



Number 138, May 1998

# Responding to Proliferation Threats

by Mitchel B. Wallerstein

## Conclusions

- Iraq's possession of biological and chemical weapons is indicative that proliferation presents not "theoretical" military problems but significant military threats today.
- Countries of moderate technical capability and economic means are readily able to develop biological weapons.
- The development of biological weapons can be masked by other weapons programs, as well as by dual-use technologies in legitimate biological/pesticide manufacturing and research facilities.
- Many states that possess biological or chemical weapons exist in unstable regions where the possibility of U.S. or coalition military involvement is greatest.
- Most proliferant states aspire to regional hegemony and perceive nuclear, biological, and chemical (NBC) weapons as asymmetrical counters to the superior conventional forces of opponents.
- A key to deterring the use of biological or chemical weapons lies in developing counterproliferation capabilities (e.g., protective suits, masks, detectors, etc.) that negate the value of using such weapons against U.S. or coalition forces.

## Proliferation: A Case in Point

One of the most enduring—and deeply troubling—lessons from the Gulf War is that Iraq, a country of moderate technical capability and economic means, was able to move from biological weapons (BW) research to deployed weapons in only five years. Iraq possessed BW-filled munitions, including bombs and missile warheads; had the technical sophistication to weaponize three different biological agents; and had *forward deployed* these weapons before the start of Desert Storm. But what is particularly shocking is that these facts were discovered not from mandatory Iraqi declarations to the United Nations Special Commission (UNSCOM), or even from more than 30 highly intrusive, UNSCOM inspection missions. Rather, the information came to light only from the belated revelations of an Iraqi defector, Hussein Kamal, who later paid with his life.

The extent and sophistication of the Iraqi BW program—and the suspicions raised by Saddam's recent efforts to prevent UNSCOM inspectors from gaining access to the most sensitive sites—underscores the reality that NBC military threats are not "theoretical" military problems of the future; they are significant military threats *today*.

### **The Relevance of Arms Control in Dealing with the BW problem**

The recent UNSCOM difficulties with Saddam Hussein notwithstanding, the punitive inspection and verification measures forced on defeated Iraq were an arms controller's dream. They include: mandatory declarations; mandatory UNSCOM interrogation of Iraqi weapons of mass destruction (WMD) program personnel; routine visits to facilities; anywhere/anytime challenge visits; anywhere/anytime sample collection for BW forensics; tagging and random inspection of dual-use equipment; and import controls. Yet, despite all of these measures, the inherently dual-use nature of biological manufacturing facilities enabled (and may *still* enable) Iraq to hide a "warm" BW capability from UNSCOM inspectors, masquerading it as a bio-pesticide research facility. Indeed, even while subject to the most intense and intrusive inspection regime in history, Iraq was able to *upgrade* its capability to produce the BW agent, anthrax, from a crude liquid slurry to simulant powders, milled into sizes readily respirable as a BW agent and to perform open air testing of the powder, once again by claiming that it was a bio-pesticide. Anthrax is a highly lethal biological agent, which occurs in nature as spores, particularly around animal stocks. Anthrax can be transmitted cutaneously, by gastro-intestinal infection, or by inhalation. Respiratory infection is the most lethal form of the illness.

The most immediate lesson to be drawn from this experience is that, whereas traditional arms control techniques have utility in counting, monitoring and verifying munitions or munitions-related equipment, such as missile silos, artillery pieces or tanks, the arms control approach is less effective when the armament in question is produced substantially on the basis of *dual-use* technology, such as in the case of BW. This leads to the postulate that the more limited the probability of detection—or stated differently, the easier it is to mask or hide an NBC weapons capability—the less "deterrence" is gained from traditional measures such as mandatory declarations, and intrusive challenge inspections. And the Iraq example demonstrates just how easy it is to hide or mask an active BW capability. Indeed, as recent experience has demonstrated, UNSCOM has only limited ability even to verify the reliability of the declarations that the Iraqis actually have made.

Another insight is that the Iraqi BW program began as a hidden subset of its chemical weapons (CW) program. The technicians, munitions handlers, veterinarians, range instrumentation people, and so on, who supported development of CW munitions, were at some point diverted to the BW program. In fact, the first BW agents were liquid slurries filled into CW bombs. Thus, if the CW Convention can establish a world-wide norm against the development, testing, and stockpiling of CW munitions, it will help to block one path for masking development of a BW program. Unfortunately, other covert paths exist, such as diverting elements of a defensive biological R&D program, which is permitted under the Biological Weapons and Toxins Convention, to a covert offensive BW program.

## Prudent Steps: Defense Against Proliferation

Many countries, in addition to Iraq, either are seeking or possess biological and chemical weapons. And many possess or are developing increasingly sophisticated delivery systems, including ballistic and cruise missiles, and unmanned aerial vehicles (UAVs). Thus, it is accurate to state that proliferation already has occurred and *continues* to occur. However, non-proliferation diplomacy has not been a failure. Indeed, the record of diplomatic success over the past 30 years is both substantial and impressive. But the unavoidable realities of today's world are that we live in an era of (a) enormous, and expanding, global trade, (b) rapidly growing indigenous, scientific and engineering capabilities in the proliferant states, and (c) ever wider availability of dual use technology. As a result, despite the success of efforts to *prevent* proliferation from occurring and to roll back existing NBC missile programs, it is nevertheless the case that we live in a proliferated world. And it is no coincidence that most proliferant states exist in politically unstable regions of the world, where the possibility of U.S. or coalition military involvement is greatest. This requires, in turn, that proliferation must be dealt with not only as an arms control problem but also as a high priority defense planning requirement.

The United States discovered many vulnerabilities in its defensive capabilities during the Gulf War, particularly against NBC weapons and ballistic missile delivery systems. Indeed, it was only with the benefit of hindsight that the true extent to which the coalition forces "dodged a bullet" (both literally and figuratively) in avoiding CW/BW threats in the Gulf War became fully evident. The coalition's ability to confront an adversary armed with NBC weapons was limited in some important ways. For example, U.S. chemical agent detection equipment yielded too many false positives, complicating the decision on when to put on (and take off) protective gear. There was also first-hand evidence of the degradation in efficiency and overall operational tempo when soldiers were required to operate in MOPP-4 protective gear, which was heavy and cumbersome, particularly in the heat of the Arabian desert.

Ironically, although the United States knew that the Iraqis had an extensive CW arsenal—and had experience using chemical weapons against Iran and Iraq's own Kurdish minority—Saddam Hussein apparently chose not to use the weapons, even though they, too, were forward-deployed. The reasons why the Iraqis decided *not* to use their available CW inventory have been the subject of intense speculation ever since. By most accounts, warnings (including an implied nuclear threat) made prior to the conflict by then Secretary of State James Baker and British Prime Minister Margaret Thatcher had some influence on Iraqi thinking. (Iraq also may have perceived that the coalition had CW defenses superior to its own.)

The United States also knew before the war that the Iraqis had facilities to perform research and development (R&D) on biological weapons. But when the coalition began planning attacks against suspected BW targets (e.g., munitions bunkers), there was insufficient understanding of how to destroy such targets while limiting the collateral effects on nearby civilian populations. And, many of the suspected BW storage sites were located, perhaps purposely, in or near heavily populated urban areas.

International Atomic Energy Agency (IAEA)-led inspections after the Gulf War also revealed an Iraqi nuclear weapons development program of a scope and sophistication that was very different technically and much larger than intelligence analysis had previously identified. Iraq had succeeded in adapting semi-

obsolete (1940s) electro-magnetic enrichment technology to enlarge its fissile material stockpile—and hiding this from the IAEA. By some estimates, Iraq may have been six-to-nine months away from producing enough fissile material for a crude nuclear weapon.

Finally, the Gulf War saw the use of the Scud missile as a political "terror weapon." Fired at U.S. troops and predominantly against cities in Israel and Saudi Arabia, most of the missiles failed to strike their intended targets, although a single Scud killed more Americans than any other system. They nevertheless were quite effective in evoking terror in the targeted civilian populations. Moreover, the United States discovered that its ability to find and destroy the missiles, either on the ground or in the air, also was limited. Thus, the Gulf War provided a substantial demonstration of the need for improved passive and active defenses, as well as counterforce capabilities, to confront a future adversary armed with NBC weapons and missile delivery systems.

### **The Rationale for Counterproliferation**

Proliferant states may not be deterred by threats of "massive retaliation" as during the Cold War—in part, because they may not always take them seriously. On the other hand, counterproliferation works, in part, because it is tangible; proliferant states can observe that the threatened state possesses the necessary protective suits, masks, detectors, and so on, and trains and exercises for their use. This forces proliferant states to recognize that the United States and its allies or coalition partners will *not* be deterred from pursuing their political and military objectives by the threatened use of BW or CW.

This changes the cost/benefit calculus; the substantial economic costs and national security risks associated with the development and/or acquisition of NBC weapons begin to substantially outweigh the perceived benefits. From the standpoint of the proliferant, if NBC weapons will not achieve their desired objective, or if they can be obtained only at very high cost, why seek them? Thus, by devaluing the leverage normally associated with the possession of NBC weapons, counterproliferation complements and reinforces ongoing non-proliferation diplomacy (e.g., the development or strengthening of non-proliferation regimes such as the Chemical Weapons Convention), as well efforts to seek bilateral and multilateral diplomatic solutions to regional proliferation problems.

While most proliferants seek NBC weapons based on calculations of regional security and/or aspirations to regional hegemony, they also recognize the potential coercive value that such weapons could represent in confrontations with states possessing superior conventional forces. This is particularly true in an era of "CNN Wars," where video images of soldiers and civilians killed in horrible ways, and in large numbers, as a result of exposure to CW or BW could have significant, negative, political consequences. Thus, proliferant states may perceive the acquisition and/or development of NBC weapons as an asymmetrical counter to an opponent with superior conventional force projection capabilities.

Of all the weapons that the United States potentially could face, none is more menacing than biological weapons. BW can be produced cheaply, concealed easily, and potentially can be as lethal as certain types of nuclear weapons. BW also pose significant defense planning challenges to make certain that U.S. and

other friendly forces are able to detect advancing BW clouds on the battlefield and to protect themselves from the effects.

## **The NATO Response to Proliferation**

In a quiet success story, a senior Defense Group on Proliferation was established at NATO in 1994, and through its work, NATO recognized that proliferation can pose a direct military threat to the Alliance, and must therefore be a central consideration in defense planning. NATO perceived the greatest risk is to deployed forces operating out of area (such as in the present example of the Balkans) where the immediate risks are likely to be the greatest. The Alliance has placed greatest emphasis, therefore, on developing counterproliferation capabilities first and foremost to safeguard NATO's ability to perform new roles and missions, such as peacekeeping and peace enforcement. Having the ability to perform these new missions, in addition to NATO's traditional role of defending NATO populations and territory, is an integral part of NATO's adaptation to the new security environment.

NATO's approach to deterring the threat or use of NBC weapons is to possess a mix of conventional, counter BW/CW defenses, and nuclear forces that can deny a potential adversary its objectives and can inflict swift and sure punishment if such weapons are used. It is predicated on the ultimate futility—and, indeed, irrationality—of using NBC weapons against our forces or populations, or those of our friends and allies.

As demonstrated most recently in Bosnia, and before that in the Persian Gulf, future wars are likely to be fought in coalition. Beyond preparing our national forces to operate in an NBC environment, the United States is also working with its allies and friends to develop and implement common defense responses to the military risks posed by NBC weapons.

## **Recommendations**

Measures such as improving chemical defense suits or developing new, more sensitive chemical and biological detectors are not enough. The United States, its allies, and friends must change the way they *think* about operating in an NBC environment in order to optimize the use of revolutionary technologies and new battlefield tactics. The following recommendations should be considered.

- Although we now live in a proliferated world, the paramount goal of U.S. policy must remain the prevention of proliferation whenever possible.
- The United States must continue to provide leadership in the development of robust national and multilateral defense against BW/CW and missile-delivery threats.
- Proliferant states must understand that the United States and its allies cannot be intimidated because these allies possess robust passive defenses (e.g., personal and collective protection), active defenses (e.g., theater missile defenses), and counterforce capabilities (e.g., the means to

destroy NBC munitions stockpiles and production facilities).

- The United States must develop capabilities that will allow it to defend against or respond to the use of NBC weapons on its own terms, rather than on those dictated by an autocratic or theocratic proliferant states. Threats to use NBC weapons must not become useful instruments of the weak to blackmail or coerce the strong.

Dr. Mitchel B. Wallerstein wrote this article while associated with National Defense University's Center for Counterproliferation Research as a Distinguished Research Professor. He served from 1993-1997 as Deputy Assistant Secretary of Defense for Counterproliferation Policy.

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