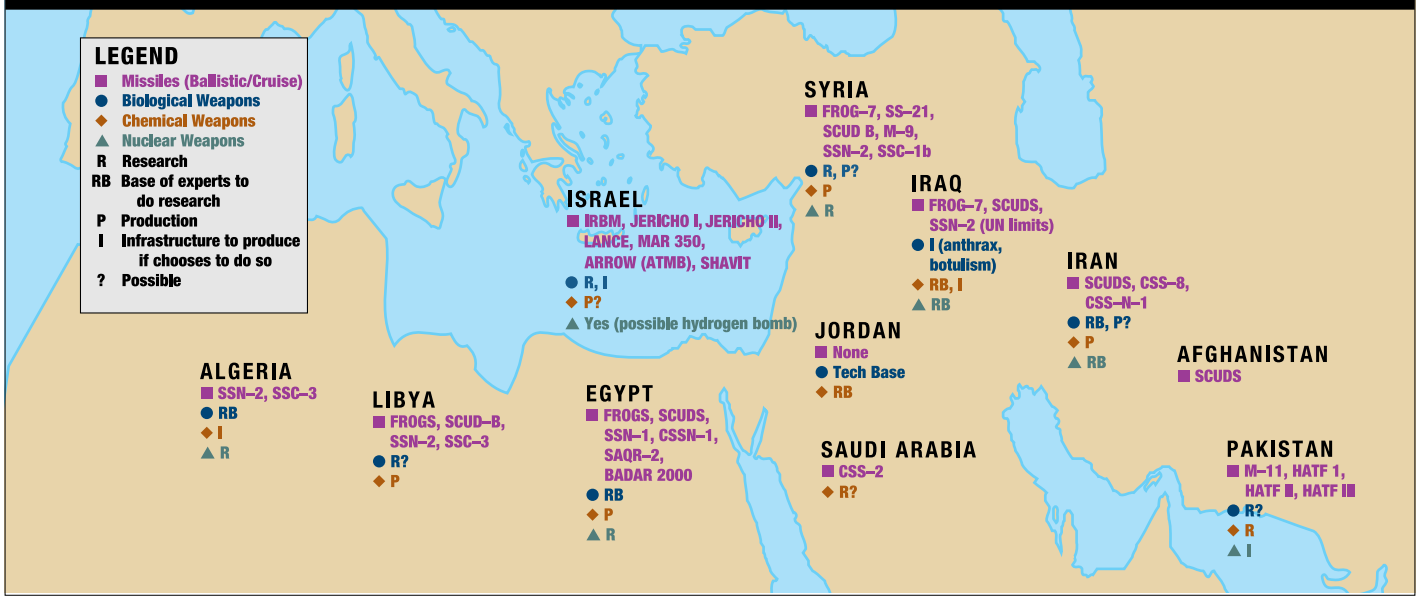
# Regional Implications of NBC PROLIFERATION

*By* ROBERT G. JOSEPH

The proliferation of nuclear, biological, and chemical (NBC) weapons, and of increasingly capable ballistic and cruise missiles as delivery systems of choice, represents a central threat to U.S. security interests and the use of force as an instrument of U.S. national strategy. In response to this growing threat, the United States is pursuing a two-track approach. The first, designed to *prevent* proliferation, consists of bolstering traditional non-proliferation efforts—such as arms control, export controls, and security assistance and assurances—to dissuade any potential proliferator from pursuing NBC and missile programs. The second track, referred to as counterproliferation, consists of defense initiatives across a broad range of activities—from doctrine to training and leadership development to acquisition—designed to *protect* against the strategic and tactical consequences of proliferation should prevention fail.

Agile Provider '94.

**Greater Middle East: Proliferation Profile**




*Source*: Institute for National Strategic Studies, *Strategic Assessment 1995*.

Non-proliferation objectives have long been given high priority by the United States, which has taken the lead in establishing international legal norms against the possession and the use of NBC weapons. The 1972 Biological Weapons Convention and as yet unratified 1992 Chemical Weapons Convention are expressions of this effort. The Clinton administration's emphasis on indefinite extension of the Nuclear Non-Proliferation Treaty (NPT) as well as its advocacy of a comprehensive test ban are more recent indications of the desire to prevent proliferation through arms control. Paralleling these regimes, the United States has long sought to promote multilateral export controls for sensitive technologies and materials. The Nuclear Suppliers Group, Australia Group, and Missile Technology Control Regime are prime examples of this effort. The ongoing U.S. attempt to transform the Coordinating Committee on Multilateral Export Controls (COCOM) into a non-proliferation export control organization is another example.

While a large majority of the members of the international community has supported the creation of these legal norms and abides by them, a growing number of states have rejected or manipulated the norms and associated safeguards to gain access to proscribed technologies. For example, like North Korea and Iraq before it, Iran's formal adherence to NPT—while actively pursuing nuclear weapons—is a cynical display of contempt for these legal norms and its ability to circumvent international controls. Iran's membership in good standing in the treaty regime, which permits it to take advantage of access to technologies applicable to weapons, clearly demonstrates the limitations of arms control approaches. Similarly, the willingness of suppliers to provide this technology, in this case Russia, demonstrates the limits of export controls.

In part as a consequence, a significant paradox is now evident in the security environment: while the United States has renounced possession of offensive biological and chemical weapons and is fundamentally reducing its nuclear stockpile and the role of nuclear weapons in its post-Cold War defense posture, a number of hostile states are actively pursuing NBC weapons. In fact, as evidenced by the diffusion of dual-use technologies and the wide-scale use of chemical weapons in the Iran-Iraq war and other conflicts, barriers to possessing and using these weapons are actually eroding. Recent Iraqi admissions provide further evidence which supports this conclusion. U.N. officials have acquired documents revealing that, while the United States was deploying forces to the Gulf in the autumn of 1990, Iraq began to fill bombs and Scud warheads with chemical and biological agents for use against coalition forces as well as Israeli and Saudi cities. The documents also show that, following its invasion of Kuwait, Iraq embarked on a new crash effort to produce one or two nuclear bombs. This effort, which was in addition to a long-standing program to enrich uranium for nuclear weapons, included a plan to recover by April 1991 weapons-grade uranium from safeguarded radioactive fuel supplied by France for the Osirak reactor.

The utility and effects of NBC weapons differ by the type of weapon and scale of their use. While nuclear weapons have certain attributes that

**Robert G. Joseph is director of the Center for Counter-proliferation Research at the National Defense University and on the faculty of the National War College.**

U.S. Air Force (Jill Miller)

Logistic choke points are vulnerable targets.

make them particularly useful tools for political intimidation, chemical and especially biological weapons pose other challenges. When compared to nuclear weapons, both are relatively easy and cheap to acquire, and because the requisite support facilities lack unique signatures, they are far less vulnerable to attack. Moreover, post-1960s advances in biotechnology make the use of biological weapons against targets such as airfields and ports more feasible. Further, high-lethality, multiple-delivery modes (including covert), and limited ability to detect—and thus defend against—biological weapons have serious implications for deterrence and warfighting.

**in the greater Middle East nearly half the countries possess or are developing NBC weapons and missiles**

Perhaps the most troubling implication from a U.S. political-military perspective is that, of those states pursuing NBC and missile programs, a significant number pose direct threats to stability in vital regions where the United States has long-standing security commitments and the forward presence of its forces. In the greater Middle East, an area of special concern, nearly half the countries already possess or are developing NBC weapons and missiles. Of these, Iran, Iraq, and Libya stand out as the near-term threats to the United States. Given the dynamics of the region, other countries such as Syria could quickly join these three states.

## The Threat to the Area

Often considered rogue states, Iran, Iraq, and Libya have objectives which are inimical to U.S. interests and therefore see the United States as a serious obstacle to achieving their goals. All appear to regard NBC weapons and missiles as valuable instruments for pursuing their regional political and military ambitions and for overcoming the conventional superiority that the United States and potential coalition partners can command in theater. In this context, NBC weapons and missiles are prized as effective tools for coercion against neighboring states and for deterrence (for example, to deter the United States from intervening in the region). Moreover, as demonstrated by the extensive use of chemicals and ballistic missiles in the Iran-Iraq war and Iraq's preparations for the use of biological weapons in the Gulf War, these weapons are also viewed as having great strategic and tactical value.

Iran is embarked on a significant arms buildup across the board, including aggressive NBC programs. Although Iran signed the Chemical Weapons Convention, it subsequently expanded and upgraded its chemical warfare program. According to open source estimates, its chemical warfare program can produce hundreds of tons of agents annually, primarily choking and blister agents. A biological weapons program dating back to the early 1980s has advanced to the point where it probably has produced biological agents and weaponized a small quantity of those agents. Iran's nuclear program is expected to take eight to ten years to produce its own weapons, perhaps five if

U.S. Marine Corps (J.R. Tricoche)

Scud remains in the Persian Gulf.

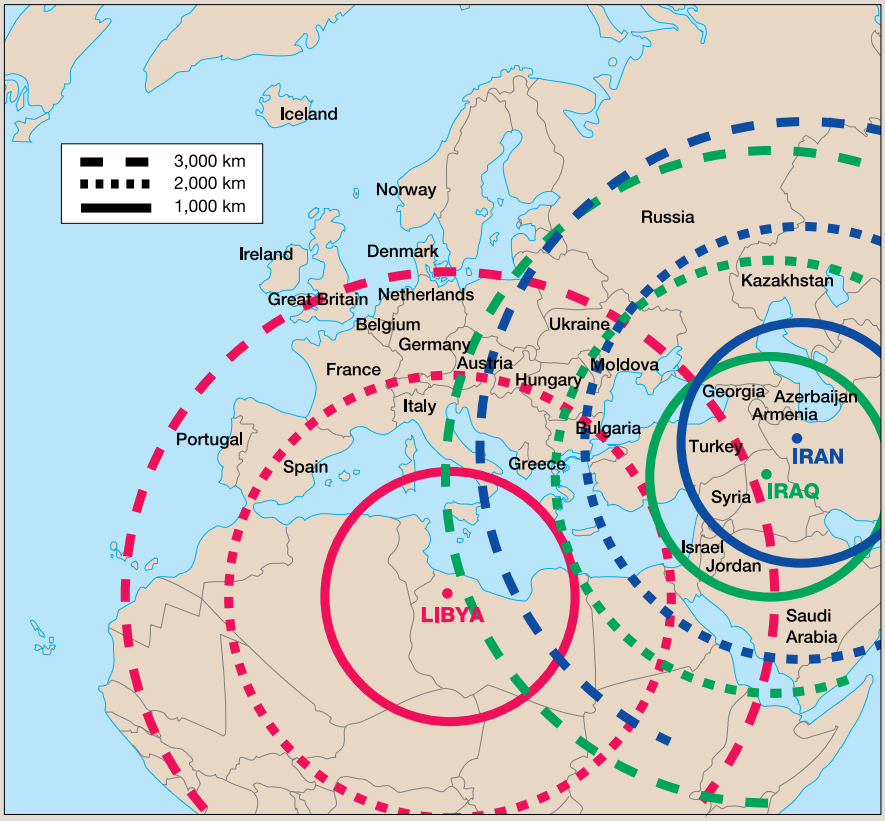
U.S. Air Force (Pedro Ybanez)

Tehran gets foreign assistance. Given the Iraqi experience, where it is clear that the program was much further advanced than assessed by the intelligence community, and given the certainty that Iran will receive outside help, the time required to acquire a crude nuclear weapons capability will likely be less than official estimates. In its pursuit of ballistic missiles, Iran has acquired the extended-range Scud C from North Korea and is expected to receive the 1000-plus kilometer No Dong–1 from the same source.

Iraq's NBC and missile programs suffered a major setback with its defeat in Desert Storm. Many key facilities were heavily damaged or destroyed from the air and others rendered inoperable through continuous intrusive inspections. Nevertheless, despite efforts by onsite U.N. personnel, Iraq has avoided detection and destruction of critical elements of its NBC infrastructure, as well as existing stockpiles of chemical and biological weapons and missiles. As a result of its costly but successful efforts, it can resume its programs soon after inspectors leave. For example, Baghdad has retained a significant amount of chemical weapons production equipment and is assessed to have preserved stockpiles of chemical agents and munitions. Some chemical weapons production could be resumed in weeks. Iraq's offensive biological program, which produced thousands of gallons of anthrax bacteria and botulism toxin, is of the greatest concern. While recently admitting to stockpiling massive amounts of biological agents which it claims to have destroyed, neither war nor inspections have completely degraded Iraq's capability. Production of biological agents, if not ongoing, could begin at any time. Similarly, Iraq still retains the expertise and technological base to resume its uranium enrichment program, including machine tools and centrifuge designs. Even though its nuclear program has clearly been disrupted, Iraq's continued deception and evasion on all related issues indicate its intention to resume the quest for nuclear weapons once freed from international sanctions. Finally, in large measure because the U.N. cease-fire agreement permits Baghdad to develop, test, and produce missiles of ranges up to 150 kilometers, Iraq has held onto missile support equipment and propellant that can be used for longer-range missiles. In fact, since the Gulf War, Iraqi agents have successfully acquired critical missile components from abroad in violation of the U.N. sanctions.

Libya, though possessing less indigenous expertise than Iran or Iraq, has actively sought both chemical weapons and ballistic missiles and may be pursuing biological and nuclear weapons. Tripoli has invested heavily in building chemical weapons production plants at Rabta and Tarhunah and is assessed to have a weapons stockpile of at least 100 tons of agents, including mustard and nerve gas. In addition to its 300-kilometer range Scud missiles, Libya has reportedly arranged to buy extended-range Scud–Cs and perhaps No Dongs from North Korea. While its biological and nuclear weapons programs are currently assessed to be in the R&D phase, Tripoli is seeking to transform its biological research program to produce weaponized agents. Libya operates a small nuclear research facility and is alleged to be recruiting Russian scientists to help establish a nuclear weapons program. Experience—the launch of ballistic missiles against Lampadusa and the use of chemical weapons in Chad—reveals that the Libyan leadership sees these weapons as politically and militarily useful. Qadhafi's expressed desire to be able to strike the United States with long-range missiles is further indication.

**Threat Ranges**




*Source*: Ballistic Missile Defense Organization.

## Regional Deterrence

The possession of NBC weapons and missiles by states like Iran, Iraq, and Libya raises the risks of engaging in the area and complicates coalition building, undermines deterrence based on conventional superiority, and threatens the U.S. ability to conduct operations. Consequently, it is essential to rethink how such weapons could be used against the United States or coalition partners in a regional context and what must be done to deter and defend against them.

**for deterrence to succeed, the United States must have the capability and will to prevail in an NBC environment**

The use or threat of use of NBC weapons against U.S. and coalition forces in the greater Middle East, unless limited to small-scale tactical employment such as chemical weapons on the battlefield, could have major strategic and tactical repercussions for accomplishing missions and objectives, affecting deployment into theater, sustaining forces, and conducting combat operations. For example, large concentrations of troops and equipment present a major vulnerability to NBC attack. In a region like the Gulf with relatively few airfields and ports, business as usual is a formula for disaster.

Any NBC use would almost certainly fundamentally alter the political nature of the conflict as well. Even the threat of use could lead to pressures (such as driving wedges in the coalition) as well as reassessments of coalition objectives and resolve. If Iraq had possessed nuclear weapons and ballistic missiles able to strike Western Europe, for example, forming and maintaining a Desert Storm-type coalition would have been even more difficult, if not altogether problematic.

It is important to remember that deterrence works in two directions. Just as the United States will seek to deter an adversary from using NBC weapons, an enemy will seek to use the possession of these weapons to deter American and coalition forces from intervening and bringing to bear overwhelming conventional superiority. Failing to deter the United States, an NBC-armed enemy could decide to employ these weapons to drive up U.S. and allied casualties for political and military impact. In order not to be deterred, the United States must demonstrate—to a potential enemy and to itself—that using NBC weapons will not produce political and military benefits that outweigh the associated risks.

For deterrence to succeed, the United States must have—and be perceived to have—the capability and will to prevail in an NBC environment and retaliate against an enemy, holding at risk assets of value that can be attacked and destroyed if an enemy undertakes the action which was to have been deterred. Given the importance of forging and maintaining coalitions in regional conflicts, U.S. deterrent posture must also be credible to prospective partners. To be credible, deterrence must demonstrate consistency of purpose as well as determination over the long haul. The U.S. reputation for resolve among allies and potential enemies alike is affected by its actions over time and across the spectrum of security policy.

Deterrence remains the first line of defense against NBC weapons, and the basic elements of deterrence must be maintained and strengthened. However, traditional approaches to deterring NBC use in an unstable region such as the greater Middle East are inherently uncertain. Many of the conditions that contributed to deterrence in

the Cold War are not present—for example, mutual understandings of the implications of NBC use and effective communication. In the final analysis, a deterrent strategy requires knowledge of the strategic personality of one's adversary, to include a cognizance of the region, the culture, the military forces, and the regime itself.

For these reasons, the United States must reexamine the requirements for, and assumptions of, deterrence in a regional context. In the CENTCOM area of interest this means strengthening the U.S. capability to retaliate conventionally so that the consequences of contemplated aggression are clear to leaders such as Saddam Hussein. Moreover, it requires finding more effective ways to communicate resolve and capabilities through declaratory policy and private channels. The credibility of U.S. deterrent forces can also be enhanced through such measures as deployments and exercises.

In this regard, it may be necessary to review the formulations of the various U.S. negative security assurances in the context of regional deterrence, keeping in mind that American superiority in conventional force cannot be expected in every case to deter war or use of NBC weapons after war has begun. For example, declaring that the United States will not use nuclear weapons against non-nuclear parties to the NPT may be perceived by states such as Iran to exempt them from possible nuclear retaliation if chemical or biological weapons are employed against American forces. This would clearly undercut the value of the U.S. nuclear deterrent which, if Iraqi leaders are to be believed, was decisive in Baghdad's decision not to employ chemical and biological weapons. Iraq's concern was based on a direct American warning that it would suffer catastrophic consequences if it used chemical or biological weapons against the coalition. Iraq interpreted this to mean nuclear retaliation. Thus, even though the post-Cold War role of nuclear weapons in U.S. defense policy is not precisely defined, nuclear weapons remain the ultimate sanction and a vital element of deterring NBC use. For this reason, it is necessary to resist further attempts to delegitimize U.S. possession of nuclear weapons.

## Defense Against NBC

When one considers deterring Iran's mullahs or a Qadhafi or Hussein, it is clear that deterrence could fail. Because of the inherent complexities of deterrence and the problematic nature of its success, it is necessary to plan for its failure. As previously indicated, should this occur and NBC weapons be used against U.S. and coalition forces, the political implications would be profound and the military effects could be substantial at both the strategic and operational levels.

Given the potential impact of such use on individual units and larger formations as well as on civilian infrastructure, the United States must have sufficient capability both to render the use of NBC less effective and to prevail on the battlefield. Moreover, the requirement for mitigating the effects of NBC use can extend, particularly within a coalition, to the protection of civilians—both those essential to the war effort and the population at large.

In short, the United States must be able—in terms of doctrine, training, and equipment—to protect its forces and ensure they can operate and prevail in an NBC environment. This requires maintaining effective conventional and nuclear forces as well as detailed contingency planning for deterrence and defense in a regional context. Moreover, it demands that defense—both active (for example, ballistic and cruise missile defenses) and passive (effective chemical/biological weapons suits and detectors)—be given high priority and that counterforce capabilities suited to the unique characteristics of NBC targets be strengthened (for example, the ability to kill deep underground targets).

With such an arsenal of capabilities, U.S. deterrent posture would be strengthened. In fact, deterrence by denial—denying the enemy the benefits of NBC use—is the best guarantor of deterrence success. It is also the best hedge in the event deterrence fails.

NBC proliferation represents a joint problem for which there can only be a joint solution. Inside and outside DOD, many initiatives in R&D, doctrine, gaming, and force planning (such as special operations forces) are underway. Problems do exist, however, both with regard to how far technology can offer solutions as well as institutional problems such as service priorities, budgetary constraints, and a realistic grasp of the implications of NBC use on military operations.

The Armed Forces have an essential role to play across the entire range of issues affecting the deterrence of, and the defense against, proliferation. CENTCOM and other regional commands are well placed to understand the politico-military-cultural dynamics which are critical to effective deterrence. Inputs from the commands are also key to determining how best to convey intentions and resolve, in declaratory policy and private channels. Most important, regional commanders in chief have the overall responsibility for contingency planning and execution of military options to deter, defend against, and destroy NBC threats in their respective areas of responsibility. JFQ