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Iraq and After: Taking the Right Lessons for Combating Weapons of Mass Destruction

by Michael Eisenstadt

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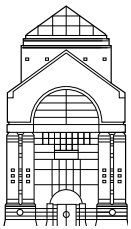
Occasional Paper 2



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Iraq and After

Recent proliferation surprises in the Middle East—the failure to find weapons of mass destruction (WMD) in Iraq, Libya's decision to eliminate its WMD, and evidence of significant progress by Iran toward a nuclear weapons capability—underscore the need for the nonproliferation community to reassess some of its key assumptions about WMD proliferation and the nature of the evolving international landscape.

Such a reassessment must be highly speculative. Much about Iraq's WMD programs is likely to remain a mystery due to the destruction of records and the looting of facilities following the fall of Baghdad, as well as the continuing silence of many Iraqi weapons scientists and former government officials.[1] Likewise, the calculations driving key proliferation-related decisions by Libya and Iran remain murky. This lack of knowledge, however, should not inhibit attempts to grasp the implications of these developments for U.S. nonproliferation and counterproliferation policy.

Although this paper focuses primarily on Iraq, it also seeks to draw lessons from recent experiences in Libya and Iran to understand better how proliferators think about WMD; the challenges in assessing the status and sophistication of developing world WMD programs; the contours of the emerging international proliferation landscape; and the efficacy of various policy instruments available to the United States for dealing with these so-called ultimate weapons.

Iraq: Where Are the Weapons?

Two conclusions can be drawn with a fair degree of confidence: nearly all of Iraq's pre-1991 Gulf War WMD stocks were destroyed by Baghdad or by United Nations (UN) inspectors after the war, and Iraq did not have militarily significant quantities of WMD on the eve of Operation *Iraqi Freedom*.[2] During the decade between the two wars, however, it was not unreasonable to believe that Iraq retained stocks of chemical and biological weapons produced prior to the first Gulf War and that it would use them if the regime's survival were threatened.[3] The importance that senior Iraqi officials had ascribed to WMD, Baghdad's repeated efforts to obstruct UN weapons inspections, the regime's failure to resolve inconsistencies in its declarations to the United Nations (in part to foster ambiguity about the status of its WMD and thereby to reassure domestic supporters and deter domestic and foreign enemies), and low confidence in the ability of U.S. intelligence to track WMD developments in Iraq all contributed to this impression.

WMD: The Ultimate Trump Card . . .

Iraq made extensive battlefield use of chemical weapons (CW) during the Iran-Iraq war, first to prevent Iranian breakthroughs at critical sectors and disrupt Iranian human wave and night attacks, and later during pre-attack preparations of Iranian positions. By the end of the war, CW use became routine, and authority for its employment was delegated to divisional commanders. Although Iraq generally eschewed the use of chemical weapons against Iranian civilians during the war, it threatened to do so toward the end of that conflict. Iraq also used CW to suppress Kurdish civilians and insurgents during the 1988 Anfal campaign and against Shi'ite rebels during the 1991 uprising, demonstrating that these weapons played an important internal security role.[4]

Thus, in the course of the Iran-Iraq war, CW evolved from weapons of last resort, used to avert defeat, to weapons of first resort, used to pave the way to victory. Iraq's nascent nuclear doctrine (as spelled out in a 1988 Iraqi doctrinal manual on the subject that was captured during the 1991 Gulf War) likewise conceived of nuclear weapons as battlefield systems that would be used early in a conflict to influence developments at the tactical, operational, and strategic levels of war.[5]

In light of this experience, Iraq cast its possession of missiles and WMD as an existential imperative. In discussions with UN weapons inspectors during the 1990s, senior Iraqi officials such as Deputy Prime Minister Tariq Aziz claimed that WMD saved Iraq in its war with Iran. Iraq's arsenal of extended-range Scud missiles enabled it to hit Tehran and thereby undermine enemy morale, while CW was critical to countering Iranian human wave attacks.[6] Iraqi officials, debriefed by the U.S. Government's Iraq Survey Group (ISG) in the wake of *Iraqi Freedom,* also revealed that Saddam Hussein believed that WMD had deterred the United States from driving on to Baghdad after liberating Kuwait in 1991.[7]

Iraq apparently was willing to risk repeated military confrontations with the United States and to forego some $130 billion in oil income as a result of its obstruction of UN weapons inspections during the 1990s because it was committed to holding on to its WMD, which it viewed as its ultimate trump card and guarantor of regime survival against domestic and foreign enemies.

. . . Or "Weapons of No Resort"?

If Iraq viewed WMD as the ultimate guarantor of regime survival, and it did not possess militarily significant stocks of WMD prior to the second Gulf War, why did it not produce WMD in the runup to the war?

Whether senior regime personalities seriously considered restarting production of chemical or biological weapons before Operation *Iraqi Freedom* remains unclear. According to the ISG Interim Progress Report submitted by David Kay (who served as a special adviser with the group), Saddam Hussein asked a senior military official in 1999 how long it would take to produce fresh CW. He was told that it would take 6 months for mustard gas. According to the ISG Comprehensive Report submitted by Charles Duelfer (Kay's successor), the request was made in 2001 or 2002, though it is possible that Saddam made multiple requests.[8] In addition, according to Kay, in mid-2002, Saddam's son Uday asked a senior Iraqi expert how long it would take to produce CW for his paramilitary unit, the Fedayeen Saddam. The expert told him it would take 2 months to produce mustard gas and 2 years for sarin.[9] The Comprehensive Report also states that in early 2003, an aide to Uday approached a former VX expert with a request to make a chemical agent but was reportedly rebuffed because the aide lacked orders signed by Saddam.[10]

The ISG report states that Iraq retained a modest chemical and biological weapon (CBW) production capability in 2003. According to the ISG assessment of available chemicals, infrastructure, and scientist debriefings, Iraq could have produced large quantities of sulfur mustard within 3 to 6 months, while an Iraqi scientist debriefed by the ISG claimed that significant quantities of nerve agent could have been made within 2 years (given the import of the necessary precursors).[11] Likewise, the ISG judged that Iraq could have reestablished a rudimentary biological weapon (BW) program capable of small-scale agent production within a few weeks.[12] There is no information indicating, however, that an order was given or an effort made to resume CBW production before the war.[13]

If Iraq retained a production capability of some kind, why did it not produce fresh batches of CBW in the runup to the war? There are a number of possible explanations:

- Saddam was not willing to accept the potential political and military risks associated with any attempt to resume production while UN inspections were still occurring, especially since he apparently attached overriding importance to ending sanctions.[14] At any rate, by the time UN weapons inspectors left Iraq for good on March 18, 2003—one day before the start of *Iraqi Freedom*—there would have been insufficient time to produce CBW to counter the looming threat.
- While Iraq might have been able to produce chemical and biological agents, it would not have been able to produce chemical and biological munitions due to the degradation of its military-industrial capacity by war and sanctions. Neglect by Iraqi scientists, who were less interested

during the latter part of the 1990s in preserving Iraq's CBW production base than in securing funding for pet "makework" projects, may have also contributed to this state of affairs.[15]

- Saddam believed that the United States planned a brief punitive air campaign (an expanded version of Operation *Desert Fox* of December 1998), perhaps in conjunction with a series of limited ground operations in southern Iraq to seize the oil fields there, that the regime could ride out.[16] He apparently did not believe that the regime faced a threat to its survival, or that WMD was needed to deal with the situation.
- Saddam believed that Iraq could deal handily with a ground invasion; the army and the regime's popular militias would resolutely resist a foreign invasion,[17] halting enemy forces far from the gates of Baghdad (hence the lack of preparations for combat in the capital), while France or Russia worked for a ceasefire at the United Nations.[18] The use of WMD would have undercut the wartime diplomacy and complicated postwar efforts to undermine sanctions further.
- Saddam concluded that CBW would not deter the United States from going to war (it had not done so in 1991); would be of little use against U.S. forces equipped and trained to fight in a contaminated environment; and could prompt massive conventional or nuclear retaliation, thereby jeopardizing the survival of his regime.

If Saddam believed that WMD was crucial for deterrence or warfighting in *Iraqi Freedom*, he might have been willing to risk ordering clandestine production while UN weapons inspectors were in country (assuming he believed that he could do so without getting caught). There are no indications, however, that Saddam gave any such order, reinforcing the impression that he probably believed that CBW was unnecessary in the looming war with the coalition.[19]

This would seem to strengthen the case for explanations founded on assessments that Saddam was optimistic about his prospects[20] and might account for why he did not prosecute a scorched-earth campaign, destroy Iraq's oil fields, or prepare for urban combat in Baghdad. Saddam apparently believed that Iraq's conventional and paramilitary forces, his threat to demolish Iraq's oil fields (to deny the United States and the United Kingdom Iraq's oil wealth, which he believed was their main motive for going to war),[21] his Franco-Russian diplomatic safety net—and not WMD—were his ultimate trump cards. Saddam may have also believed that CBW had little if any utility in a war against U.S. forces and that its use would provoke the type of devastating response threatened by the United States in 1991, thereby hastening his demise rather than ensuring his survival. He gave no hint, however, of such concerns, and there is no evidence that these were decisive factors in his calculations.

How is one to account for Saddam's optimism on the eve of the war that was to unseat him? Throughout his life, Saddam had overcome long odds to become the leader of Iraq and fend off numerous challenges to his political and personal survival. He withstood his mother's apparent attempts to abort him; survived a gunshot wound received as a youth during a bungled attempt to assassinate the then-president of Iraq; clawed his way to the top of Iraq's ruling Ba'th Party to eventually become president of Iraq; survived the enormously bloody and expensive war against Iran that he launched in 1980; weathered defeat at the hands of coalition forces in 1991, the bloody uprising that followed, and a decade of sanctions; and averted numerous coup attempts. His remarkable skills as a survivor imbued in him an unshakable belief in his own abilities and in his destiny to lead Iraq to greatness.[22]

Likewise, Saddam greatly overestimated Iraq's military capabilities and underestimated those of his enemies, repeating mistakes he made in 1991. He deceived himself about the willingness of the Iraqi army to fight at the behest of the regime (curious, in light of his distrust of the military and his persistent fears of a military coup) and its ability to stand up to U.S. troops, and he underestimated the technological prowess of the U.S. Armed Forces and their ability to sustain casualties.[23]

The fact that the United States and Iraq so grievously misread each other's capabilities and intentions after devoting so much time and effort to taking the measure of the adversary is remarkable. Moreover, it is astounding that Saddam did not believe that the United States intended to topple him despite a major U.S. military buildup on Iraq's borders and numerous press leaks indicating that Baghdad was the objective of the looming military campaign and the overthrow of the regime its goal. This raises disturbing questions about the enduring potential for miscalculation in a proliferated world.

But the United States and Iraq were not the only ones that erred. How does one account for the fact that so many foreign intelligence services were also apparently wrong about Iraq's prewar WMD capabilities and programs? (No Western or Middle Eastern intelligence service is known to have dissented from Washington's assessment of Iraq's WMD capabilities and potential before the war.[24]) One explanation is that there in fact were (and perhaps still are) small quantities of chemical and biological weapons hidden in Iraq. Another explanation is that the same analytic biases and/or "groupthink" that affected U.S. intelligence analysts and policymakers afflicted their foreign counterparts.[25] Yet another possibility is that Iraq engaged in deliberate deception.[26] It is possible that Saddam hoped that the deniable threat of CW use (deniable, so that the threats would not

undermine efforts to have sanctions lifted) might deter a coalition attack on Iraq. To make such a threat credible, Iraq's leadership may have fed false reports to foreign intelligence services that the country retained WMD, perhaps thereby unintentionally misleading Iraqi personnel who learned of these reports from unwitting relatives in the intelligence services or via foreign press reports. This may be why senior Republican Guard and Special Republican Guard commanders still believed that Iraq had WMD, in spite of the fact that their own units had not been issued CW munitions[27] and Saddam had told senior officers in December 2002 that Iraq no longer had WMD.[28] And the Iraqis may have taken steps to appear as if they were preparing aircraft (including unmanned drones, Sukhoi strike aircraft, and Tu-16 bombers) for CW missions against Israel.[29] The possibility of deception merits additional scrutiny.

The explanation offered here also raises doubts about reports that before the war Saddam sent stockpiles of WMD (assuming for the moment that Iraq retained small stocks of WMD[30]) outside the country for "safe-keeping"—perhaps to Syria, as alleged by senior Israeli politicians and military officials.[31] If Saddam were optimistic about his prospects, why would he have done so? Just as he ordered the Iraqi air force in February 2003 to dismantle and bury several dozen of its most advanced combat aircraft to protect them from air attacks[32] (rather than sending them to neighboring countries as he did in 1991), why would he not have ordered that retained stocks of WMD—if any indeed existed—be buried or otherwise hidden in Iraq?[33]

Thus, whether due to folly (Saddam's misreading of U.S. capabilities and intentions and his unshakable optimism), realism (his appreciation of the limited utility of CBW in such a war), or prudence (the fear of massive retaliation), on the eve of *Iraqi Freedom*, Saddam apparently viewed WMD (or at least CBW) as weapons of neither first nor last resort, but rather as weapons that were irrelevant in a war against the United States—"weapons of no resort."[34]

Libya: Explaining Its Rollback Decision

If the reasons for Iraq's non-use of WMD during *Iraqi Freedom* remain a matter of conjecture, the motives behind Libya's decision in December 2003 to eliminate its WMD are more clearly, if still somewhat imperfectly, understood. Libya's decision also appears to have been rooted in a perception that WMD had become weapons of no resort. Thus, in explaining Libya's decision, Libyan Prime Minister Shukri Ghanem stated that:

> Economically it's not wise to develop it. Guns are costing you more every day and you find out that in this international atmosphere, this is taken against you. So economically and politically it becomes a burden. Then you find out you can't use these weapons. Even the U.S. used them [that is, nuclear weapons] only once, so it doesn't make any sense. It gives you a false sense of power. Can Israel use this arsenal? And there are internal problems of how to guard them: if someone steals them or misuses them. They make you even more crippled. Logically they are not useful.[35]

President Muammar Qaddafi's son, Seif al-Islam, likewise explained Libya's decision to dismantle its WMD in the following terms:

> We developed (these) weapons for the purpose of war with the enemy. (Yet) we have seen that the armed struggle of the Palestinians, which lasted 50 years, did not produce results such as those obtained by means of negotiations that lasted five years.[36]

The truth of the matter is that Libya's decision to eliminate its WMD programs was neither simple nor straightforward. Libya first engaged the United Kingdom and the United States in 1999 and proposed abandoning its CW program and joining the Organization for the Prohibition of Chemical Weapons (OPCW) at that time. Talks eventually foundered, though, over the issue of compensation for the families of the victims of Pan Am flight 103.[37] When Libya reengaged the United Kingdom and the United States in March 2003, it apparently renewed its offer to abandon its CW program but not its (then-clandestine) nuclear program. Only after Libya came to realize that British and American intelligence had a detailed understanding of its nuclear program (following the October 2003 diversion to Italy of a merchant ship, the *BBC China*, carrying components destined for Libya's centrifuge program) did it offer to eliminate both its CW and nuclear programs.[38]

Libya thus initially intended to give up only some of its WMD programs, but the United Kingdom and United States successfully maneuvered Libya into agreeing to eliminate much more. The rather meager achievements of Libya's WMD programs probably made this decision easier. The British and Americans were asking Libya to give up a capability that was a major impediment to better relations with the West and that had not significantly enhanced Libya's security or bolstered its ability to deter. Qaddafi may have concluded that the weapons were more a liability than an asset, and he thus tried to use them as a bargaining chip

in his efforts to reintegrate Libya into the international community and to normalize relations with the United States.

One should not assume, however, that WMD rollback is spreading. Iran seems committed to developing a nuclear option, if not an actual capability, despite international pressure to halt or abandon its nuclear program, while there are reports that Syria may be developing a nuclear option as well.[39] And since the 2003 Gulf War, North Korea appears to have moved forward with its nuclear program, reprocessing its spent fuel rods and perhaps using the separated plutonium to build additional bombs.[40] Nonetheless, the experience of Iraq and Libya should prompt a reassessment of how proliferators view WMD, from the point of view of deterrence and warfighting.

WMD, Deterrence, and Warfighting: A New Approach

Prior to the invasion of Iraq and Libya's decision to eliminate its WMD, the widespread assumption was that proliferators assigned WMD a central role in deterrence and warfighting. The cases of Iraq and Libya, however, underscore the fact that proliferators rarely rely exclusively on WMD for deterrence or defense—due to a widespread, if infrequently acknowledged, recognition that in many circumstances, WMD would have little, if any, utility.[41] As a result, proliferators often pursue sophisticated political-military strategies that seek to constrain and deter their adversaries by a combination of political and military measures. In some circumstances, WMD may not figure into these strategies at all; in other cases, they may play a central role. Have policy analysts, military planners, and policymakers sometimes overrated the importance that proliferators assign to WMD in defense planning?

In the runup to the 1991 Gulf War, Iraq deployed chemical munitions to ammunition depots near the Kuwait theater of operations and biological munitions to forward air and missile bases, and Iraqi officials made statements threatening the use of WMD—implicitly in some cases, overtly in others.[42] Iraq's WMD, however, played no role in the war: Saddam apparently believed that Iraq's "battle-hardened" forces would fight the coalition to a bloody standoff, obviating the need for WMD and leading to a diplomatic solution to the conflict.[43] Use of CBW would have embarrassed his French and Russian patrons and undermined the diplomatic component of his strategy.[44] In *Iraqi Freedom*, WMD had no place in either deterrence

or warfighting. Had Saddam overtly threatened use of WMD (even as a bluff, since he apparently no longer had militarily significant quantities of CBW), he risked vindicating his enemies—who claimed that Iraq had failed to disarm—and bringing about the very war he was trying to avert.

Syria's missiles and chemical weapons are central to its efforts to deter Israel.[45] Nonetheless, Syria has not staked all its hopes on WMD. Its decision to join the 1991 Madrid peace process was likely motivated, at least in part, by a desire to constrain Israel's military freedom of action at a time of heightened vulnerability (as a result of the waning power and influence of the Soviet Union and the defeat of Iraq in the 1991 Gulf War). Syria may have believed that by joining negotiations with Israel, it ensured that the United States would restrain the Jewish state should tensions between the two escalate. And since the 1990s, Syria has facilitated the transfer to the Lebanese Hizballah by Iran of thousands of conventional mid- and long-range battlefield rockets that can reach targets throughout northern Israel (which Syria has supplemented with domestically produced rockets). In so doing, it has limited Israel's military freedom of action in Lebanon, where Syria still has thousands of troops, and created the option of a second front should Israel attack Syria through the Golan or from the air.

For Iran, WMD and associated delivery means are only one leg of a deterrent/warfighting triad completed by the capacity to sponsor terrorist acts worldwide and an ability to threaten the free flow of Persian Gulf oil through the Strait of Hormuz. Of these, WMD may be the most frightening but least useful option. In addition, while the rockets Iran transferred to the Lebanese Hizballah via Syria may have limited deterrence value in some circumstances (since their use could prompt a harsh Israeli response that could undermine Hizballah's standing in Lebanon), in others, they might be of decisive importance—especially when the stakes for Iran are high. In such a case, Hizballah's standing in Lebanon would likely take a back seat to Tehran's supreme national security interests.

Thus, WMD is only one of several means that proliferators have at their disposal to deter potential enemies, and in many circumstances it may not even be the most important one. To deter or coerce WMD-armed adversaries, the United States must be able to counter not only the adversary's ability to employ the weapons but also the adversary's overall strategy, in which WMD may be only one of several policy instruments available. It is not clear that this point has been sufficiently appreciated by proliferation analysts, military planners, and policymakers.

Assessing the Adversary

The experiences of 2004 reinforced a recurring theme of the past decade: proliferators have consistently shown great sophistication in obtaining materials, technology, and equipment needed to produce WMD and have often succeeded in keeping secret such procurement successes and the programs they abetted (for example, large parts of Iraq's BW and nuclear weapons programs prior to the 1991 Gulf War and the uranium enrichment programs of Libya, Iran, and North Korea prior to 2003). They have been less successful, however, at building on these successes to create advanced capabilities for producing and employing WMD.

Libya's WMD programs provide fresh evidence here. If Tripoli's declarations to the OPCW and International Atomic Energy Agency (IAEA) can be relied upon, it had little to show for all the resources invested in and attention focused on WMD programs. According to its declarations, Libya possessed 23 tons of mustard gas; 1,300 tons of precursor chemicals (for sarin and other nerve agents); 3,563 unfilled aerial bombs (which have since been destroyed); several hundred Scud-B missiles (which are to be made less capable); and 5 Scud-C missiles (whose guidance sets have been sent to the United States for safekeeping, thereby rendering the missiles inoperable).[46]

Two interesting aspects of the Libyan CW program (accepting the veracity of the Libyan declaration) are some of the choices made regarding agents, munitions, and delivery means, and the program's relative lack of sophistication despite 20 years of effort. Libya apparently made only limited progress toward producing second- and third-generation agents, advanced (binary or cluster-type) munitions, and diverse delivery means such as artillery rounds, unmanned aerial vehicles, and missile warheads. It is particularly noteworthy that Libya apparently did not produce chemical missile warheads; whether Tripoli did not try, or tried and failed, is unclear. A widespread assumption is that Scud-type missiles make military sense only as delivery means for WMD because of their limited payload and accuracy and their high cost (about $1 million apiece). Did Libya's political and military leadership not share this view? Or is the complete picture still unknown?

Libya likewise enjoyed a number of successes in procuring equipment for its nuclear program, although progress was fitful and uneven, and overall its program still had a long way to go.[47] Thus, although it apparently acquired a bomb design from the Abdul Qadeer Khan nuclear supplier network, Libya claimed that it lacked technicians and scientists with the necessary expertise to read and understand the weapon blueprints.[48]

The example of Libya demonstrates that sophistication in circumventing export controls and procuring materials, technology, and equipment does

not necessarily translate to advanced WMD production means or advanced operational capabilities, which require skills and expertise that are often in short supply in developing countries. And while Libya probably represents the low end of the human skills/resources spectrum among proliferators, these comments also apply, in varying degrees, to Syria, Iraq, Iran, and North Korea.[49]

The New International Proliferation Environment

Recent revelations in Iraq, Libya, and Iran underscore the fact that while proliferators are increasingly capable of producing the means to manufacture WMD on their own, most remain dependent on foreign assistance for resolving critical production, design, and development challenges or for supplying special materials or critical technologies and components. They also show that the market is responding to this demand. Thus, during the 1990s, the missile programs of Libya, Iraq, and Iran depended on Russian, Chinese, and/or North Korean assistance, while the nuclear programs of Libya and Iran could not have progressed very far without the help of the A.Q. Khan network.

This point cannot be overemphasized: Since World War II, nearly every major missile and WMD program in the developing and the developed world has benefited from some kind of foreign assistance—in the form of official help from friendly states, unauthorized assistance by sympathetic foreign officials, or assistance by government officials, firms, or individuals motivated by mercenary considerations. Programs that did not receive such assistance are the exception rather than the rule (see table 1).

The cases of Libya, Iraq, and Iran also demonstrate that regional proliferation developments must be seen in a worldwide context against the background of the emergence of a globalized supplier's market, whereby the profit motive and the need to cooperate to circumvent export controls trump ideology and politics as the basis for strategic alliances among proliferators and suppliers.

The appearance of nuclear supplier networks trafficking in the most sensitive technology and know-how (it remains to be seen whether the A.Q. Khan network is a one-time event or harbinger of a new trend), and the possible emergence of North Korea as a purveyor of fissile material or weapons could enable aspiring proliferators and states not previously of proliferation concern to acquire WMD without prior warning. These developments also create circumstances in which proliferation roll-back (for example, Libya) or coercive disarmament successes in a country formerly of proliferation concern (for example, Iraq) could be overturned rapidly, should the former proliferator, for whatever reason, revert to its earlier ways.

Table 1. Foreign Assistance to Select Ballistic Missile and WMD Programs

Origin	Recipient	Type	When	Comments
U.S.	USSR	Nuclear	WWII and after	Espionage
Germany	U.S./USSR	Missiles	Post–WWII	Spoils of war
U.S.	UK/France	Nuclear	Late 1940s and after	Official assistance
France	Israel	Nuclear	Mid 1950s–early 1960s	Official/unofficial assistance
USSR	China	Nuclear	Late 1950s	Official assistance
USSR	Syria	CW warheads	Late 1970s–early 1980s	Official assistance
Netherlands	Pakistan	Nuclear	1970s	Industrial espionage
China	Pakistan	Nuclear	1980s	Official assistance
Egypt	DPRK	Missiles	1980s	Official assistance
Germany	Argentina/Egypt/Iraq	Missiles	1980s	Private businessmen*
Germany	Iraq	Nuclear	1980s	Private businessmen*
China	Pakistan	Missiles	Early 1990s	Official assistance
DPRK	Iran/Pakistan/Libya/ Syria/Iraq	Missiles	1980s–present	Official assistance
Pakistan	Iran/Libya/DPRK/ Others?	Nuclear	Late 1980s–2003	Private assistance+
Russia	Syria	CW	Early 1990s	Government officials*
China	Syria	Missiles	Early 1990s	Official assistance
Russia	Iran	Missiles	1990s–present	Official assistance+
China	Iran	Missiles	1990s–present	Official assistance
China	Iran	CW	1990s–present	Private businessmen+
Russia	Iraq	Missiles	1990s	Government officials+

Source: Michael Eisenstadt, "Missiles and Weapons of Mass Destruction (WMDs) in Iraq and Iran: Current Developments and Potential for Future Surprises," in *The Report of the Commission to Assess the Ballistic Missile Threat to the United States,* Appendix III, Unclassified Working Papers, July 15, 1998, 120, available at <http://www.fas.org/irp/threat/bm-threat.htm>, updated.
Key: * Unauthorized or illegal business transactions. + Degree of official knowledge and support unclear.

Such a situation, if it came to pass, would mark the emergence of a true "revolution in proliferation affairs" that not only would greatly complicate efforts to track WMD proliferation but also could pose one of the most difficult challenges to American interests and international stability that the United States is liable to face in the coming years.

Export Controls, Sanctions, Inspections, and Military Threats

The experience of the past 2 years has provided alarming evidence of the fragility of the global nonproliferation regime, particularly the Nuclear Nonproliferation Treaty. It has also given fresh insight into the strengths and weaknesses of traditional nonproliferation and counterproliferation policy tools, such as export controls, sanctions, inspections, and deterrent and coercive threats.

Iraq, Libya, and Iran demonstrate both the value and limitations of export controls. The number of states and entities willing to supply sensitive technology to missile and WMD programs in states of proliferation concern has dwindled in recent years, reflecting the success of arms control. As a result, proliferators have had to rely on a small number of less desirable sources. These have included the A.Q. Khan network (which hopefully has since been shut down) and states such as North Korea, China, Russia, Belarus, and the former Yugoslavia.

On the other hand, the reliance of the A.Q. Khan network on suppliers and middlemen in Indonesia, as well as in Switzerland, Germany, and South Africa, shows that suppliers in developing countries not previously of proliferation concern—many with inadequate export control enforcement mechanisms—are now joining the proliferation scene, while leakage from advanced Western states with well-developed legal systems and export control enforcement mechanisms continues to be a problem.

Sanctions seem to have done a much better job at constraining Iraq's ability to procure materials and equipment for its WMD programs between 1990 and 2003 than was appreciated by many in the United States at the time. By limiting imports (both legal and otherwise), sanctions enhanced the effectiveness of UN weapons inspections and monitoring efforts and apparently deterred Iraq from rebuilding its WMD infrastructure. All this came at a price, however: Baghdad's cynical manipulation of sanctions and the oil-for-food program had a devastating impact on Iraqi society and on U.S. standing in the Arab and Muslim countries. UN and U.S. sanctions on Libya likewise played a key role in Libya's decision to acknowledge its part in the 1988 bombing of Pan Am flight 103 and to eliminate its WMD programs. Libya took these steps to get UN and U.S. sanctions lifted and to encourage European and U.S. investors and businesses to return.[50]

UN weapons inspections played a vital role during the early to mid 1990s in destroying Iraq's retained WMD capabilities and in constraining its ability to reconstitute its WMD infrastructure at a time when Baghdad almost certainly would have done so if it could have.[51] Inspections were generally not sufficiently intrusive and transparent, however, to allay U.S. fears that Saddam still retained significant stockpiles of WMD as well as WMD-production capabilities. On-site inspections by American and British proliferation specialists as well as by representatives of the OPCW and the IAEA have played an important role in verifying Libya's disarmament, while IAEA inspectors were vital in identifying and/or verifying clandestine nuclear activities and facilities in Iran during the past 2 years. In Iran,

however, as in Iraq, the fear of the unknown—that Iran may retain major undeclared capabilities and facilities—continues to haunt policymakers in the United States and Israel and to drive the policies of the United States and its allies.

Further, perceived or implied U.S. military threats may have deterred Iraq from using WMD in 1991 and influenced Libya to reengage the United Kingdom and the United States in March 2003 in negotiations that eventually led it to dismantle its WMD programs.

It is not possible to prove that, in these cases, deterrence or coercive diplomacy worked. One should note, however, that on several occasions, former Iraqi Deputy Prime Minister Tariq Aziz told Western journalists and UN weapons inspectors that Iraq was deterred from using WMD in 1991, presumably by the threat—implied or otherwise—of U.S. nuclear retaliation.[52] Likewise, while Anglo-American diplomacy (facilitated by excellent intelligence) and Libya's strong desire to obtain foreign investment (to bolster its economy and strengthen the regime's hold on power) were the main factors that led it to disarm, Libyan concern that the United States might target it after Iraq likely contributed to its decision to revisit the diplomatic option in March 2003. The perceived threat of force may well have helped revive a lapsed diplomatic process.

Finally, it is worth asking whether, in the wake of Operations *Desert Storm, Allied Force* (in Kosovo), and *Iraqi Freedom*, U.S. conventional power projection and global strike capabilities have evolved to a point whereby they can be used to deter the use of WMD, especially by countries whose economies are heavily dependent on a single export—such as oil—and are therefore highly vulnerable to precision air and missile strikes.[53] Will new advances in conventional weaponry make it possible for the United States to deemphasize further the role of nuclear weapons in its national security strategy, even as the number of nuclear threshold and weapons states seems set to increase in the coming years? It is not yet clear, but the implications of these developments for deterrence, America's conventional force structure, and the U.S. nuclear force posture need to be assessed.

In sum, lessons learned from experiences in Iraq, Libya, and Iran in the past several years underscore the fact that while the international proliferation regime is frayed and in serious need of revision and updating, many traditional nonproliferation and counterproliferation tools and concepts remain useful. What is needed is not necessarily a new set of tools and concepts, but rather a new understanding of how the traditional tools and concepts may be used to promote the nonproliferation and counter-

proliferation objectives of the United States and its allies under new and challenging circumstances.

Notes

[1] Charles Duelfer, *Comprehensive Report of the Special Advisor to the DCI on Iraq's WMD* (September 30, 2004), vol. 1, "Regime Strategic Intent" and "Scope Note," 1–3, available at <www.cia.gov/cia/reports/iraq_wmd_2004/index.html>.

[2] Duelfer, vol. 1, "Scope Note," 4; vol. 1, "Regime Strategic Intent," 1; vol. 2, "Nuclear," 1; vol. 3, "Iraq's Chemical Warfare Program," 1–3; vol. 3, "Biological Warfare," 1–3. The Duelfer report does hold out the possibility that relatively small additional quantities of WMD may still be found in Iraq (beyond the 50 or so CW munitions found thus far), and it expresses concern about the status and whereabouts of some 550 chemical weapons artillery rounds that are not accounted for, noting reports from Iraqi sources that some of these had been hidden (Duelfer, vol. 3, "Iraq's Chemical Warfare Program," 32–34). It also makes clear that Saddam intended to revive his WMD programs once sanctions were lifted (vol. 1, "Regime Strategic Intent," 1, 49, 51, 59–60). This paper takes the main findings of the Iraq Survey Group (ISG) Comprehensive Report as its point of departure, though it is possible that new information may come to light that alters, perhaps significantly, some of the report's subsidiary conclusions.

[3] See, for instance, "C.I.A. Letter to Senate on Baghdad's Intentions," *The New York Times*, October 9, 2002, A12; U.S. Senate, "Report of the Select Committee on Intelligence on the U.S. Intelligence Community's Prewar Intelligence Assessments on Iraq," July 9, 2004, 17, available at <http://intelligence.senate.gov/iraqreport2.pdf>.

[4] Timothy V. McCarthy and Jonathan B. Tucker, "Saddam's Toxic Arsenal: Chemical and Biological Weapons in the Gulf Wars," in *Planning the Unthinkable: How New Powers Will Use Nuclear, Biological, and Chemical Weapons*, ed. Peter R. Lavoy, Scott D. Sagan, and James J. Wirtz (Ithaca: Cornell University Press, 2000), 47–78; Michael Eisenstadt, *'The Sword of the Arabs': Iraq's Strategic Weapons*, Policy Paper no. 21 (Washington, DC: Washington Institute for Near East Policy, 1990), 6–7.

[5] Norman Cigar, *Iraq's Vision of the Nuclear Battlefield* (Quantico, VA: Marine Corps University Foundation, 2003), available at <http://www.globalsecurity.org/wmd/library/news/iraq/2003/iraq-nuclear-battlefield-study.pdf>.

[6] Charles Duelfer, "The Inevitable Failure of Inspections in Iraq," *Arms Control Today* 32, no. 7 (September 2002), available at <http://www.armscontrol.org/act/2002_09/duelfer_sept02.asp>. Iraqi officials repeated these claims during postwar ISG debriefings. Duelfer, *Comprehensive Report*, vol. 1, "Regime Strategic Intent," 1, 24–26.

[7] Duelfer, *Comprehensive Report*, vol. 1, "Regime Strategic Intent," 1, 24–26; vol. 3, "Iraq's Chemical Warfare Program," 1.

[8] Interim Progress Report by David Kay on ISG activities before the House Permanent Select Committee on Intelligence, House Committee on Appropriations, Subcommittee on Defense, and Senate Select Committee on Intelligence, October 2, 2003, available at <http://www.cia.gov/cia/public_affairs/speeches/2003/david_kay_10022003.html>; Duelfer, *Comprehensive Report*, vol. 3, "Iraq's Chemical Warfare Program," 13.

[9] Kay.

[10] Duelfer, *Comprehensive Report*, vol. 3, "Iraq's Chemical Warfare Program," 15, 111.

[11] Ibid., 2.

[12] Duelfer, *Comprehensive Report*, vol. 3, "Biological Warfare," 2, 38, 42.

[13] Duelfer, *Comprehensive Report*, vol. 3, "Iraq's Chemical Warfare Program," 14–15; vol. 3, "Biological Warfare," 2. The Iraqi Intelligence Service also reportedly maintained a series of clandestine laboratories to produce poisons and toxins for assassinations, some of which may have remained active on the eve of *Iraqi Freedom*, though they were capable of producing only small quantities of agent. Duelfer, *Comprehensive Report*, vol. 3, "Iraq's Chemical Warfare Program," 43–59; vol. 3, "Biological Warfare," 15–17, 69–70.

[14] According to the ISG, Saddam's primary goal from 1991 to 2003 was to have UN sanctions lifted, and this factor dominated all decisions he made during this timeframe. Duelfer, *Comprehensive Report*, vol. 1, "Regime Strategic Intent," 1.

[15] James Risen, "Ex-Inspector Says C.I.A. Missed Disarray in Iraqi Arms Program," *The New York Times*, January 25, 2004, A1.

[16] Duelfer, *Comprehensive Report*, vol. 1, "Regime Strategic Intent," 66–67. See also the discussion about U.S. postwar debriefings of Iraqi generals contained in a DOD "Enemy Lessons Learned" report described in Tommy Franks, *American Soldier* (New York: HarperCollins, 2004), 558–560.

[17] Duelfer, *Comprehensive Report*, vol. 1, "Regime Strategic Intent," 62; vol. 3, "Iraq's Chemical Warfare Program," 108.

[18] Norman Cigar, *Saddam Hussein's Road to War: Risk Assessment, Decisionmaking, and Leadership in an Authoritarian System* (Quantico, VA: Marine Corps University Foundation, 2004), 14–21.

[19] This raises the question, however, that if Saddam believed that war with the United States threatened his survival, would he have given the order to restart production of chemical and biological weapons? Or would the aforementioned rationales for not producing CBW have held even in such a case?

[20] Duelfer, *Comprehensive Report*, vol. 1, "Regime Strategic Intent," 67. See also Mahdi Obeidi, "Saddam, the Bomb, and Me," *The New York Times*, September 26, 2004, D11.

[21] The threat to destroy Iraq's oil fields may well have been a bluff intended to deter a coalition attack. Of the 22 wellheads prepared for demolition (9 of which were destroyed), all were within 3 kilometers of the Kuwaiti border—well within visual range. Neither wellheads in the northern oil fields near Kirkuk, nor gas-oil separation plants, pumping stations, or pipelines were prepared for demolition. See Stephen Biddle et al., *Toppling Saddam: Iraq and American Military Transformation* (Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, April 2004), 12–15, available at <http://www.fas.org/man/eprint/biddle.pdf>.

[22] For more on Saddam's optimism and sense of historic destiny, see Amatzia Baram, *Would Saddam Husayn Abdicate?* Saban Center for Middle East Policy, Iraq Memo no. 9 (Washington, DC: The Brookings Institution, February 4, 2003), available at <http://www.brook.edu/views/op-ed/fellows/baram20030204.htm>. It should be noted, however, that while Saddam exuded optimism in numerous televised prewar meetings with his military commanders, in contemporaneous interviews with the foreign media, Saddam seemed less optimistic and almost fatalistically reconciled to an uncertain fate. See, for instance, the interview with Saddam in Al-Usbu', November 4, 2002, translated in "First Interview with Saddam Hussein in Twelve Years," Middle East Media Research Institute Special Dispatch no. 437, November 5, 2002, available at <http://www.memri.org/bin/articles.cgi?Area=iraq&ID=SP43702>.

[23] Cigar, *Saddam Hussein's Road to War*, 14–27.

[24] Even Jordanian intelligence, which was believed to have good sources in Iraq, assessed that Iraq held hidden stocks of chemical and biological weapons on the eve of the war. Franks, 418.

[25] For more on these explanations, see Senate Select Committee on Intelligence Report, 18–22.

[26] Some have also suggested that Iraqi opposition groups passed fabricated reports of Iraqi WMD-related activities to U.S. intelligence in order to goad the United States into a war to topple the regime in Baghdad. This possibility merits further consideration as well, though it will not be examined here.

[27] David Kay, testimony before the U.S. Senate Armed Services Committee, January 28, 2004, available at <http://www.ceip.org/files/projects/npp/pdf/Iraq/kaytestimony.pdf>.

[28] Duelfer, *Comprehensive Report*, vol. 1, "Regime Strategic Intent," 65.

[29] Associated Press, "Israeli Military Chief says Iraq had Chemical Weapons," April 27, 2004.

[30] A possibility that is not ruled out by the ISG Comprehensive Report. See note 3.

[31] Herb Keinon and Gil Hoffman, "Prime Minister: Saddam Hiding Biological and Chemical Weapons in Syria," *The Jerusalem Post*, December 25, 2002, 1; Gideon Alon and Ze'ev Schiff, "Military Intelligence: Iraq May be Hiding Weapons in Syria," *Ha'aretz*, March 31, 2003, available at <http://www.haaretzdaily.com/hasen/objects/pages/PrintArticleEn.jhtml?itemNo=278925>.

[32] Cigar, *Saddam Hussein's Road to War*, 28, 46, note 171. Several dozen Sukhoi and MiG fighters were subsequently unearthed at al Taqqadum air base after the war. See Stephen Farrell, "Iraqi Planes Found Buried in the Sand," *The Times* (London), August 2, 2003, 20.

[33] If Iraq did possess a small stockpile of CBW on the eve of Operation *Iraqi Freedom*, why did it not use it during the war? The Iraqi high command retained a degree of control over its fielded forces throughout the war. Major Iraqi troop formations were redeployed in response to coalition military moves, both real and imagined, so Iraq could probably have employed available stocks of CBW had it retained such capabilities. There are several possible answers: CBW was not available in sufficient quantities to have an impact on the course of the fighting; was perceived to be of little if any use against coalition forces trained and equipped to fight in a CBW environment; or was hidden in a way that made it inaccessible in time to influence the war when it became clear that the invasion threatened the survival of the regime.

[34] Had Iraq, however, possessed nuclear weapons, the outcome of the crisis leading to the war, or the outcome of the war itself, might have been very different.

[35] Stephen Fidler, Mark Huband, and Roula Khalaf, "Return to the Fold: How Gadaffi was Persuaded to Give up his Nuclear Goals," *The Financial Times*, January 27, 2004, 17.

[36] "Qaddafi's Son Tells Al-Hayat: 'Libya Must be a Democratic and Open Country,'" Middle East Media Research Institute Special Dispatch no. 685, March 24, 2004, available at <http://memri.org/bin/articles.cgi?Page=archives&Area=sd&ID=SP68504>.

[37] Martin S. Indyk, "The Iraq War Did Not Force Gadaffi's Hand," *The Financial Times*, March 9, 2004, available at <http://www.brookings.edu/views/op-ed/indyk/20040309.htm.>.

[38] United Kingdom House of Commons, "Review of Intelligence on Weapons of Mass Destruction [The Butler Report]," July 14, 2004, 21, available at <http://www.official-documents.co.uk/document/deps/hc/hc898/898.pdf>.

[39] Douglas Frantz, "Nuclear Ring May have Aided Syria," *Los Angeles Times*, June 25, 2004.

[40] Glenn Kessler, "North Korea Nuclear Estimate to Rise: U.S. Report to Say Country has at Least 8 Bombs," *The Washington Post,* April 28, 2004, A1, A16.

[41] For this reason, Israel maintains a large, advanced conventional military, even though it is widely believed to possess a substantial and sophisticated nuclear arsenal.

[42] McCarthy and Tucker, 68–70.

[43] Michael Eisenstadt, *Gulf War Air Power Survey*, vol. I, "Planning and Command and Control" (Washington, DC: U.S. Government Printing Office, 1993), 55–81.

[44] Duelfer, *Comprehensive Report*, vol. 1, "Regime Strategic Intent," 68.

[45] Michael Eisenstadt, "Syria's Strategic Weapons," *Jane's Intelligence Review*, April 1993, 168–171.

[46] Paula DeSutter, testimony before the Senate Foreign Relations Committee on U.S. Government's Assistance to Libya in the Elimination of its Weapons of Mass Destruction (WMD), February 26, 2004, available at <www.state.gov/t/vc/rls/rm/2004/29945.htm>; Organization for the Prohibition of Chemical Weapons, press release, "Initial Inspection in Libya Completed," March 22, 2004, available at <www.opcw.org/html/global/press_releases/2k4/pr10_2004.html>.

[47] For instance, Libya claimed that in 1984 it ordered from a foreign supplier a pilot scale uranium conversion facility, which was delivered in 1986 but remained in storage until 1998. International Atomic Energy Agency (IAEA), *Implementation of the NPT Safeguards Agreement of the Socialist People's Libyan Arab Jamahiriya*, GOV/2004/12, February 20, 2004, 4, available at <http://www.iaea.org/Publications/Documents/Board/2004/gov2004-12.pdf>.

[48] Ibid., 6.

[49] For instance, according to one assessment of Iraq's pre-1991 CW program: "(while) the Iraqis had fewer personnel involved in the chemical programme than in the nuclear or biological programme . . . those who were involved tended to be of very high calibre. Despite the quality of personnel, though, there were difficulties in simply maintaining the programme, as below this thin veneer of well-qualified personnel there was nothing. For example, when sophisticated machinery broke down, they were either thrown away or not repaired for a long time." Steven Mataija and J. Marshall Beier, *Multilateral Verification and the Post-Gulf Environment: Learning from the UNSCOM Experience* (Toronto: York University Centre for International and Strategic Studies, 1992), 119.

[50] Ray Takeyh, "The Rogue Who Came in From the Cold," *Foreign Affairs* 80, no. 3 (May/June 2001), available at <http://www.foreignaffairs.org/20010501faessay4768/ray-takeyh/the-rogue-who-came-in-from-the-cold.html>.

[51] Following his defection to Jordan in August 1995, General Hussein Kamil, who previously headed Iraq's WMD programs, told senior United Nations Special Commission (UNSCOM) and IAEA inspectors, "You should not underestimate yourself. You are very effective in Iraq." UNSCOM/IAEA transcript of meeting of Ambassador Rolf Ekeus, Maurizio Zifferero, and Nikita Smidovich with General Hussein Kamil, 7, available at <http://www.un.org/Depts/unmovic/new/documents/hk.pdf>.

[52] Thus, Tariq Aziz, in explaining Iraq's decision not to use chemical weapons in 1991, stated, "We didn't think that it was wise to use them. That's all what I can say. That was not—was not wise to use such kind of weapons in such kind of a war with—with such an enemy." Tariq Aziz, interview with Public Broadcasting Service program *Frontline*, "The Gulf War," broadcast January 9–10, 1996, available at <http://www.pbs.org/wgbh/pages/frontline/gulf/oral/aziz/3.html>. Ambassador Rolf Ekeus subsequently stated that Tariq Aziz told him that "the Iraqi side took it for granted that [the warning that Secretary of State James Baker conveyed to Tariq Aziz in Geneva on the eve of the war warning of dire consequences if Iraq used WMD] meant the use of maybe nuclear weapons against Baghdad, or something like that. And that threat was decisive for them not to use the weapons." Rolf Ekeus, testimony before the Permanent Subcommittee on Investigations of the Committee on Governmental Affairs of the U.S. Senate, Hearings on the Global Proliferation of Weapons of Mass Destruction, March 20, 1996 (Washington, DC: U.S. Government Printing Office, 1996), 92.

[53] This paper does not consider the potential impact on oil markets and the world economy of holding hostage the oil production capabilities of potential adversaries for purposes of deterrence. This would have to be part of any net assessment of the advantages and drawbacks of such a policy.

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