokyo subway attack has tended to mask the significance of the 5,500 people who were treated or examined at medical facilities. Such a massive influx of injured – many critically – has the potential to overwhelm emergency medical facilities, even in a large metropolitan area.

- Terrorist use of these weapons also makes them "weapons of mass destruction" because of the necessity to decontaminate affected areas before the public will be able to begin feeling safe again.

Although the Aum Shinrikyo case demonstrates that terrorists can produce CW, they also may be able to directly acquire these weapons via other means, including: theft of agents from research labs, acquisition of commercially available poisons, theft of CW munitions held by the military, black market activity, and receipt of ready-made CW agents or munitions from a state sponsor. It is unlikely that all such acquisition attempts will be discovered and investigated. Detection of the acquisition of BW is especially troublesome. There is no doubt that the use of BW could be devastating, possibly causing thousands of deaths, and, at the very least, seriously disrupt

the daily lives and business activities of Americans and U.S. allies. Consequently, BW agents represent a serious threat to U.S. national security.

The continued existence of states such as Iran, Libya, and Syria, which remain on the State Department's terrorist list, highlights the danger of potential state sponsorship of a terrorist's CW or BW program, although there is no evidence of state sponsors providing CW or BW or the technologies to produce them to terrorist groups.

The Aum Shinrikyo. The investigation of Aum leader Shoko Asahara has resulted in a number of revelations about the cult's activities. Press reports allege that:

- Asahara ordered the capability to produce sarin beginning in 1993; a large agent production complex was not operational until March 1994.
- Some evidence suggests that the group may have tested sarin on sheep in Australia. Press reports claim that examination of some 30 sheep carcasses at an abandoned Aum site in Australia revealed the presence of sarin and other pesticides of similar structure.
- After the breakup of the Soviet Union, Aum expanded its activities in Russia, claiming some 30,000 followers there in addition to the 10,000 in Japan.
- Aum's Russian element broadcasts religious radio programs into Japan from the Russian Far East.
- Video news footage indicates that a Russian-made GSP-11 toxic gas detector was found at the Aum compound in Japan. Designed to be used on the battlefield, the Russian detector can also be used in a nerve agent production and handling facility.
- Asahara intended the simultaneous chemical strike on 10 locations in the Tokyo subway to be a massive mystery attack that would divert attention from the cult.
- In February 1996, the Thai police were informed by the Japanese embassy that members of Aum Shinrikyo had arrived in Thailand possibly to carry out terrorist activities. One individual was arrested and later identified as an Aum member; however, there is no information indicating that terrorist activity was planned or conducted in Thailand.

3.4 The Military Threat of Chemical and Biological Weapons

The military threat from CW/BW is greater today than it has ever been – particularly in regions where religious, ethnic, and/or economic strife are feeding the roots of conflict. Exacerbating the problem is the worldwide proliferation of knowledge and technology related to CW/BW and weapon development. Ready access to international computer networks and databases provides a would-be proliferant with unparalleled access to information that can greatly accelerate the development of a CW/BW weaponization program (i.e., turning a stockpile of CW/BW agents into a militarily significant weapon). Not only must U.S. forces be prepared for these threats; they must be prepared now.

The costs of nuclear weapons, the requirement for large supporting infrastructures, and the need to acquire the many different technologies necessary for weaponization are limiting factors in achieving a nuclear weapons capability. On the other hand, initiating a CW agent production capability is a rather straightforward adaptation of basic industrial chemical processes. Similarly, BW agents can be produced by countries possessing a pharmaceutical, veterinary, or medical infrastructure. For such countries, CW and BW production is technically feasible and can become a reality with the acquisition of some specialized equipment, cooperation of appropriate scientists and engineers, and the political will to do so. The military effectiveness of CW/BW weaponization will depend on the overall support available from the country's military infrastructure and the training and doctrine development it can provide. However, with only modest investments a credible and effective CW/BW weaponization program can be established.

Aimed at certain critical nodes in the military infrastructure of the U.S., either domestically or abroad, CW and BW could seriously disrupt the execution and tempo of military operations. Contamination of mobilization/logistics nodes, ports, and other choke points created during force projection (e.g., the ports at Al Jubyal and Ad Dammam during the Gulf War) could delay the initiation of military campaigns, increase the exposure and vulnerability of troops, and threaten the very success of military operations. It is imperative, therefore, that U.S. forces be prepared to operate effectively in CW/BW contaminated environments while simultaneously being able to detect and identify threat agents, treat casualties, and remediate contaminated areas.

The Soviet Union may have had the most advanced CW and BW programs in the world; at the very least, it certainly had the largest. The collapse of the Soviet Union and the current economic and unemployment problems of the states of the FSU may have a significant impact in the coming years on the direction and pace of CW and BW development throughout the world. While not sanctioned by the standing governments of FSU states, individuals and organizations may be tempted to sell related knowledge and materiel for hard currency just to survive. Certainly, the scientists and engineers formerly employed in the Soviet CW/BW weapons complex could be vulnerable to this temptation. Just as the level of protection and control of nuclear materials has declined since the fall of the Soviet Union, so too could CW and BW knowledge and material become vulnerable to pilfering by entrepreneurs looking to turn a quick profit in the international proliferation marketplace.

Press reports indicate that the Soviet Union may also have developed CW agents which are harder to detect, protect against, and treat than standard nerve and other conventional CW agents. Proliferation of knowledge and material associated with these CW agents to regions of instability or by rogue nations could severely impact U.S. national interests, national policy, and military strategy. The prospect of facing a country, such as Iraq, equipped not just with CW, but with CW for which we do not possess adequate means of protection or detection is a sobering thought, indeed.

Another, less well understood, CW threat is the potential for a Bhopal-like event resulting from deliberate targeting of industrial facilities in populated areas. U.S. forces operating in industrial areas could face a combined threat of conventional CW agents and exposure to industrial chemicals released either deliberately by saboteurs or as a result of collateral effects associated with military attack operations (i.e., by friend or foe).

Currently there are some 20 countries that possess or are seeking to acquire CW and BW capabilities. Some of these programs are relics from the Cold War, others are the result of current tensions and instabilities, and still others defy any reasonable explanation (at least by Western standards). Whatever the rationale for the existence of these programs, they all have the potential to pose a serious threat to U.S. military forces operating in or near these countries. The importance and gravity of these issues are underscored by noting that the countries which are the greatest concern to the U.S. as potential CW/BW weapons proliferants are also in regions where the U.S. has well defined national security interests (e.g., the Middle East). Therefore, it is of paramount importance that U.S. forces continue to maintain a credible capability to operate effectively in a CW/BW contaminated environment, and that the U.S. continue to play a leadership role in CW and BW arms control efforts to establish enforceable international norms and control mechanisms for these weapons, like those embodied in the Chemical Weapons Convention (CWC) and the Biological Weapons Convention (BWC).

Ballistic Missile NBC Weapon Delivery Systems. Ballistic missiles offer potential proliferators several advantages in delivering NBC weapons. This is evidenced by the fact that many of the states thought to possess or seeking to possess NBC weapons also have programs to develop or acquire ballistic missiles. Ballistic missiles are less expensive to acquire and sustain than a modern air force. They have a relatively low profile infrastructure, and the use of mobile launchers makes them far less vulnerable to U.S. offensive operations than, for example, manned aircraft with ties to fixed air bases. The U.S. experience in the Gulf War demonstrated the exceptional challenge posed by mobile ballistic missile launchers to counterforce operations. Perhaps the greatest attraction of ballistic missiles is the difficulty in defending against them.

The potential for coercion is, perhaps, the long-range ballistic missile's greatest value to proliferators and the greatest challenge for those seeking to restrain them. Beyond their coercive value in threatening distant cities and their ability to distract and tie up military resources seeking to counter them, ballistic missiles – if sufficiently accurate and/or lethal – can pose a direct military threat as well. During the Gulf War, 25 percent of U.S. combat fatalities resulted from a single SCUD missile strike on a makeshift barracks in Dhahran, Saudi Arabia. Whether as a terror weapon against civilian populations or as a means to threaten the rear of U.S. and coalition forces, ballistic missiles can be an effective offensive weapon, even in the midst of U.S. air superiority. This is particularly the case with NBC-armed ballistic missiles. Because of their ability to spread lethal effects over wide areas, arming ballistic missiles with NBC weapons can, to some extent, compensate for a lack of missile accuracy. An inaccurate ballistic missile armed with conventional high explosives can be transformed from a militarily ineffective terror weapon to a militarily significant weapon by adding an NBC warhead. Hence, those who seek to develop or acquire NBC weapons will likely seek to develop or acquire ballistic missiles as well, and sometimes, unfortunately, vice versa.

Cruise Missile NBC Weapon Delivery Systems. Article 2 of the Intermediate Range Nuclear Forces (INF) Treaty provides a useful definition: "A cruise missile is an unmanned, self-propelled vehicle that sustains flight through the use of aerodynamic lift over most of its flight." Cruise missiles may be even less expensive and more accurate than ballistic missiles, and their smaller size may make them an even more elusive target for counterforce operations. Furthermore,

they may also be more difficult to defend against than manned aircraft because of their lower radar cross-section and flight characteristics. Cruise missiles tend to be small, easy to hide, capable of being launched from a variety of mobile launch platforms (air, ground, and sea based) without significant modifications to the missile, relatively hard to detect in flight, and potentially accurate to a few tens of meters (e.g., via the Global Positioning System). Even unsophisticated general aviation aircraft and commercially available remotely piloted vehicles could be turned into an unmanned cruise missile of sorts and configured to accomplish a variety of militarily significant missions. Such aircraft are widely available and inexpensive to purchase, support, and operate. Even though short-range anti-ship cruise missiles are already widely available, there are only a few countries that possess long-range, land-attack cruise missiles. However, there are no technological barriers preventing even developing nations from developing or purchasing these relatively inexpensive, potentially very accurate NBC weapon delivery systems. Although they can be designed to deliver their payloads to great distances (both the U.S. and the FSU built cruise missiles with range capabilities of more than 3,000 km), the majority of currently available cruise-type missiles have ranges typically less than about 500 km.

Underground and Hardened NBC/M Facilities. Some countries are concealing NBC/M facilities and protecting them from attack by constructing underground and other hardened facilities. Placing an NBC/M capability – a weapon, a delivery system, or an NBC weapon production complex – within an underground facility enhances a country's ability to conceal the facility's location, in addition to providing considerable protection against attack. Outer perimeter protection in such facilities may involve concrete and steel roofs with earth cover. Other options include the use of tunnels, including existing coal and salt mine complexes and natural caves that can be both deep and extensive. Within a hardened complex such measures as blast doors, barriers, turns in tunnels, and expansion chambers can channel and deflect blast waves to mitigate their destructive effects. Modern excavating equipment has speeded the process of constructing such facilities while also reducing construction costs.

The Iraqi shallow buried and hardened facilities attacked during the Gulf War were for the most part remnants of an earlier generation of protective facilities construction. Because of the success achieved by U.S. weapons against these facilities, a new trend has been observed: the increased use of deep underground structures, such as abandoned mines or tunnels, to protect high value military assets. A proliferant state's NBC/M forces and supporting infrastructure elements are one such high value military asset. Libya's construction of the Tarhunah tunnel complex, a suspected large scale CW production facility, is an example of this trend recently reported in the press. This complex is illustrated in Figure 3.2.

3.5 Iraq: A Country Study

This country study examines the magnitude of Iraq's CW and BW programs and underscores the complexity faced by international efforts to curb the spread of these weapons. Details about the breadth of Iraq's past CW and BW programs are presented to demonstrate the broad range of weapons that a state sponsor of terrorism has available and could provide to terrorists if it so chooses.

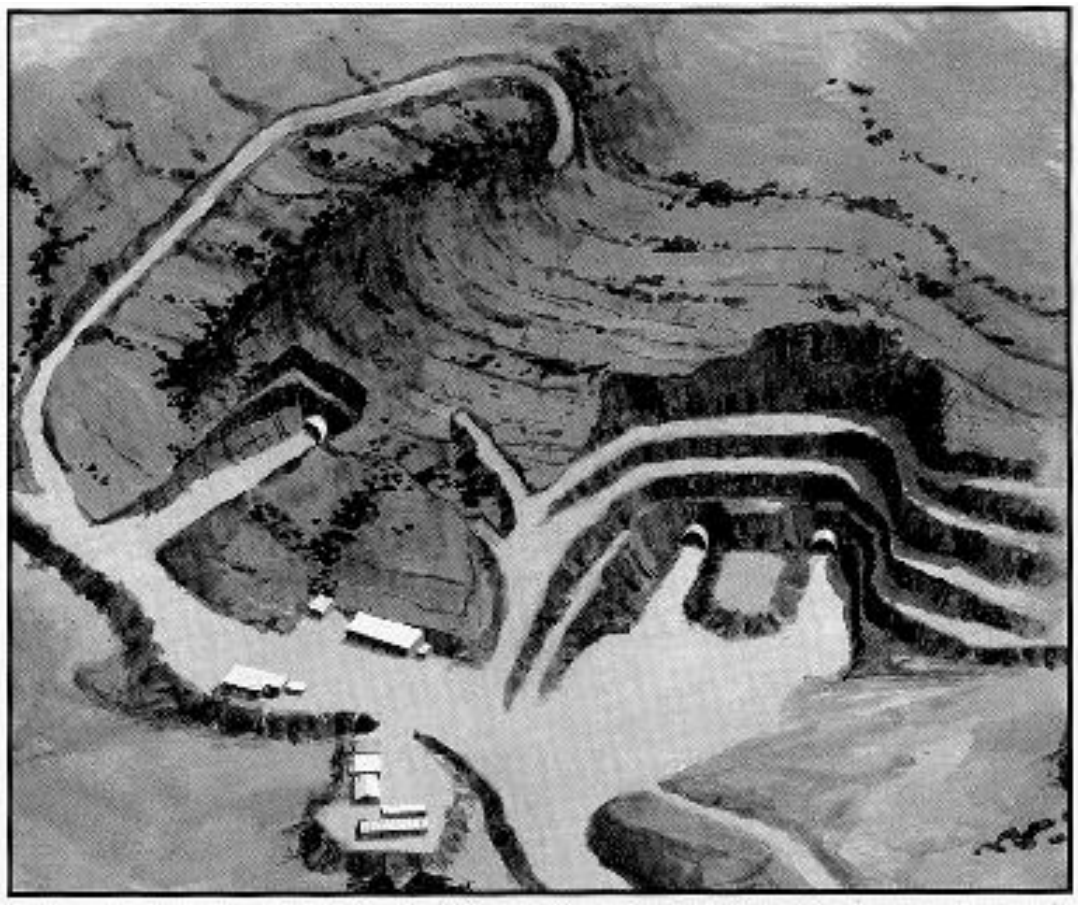

Figure 3.2 The Tarhunah Underground CW Production Complex

The unprecedented inspections conducted in Iraq by the United Nations (UN) have revealed much about Iraqi NBC/M programs. In the wake of the August 1995 defection of two high-level Iraqis, the Baghdad government turned over to the United Nations Special Commission (UNSCOM) and the International Atomic Energy Agency (IAEA) a large cache of NBC/M-related documents and have revealed even more information in extensive discussions with both UN organizations. The sudden revelation of new information underscored the long-standing judgment that the Iraqis had made efforts to deceive UNSCOM and the IAEA. Such behavior resulted in UNSCOM Chairman Ekeus's delivery of a strongly worded report to the UN Security Council that was critical of Iraq's progress in fulfilling its obligations under the UN resolutions imposed following the Gulf War. Despite severe war damage and over four years of UN inspections, Iraq retains some infrastructure to resurrect many of its NBC/M programs.

Iraq's Biological Warfare Program. Following the August 1995 defections of high level Iraqi officials, Iraq revealed substantial additional information about its extensive BW program. The Iraqi Government adopted a policy to acquire additional BW in 1974. R&D began in 1975, but went into hiatus in 1978. In 1985, Iraq restarted BW R&D. Initial work focused on literature studies, until bacterial strains were received from overseas in April 1986. Additionally, Iraq's

revelations to the UN included the following information on the production and weaponization of its BW agents:

- A total of 6,000 liters of concentrated botulinum toxin and 8,425 liters of anthrax were produced at Al Hakam during 1990. An additional 5,400 liters of concentrated botulinum toxin were produced at the Daura Foot and Mouth Disease Institute during the period of November 1990 to January 15, 1991; 400 liters of concentrated botulinum toxin was produced at Taji; and 150 liters of concentrated anthrax were produced at Salman Pak.

- Production of clostridium perfringens (a biological agent that causes gas gangrene and, when aerosolized, can cause severe gastric effects) began in August 1990. A total of 340 liters of concentrated agent was produced.

- Static field trials of anthrax simulant and botulinum toxin were conducted using aerial bombs as early as March 1988. Effects were observed on test animals. Additional weaponization tests took place in November 1989 with 122 mm rockets. Live firings of 122 mm rockets filled with agents were conducted in May 1990.

- Large-scale weaponization of BW agents began in 1990. Iraq filled more than 150 bombs and 25 missile warheads with agent. Some of the bombs were dispersed to military airfields.

- Iraq worked to adapt a modified aircraft drop tank for BW agent spray operations beginning in December 1990. The tank could be attached either to a piloted fighter or to an unmanned aircraft that would be guided to the target by a piloted aircraft. The tank was designed to spray up to 2,000 liters of anthrax on a target. Iraq claims the test was a failure, but three additional drop tanks were modified and stored, ready for use.

Iraq's Chemical Warfare Program. These revelations further demonstrated the ability of a determined proliferator to hide some information about its CW/BW programs even when subjected to systematic and continued scrutiny and included:

- The Iraqi program to develop the nerve agent VX actually began as early as May 1985 and continued until December 1990 without interruption; Iraq claimed previously that its program spanned only the period April 1987 to September 1988.

- Iraq produced 65 tons of chlorine, intended for the production of VX, and had more than 200 tons each of the precursor chemicals phosphorous pentasulfide and di-isopropylamine. Together, these three precursors would have been sufficient to produce almost 500 tons of VX.

- Iraq developed a true binary sarin-filled artillery shell, 122 mm rockets, and aerial bombs in quantities beyond prototype level. An Al Husayn missile with a chemical warhead was flight-tested in April 1990.

Iraq received significant assistance from outside suppliers. Figure 3.3 shows some of the CW munitions (unfueld and defused LD-250 chemical bombs) recovered by UNSCOM inspectors after Desert Storm.

Response to the Threat. Additional information on the NBC/M proliferation and NBC terrorist threats may be found in the Intelligence Annex to this report. DoD, DOE, and U.S. Intelligence policy and strategy objectives which provide a framework in which to deal with NBC/M proliferation and NBC terrorism threats are summarized in the next Section. DoD's military response to counter NBC/M threats is discussed in Section 5. DOE's programs in proliferation prevention are described in Section 6, and U.S. Intelligence's response to countering proliferation is summarized in Section 7. The integrated DoD, DOE, and U.S. Intelligence, response to countering paramilitary and terrorist NBC threats is discussed in Section 8. Details of U.S. Intelligence's response, including new initiatives, activities, and programs which address shortfalls in efforts to counter proliferation, may be found in the Intelligence Annex.

Figure 3.3 Iraqi CW Munitions Recovered after Desert Storm