

CSIS

Center for Strategic and International Studies

1800 K Street N.W.

Washington, DC 20006

(202) 775-3270

To download further data: CSIS.ORG

To contact author: Acordesman@aol.com

Intelligence, Iraq, and Weapons of Mass Destruction

Executive Summary

**Anthony H. Cordesman
Arleigh A. Burke Chair in Strategy**

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The last year has seen several key developments in proliferation:

- The US and Britain have led a coalition to invade Iraq, under conditions where most of the world's intelligence services agreed that Iraq was actively developing weapons of mass destruction. After some nine months of one of the most massive search efforts in history, the US has found evidence Iraq was continuing research and development on both forbidden missiles and weapons of mass destruction. These programs included four missile designs with nominal ranges of 1,000 kilometers, the development of dry storage Botulinum, and efforts to import equipment to produce key chemicals for nerve gases. However, it found no evidence of an active weapons program, or that Iraq had any capability to use weapons of mass destruction against the invading coalition forces.
- North Korea has both admitted and denied having a centrifuge program, has claimed to have fissile material and a deterrent, and to be processing Plutonium. At the same time, it has mixed ambiguity with denial in discussing whether it has deployed nuclear forces. This has led the world to virtually ignore its longstanding chemical weapons program. There is no meaningful unclassified intelligence reporting on its biological weapons programs.
- Libya continued to deny it had weapons of mass destruction programs until December. It then suddenly agreed to allow inspection of all of its programs and to cease the development of both weapons of mass destruction and long-range missile forces. This followed the intercept of a ship carrying centrifuge parts to Libya.
- Iran agreed to sign the protocol allowing full International Atomic Energy Agency (IAEA) inspection of its nuclear facilities under the NNPT, including challenge inspection. It did so, however, only after an opposition group made the fact Iran was developing underground centrifuge and heavy water plants for the production of Uranium and the creation of a fuel cycle for its reactors. It also only did so after a preliminary set of inspections by the IAEA found evidence it had failed to report on -- or misreported on -- relevant research and development activity. While Iran said it would not develop one long-range missile – the Shehab 4 – it also stated it was developing a longer-range version of the Shehab 3. As is the case with North Korea, the focus on Iranian nuclear weapons has led to near indifference to Iran's failure to fully declare its chemical weapons holdings and the lack of knowledge regarding its biological weapons.
- Israel is increasingly reported to have developed short-range cruise missiles with nuclear warheads for its new submarines and to be developing longer-range cruise missiles for them.
- Syria has declared it has the right to develop and deploy weapons of mass destruction, including chemical and biological weapons and long-range missiles.

- While no evidence has surfaced of a terrorist movement making major progress in acquiring weapons of mass destruction, it is clear that movements like Al Qai'da have actively sought to acquire such weapons and have purchased at least some equipment and technology to do so.
- There have been reports for years that Pakistan was exporting nuclear weapons technology. These reports have been confirmed for centrifuge technology, and key Pakistani scientists involved in the Pakistani nuclear weapons program have been "questioned" by the government. The Pakistani government's denial of involvement in such activity, however, has uncertain credibility at best. Long-standing CIA reporting has warned of possible links between Pakistan, North Korea, and China and complex deals involving both weapons and missile technology

No one outside the intelligence community can fully assess the quality of intelligence coverage of Iraq's WMD programs. Similarly, no one can fully assess the level of understanding intelligence did or did not have of proliferation in Iran, Israel, Libya, North Korea, and Syria; or of the complex supply chains coming out of key sellers like China, North Korea, Pakistan, and Russia. It is clear, however, that proliferation does pose a critical security challenge to the world, and that there are serious problems in intelligence coverage.

The Iraq Case

Iraq is the most obvious case of the problems involved, although it is a case that has become so politicized that few go back to examine the detailed of what the US and British governments said, or the content of UNMOVIC and IAEA reporting. This material is provided in Annex A. It shows that most of the content of US and British reporting did, in fact, track closely with the earlier inspection and analysis efforts of UNSCOM. It also shows that most of the content tracked closely with intelligence estimates made long before the war, and that did not differ significantly from those made under the Clinton Administration. Furthermore, interviews with French, German, and other officials indicate that their intelligence services made very similar estimates before the Iraq War.

This does not mean that the Bush and Blair governments did not "spin" intelligence analysis to support their cases for war. In several key cases, relating to Iraqi imports of uranium, the import of aluminum tubes for possible uses in centrifuges, and assessments that Iraqi weapon could be deployed in a matter of minutes, they also went further and used highly suspect material.

Nevertheless, the material in Annex A makes it clear that much of the problem lay in the inability of the intelligence community to assess Iraqi capabilities.

It may be months or years before it will be possible to locate and analyze the data the war makes available on Iraq's history of proliferation, its imports and domestic programs, its capabilities at the time of the war, and its goals or objectives.

It has become clear, however, that the U.S. and British governments had only a tenuous understanding of the threat they faced from Iraqi weapons of mass destruction—and were unable to characterize the scale of the Iraqi effort they described as a key motive for the conflict—during the period before the war began.¹¹

It is also clear from the previous chapters that Coalition commanders had little intelligence on Iraq's WMD programs and warfighting capabilities as they advanced. A wide range of reports during the war make clear that there were many false alarms—when elements of the advancing forces thought they had found weapons of mass destruction or the facilities to produce them; when Coalition forces donned chemical protection gear they later turned out not to need; or when Coalition commanders, lacking the tactical intelligence support that would give them a clearer picture of the risks involved, had to ignore the risk that Iraq might use such weapons.

Key Points in the U.S. and British White Papers

President Bush, Prime Minister Blair, and many U.S. and British officials made numerous charges before the war that Iraq was actively developing weapons of mass destruction that it had probably deployed combat-ready chemical and biological weapons; that it had an active nuclear weapons program; and that it was developing new delivery systems, including missiles and UAVs. The British government issued two white papers on Iraq, and the United States issued one. U.S. officials like Deputy Secretary of Defense Paul Wolfowitz made additional charges, and Secretary of State Colin Powell presented a detailed briefing to the United Nations setting forth additional U.S. charges against Iraq.

Most of the attention since the war regarding the prewar charges against Iraq has focused on the fact that both British and U.S. speeches and briefings included unvalidated statements that Iraq had sought uranium ore and was ready to use weapons of mass destruction, that the British paper on WMD stated that Iraq could deliver such weapons with only 45 minutes warning, and that one of the British white papers paraphrased unattributed material from a graduate student.

In reality, U.S. and British intelligence made a long series of complex charges, only some of which were not properly qualified.

Problems in Collecting Data on Iraqi and Other Country WMD Capabilities and Delivery Systems

Even a cursory review of this list of U.S. and British charges about Iraq's WMD capabilities shows that point after point that was made was not confirmed during war or in months of intensive effort following the conflict. Despite all of the advances in their IS&R capabilities, the United States and Britain went to war with Iraq without the level of evidence needed to provide a clear strategic rationale for the war, and without the ability to fully understand the threat that Iraqi weapons of mass destruction posed to U.S., British, and Australian forces. This uncertainty is not a definitive argument against carrying out a war that responded to grave potential threats. It *is* a definitive warning that this intelligence and targeting are not yet adequate to support grand strategy, strategy, and

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tactical operations against proliferating powers or to make accurate assessments of the need to preempt.

It is difficult to put these problems into perspective without access to classified material. If the material provided on Iraq is compared with past declassified U.S. intelligence reporting on proliferation, however, it becomes clear that proliferation presents very serious problems for intelligence collection and analysis.

An analysis of the long series of UNSCOM, UNMOVIC, and IAEA reports also shows that proliferating nations like Iraq are well aware of these problems and how to exploit them:

- ***Iraq and other developing powers that are sophisticated enough to proliferate are also sophisticated enough to have a good understanding of many of the strengths and limitations of modern intelligence sensors, the timing and duration of satellite coverage, and the methods use to track imports and technology transfer.*** They have learned to cover and conceal, to deceive, and to create smaller and better disseminated activities.
- ***Intelligence collection of relies heavily on finding key imports and technology transfers.*** Such reports, however, only usually cover a small fraction of the actual effort on the part of the proliferating country, and the information collected is often vague and uncertain, in part because importers and smugglers have every incentive to lie and are also familiar with many the ways to defeat intelligence collection and import controls. When information does become available, it is often impossible to put in context, and a given import or technology transfer can often be used in many difficult ways, often was other than proliferation. Such import data can hint at the character of a proliferation effort, but give no picture of the overall character of the activity.
- ***Even when data are available on given imports or technology transfers, they generally present three serious problems.*** One is that there is no way to know the end destination and use of the import and how it is integrated into the overall effort. The second is there is no way to know if it is integrated into an ongoing research and development effort, a weapons production effort, being procured or stockpiled for later use, or simply an experiment or mistake that is never further exploited. The third is that many imports have civilian or other military uses. These so-called “dual-use” imports may have legitimate use.
- ***In most cases, the problem of technology can be solved through imports or through internal development. The problem of creating effective and well managed programs, however, has often proved to be difficult to impossible, as has the effort to integrate complex mixes of technology into effective systems.*** This is further compounded in many countries by the fact that the managers or heads of such programs lack the experience to objectively analyze their own efforts or deliberately lie to their political superiors. There are few physical indicators, however, that allow intelligence assessment of how effectively a given effort is managed or the level of systems integration involved. The end result is to encourage “worst case” analysis in the absence of any clear evidence and indicators.
- ***There are few reliable benchmarks or measures of effectiveness.*** Even transparent access to a nation’s efforts to proliferate would often lead to major uncertainties about the lethality and quality of its chemical, biological, and nuclear weapons activities, and missile and other delivery programs. For example, the level of quality control in producing key weapons components may be so uncertain that it is impossible to determine the outcome. There may be too few tests to know how good a given country’s efforts are, and it may rely on engineering and simulation methods whose adequacy simply cannot be accurately assessed. It is almost axiomatic that intelligence cannot collect what the proliferator does not know. In most cases, however, there is no transparency in terms of key issues like nuclear weapons design, quality of biological agent development and/or production, quality of chemical agent development and/or production, and missile reliability, Collection requires a level of access that simply is not credible.

- ***There may be no reliable technical parameters for measuring weapons effectiveness.*** Both the weapons development and arms control communities often take technical measure for granted that may have little or no real-world meaning. Collection is based on the assumption that the proliferator knows its level of effectiveness, or that measures developed for assessing Western programs conducted by the standards of developed countries do, in fact, apply to developing countries. The end result often blurs the distinction between collection and analysis but creates the following kinds of problems:
 - ***Nuclear weapons design and effectiveness:*** No proliferating country has conducted an adequate set of weapons tests to fully characterize its weapons or – in most cases – to allow that country to predict the reliability and yield of its weapons. Countries like India and Pakistan have claimed far higher yields than they have been able to test, and have lied about the yields of the weapons they have tested. Other countries like Israel are credited with thermonuclear or boosted weapons designs of very high efficiency (and low weight) without any know test data. The level of fissile enrichment is often assumed to meet US weapons grade standards, although material with less than one-third of such enrichment could produce a fissile event. The triggering and HE lens design is assumed to have a given level of quality. In short, virtually every aspect of a weapons design and assessments of its effectiveness may have to be based on country claims or mirror imaging.
 - ***Biological weapons design and effectiveness:*** US Army and other studies have indicated that the level of uncertainty surrounding estimates of the lethality of a nuclear weapon can reach two orders of magnitude because of the inability to know how well a given agent is produced and weaponized, and because of the inherent uncertainties surround the use of weapons that have never had large-scale human testing and whose behavior will not mimic natural outbreaks. These problems are compounded by the fact that the method of delivering wet or dry agents has a major impact on lethality; there often is no way to know what strain of disease is being used, and there are virtually no empirical data for estimating the lethality of mixes (or cocktails) of different biological agents delivered at or near the same time. These problems are compounded because the proliferators probably has no realistic basis for estimating the real-world lethality of the weapon being developed or deployed.
 - ***Extremely suspect models are used for infectious diseases, usually based on natural outbreaks that may have little relation to military or terrorist use.*** The nominal data used for such estimates usually are not based on statistically relevant historical data in terms of infectivity and lethality, and tend to use point estimates rather than a range based on sigma. The assumption is made that the disease strain is known or behaves according to prediction. These problems are compounded because the proliferators probably has no realistic basis for estimating the real-world lethality of the weapon being developed or deployed.
 - ***Chemical weapons design and effectiveness:*** While chemical weapons are considerably less lethal than biological or nuclear weapons, they present many of the same problems. Without actual testing or empirical experience, lethality estimates are speculative at best, and the problem is compounded by the ability of given countries to handle the complex targeting and meteorological data necessary to achieve high lethality and the sheer randomness of many real world delivery conditions. These problems are again compounded because the proliferators probably has no realistic basis for estimating the real-world lethality of the weapon being developed or deployed.
 - ***Radiological weapons:*** The development of crude contaminates is relatively easy, but the technology for distributing lethal material over a wide area is high complex and theoretical. Most devices will produce largely Alpha and Beta effects with limited lethality and decontamination problems. If such weapons are improvised, however, the attacker may use virtually any agent at hand, and the end result could be far more lethal.

As a result, radiological weapons tend to have a high degree of randomness, where intelligence collection may be impossible.

- **Missile/aircraft/UAV range-payload:** The range of a given delivery device is often based on a theoretical calculation based on a nominal payload like 1,000 kilograms (and on the assumption of aerodynamic efficiency). The real world device may be much heavier or lighter, and it is usually impossible to know how much is really the weapon versus other components. A country may never test a real weapon to maximum range or fly such sorties. As a result, range estimates may have little real world validity.
- **Accuracy vs. reliability vs targeting:** both the proliferators and intelligence tend make estimates that assume the weapon actually works according to design and is properly targeted and then deliveries are the proper point and moment of detonation necessary to achieve the desired effect. These changes of most developing countries doing this with any consistency – if ever – are negligible. There is no clear way, however, to assess the impact of random error.
- **Misuse of CEP:** Many estimates attempt to apply the term circular error of probability (CEP) to collection and assessment. In practice, this term assumes sufficient data exist to estimate where 50% of the weapons go if the entire delivery system and guidance function perfectly. It then describes the length of the radius from the aim point. Quite aside from the fact most developing countries do not test enough to produce empirical CEPs, this measure ignores the fact that half the weapons will go somewhere else in a far more random pattern along the weapon's vector, and that reliability and targeting may critically degrade actual performance.
- **Warhead/bomb/device design:** The actual weapon or agent is only part of the problem of assessing proliferation. The physical nature or a warhead or bomb can be as critical. For example, the timing of height of burst and efficiency of dissemination may be more important in terms of real world lethality than the chemical or biological agent used, and will be critical in determining the level of fall out and trade-offs between radiation-thermal-blast in a nuclear weapon. Reentry effects can have a major impact as can sprayer design.
- **Production capacity verses actual capability.** The theoretical or nominal design production capacity is used because no data are available on actual capability.
- **Deployed forces are active forces, and nominal strength is actual strength.** Although few developing countries come close to achieving high readiness rates, or ever supply all of their combat units with their fully UE or TO&E, they are assumed to be combat ready and have the required or nominal number of launchers/delivery vehicles and weapons.
- **Psychological effects are theoretical or unknown.** Both nations and terrorist may use weapons for demonstrative or psychological effect, but the impact is largely speculative.
- **For proliferating countries, arms control is an extension of war by other means.** The very nature of arms control agreements like the Nuclear Non-Proliferation Treaty (NNPT), Biological Weapons Convention (BWC), and Chemical Weapons convention (CWC) encourages proliferating nations to lie and conceal as effectively as possible. The same is true of supplier agreements like the Missile Technology Control Regime (MTCR) and Australia List, and any form of sanctions. Arms control only encourages compliance among non-proliferators and non-sellers, and current enforcement efforts are too weak to be effective while their provisions effective license technology transfer to those nations who succeed in lying or concealing.
- **The technology of proliferation generally permits the research and development effort to be divided up into a wide range of small facilities and projects.** Some can be carried out as legitimate civil research. Others can be hidden in civil and commercial facilities. As proliferators become more sophisticated, they learn to create dispersed, redundant and parallel programs, and mix high secret covert programs with open civil or dual-use programs. Chemical, biological, and cruise missile programs are particularly easy to divide up into small cells or operations. However,

this is increasingly true of nuclear weapons centrifuge programs, plutonium processing and fuel cycles, and the testing and simulation of nuclear weapons that does not involve weapons grade materials. Many key aspects of ballistic missile R&D, including warhead and launch system design fit into this category.

- ***Iraq and most other proliferators have, in the past, focused on creating stockpiles of weapons for fighting theater conflicts against military forces. These stockpiles require large inventories, large-scale deployments, and generally mixes of training and warfighting preparations that create significant intelligence indicators. There are, however, other strategies and many proliferators may now be pursuing them.*** One is to bring weapons to full development, and to wait until a threat becomes imminent to actually produce the weapon. A second is to follow the same course, but create large dual-use civil facilities that can be rapidly converted to the production of weapons of mass destruction. These can include pharmaceutical plants, food-processing plants, breweries, petrochemical plants, and pesticide plants, but key assembly lines can be concealed in a wide range of other commercial activities.² Weapons production facilities can be stockpile for a later and sometimes sudden breakout. A third is to focus on creating as few highly lethal biological or nuclear weapons to attack key political or civilian facilities in a foreign country, rather than its military forces. Highly lethal non-infectious or infectious biological agents are one means of such an attack, biological weapons directed at crops or livestock are another.
- ***Countries can pursue very different strategies in dealing with their past inventories of weapons.*** They can disclose and destroy them, knowing they do not face an urgent warfighting need, better weapons are coming, and this suits current political objectives. They can claim to destroy and hide the remaining weapons in covert areas known only to a few. They can claim to destroy, or lie, and disperse weapons where they can be used for warfighting purposes. In many cases, intelligence collection may not be able to distinguish between such strategies, and a given proliferator like Iraq can pursue a mix of such strategies—depending on the value of the weapon.
- ***In many cases, there is no clear way to know whether a program is R&D, production and weapons deployment, or production capable/breakout oriented.*** The problem is further complicated by the fact that Iraq and other countries have learned to play a “shell game” by developing multiple surface and underground military facilities and dual-use facilities and to create relatively mobile mixes of trailer/vehicle mounted and “palletized” equipment for rapid movement. Large special-purpose facilities with hard to move equipment often still exist, but they are by no means the rule. Intelligence collection takes time and may often lag behind country activities.
- ***There is no clear case other than the worst case.*** Unless a country keeps extremely accurate records of its programs, it is often far easier to estimate that maximum scale of what it might do than provide an accurate picture of what it has actually done.
- ***In most cases, it is impossible to know how far a given project or effort has gotten and how well it has succeeded.*** The history of proliferation is not the history of proliferators overcoming major technical and manufacturing problems. It is the history of massive management and systems integration problems, political failures, lying technical advocates and entrepreneurs, project managers who do not tell their political masters the truth, and occasional sudden success. Short of an intelligence breakthrough, it is rarely possible to assess the success of a given effort and even on the scene inspection can produce vary wrong results unless a given project can be subjected to detailed technical testing. For example, UNSCOM and the IAEA found that virtually all of their preliminary reporting on Iraq’s nuclear effort in 1992-1993 tended to exaggerate Iraqi capabilities once they had had the time to fully assess the efficiency of key efforts like the Calutron and centrifuge programs.
- ***The only definitive way to counter most of these collection problems is to have a reliable mix of redundant human intelligence (HUMINT) sources within the system or as defectors.*** The United States, however, has never claimed or implied it had such capabilities in any proliferating country, and the history of U.S., British, UNSCOM, and UNMOVIC efforts to deal with Iraq makes it painfully clear both that such transparency was totally lacking in Iraq and that most Iraqi defectors

and intelligence sources outside Iraq made up information, circulated unsubstantiated information, or simply lied. Breakthroughs do occur, but HUMINT is normally inadequate, untrustworthy, or a failure, and these shortcomings cannot generally be corrected with data based on other intelligence means. Either inside information is available or it is not. When it is, imagery and signals intelligence generally do far more to indicate that HUMINT is wrong or suspect than to reveal the truth.³

- ***In many cases, even the leaders of a proliferating country may not have an accurate picture of the success of their efforts, and most probably do not have a clear picture of the accuracy, lethality and effects, and reliability of their weapons.*** U.S. and British research efforts have long shown that even highly sophisticated technical models of the performance and lethality of chemical, biological, and nuclear weapons and delivery systems can be grossly wrong, or require massive levels of human testing that simply are not practical even for closed authoritarian societies. No declassified intelligence report on any proliferation effort in any developing country has yet indicated that Iraq or any other proliferator has sophisticated technical and testing models in these areas. Intelligence cannot collect data that do not exist.
- ***Even if a nation's war plans and doctrine are known – which is unlikely – they may not be relevant.*** Many countries almost certainly acquire and deploy such weapons without developing detailed war plans or doctrines. Leaders may treat such weapons more as symbols or deterrents than in terms of actual use. Targeting and escalatory doctrine may be nominal or highly unrealistic. An actual crisis may then lead to efforts to develop a completely different approach to using such weapons that then becomes interact with the enemy's behavior. The resulting "escalation ladder" may then bear no relation to the peacetime intentions on either side, or to any game theoretic model of efficient deterrence and use. Moreover, the inability on both sides to properly target and predict weapons effects – and simultaneously manage conventional and WMD combat – can give any resulting combat a highly random character.

Problems in Analyzing Iraqi and Other Country WMD Capabilities and Delivery Systems

Many of the resulting problems in the analysis of the WMD capabilities of Iraq and other countries are the result of the previous problems in collection. The details of U.S., British, and allied intelligence analyses remain classified. At the same time, background discussions with intelligence analysts and users reveal the following additional problems in analyzing the WMD threat:

- ***The uncertainties surrounding collection on virtually all proliferation and weapons of mass destruction programs are so great that it is impossible to produce meaningful point estimates.*** As the CIA has shown in some of its past public estimates of missile proliferation, the intelligence community must first develop a matrix of what is and is not known about a given aspect of proliferation in a given country, with careful footnoting or qualification of the problems in each key source. It must then deal with uncertainty by creating estimates that show a range of possible current and projected capabilities—carefully qualifying each case. In general, at least three scenarios or cases need to be analyzed for each major aspect of proliferation in each country—something approaching a "best," "most likely," and "worst case."⁴
- ***Even under these conditions, the resulting analytic effort faces serious problems. Security compartmentation within each major aspect of collection and analysis severely limits the flow of data to working analysts.*** The expansion of analytic staffs has sharply increased the barriers to the flow of data, and has brought large number of junior analysts into the process that can do little more than update past analyses and judgments. Far too little analysis is subjected to technical review by those who have actually worked on weapons development, and the analysis of delivery programs, warheads and weapons, and chemical, biological, and nuclear proliferation tends to be compartmented. Instead of the free flow of data and exchange of analytic conclusions, or "fusion" of intelligence, analysis is "stovepiped" into separate areas of activity. Moreover, the larger staffs get, the more stovepiping tends to occur.

- ***Analysis tends to focus on technical capability and not on the problems in management and systems integration that often are the real world limiting factors in proliferation.*** This tends to push analysis towards exaggerating the probable level of proliferation, particularly because technical capability is often assumed if collection cannot provide all the necessary information.
- ***Where data are available on past holdings of weapons and the capability to produce such weapons—such as data on chemical weapons feedstocks and biological growth material—the intelligence effort tends to produce estimates of the maximum size of the possible current holding of weapons and WMD materials.*** While ranges are often shown, and estimates are usually qualified with uncertainty, this tends to focus users on the worst case in terms of actual current capability. In the case of the Iraq, this was compounded by some 12 years of constant lies and a disbelief that a dictatorship obsessed with record keeping could not have records if it had destroyed weapons and materials. The end result, however, was to assume that little or no destruction had occurred whenever UNSCOM, UNMOVIC, and the IAEA reported that major issues still affected Iraqi claims.
- ***Intelligence analysis has long been oriented more towards arms control and counterproliferation rather than war fighting, although DIA and the military services have attempted to shift the focus of analysis.*** Dealing with broad national trends and assuming capability is not generally a major problem in seeking to push nations towards obeying arms control agreements, or in pressuring possible suppliers. It also is not a major problem in analyzing broad military counterproliferation risks and programs. The situation is very different in dealing with war fighting choices, particularly issues like preemption and targeting. Assumptions of capability can lead to preemption that is not necessary, overtargeting, inability to prioritize, and a failure to create the detailed collection and analysis necessary to support warfighters down to the battalion level. This, in turn, often forces field commanders to rely on field teams with limit capability and expertise, and to overreact to any potential threat or warning indicator.
- ***The intelligence community does bring outside experts into the process, but often simply to provide advice in general terms rather than cleared review of the intelligence product.*** The result is often less than helpful. The use of other cleared personnel in U.S. laboratories and other areas of expertise is inadequate and often presents major problems because those consulted are not brought fully into the intelligence analysis process and given all of the necessary data.
- ***The intelligence community does tend to try to avoiding explicit statements of the short comings in collection and methods in much of its analysis and to repeat past agreed judgments on a lowest common denominator level—particularly in the form of the intelligence products that get broad circulation to consumers.*** Attempts at independent outside analysis or “B-Teams,” however, are not subject to the review and controls enforced on intelligence analysis, and the teams, collection data, and methods used are generally selection to prove given points rather than provide an objective counterpoint to finished analysis.⁵
- ***Time or bureaucratic momentum and poor supervision lead to a failure to proper review or “zero-base” analysis.*** Any review of unclassified reports shows a tendency to endlessly repeat prior assessments and conclusions without reviewing their content and with any effort to comprehensively review past judgments.

More broadly, the users of intelligence are at best intolerant of analysis that consists of a wide range of qualifications and uncertainties even at the best of times, and the best of times do not exist when urgent policy and warfighting decisions need to be made. Users inevitably either force the intelligence process to reach something approaching a definitive set of conclusions, or else they make such estimates themselves.

Intelligence analysts and managers are all too aware of this fact. Experience has taught them that complex intelligence analysis—filled with alternative cases, probability estimates, and qualifications about uncertainty --generally go unused or make policy makers and commanders impatient with the entire intelligence process. In the real world,

hard choices have to be made to provide an estimate that **can** actually be used and acted upon, and these choices must either by the intelligence community or the user.⁶

The Politics of Characterizing and Targeting WMD Capabilities and Delivery Systems

All of these points have obvious importance in assessing the political and policy-level use of intelligence during the Iraq War. It is easy to focus on the extent to which the intelligence that the United States and Britain provided before the war was or was not “politicized” as part of the effort to make the case for the war. Yet, far broader issues are involved that are scarcely specific to the Iraq War. Rather, these issues are almost certain to apply to future crises and conflicts. The same problems that limited U.S. and British intelligence capabilities during the Iraq War—and which will limit them for the foreseeable future—necessarily apply to other countries and to any international organizations.

There also are no peers with superior capabilities. No other state can compete with the United States in intelligence collection and analysis resources, although a growing number of states do have significant satellite and other technical means and any state can score a human intelligence breakthrough. Organizations like the UN have no independent intelligence collection capability other than the reporting and inspection provisions provided by international agreements. UNSCOM and UNMOVIC showed during their inspection efforts in Iraq that direct inspection can often provide important discoveries. But such search techniques also provide only limited and time-consuming coverage and cannot function effectively without intelligence data and analytic inputs from other countries.

No one who focuses on the specific case of the Iraq War can afford to ignore the fact that future threats of proliferation posed by states or terrorist movements may again seem so great that it may not be possible to wait to take military action until many key uncertainties are resolved. Moreover, it is difficult to see how leaders can lead if they communicate all of the uncertainties involved in the intelligence assessment of most proliferating countries.

In practical terms, any political effort to try to communicate the true level of uncertainty and probable outcomes inherent in most estimates of proliferation seems almost certain to make it difficult or impossible to gain a political consensus for timely and effective domestic or international action. Communicating uncertainty may be a good way of arguing against action, but only because its impact is to create nearly endless discussion and debate on any policy that requires broad political agreement on a single course of action or the use of military force. In practical terms, the United States and its allies may again have to act on the basis of something approaching “worst case” assumptions. This is a risk that proliferating nations and extremist movements may have to learn they take when they proliferate.

Dealing with a Proven Proliferator

It is also necessary to put any U.S. or British politicization of intelligence in context. Whatever mistakes may have been made in the intelligence assessments before and during the war, Saddam Hussein’s regime was clearly proliferating. During the period of

1991–1998, UNSCOM found that Iraq had concealed major chemical, biological, and nuclear programs, and it continued to lie about them until it expelled UNSCOM. These lies affected many detailed aspects of the Iraqi nuclear and missile program. They also, however, succeeded in concealing the existence of a biological weapons program until 1995—four years after the Gulf War was over and a massive inspection effort was under way. And they succeeded in concealing a major VX nerve gas weaponization program until 1997–1998—seven years after the war was over.

Iraq clearly failed to meet the requirements of the UN Security Council’s Resolution 1441 that established the ground rules for the resumption of UN inspections under UNMOVIC. Iraq’s declaration to the UN did virtually nothing to resolve immense uncertainties about the remaining scale of the Iraqi proliferation effort, which could still have involved massive stocks of chemical and biological weapons. UNMOVIC found that Iraq continued to try to conceal major violations of the ceasefire limits on the development of long-range missiles, and it was anything but forthcoming in making its scientists available for interviews and in implementing most other aspects of cooperation with the UN. When it did improve its cooperation, it almost always did so because the threat of U.S. and British military action had become more imminent.⁷

The Issues Left By Iraqi Compliance with the UN Effort

Whatever the problems in the U.S. and British statements and white papers may have been, virtually all of the reports on the material, weapons, and equipment that Iraq had not accounted for were taken from reporting by UNSCOM during the period between 1991 and 1998. Interviews with French, German, Russian, and other experts before the war also indicate that few Western nations did not think that Iraq was actively proliferating, and most Western intelligence agencies saw similar risks—although some felt that Iraq’s war-fighting capabilities were lower and its production capabilities were much more uncertain.

Before one places too much blame on the United States and Britain for faulty intelligence, it is important to note that Iraq could have resolved the issues involved simply by complying with the UN security council resolution. The United States and Britain may have been wrong, but Saddam Hussein played an almost suicidally stupid game in failing to immediately declare Iraq’s true holdings and comply with UNSCR 1441’s demand for immediate and comprehensive compliance. As Rolf Ekeus, executive chairman of UNSCOM from 1991 to 1997, pointed out after the war, Iraq never gave up the basic core of its chemical, biological, or nuclear weapons efforts or the effort to find dual-use and other production equipment.⁸

The Costs of Politicizing Intelligence

That said, one key lesson of the Iraq War is still that it is dangerous to overpoliticize intelligence and to not provide a picture of the threat and reasons for warfighting that is properly qualified. Overselling the threat before a war leads to overreacting during a conflict, and to major credibility problems in the aftermath of the conflict that can interfere with nation building and limit domestic and international support in future conflicts.

It is now all too clear that the United States and Britain did not find the right balance of persuasion and objectivity in their public analyses of the threat before the war and in their arguments in favor of the conflict. The fact that no evidence surfaced during or soon after the war that tracked with the previous U.S. and British intelligence assessments—evidence showing that Iraq had the capability to use weapons of mass destruction in warfighting, or indicated that it had active programs for the production of weapons of mass destruction that were creating an imminent threat—has been a source of major embarrassment for the Bush and Blair governments, as well as for allied governments like Australia. It also seriously undermines U.S. and British credibility in dealing with future cases of proliferation.

Postwar reports and interviews make it clear that the United States and Britain presented worst-case estimates to the public and the UN without sufficient qualification. They also make clear that their intelligence communities came under serious political pressure to make something approaching a worst-case interpretation of the evidence, and to interpret the inability to account for missing weapons of mass destruction, delivery systems, and production capabilities as meaning that Iraq had something approaching matching inventories of deployed weapons.

As has been mentioned, there are also many indications that the U.S. intelligence community came under pressure to accept reporting by Iraqi opposition sources that had limited credibility and, in some cases, a history of actively lying to exaggerate their own importance or push the United States toward a war to overthrow Saddam Hussein.

In the US, this pressure seems to have come primarily from the Office of the Vice President and the Office of the Secretary of Defense. The Vice President and his assistant Scooter Libby seem to have made repeated personal efforts to intervene in the intelligence process and push for the selection of material that would make a case for war. There also are reports that the Office of Special Plans (OSP) within the Office of the Secretary of Defense assembled a staff with strong biases in favor of war that sifted through intelligence data and pushed for the “worst case” interpretation of the data on Iraqi weapons of mass destruction and possible Iraqi ties to terrorist groups like Al Qaida. In what bore a striking resemblance to similar worst-case interpretations of the global threat from the proliferation of ballistic missiles under the Rumsfeld Commission, U.S. policymakers seem to have pushed for the interpretation that would best justify military action and to have focused on this as if it were a reality rather than a possibility.⁹ The Bush administration as a whole sought intelligence that would support its case in going to war, and that this had a significant impact on the intelligence community from 2002 onward.¹⁰

There are at least two cases where charges were made that should never have been made public. One such charge was the assertion by both the U.S. and British governments that there was evidence that Iraq had imported uranium from Africa. This assertion was made when the key source relating to Niger was already known to be fraudulent, and there was no credible evidence of supply by the Congo or Somalia.¹¹ Part of the problem may have arisen because British and US intelligence did not share all of the data they had on this possibility.¹² However, the key cause was political choices about the way in which uncertain indicators and warnings of forgery that overrode the recommendations of intelligence professionals note to use the material. Similarly, British claims that Iraq was

able to deploy chemical and biological weapons within 45 minutes, including against its own Shi'ite population, later turned out to be based on a single unvalidated report from an Iraqi officer of very uncertain credibility.¹³

Senator Carl Levin, however, provided a much broader indictment of the US analysis in a speech to the Senate on July 15, 2003:¹⁴

Last week, CIA Director George Tenet accepted responsibility for having gone along with the African uranium statement in the President's State of the Union address. His acknowledgment that it should not have been included in the address and his acceptance of responsibility were appropriate. But his explanation of the CIA's acquiescence in allowing the use of a clearly misleading statement raises more questions than it answers, and statements by other administration officials, particularly National Security Adviser Condoleezza Rice, compound the problem.

Even more troubling, however, is the fact that the uranium statement appears to be but one of a number of several questionable statements and exaggerations by the Intelligence Community and Administration officials that were issued in the buildup to the war. The importance of objective and credible intelligence cannot be overstated. It is therefore essential that we have a thorough, open and bipartisan inquiry into the objectivity, credibility and use of U.S. intelligence before the Iraq War.

...These and many other questions underscore the critical importance of a thorough, open and bipartisan inquiry into the objectivity and credibility of intelligence concerning the presence of weapons of mass destruction in Iraq immediately before the war and the alleged Iraq-al Qaeda connection, and the use of such intelligence by the Department of Defense in policy decisions, military planning and the conduct of operations in Iraq.

Like many similar speeches by members of the Australian and British Parliaments, Senator Levin's speech clearly had the motive of politicizing the politicization of intelligence. Both the issues and questions that Senator Levin raised were valid, however, even if they did focus on politics rather than the problems in intelligence analysis and capability. They also illustrate the "backlash" effect that is almost inevitable when short-term political priorities ignore long-term consequences.

In Britain, much of the political character of what was said came as the result of more direct interference in the reporting of the British intelligence community by the Prime Minister's office, and particularly by Alastair Campbell and other special advisors to the Prime Minister who sought to create the strongest possible political case. A report by the House of Commons Foreign Affairs Committee noted enough problems in the way the British estimate of Iraqi capabilities were generated to call it the "dodgy dossier."¹⁵

The report cleared Campbell of a direct role in British claims that Iraq could use weapons of mass destruction with only 45 minutes notice, but noted deep concerns about the fact this claim was ever made and the way in which the British government made and defended claims relating to Iraq's attempts to purchase Uranium ore. It also noted that Alastair Campbell chaired intelligence meetings for which he had no background or qualifications, and that placing the review of the data under Campbell and the Iraqi Communications Group he chaired, and the Coalition Information Centre, "were contributory factors to the affair of the 'dodgy dossier'."¹⁶

The British reporting on the Iraqi threat presented further problems because the intelligence report presented by the British government copied text from the work of a graduate student.¹⁷ The House of Commons Foreign Affairs Committee report stated that we, "conclude that it is wholly unacceptable for the Government to plagiarize work

without attribution and to amend it without either highlighting the amendments or gaining the assent of the original author.”¹⁸

Moreover, a detailed comparisons of the British and CIA reports shows that the British document often implied that intelligence had more certainty than the US document, although both governments shared virtually the same intelligence. It is clear from the investigation by the British parliament that this was partly because the British report had a much heavier degree of editing by the Prime Minister’s office.

In general, political spin artists and public relations experts have zero background in the details of intelligence, and are among the last people who can ensure the credibility of the product. This is a lesson confirmed by less serious problems in the speeches on the subject by President Bush, Secretary Powell, National Security Advisor Rice, and Deputy Secretary Wolfowitz.

The Need for Rapid and Reliable Characterization of Chemical and Biological Agents and the Coalition Intelligence Effort

The problems in the intelligence efforts of the United States and other Coalition members affected warfighting as well as the politics of the war. Despite all of the advances in IS&R capabilities, and despite more than a decade of additional intelligence collection and targeting experience, the United States and its allies were just as unable to characterize and target Iraq’s capabilities to use, produce, and deliver weapons of mass destruction during military operations as they had been during Desert Storm and Desert Fox. If anything, the United States was more successful in the Gulf War, although many of its limited successes during that war were more the accidental result of hitting secondary targets than the product of intelligence analysis and military planning.

Each of the military services had to plan before and throughout the Iraq War for the risk that Iraq would use weapons of mass destruction. General John P. Abizaid, General Franks’ deputy during the war and the new commander of USCENTCOM, described the situation as follows to the Senate Armed Services Committee:¹⁹

Intelligence was the most accurate I’ve ever seen on the tactical level, probably the best I’ve ever seen on the operational level, and perplexingly incomplete on the strategic level with regard to weapons of mass destruction. It is perplexing to me...that we have no found weapons of mass destruction, when the evidence was so pervasive that it would exist...I can’t offer a reasonable explanation....

Lt. Gen. James Conway, commander, First Marine Expeditionary Force describes the problems created by such uncertainties as follows:²⁰

...we were... not hit with weapons of mass destruction—I think we had four triggers that we were prepared to defend ourselves against—different times when we thought that the regime might try to employ the weapons of mass destruction against us. And we truly thought that they were distributed—not to everybody, not to the regular army divisions that we saw in the south. But my personal belief was that they probably did reside in the Republican Guard units, and we encountered, arguably, three, maybe four, Republican Guard divisions on the way to Baghdad. But my personal belief was that the Republican Guard corps commander probably had release authority, and that we might well see them when we started to encounter his force or enter his area.

It was a surprise to me then, it remains a surprise to me now, that we have not uncovered weapons, as you say, in some of the forward dispersal sites. Again, believe me, it’s not for lack of trying.

We've been to virtually every ammunition supply point between the Kuwaiti border and Baghdad, but they're simply not there. Now, what that means in terms of intelligence failure, I think, is too strong a word to use at this point. What the regime was intending to do in terms of its use of the weapons, we thought we understood or we certainly had our best guess, our most dangerous, our most likely courses of action that the intelligence folks were giving us. We were simply wrong. But whether or not we're wrong at the national level, I think, still very much remains to be seen.

It is important to note that from an operational point of view, no commander could know whether weapons of mass destruction could or would be used until the end of the war. There were many cases where units had to use protective gear, and the speed of maneuver involved significant potential risk in the face of any sudden Iraqi escalation to the use of such weapons.

In many cases, more sophisticated and quicker reacting detectors and grids could have reduced the strain on U.S. and British forces. It is also clear from the results of the search for weapons of mass destruction during and after the war that **current** field equipment cannot rapidly and accurately characterize some chemical and biological threats and can produce serious false alarms. In case after case, units encountering suspect facilities and weapons produced a false positive finding that could be disproved only after further testing in the rear.

Assessing proliferation is not simply an intelligence or policy problem, it is an operational problem. The greater the uncertainty, the greater the operational dilemma in choosing between protective and defensive measures and in maintaining the tempo and focus of combat. If the Iraq War provides a lesson in this area, it is that the United States and its allies have no reliable way as yet to reduce this dilemma, reduce the risks involved, or reliably deal with this aspect of asymmetric warfare.

Organized Searches for Weapons of Mass Destruction in Proliferating Countries: The Search During and After the War

The Iraq War provides important lessons about the need to search for possible weapons of mass destruction and sensitive facilities during a war, and the need to secure such facilities as soon as possible. The United States did carry out an ongoing effort to find and secure Iraqi weapons of mass destruction and related facilities as it advanced into Iraq. But this effort had limited manning and uncertain intelligence support, and could provide only limited coverage. The United States lacked an effective plan and coordinated effort to secure Iraq's WMD and missile facilities as U.S. forces advanced, and some—including nuclear facilities—were looted as a result.

The United States was so convinced that it would find large stocks of Iraqi weapons and/or major ongoing proliferation efforts that it failed to formulate a clear strategy for dealing with the almost inevitable charges that it would conceal the facts. It was similarly unprepared for challenges in the UN over the lifting of sanctions²¹

The initial mix of biologists, chemists, nuclear experts, arms control experts, computer and document experts, and special forces troops put together by the United States to search for Iraq's weapons of mass destruction and delivery systems was tailored around the case that Saddam had deployed WMD and had given his commanders authority to use them under certain circumstances.²² It did not really have the scale, expertise, or language skills to deal with other types of Iraqi proliferation activity—such as covert research and

development efforts, tracking down complex patterns of illegal imports, locating and interviewing scientists, searching out concealed and dispersed facilities, and analyzing possible destruction sites.

The United States made little preparation for conducting a timely disarmament and inspection effort with a credible audit trail. It relied on U.S. teams operating without international support and observers. It did not aggressively seek to include the UN. The inclusion of UNMOVIC and the IAEA would certainly have created political problems, but the United States does not seem to have been sensitive to the need to create teams that would have a high degree of international credibility.²³

The Initial Search Effort

During the war, the U.S. military tasked various elements of Special Forces and other units to search for weapons of mass destruction as U.S. forces advanced into Iraq. The overall level of equipment and training was limited, however, and many units overreacted to suspected sites and failed to properly characterize the weapons, equipment, facilities, and substances they found.²⁴ Task Force 20, the U.S. Army Special Forces team that had a key mission in this search, was deployed in March, evidently before the actual fighting began. However, the team in Task Force 20 was relatively small and had the much broader mission of looking for key figures in the Iraqi leadership. Similar problems in resources and mission focus affected many of the other special purpose teams involved.²⁵

The main initial U.S. effort was conducted by a 600-person group called the 75th Exploitation Task Force. It was supported by the 513th military intelligence brigade and a smaller effort sent in by the Defense Threat Reduction Agency. These specialists spent most of their time at first going through known facilities slowly and by the numbers. They focused on the facilities most likely to have been vacated months earlier because they were known to be targets both for UNMOVIC and U.S. military action. But they failed to ensure that the United States secured key declared facilities like the nuclear facilities subject to IAEA inspection.²⁶

There are conflicting reports about the pace of the initial search effort. One source reports that as of early May, the United States “had secured only 44 of the 85 top potential weapons sites in the Baghdad area and 153 of the 372 considered most important to rebuilding Iraq's government and economy.”²⁷ Another states that the U.S. inspections teams had visited 19 top weapons sites, with two left for investigation, and that they had surveyed another 45 out of 68 top “non-WMD sites”—sites without known links to weapons of mass destruction, but suspect as potential sites.²⁸ In still another report, the 75th Exploitation Task Force was reported to have visited some 300 facilities by the end of May.²⁹ The true scale of the targeting and search problem may best be indicated by the fact that Stephen A. Cambone, the under secretary of defense for intelligence, announced on May 30 that only 70 of roughly 600 potential weapons facilities on an “integrated master site list” prepared by U.S. intelligence agencies before the war had been examined.³⁰

Expanding the Effort and Creating the Iraq Survey Group (ISG)

As time went on, the growing political and military problems created by the lack of an effective wartime and early postwar search effort forced the United States to greatly

expand its search team and give it far more capability. In late May, the United States announced it would supplement the 75th Exploitation Task Force with a much larger Iraq Survey Group (ISG) that included elements from the U.S., British, and Australian intelligence communities. The search effort expanded to the point where the ISG was manned by between 1,300 and 1,400 people from the U.S. government and from the United Kingdom and Australia.

Somewhat ironically, the Coalition's search for Iraqi weapons of mass destruction was forced to take on much of the character of the previous UNMOVIC effort. It had had to shift from a search for warfighting capability to a much more forensic effort to search through Iraqi records and facilities, a task greatly complicated by its inability to safeguard many key facilities from looting.

Douglas Feith, the under secretary of defense for policy, and Lt. General Norman Schwartz, director of operations of the Joint Staff, testified to the House International Relations Committee in May 2003 that the Bush administration now estimated that the process of determining Iraq's true level of proliferation could take years, and that no new chemical and biological weapons had yet been found.³¹ Moreover, the United States was forced to allow the International Atomic Energy Agency to resume its inspection efforts.³²

In late June, U.S. officials were talking about the need to go through tons of documents. They noted that the United States had taken custody of only 69 of some 255 top Iraqi officials who might know something about Iraq's WMD effort, and only 7 of some 3,152 lower-ranking officials. They also stated that the United States had conducted meaningful inspections of 157 of 578 suspect sites.³³

In October 2003, David Key made an interim report to the House Permanent Selection Committee on Intelligence. This report is interesting for several reasons. It lists some of the practical problems in analyzing proliferation that affect both intelligence and inspection. It shows that the ISG did not find the active military capabilities and weapons that the US and Britain expected to find. And finally, it also shows that the ISG did find that Iraq actively continued to proliferation at the procurement and research and development levels:³⁴

We have not yet found stocks of weapons, but we are not yet at the point where we can say definitively either that such weapon stocks do not exist or that they existed before the war and our only task is to find where they have gone. We are actively engaged in searching for such weapons based on information being supplied to us by Iraqis.

Why are we having such difficulty in finding weapons or in reaching a confident conclusion that they do not exist or that they once existed but have been removed? Our search efforts are being hindered by six principal factors:

1. From birth all of Iraq's WMD activities were highly compartmentalized within a regime that ruled and kept its secrets through fear and terror and with deception and denial built into each program;
2. Deliberate dispersal and destruction of material and documentation related to weapons programs began pre-conflict and ran trans-to-post conflict;
3. Post-OIF looting destroyed or dispersed important and easily collectable material and forensic evidence concerning Iraq's WMD program. As the report covers in detail, significant elements of

this looting were carried out in a systematic and deliberate manner, with the clear aim of concealing pre-OIF activities of Saddam's regime;

4. Some WMD personnel crossed borders in the pre/trans conflict period and may have taken evidence and even weapons-related materials with them;

5. Any actual WMD weapons or material is likely to be small in relation to the total conventional armaments footprint and difficult to near impossible to identify with normal search procedures. It is important to keep in mind that even the bulkiest materials we are searching for, in the quantities we would expect to find, can be concealed in spaces not much larger than a two car garage;

6. The environment in Iraq remains far from permissive for our activities, with many Iraqis that we talk to reporting threats and overt acts of intimidation and our own personnel being the subject of threats and attacks. In September alone we have had three attacks on ISG facilities or teams: The ISG base in Irbil was bombed and four staff injured, two very seriously; a two person team had their vehicle blocked by gunmen and only escaped by firing back through their own windshield; and on Wednesday, 24 September, the ISG Headquarters in Baghdad again was subject to mortar attack.

As of January 25, 2004, the ISG search effort still had not shown that any suspect site was a valid military target. It also had not found any valid evidence that a significant Iraqi capability to use weapons of mass destruction existed before the war, or that Iraq had any major imminent capability to produce such weapons. The only meaningful discoveries were buried plans and parts for a centrifuge design dating back to 1991 and what appeared to be two trailers designed to produce biological weapons.³⁵

David Kay made the following statements on NPR's "Weekend Edition" in leaving his assignment at the ISG:

"My summary view, based on what I've seen, is we're very unlikely to find large stockpiles of weapons...I don't think they exist.

" Based on the intelligence that existed, I think it was reasonable to reach the conclusion that Iraq posed an imminent threat...We have to remember that this view of Iraq was held during the Clinton administration and didn't change in the Bush administration.... They're coming back to haunt me in the sense of why could we all be so wrong? ... It's an issue of the capabilities of one's intelligence service to collect valid, truthful information...I actually think the intelligence community owes the president rather than the president owing the American people. ..It is not a political 'gotcha' issue. It is a serious issue of 'How you can come to a conclusion that is not matched in the future?'"

It seems certain, given the results of the UNSCOM and UNMOVIC effort, that the United States will find more evidence of an ongoing WMD research and development program. But it is still far from clear what kind of Iraqi program and effort will emerge. The centrifuge discovery did nothing to shed significant light on recent Iraqi efforts.³⁶ The trailers once seemed to be a more significant discovery, and the CIA made a strong case to this effect. But experts within the U.S. intelligence community—particularly within the State Department—disputed whether the trailers were really being used for biological weapons purposes at the time, and they since seem to have been exactly what Iraqis claimed – hydrogen manufacturing facilities for weather balloons.³⁷ This again illustrates the inherent uncertainty surrounding estimates of proliferation and foreign WMD capabilities.

Looking Beyond Iraq

As has been mentioned earlier, Iraq is simply the case the world knows best – although scarcely all that well. Iran, Israel, Libya, North Korea, and Syria are all major proliferators where there is far more uncertainty than in Iraq. Moreover, India and Pakistan are nuclear powers where virtually all of the same uncertainties discussed under intelligence collection and analysis apply to existing forces.

Developments in Iran, Libya, North Korea, and the Sudan

The latest unclassified CIA assessment of these developments dates back to mid-2003, and precedes the Iranian and Libyan agreement to allow inspection. It also only covers those countries the US sees as relatively hostile. It does, however, provide a list of developments which both illustrate the continuing impact of proliferation, and often bear a striking relation to the agency's prewar assessments of Iraq.³⁸

Iran

Iran continued to vigorously pursue indigenous programs to produce WMD-nuclear, chemical, and biological-and their delivery systems as well as ACW. To this end, Iran continued to seek foreign materials, training, equipment, and know-how. During the reporting period, Iran still focused particularly on entities in Russia, China, North Korea, and Europe.

Nuclear. The United States remains convinced that Tehran has been pursuing a clandestine nuclear weapons program, in violation of its obligations as a party to the Nuclear Nonproliferation Treaty (NPT). To bolster its efforts to establish domestic nuclear fuel-cycle capabilities, Iran sought technology that can support fissile material production for a nuclear weapons program.

Iran tried to use its civilian nuclear energy program to justify its efforts to establish domestically or otherwise acquire assorted nuclear fuel-cycle capabilities. In August 2002, an Iranian opposition group disclosed that Iran was secretly building a heavy water production plant and a "nuclear fuel" plant. Press reports later in the year confirmed these two facilities using commercial imagery and clarified that the "fuel" plant was most likely a large uranium centrifuge enrichment facility located at Natanz. Commercial imagery showed that Iran was burying the enrichment facility presumably to hide it and harden it against military attack. Following the press disclosures, Iran announced at the International Atomic Energy Agency (IAEA) September 2002 General Conference that it had "ambitious" nuclear fuel cycle plans and intended to develop all aspects of the entire fuel cycle. By the end of 2002, the IAEA had requested access to the enrichment facility at Natanz, and the IAEA Director General (DG) for the first time visited the facility in February 2003. The IAEA is investigating the newly disclosed facilities, and previously undisclosed nuclear material imports to determine whether Iran has violated its NPT-required IAEA safeguards agreement in developing these facilities and their related technologies. At the June 2003 Board of Governors meeting, the IAEA DG presented a report on the Iranian program noting Tehran had failed to meet its safeguards obligations in a number of areas. The DG's report described a pattern of Iranian safeguards failures related to the undeclared import and processing of uranium compounds in the early 1990s, expressed concern over the lack of cooperation from Iran with IAEA inspections, and identified a number of unresolved concerns in Iran's program that the IAEA will continue to investigate. The IAEA Board on 19 June welcomed the report and called on Iran to answer all IAEA questions, cooperate fully with IAEA inspectors, and sign and implement an Additional Protocol immediately and unconditionally.

Although Iran claims that its nascent enrichment plant is to produce fuel for the Russian-assisted construction projects at Bushehr and other possible future power reactors, we remain concerned

that Iran is developing enrichment technology to produce fissile material for nuclear weapons under the cover of legitimate fuel cycle activities. Iran appears to be embarking on acquiring nuclear weapons material via both acquisition paths—highly enriched uranium and low burn-up plutonium. Even with intrusive IAEA safeguards inspections at Natanz, there is a serious risk that Iran could use its enrichment technology in covert activities. Of specific proliferation concern are the uranium centrifuges discovered at Natanz, which are capable of enriching uranium for use in nuclear weapons. Iran claims its heavy water plant is for peaceful purposes. In June, Iran informed the IAEA that it is pursuing a heavy water research reactor that we believe could produce plutonium for nuclear weapons. We also suspect that Tehran is interested in acquiring fissile material and technology from foreign suppliers to support its overall nuclear weapons program.

Ballistic Missile. Ballistic missile-related cooperation from entities in the former Soviet Union, North Korea, and China over the years has helped Iran move toward its goal of becoming self-sufficient in the production of ballistic missiles. Such assistance during the first half of 2003 continued to include equipment, technology, and expertise. Iran's ballistic missile inventory is among the largest in the Middle East and includes some 1,300-km-range Shahab-3 medium-range ballistic missiles (MRBMs) and a few hundred short-range ballistic missiles (SRBMs)—including the Shahab-1 (Scud-B), Shahab-2 (Scud C), and Tondar-69 (CSS-8)—as well as a variety of large unguided rockets. Already producing Scud SRBMs, Iran announced that it had begun production of the Shahab-3 MRBM and a new solid-propellant SRBM, the Fateh-110. In addition, Iran publicly acknowledged the development of follow-on versions of the Shahab-3. It originally said that another version, the Shahab-4, was a more capable ballistic missile than its predecessor but later characterized it as solely a space launch vehicle with no military applications. Iran is also pursuing longer-range ballistic missiles.

Chemical. Iran is a party to the Chemical Weapons Convention (CWC). Nevertheless, during the reporting period it continued to seek production technology, training, and expertise from Chinese entities that could further Tehran's efforts to achieve an indigenous capability to produce nerve agents. Iran likely has already stockpiled blister, blood, choking, and probably nerve agents—and the bombs and artillery shells to deliver them—which it previously had manufactured.

Biological. Even though Iran is part of the Biological Weapons Convention (BWC), Tehran probably maintained an offensive BW program. Iran continued to seek dual-use biotechnical materials, equipment, and expertise. While such materials had legitimate uses, Iran's biological warfare (BW) program also could have benefited from them. It is likely that Iran has capabilities to produce small quantities of BW agents, but has a limited ability to weaponize them.

Advanced Conventional Weapons. Iran continued to seek and acquire conventional weapons and production technologies, primarily from Russia, China, and North Korea. Tehran also sought high-quality products, particularly weapons components and dual-use items, or products that proved difficult to acquire through normal governmental channels.

North Korea

Nuclear. In December 2002, North Korea announced its intention to resume operation of nuclear facilities at Yongbyon, which had been frozen under the terms of the 1994 US-North Korea Agreed Framework. IAEA seals and monitoring equipment were removed and disabled, and IAEA inspectors expelled from the country.

On 10 January 2003, North Korea announced its intention to withdraw from the Treaty on Non-Proliferation of Nuclear Weapons (the NPT Treaty). In late February 2003, North Korea restarted its 5 Mwe reactor which could produce spent fuel rods containing plutonium.

In late April 2003, North Korea told US officials that it possessed nuclear weapons, and signaled its intent to reprocess the 1994 canned spent fuel for more nuclear weapons. On 9 June, North

Korea openly threatened to build a nuclear deterrent force. We continued to monitor and assess North Korea's nuclear weapons efforts.

Ballistic Missile. North Korea also has continued procurement of raw materials and components for its extensive ballistic missile programs from various foreign sources. In the first half of 2003, North Korea continued to abide by its voluntary moratorium on flight tests adopted in 1998, but announced it may reconsider its September 2002 offer to extend the moratorium beyond 2003. The multiple-stage Taepo Dong-2—capable of reaching parts of the United States with a nuclear weapon-sized payload—may be ready for flight-testing. North Korea is nearly self-sufficient in developing and producing ballistic missiles, and has demonstrated a willingness to sell complete systems and components that have enabled other states to acquire longer range capabilities earlier than would otherwise have been possible and to acquire the basis for domestic development efforts.

Chemical. North Korea is not a party to the Chemical Weapons Convention (CWC). During the reporting period, Pyongyang continued to acquire dual-use chemicals that could potentially be used to support Pyongyang's long-standing chemical warfare program. North Korea's chemical warfare capabilities included the ability to produce bulk quantities of nerve, blister, choking and blood agent, using its sizeable, although aging, chemical industry. North Korea possesses a stockpile of unknown size of these agents and weapons, which it could employ in a variety of delivery means.

Biological. North Korea has acceded to the Biological and Toxin Weapons Convention, but nonetheless has pursued biological warfare (BW) capabilities since the 1960s. Pyongyang acquired dual-use biotechnical equipment, supplies, and reagents that could be used to support North Korea's BW efforts. As of the first half of 2003, North Korea was believed to have possessed a munitions production infrastructure that would have allowed it to weaponize BW agents, and may have such weapons available for use.

Libya

Nuclear. An NPT party with full-scope IAEA safeguards, Libya continued to develop its nuclear infrastructure. The suspension of UN sanctions provided Libya the means to enhance its nuclear infrastructure through foreign cooperation and procurement efforts. Tripoli and Moscow continued talks on cooperation at the Tajura Nuclear Research Center and a potential power reactor deal. Such civil-sector work could have presented Libya with opportunities to pursue technologies also suitable for military purposes. In addition, Libya participated in various technical exchanges through which it could have tried to obtain dual-use equipment and technology that could have enhanced its overall technical capabilities in the nuclear area. Although Libya made political overtures to the West in an attempt to strengthen relations, Libya's assertion that Arabs have the right to nuclear weapons in light of Israel and its nuclear program—as Qadhafi stated in a televised speech in March 2002, for example—and Tripoli's continued interest in nuclear weapons and nuclear infrastructure upgrades raised concerns.

Ballistic Missile. The suspension of UN sanctions in 1999 allowed Libya to expand its efforts to obtain ballistic missile-related equipment, materials, technology, and expertise from foreign sources. During the first half of 2003, Libya continued to depend on foreign assistance—particularly from Serbian, Indian, Iranian, North Korean, and Chinese entities—for its ballistic missile development programs. Libya's capability therefore may not still be limited to its Soviet-origin Scud-B missiles. With continued foreign assistance, Libya will likely achieve an MRBM capability—a long-desired goal—probably through direct purchase from North Korea or Iran.

Chemical and Biological. Libya also remained heavily dependent on foreign suppliers for CW precursor chemicals and other key related equipment. Following the suspension of UN sanctions, Tripoli reestablished contacts with sources of expertise, parts, and precursor chemicals abroad, primarily in Western Europe. Libya has indicated—as evidenced by its observer status at the

April 2003 Chemical Weapons Convention Review Conference and previous Convention Conferences of States Parties—a willingness to accede to the CWC. Such efforts are consistent with steps that Tripoli is taking to improve its international standing. Tripoli still appeared to be working toward an offensive CW capability and eventual indigenous production. Evidence suggested that Libya also sought dual-use capabilities that could be used to develop and produce BW agents.

Advanced Conventional Weapons. Libya continued to seek new advanced conventional weapons and received assistance from other countries in maintaining its inventory of Soviet-era weapons.

Syria

Nuclear. Syria—an NPT signatory with full-scope IAEA safeguards—has a nuclear research center at Dayr Al Hajar. Russia and Syria have continued their long-standing agreements on cooperation regarding nuclear energy, although specific assistance has not yet materialized. Broader access to foreign expertise provides opportunities to expand its indigenous capabilities and we are looking at Syrian nuclear intentions with growing concern.

Ballistic Missile. During the first half of 2003, Damascus continued to seek help from abroad to establish a solid-propellant rocket motor development and production capability. Syria's liquid-propellant missile program continued to depend on essential foreign equipment and assistance—primarily from North Korean entities. Damascus also continued to manufacture liquid-propellant Scud missiles. In addition, Syria was developing longer-range missile programs such as a Scud D and possibly other variants with assistance from North Korea and Iran.

Chemical and Biological. Syria continued to seek CW-related expertise from foreign sources during the reporting period. Damascus already held a stockpile of the nerve agent sarin, but apparently tried to develop more toxic and persistent nerve agents. Syria remained dependent on foreign sources for key elements of its CW program, including precursor chemicals and key production equipment. It is highly probable that Syria also continued to develop an offensive BW capability.

Advanced Conventional Weapons. Syria continued to acquire limited quantities of ACW, mainly from Russia. Damascus's Soviet-era debt to Moscow and inability to fund large purchases continued to hamper efforts to purchase the large quantity of equipment Syria requires to replace its aging weapons inventory.

Sudan

Chemical and Biological. Although Sudan has aspired to a CW program, the US is working with Sudan to reconcile concerns about its past attempts to seek capabilities from abroad.

Advanced Conventional Weapons. During the reporting period, Sudan sought a variety of military equipment from various sources and received Mi-24 attack helicopters from Russia. In the long-running civil war, as well as for a general military modernization campaign, Khartoum has generally sought older, less expensive ACW and conventional weapons that nonetheless offered more advanced capabilities than the weapons of its opponents and their supporters in neighboring countries. We continued to remain concerned that Sudan might seek a ballistic missile capability in the future.

Chemical, Biological, Radiological, and Nuclear Terrorism

The threat of terrorists using chemical, biological, radiological, and nuclear (CBRN) materials remained high. Many of the 33 designated foreign terrorist organizations and other nonstate actors worldwide have expressed interest in CBRN. Although terrorist groups probably will continue to

favor long-proven conventional tactics such as bombings and shootings, the arrest of ricin plotters in London in January 2003 indicated that international mujahidin terrorists were actively plotting to conduct chemical and biological attacks.

Increased publicity surrounding the anthrax incidents since the September 11 attacks has highlighted the vulnerability of civilian and government targets to CBRN attacks.

One of our highest concerns is al-Qa'ida's stated readiness to attempt unconventional attacks against us. As early as 1998, Usama Bin Ladin publicly declared that acquiring unconventional weapons was "a religious duty."

Individuals from terrorist groups worldwide undertook poison training at al-Qa'ida-sponsored camps in Afghanistan and have ready access to information on chemical, biological, radiological, and to some extent, even nuclear weapons, via the Internet, publicly available scientific literature, and scientific conferences, and we know that al-Qa'ida was working to acquire some of the most dangerous chemical agents and toxins. A senior Bin Ladin associate on trial in Egypt in 1999 claimed his group had chemical and biological weapons. Documents and equipment recovered from al-Qa'ida facilities in Afghanistan show that Bin Ladin had a more sophisticated unconventional weapons research program than was previously known.

We also know that al-Qa'ida has ambitions to acquire or develop nuclear weapons and was receptive to any outside nuclear assistance that might become available. In February 2001, during the trial on the al-Qa'ida bombings of the American Embassies in Tanzania and Kenya, a government witness—Jamal Ahmad Fadl—testified that al-Qa'ida pursued the sale of a quantity of purported enriched uranium (which in fact probably was scam material) in Sudan in the early 1990s.

We assess that terrorist groups are capable of conducting attacks using crude radiological dispersal devices—i.e., ones that would not cause large-scale casualties, even though they could cause tremendous psychological effects, and possibly create considerable economic disruption as well. This type of threat first appeared in November 1995 when Chechen rebels placed a package containing radioactive cesium on a bench in Moscow's Izmailovo Park. In addition, we are alert to the very real possibility that al-Qa'ida or other terrorist groups might also try to launch conventional attacks against the chemical or nuclear industrial infrastructure of the United States to cause panic and economic disruption.

Assessments of Suppliers

The supplier problem is equally uncertain, particularly in terms of the exact role of major suppliers that – at a minimum – include entities in China, North Korea, Pakistan, and Russia. Once again, the CIA assessment both illustrates the importance of the problem and contains language almost identical to the language it used in describing possible supplies to Iraq in the period before the Iraq War.³⁹

The Intelligence Challenges Posed by the Post Iraq War Risks of Proliferation

All of these developments create new uncertain ties intelligence assessments of war fighting and arms control. They also raise the risk of sudden and drastic escalation. Nations that are just beginning to acquire a few nuclear weapons or serious biological weapons tend to see wars involving such weapons in terms of threats to enemy population centers and have little option other than to strike or concede if intimidation fails. They also tend to try to keep their capabilities covert, and remove them from their normal political decision making process. This can lead to rapid massive escalation or

surprise attacks -- particularly if a given side fears preemption, structures its forces to launch under attack, and/or seeks to strike before its opponent can bring its retaliatory forces and air and missile defenses to full readiness. Fewer weapons do not mean greater stability and security, and they almost inevitably mean counter-value targeting.

As the East-West arms race has shown, there is easily definable stopping point. Broadening the number and type of weapons to allow strikes against military targets creates an incentive to be able to strike as many targets as possible. Obtaining the option to strike at tactical military targets lowers the threshold of escalation and may lead a given side to be more willing to attack. Reducing the vulnerability of steadily larger inventories of weapons and delivery systems may lead to a loss of control, or more lethal plans to preempt or launch under attack. Larger forces potentially increase the risk that weapons directed against military targets will hit population centers, and while the Middle East may not be filled with "one bomb" states, it is definitely filled with "few bomb" states. Further, a state under existential attack by one neighbor may lash out against other states -- a pattern Iraq has already exhibited by launching missile attacks against Israel during the Gulf War.

Intelligence and "Superterrorism"

The intelligence problems involving proliferating states are further compounded by the fact that it is dangerous to view proliferation in terms of advanced weapons and regular military forces. The advances in proliferation also aid terrorists, states in conducting covert attacks, and the potential use of extremist or terrorist movements as proxies for regional powers. Moreover, the kind of scenarios outlined in Figure 10.10 illustrate how difficult it could be to identify the attacker in some scenarios, and the risk deception and false flags will be used to try to direct any response towards other movements or states.

Recent CIA Reports on the Terrorist Threat

The CIA has issued several unclassified reports that make it clear that such threats are not theoretical and pose a further major challenge to intelligence coverage. The CIA reported in June 2003 that,⁴⁰

Al-Qa'ida and associated extremist groups have a wide variety of potential agents and delivery means to choose from for chemical, biological, radiological, or nuclear (CBRN) attacks. Al-Qa'ida's end goal is the use of CBRN to cause mass casualties; however, most attacks by the group—and especially by associated extremists—probably will be small scale, incorporating relatively crude delivery means and easily produced or obtained chemicals, toxins, or radiological substances. The success of any al-Qa'ida attack and the number of ensuing casualties would depend on many factors, including the technical expertise of those involved, but most scenarios could cause panic and disruption.

* Several groups of mujahidin associated with al-Qa'ida have attempted to carry out "poison plot" attacks in Europe with easily produced chemicals and toxins best suited to assassination and small-scale scenarios. These agents could cause hundreds of casualties and widespread panic if used in multiple simultaneous attacks.

* Al-Qa'ida is interested in radiological dispersal devices (RDDs) or "dirty bombs." Construction of an RDD is well within its capabilities as radiological materials are relatively easy to acquire from industrial or

medical sources. Usama Bin Ladin's operatives may try to launch conventional attacks against the nuclear industrial infrastructure of the United States in a bid to cause contamination, disruption, and terror.

* A document recovered from an al-Qa'ida facility in Afghanistan contained a sketch of a crude nuclear device.

* Spray devices disseminating biological warfare (BW) agents have the highest potential impact. Both 11 September attack leader Mohammad Atta and Zacharias Moussaoui expressed interest in crop dusters, raising our concern that al-Qa'ida has considered using aircraft to disseminate BW agents.

* Analysis of an al-Qa'ida document recovered in Afghanistan in summer 2002 indicates the group has crude procedures for making mustard agent, sarin, and VX.

The CIA reported in November 2003 that,⁴¹

The threat of terrorists using chemical, biological, radiological, and nuclear (CBRN) materials remained high. Many of the 33 designated foreign terrorist organizations and other nonstate actors worldwide have expressed interest in CBRN. Although terrorist groups probably will continue to favor long-proven conventional tactics such as bombings and shootings, the arrest of ricin plotters in London in January 2003 indicated that international mujahidin terrorists were actively plotting to conduct chemical and biological attacks.

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Scenarios Illustrating the Scale of the Intelligence Problem

To put these threats in context, there are a wide range of credible scenarios for such terrorist or proxy attacks, and if any one of them is put in the context of the intelligence problems the US, Britain, and the world had in covering Iraq, it becomes obvious that intelligence faces even greater challenges than in dealing with the efforts of nation states:

- A radiological powder is introduced into the air conditioning systems of Saudi high-rise buildings or tourist hotels. Symptoms are only detected over days or weeks and public warning is given several weeks later. The authorities detect the presence of such a powder, but cannot estimate its long-term lethality and have no precedents for decontamination. Tourism collapses, and the hotels eventually have to be torn down and rebuilt.
- A Country X-backed terrorist group smuggles parts for a crude gun-type nuclear device into Israel or bought in the market place. The device is built in a medium sized commercial truck. A physics student reading the US Department of Defense weapons effects manual maps Tel Aviv to maximize fall out effects in an area filled with buildings with heavy metals and waits for a wind maximizing the fall out impact. The bomb explodes with a yield of only 8 kilotons, but with an extremely high level of radiation. Immediate casualties are limited but the long-term death rate mounts steadily with time. Peace becomes impossible and security measures become Draconian. Immigration halts and emigration reaches crisis proportions. Israel as such ceases to exist.
- Several workers move drums labeled as cleaning agents into a large shopping mall, large public facility, subway, train station, or airport. They dress as cleaners and are wearing what appear to be commercial dust filters or have taken the antidote for the agent they will use. They mix the feedstocks for a persistent chemical agent at the site during a peak traffic period. Large-scale casualties result, and Draconian security measures become necessary on a national level. A series of small attacks using similar “binary” agents virtually paralyze the economy, and detection is impossible except to identify all canisters of liquid.
- Immunized terrorists visit a US carrier or major Marine assault ship during the first hours of visitor’s day during a port call in the Middle East. They are carrying Anthrax powder in bags designed to make them appear slightly overweight. They slowly scatter the powder as they walk through the ship visit. The immediate result is 50% casualties among the ship’s crew, its Marine complement, and the visitors that follow. The US finds it has no experience with decontaminating a large ship where Anthrax has entered the air system and is scattered throughout closed areas. After long debates over methods and safety levels, the ship is abandoned.
- A Country X-backed terrorist group seeking to “cleanse” a nation of its secular regime and corruption introduces a modified type culture of Ebola or a similar virus into an urban area. It scatters infectious cultures in urban areas for which there is no effective treatment. By the time the attack is detected, it has reached epidemic proportions. Medical authorities rush into the infected area without proper protection, causing the collapse of medical facilities and emergency response capabilities. Other nations and regions have no alternative other than to isolate the nation or center under attack, letting the disease take its course.
- A Country X-backed terrorist group modifies the valves on a Japanese remote-controlled crop-spraying helicopter which has been imported legally for agricultural purposes. It uses this system at night or near dawn to spray a chemical or biological agent at altitudes below radar coverage in a line-source configuration. Alternatively, it uses a large home-built RPV with simple GPS guidance. The device eventually crashes undetected into the sea or in the desert. Delivery of a chemical agent achieves far higher casualties than any conventional military warhead. A biological agent is equally effective and the first symptoms appear days after the actual attack — by which time treatment is difficult or impossible.
- A truck filled with what appears to be light gravel is driven through the streets of Riyadh, Kuwait City, Tehran, or Tel Aviv during rush hour or another maximum traffic period. A visible powder does come out through the tarpaulin covering the truck, but the spread of the powder is so light that no attention is paid to it. The driver and his assistant are immunized against the modified form of Anthrax carried in the truck which is being released from behind the gravel or sand in the truck. The truck slowly quarters key areas of the city. Unsuspected passersby and commuters not only are infected, but also carry dry spores home and into other areas. By the time the first major symptoms of the attack occur some 3-5 days later, Anthrax

pneumonia is epidemic and some septicemic Anthrax has appeared. Some 40-65% of the exposed population dies and medical facilities collapse causing serious, lingering secondary effects.

- A Country X-backed terrorist group scatters high concentrations of a radiological, chemical, or biological agent in various areas in a city, and trace elements into the processing intakes to the local water supply. When the symptoms appear, the terrorist group makes its attack known, but claims that it has contaminated the local water supply. The authorities are forced to confirm that water is contaminated and mass panic ensues.
- Immunized terrorists carry small amounts of Anthrax or a similar biological agent onto a passenger aircraft like a B-747, quietly scatter the powder, and deplane at the regular scheduled stop. No airport detection system or search detects the agent. Some 70-80% of those on the aircraft die as a result of symptoms that only appear days later.
- Several identical nuclear devices are smuggled out of the FSU through Afghanistan or Central Asia. They do not pass directly through governments. One of the devices is disassembled to determine the precise technology and coding system used in the weapon's PAL. This allows users to activate the remaining weapons. The weapon is then disassembled to minimize detection with the fissile core shipped covered in lead. The weapon is successfully smuggled into the periphery of an urban area outside any formal security perimeter. A 100 kiloton ground burst destroys a critical area and blankets the region in fall out.
- The same device is shipped to Israel or a Gulf area in a modified standard shipping container equipped with detection and triggering devices that set it off as a result of local security checks or with a GPS system that sets it off automatically when it reaches the proper coordinates in the port of destination. The direct explosive effect is significant, but "rain out" contaminates a massive local area.
- Country X equips a freighter or dhow to spread Anthrax along a coastal area in the Gulf. It uses a proxy terrorist group, and launches an attack on Kuwait City and Saudi oil facilities and ports. It is several days before the attack is detected, and the attacking group is never fully identified. The form of Anthrax involved is dry and time encapsulated to lead to both massive prompt casualties and force time-consuming decontamination. Country X not only is revenged, but also benefits from the resulting massive surge in oil prices.
- A Country X-backed terrorist group scatters small amounts of a biological or radiological agent in a Jewish area during critical stages of the final settlement talks. Near panic ensues, and a massive anti-Palestinian reaction follows. Israeli security then learns that the terrorist group has scattered small amounts of the same agent in cells in every sensitive Palestinian town and area, and the terrorist group announces that it has also stored some in politically sensitive mosques and shrines. Israeli security is forced to shut down all Palestinian movement and carry out intrusive searches in every politically sensitive area. Palestinian riots and exchanges of gunfire follow. The peace talks break down permanently.
- Country X equips dhows to spread Anthrax. The dhows enter the ports of Kuwait as commercial vessels — possibly with local or other Southern Gulf registrations and flags. It is several days before the attack is detected, and the resulting casualties include much of the population of Abu Dhabi and government of the UAE. The UAE breaks up as a result, no effective retaliation is possible, and Iran achieves near hegemony over Gulf oil policy.
- A Country X-backed terrorist group attempting to drive Western influence out of Saudi Arabia smuggles a large nuclear device into Al Hufuf on the edge of the Ghawar oil field. It develops a crude fall out model using local weather data which it confirms by sending out scouts with cellular phones. It waits for the ideal wind, detonates the devices, shuts down the world's largest exporting oil field, and causes the near collapse of Saudi Arabia.
- Alternatively, the same group takes advantage of the security measures the US has adopted in Saudi Arabia, and the comparative isolation of US military personnel. It waits for the proper wind pattern and allows the wind to carry a biological agent over a Saudi airfield with a large

US presence from an area outside the security perimeter. The US takes massive casualties and has no ability to predict the next attack. It largely withdraws from Saudi Arabia.

- A freighter carrying fertilizer enters a Middle Eastern port and docks. In fact, the freighter has mixed the fertilizer with a catalyst to create a massive explosion and also carries a large amount of a chemical, radiological, and/or biological agent. The resulting explosion destroys both the immediate target area and scatters the chemical or biological weapon over the area.
- A large terrorist device goes off in a populated, critical economic, or military assembly area — scattering mustard or nerve gas. Emergency teams rush in to deal with the chemical threat and the residents are evacuated. Only later does it become clear that the device also included a biological agent and that the response to this “cocktail” killed most emergency response personnel and the evacuation rushed the biological agent to a much wider area.

Intelligence and “Superterrorism”

In short, the risk of “superterrorism” forces intelligence to expand its coverage of proliferation to deal with the following additional issues:

- The role of covert warfare, proxy warfare, independent non-state actors.
- The dangers posed by the fact that the conventional military strength of the US and its allies creates a growing incentive for both proliferation and covert/indirect attack.
- The ability of both states and non-state actors to use CBRN weapons in a variety of new methods of attack.
- The risk that terrorist and extremist movements may develop or gain access to weapons of mass destruction.
- While many analysts focus on the nuclear worst case, chemical and biological weapons are easier to manufacture and obtain.
- Commercial technologies like cell phones, GPS navigation systems, advanced timers, and local weather models can greatly increase the effectiveness and lethality of covert and terrorist attacks.
 - What forms of superterrorism are possible that do not involve weapons of mass destruction?
 - Information warfare attacks on critical systems?
- Man-portable and light precision weapons attacks on critical facilities like power plants, water/desalination plants/grids, high-rise closed buildings and mall complexes?
- What form of arms control is relevant in dealing with covert, proxy, and terrorist attacks?
- Can a regime be established to monitor the possible use of CBRN and superterrorist weapons and attacks, limit the ability to conduct covert attacks, and identify the state or non-state attacker?
- What level of control on technology transfer is possible and relevant? To what extent can the flow of relevant technologies be controlled to either state or non-state actors.

Evolving Technology and the Need for New Forms of Intelligence and Net Technical Assessment

These intelligence challenges are bad enough, but they also are far from being the full story. Both intelligence and arms control tend to focus on the past and the present, rather than make net technical assessments of how the nature and technology of proliferation may change over the coming decade. Iraq, however, was an exception in that the UN sanctions following the Gulf War largely cut it off from the access to dual use and controlled technology available to other proliferators. Moreover, intrusive UNSCOM,

UNMOVIC, and IAEA inspection ensured that it could not easily change and modernize its path towards proliferation.

It is not possible to address all of the emerging technical challenges to intelligence in this report, but no discussion of such challenges can ignore the following developments – each of which will steadily complicate the problems the intelligence community faces:

Chemical Weapons

- The steady dissemination of civil and dual- use equipment that can be used to produce chemical weapons, ranging from insecticides to industrial chemicals.
- Dissemination of technology for advanced persistent nerve gases and fourth generation chemical weapons.
- Creation of civil production facilities with legitimate civil uses that can be rapidly or covertly converted to weapons production.
- Improved tunneling, excavation, and construction capabilities for the creation of underground or covert facilities.
- Dissemination of civil and dual-use environmental and safety equipment that can be used to better conceal trace activities that might reveal proliferation.
- Broad dissemination of satellite weather and other data that can be use to improve the employment of chemical weapons.

Biological Weapons

- The steady dissemination of civil and dual- use equipment that can be used to produce biological weapons, including large-scale biomedical facilities, pharmaceutical plants, fermentation facilities, etc.
- Dissemination of technology for genetic engineering.
- Better understanding in developing countries of methods of “tailoring” diseases to alter their level of infectivity, cycles of infection, and resistance to standard treatments.
- Creation of civil production facilities with legitimate civil uses that can be rapidly or covertly converted to weapons production.
- Improved tunneling, excavation, and construction capabilities for the creation of underground or covert facilities.
- Dissemination of civil and dual-use environmental and safety equipment that can be used to better conceal trace activities that might reveal proliferation and reduce the risk of biological contamination.
- Broad dissemination of satellite weather and other data that can be use to improve the employment of biological weapons.

Nuclear Weapons

- Major advances in computers and commercial or dual-use test equipment that can be used to design weapons and to carry out non-fissile tests and simulations, greatly reducing the need for the actual testing of fission and possibly boosted weapons.
- Dissemination of difficult to control components that can be adapted for triggering nuclear weapons and manufacturing high explosive lens.
- Dissemination of centrifuge technology and dual use materials, and advances in centrifuge designs providing steadily greater capacity.
- Option of creating small dispersed centrifuge facilities and small fold centrifuges.
- Better understanding in developing countries of the ability to use materials not normally classed as weapons grade materials to produce fissile events.
- Improved tunneling, excavation, and construction capabilities for the creation of underground or covert facilities.
- Dissemination of civil and dual-use environmental and safety equipment that can be used to better conceal trace activities that might reveal proliferation.

Delivery Systems

- Growing commercial availability of components for cruise missiles, UAVs, and aircraft conversions.
- Growing availability of GPS and other civilian-use components that can be used to provide guidance systems.
- Dissemination of civilian technology that can be used to detonate weapons automatically at a given location while in transit.
- Better understanding in developing countries of transmission methods for the use of infectious biological weapons.
- Production of conventional explosive bomblets that can be adapted to disseminate chemical and biological agents.
- Civil production of items that can be used as non-destructive dissemination devices – like sprayers and air bags.

Lessons for the Future

If the US, Britain, and the world are to come to grips with the problem of proliferation, they are going to have to do a much better job of coming to grips with the problem of intelligence. This is vital for arms control, diplomacy, and military planning. It is also vital to developing coalitions that can deal with the emerging problems of new technologies and terrorism. In many cases, however, the intelligence challenges outlined earlier cannot be solved with today's collection and analysis methods, and require honest portrayals of high levels of uncertainty.

Improving collection, strengthening the analytic effort, and improving intelligence management and quality control can solve part of the problem. In the future, it may be possible to couple improvements in human intelligence with new technical aids in terms

of improved satellites, UAVs, and unmanned sensors – although many of the technologies involved make far more promises than seem credible either technically or in terms of cost effectiveness. Nothing, however, can substitute for honesty in admitting what intelligence can and cannot do. This honesty is equally critical at the policy level and particularly in admitting the limits to the inspection and verification of arms control agreements and the ability to conduct military options. The fact is that proliferation is a duel where the proliferators has certain advantages that neither improved intelligence nor improved arms control inspections can credibly overcome, and the world must learn to live with uncertainty.

The US and Britain must also frankly and honestly address the credibility problems that have grown out of the assessments they issued before the war with Iraq. The end result so far of the entire intelligence and search effort relating to Iraqi weapons of mass destruction has so far been to strengthen those who argued against the war and who have since sought to discredit or block a Coalition-led nation-building effort. It also threatens to become a specter that will haunt any future U.S. and allied efforts to deal with the threat of proliferation, particularly in winning domestic and international political support for military or preemptive action.

The solution to some extent is to admit the scale of problems that exist in the collection and analytic effort and then make major efforts to reduce them. It is also to lay the groundwork for any future action in a crisis by systematically educating decisionmakers, the media, and the public about the inevitable level of uncertainty in such assessments; this can be done through a series of classified and unclassified intelligence products that are as detailed and objective as possible. Credibility and understanding have to be created over a period of years, not in a crisis. Moreover, the United States and Britain need to understand that the Iraq War has left a heritage of distrust that must be overcome.

As for the US, a preemptive strategy can never be rejected, but it will always have major real world limitations. The key argument for preemptive attack must be that it is in fact preemptive and that the potential threat is real enough to justify a major war. Legalistic arguments over whether threats must be imminent may have only secondary value in the real world. The need to unambiguously resolve the kind of uncertainties that surrounded the Iraqi effort in weapons of mass destruction in both the Gulf War and Iraq War is a critical national priority, however. So is the need to examine far more intrusive methods of data gathering, such as unattended ground sensors. If the choice is between infractions of national sovereignty, on the one hand, and war or unacceptable risks on the other, aggressive intelligence gathering and infractions of national sovereignty are by far the better course,

There are two important corollaries of this lesson. The first is that unless intelligence can be improved and made far more accurate and reliable than now seems credible, the United States, Britain, and other nations must rely on both operational and national defense and response capabilities. Missile defense is only one of these capabilities and currently may have limited cost-effectiveness. The fact the United States could never characterize Iraqi links to terrorism or Iraq's ability to make covert use of weapons like smallpox is a warning that defense and response must look at the full range of threats and possible asymmetric attacks.

The second corollary is that the problems involved go far beyond warfighting and do indeed affect every aspect of arms control. Over a decade of the most intrusive international inspection of a country in history also failed to characterize its efforts in weapons of mass destruction and delivery systems, and failed to disarm it. It is easy to focus on the fact that the United States and Britain may have exaggerated the threat and miss the point,

The United Nations accomplished a great deal, and the work of the IAEA, UNSCOM, and UNMOVIC merits the world's gratitude and respect. What could be done was done. Nevertheless, an intensive international arms control effort by UNSCOM, the IAEA, and UNMOVIC -- using better means of inspection and arms control to deal with Iraq than now cover any other nation in the world -- was still inadequate. This is a grim warning that major improvements are needed in the scope, intrusiveness, technology, and intelligence support provided for international arms control efforts if they are to be effective, and if they are ever to be an effective substitute for preemptive or other military action.

¹ Many of the comments made in this section are based on interviews with U.S., British, and Australian officials, officers, and experts after the war, and the author's prior experience in analyzing proliferation. There are many useful press reports that have emerged since the war. In addition to those referenced later in this chapter, these include Warren P. Strobel and John Walcott, "CIA Lack Info To Counter Claims About Iraqi Weapons," *Miami Herald*, June 3, 2003; James Risen, "Word that US Doubted Iraq Would Use Gas," *New York Times*, June 18, 2003; Bruce Auster, Mark Mazetti, and Edward Pound, "Truth and Consequences," *U.S. News and World Report*, June 9, 2003; Evan Thomas, Richard Wolffe, and Michael Isikoff, "Where are Iraq's WMDs?" *Newsweek*, June 9, 2003; Michael Duffy, "Weapons of Mass Disappearance," *Time*, June 9, 2003; James Risen, "Iraq Arms Report Now the Subject of A CIA review," *New York Times*, June 4, 2003; Maggie Farley, "Blix's Final Words to Security Council are Words of Caution," *Los Angeles Times*, June 6, 2003; Tony Capaccio, "Pentagon 2002 Study Reported No Reliable Data on Iraq Weapons," *Bloomberg.com*, June 6, 2003;

² For an interesting discussion of the problems in assessing dual-use facilities in Iraq, see Walter Pincus, "Weapons Linked to Dual Use Facilities in Iraq," *Washington Post*, June 2, 2003.

³ For some additional data on this aspect of these assessments made of Iraq, see Bill Gertz, "Iraqi Group Aid CIA Intelligence," *Washington Times*, June 12, 2003; John Diamond, "Broad Purges Wiped Out Most Iraqis Helping CIA," *USA Today*, June 17, 2003; John Diamond, "Weak Spy Network Hurt Hunt for Arms," *USA Today*, June 17, 2003.

⁴ Earlier unclassified CIA reports on problems like the ballistic missile threat often projected alternative levels of current and future capability. The qualifications and possible futures are far less well defined in more recent reports. For example, see CIA, *Unclassified Summary of a National Intelligence Estimate, Foreign Missile Developments and the Ballistic Missile Threat Through 2015*, National Intelligence Council, December 2001, http://www.cia.gov/nic/pubs/other_products/Unclassifiedballisticmissilefinal.htm.

⁵ There is no way to determine just how much the Special Plans Office team set up within the office of the Secretary of Defense to analyze the threat in Iraq was designed to produce a given conclusion or politicized intelligence. The Department has denied this, and stated that the team created within its policy office was not working Iraqi per se, but on global terrorist interconnections. It also stated that the Special Plans Office was never tied to the Intelligence Collection Program—a program to debrief Iraqi defectors—and relied on CIA inputs for its analysis. It states that simply conducted a review, presented its findings in August 2002, and its members returned to other duties. See Jim Garamone, "Policy Chief Seeks to Clear Intelligence Record," *American Forces Information Service*, June 3, 2003; and Briefing on policy and intelligence matters, Douglas J. Feith, under secretary of defense for policy, and William J. Luti, deputy under secretary of defense for special plans and Near East and South Asian affairs, June 4, 2003, <http://www.defenselink.mil/transcripts/2003/tr20030604-0248.html>.

Some intelligence experts dispute this view, however, and claim the team's effort was used to put pressure on the intelligence community. Such "B-teams" also have a mixed history. They did help identify an intelligence community tendency to underestimate Soviet strategic nuclear efforts during the Cold War. The threat analysis of missile threats posed to the United States by the "Rumsfeld Commission," however, was a heavily one-sided assessment designed to justify national missile defense. Also see Greg Miller, "Pentagon Defends Role of Intelligence Unit on Iraq," *Los Angeles Times*, June 5, 2003; and David S. Cloud, "The Case for War Relied on Selective Intelligence," *Wall Street Journal*, June 5, 2003..

⁶ Some press sources cite what they claim is a deliberate effort to ignore a September 2002 DIA report on Iraqi chemical weapons capabilities called "Iraq-Key WMD Facilities-An Operational Support Study." See James Risen, "Word that US Doubted Iraq Would Use Gas," *New York Times*, June 18, 2003 and Tony Capaccio, "Pentagon 2002 Study Reported No Reliable Data on Iraq Weapons," *USA Today*, June 6, 2003.

In fact, the unclassified excerpts from the DIA report, show that DIA was not stating that Iraq did not have chemical weapons, but rather that it had, "No reliable information on whether Iraq is producing and stockpiling chemical weapons, or where Iraq has—or will—establish its chemical weapons facilities." The report went on to say that, "although we lack any direct information, Iraq probably possess CW agent in chemical munitions, possibly include artillery rockets, artillery shells, aerial bombs, and ballistic missile

warheads. Baghdad also probably possess bulk chemical stockpiles, primarily containing precursors, but that also could consist of some mustard agent of stabilized VX.”

If anything, the report is a classic example of what happens when intelligence reports do state uncertainty and of how the user misreads or misuses the result.

⁷ See Felicity Barringer, “UN Inspectors Say Baghdad Never Resolved Arms Issues,” *New York Times*, June 3, 2003; Maggie Farley, “Blix’s Final Words top Security Council on Iraq are of Caution,” *Los Angeles Times*, June 6, 2003; Bob Drogan, “UN Nuclear Experts Back In Iraq,” *Los Angeles Times*, June 6, 2003; “UN Nuclear Team Heads for Iraq,” BBC News, June 4, 2003, 0943 GMT.

⁸ Rolf Ekeus, “Iraq’s Real Weapons Threat,” *Washington Post*, June 29, 2003, p. B7. For the full text of the report, see the thirteenth report of the Executive Chairman of the UN Monitoring, Verification, and Inspection Commission, S/2003/580, May 30, 2003.

⁹ In addition to the previous sources, see James Risen, CIA Studying Prewar Reports on Iraqi Threat,” *New York Times*, May 22, 2003, p. 1; Walter Pincus, “Officials Defend Iraq Intelligence,” *Washington Post*, June 9, 2003; Walter Strobel and John Walcott, “CIA Lacked Info To Counter Claims About Iraq Weapons,” *Miami Herald*, June 3, 2003; David S. Cloud, “Case for War Relied on Selective Intelligence,” *Wall Street Journal*, June 5, 2003; James Risen, “Iraq Arms Report Now the Subject of A CIA Review,” *New York Times*, June 4, 2003; Dan Plesch and Richard Norton Taylor, “Straw, Powell Has Serious Doubts Over Their Iraqi Weapons Claims,” *The Guardian*, May 31, 2003; Julian Borger, “The Spires Who Pushed for War,” *The Guardian*, July 17, 2003; Glenn Frankel, “Blair Accused of Exaggerating Claims About Iraqi Weapons,” *Washington Post*, May 30, 2003; John Diamond, “Uranium Reports Doubted Early On,” *USA Today*, June 13, 2003; Walter Pincus, “CIA Says It Cabled Key Data to White House,” *Washington Post*, June 13, 2003; Walter Pincus, “Bush Recantation of Iraq Claim Stirs Calls for Probes,” *Washington Post*, July 9, 2003; Dana Milbank and Mike Allen, “Bush Skirts Queries on Iraq Nuclear Allegation,” *Washington Post*, July 10, 2003; Walter Pincus, “Tenet Says He Didn’t Know About Claim,” *Washington Post*, July 17, 2003.

¹⁰ In addition to the previous sources, see Walter Pincus and Dana Priest, “Analysts Cite Pressure on Iraq Judgments,” *Washington Post*, June 5, 2003; and Warren P. Strobel and John Walcott, “CIA lacked Info to Counter Claims About Iraqi Weapons,” *Miami Herald*, June 3, 2003.

¹¹ Bill Gertz, “Iraqi Group Aided CIA Intelligence,” *Washington Times*, June 12, 2003; Warren Hoge, “Iraq Report Mishandled, Blair Aide Concedes in Letter,” *New York Times*, June 9, 2003; Mark Huban and Mark Turner, “Evidence About Iraqi Uranium Not Fake,” *London Financial Times*, June 6, 2003, p. 3; Walter Pincus, “Officials Defend Iraq Intelligence,” *Washington Post*, June 9, 2003; Andrew Sparrow and Benedict Brogan, “Blair: I have Weapons Proof,” *London Daily Telegraph*, June 2, 2003; Glenn Frankel, “Blair Accused of Exaggerating Claims About Iraqi Weapons,” *Washington Post*, May 30, 2003; John Diamond, “Uranium Reports Doubted Early On,” *USA Today*, June 13, 2003; Walter Pincus, “CIA Says It Cabled Key Data to White House,” *Washington Post*, June 13, 2003; Walter Pincus, “Bush Recantation of Iraq Claim Stirs Calls for Probes,” *Washington Post*, July 9, 2003; Dana Milbank and Mike Allen, “Bush Skirts Queries on Iraq Nuclear Allegation,” *Washington Post*, July 10, 2003; Walter Pincus, “Tenet Says He Didn’t Know About Claim,” *Washington Post*, July 17, 2003.

¹² Glenn Frankel, “Allies Didn’t Share All Intelligence on Iraq,” *Washington Post*, July 17, 2003; Mike Allen and Jim Vandhei, “Uranium Flap Dims Brief Visit by Blair,” *Washington Post*, July 17, 2003.

¹³ “Serving Officer was 45-Minute claim Source,” *Times On Line*, June 15, 2003.

¹⁴ Statement by Senator Carl Levin Regarding Iraq Intelligence, Office of Senator Carl Levin, July 15, 2003, Tara_Andringa@levin.senate.gov

¹⁵ For the full details, see House of Commons Foreign Affairs Committee, the Decision to Go to War in Iraq,” Ninth Report of Session 2003-03, House of Commons, London, July 3, 2003.

¹⁶ House of Commons Foreign Affairs Committee, the Decision to Go to War in Iraq,” Ninth Report of Session 2003-03, House of Commons, London, July 3, 2003.

¹⁷ House of Commons Foreign Affairs Committee, the Decision to Go to War in Iraq,” Ninth Report of Session 2003-03, House of Commons, London, July 3, 2003.

¹⁸ House of Commons Foreign Affairs Committee, the Decision to Go to War in Iraq,” Ninth Report of Session 2003-03, House of Commons, London, July 3, 2003.

¹⁹ John Hendren, “Weapons Reports Called Lacking,” *Los Angeles Times*, June 26, 2003.

²⁰ Lt. Gen. James Conway, commander, First Marine Expeditionary Force, “Live Briefing From Iraq, May 30, 2003, <http://www.defenselink.mil/transcripts/2003/tr20030530-0229.ht>.

²¹ For example, see Seymour M. Hersh, "Annals of National Security: Selective Intelligence," *New Yorker*, May 12, 2003.

²² Barton Gellman, "Frustrated, U.S. Arms Team to Leave Iraq: Task Force Unable To Find Any Weapons," *Washington Post*, May 11, 2003, p. A1.

²³ Bob Drogan, "New Hunt for Iraqi Arms Resembles Old," *Los Angeles Times*, June 18, 2003.

²⁴ William J. Broad, "U.S. Civilian Experts Say Bureaucracy and Infighting Jeopardize Search for Weapons," *New York Times*, April 16th, 2003; Dan Morse, "U.S. Troops Go House to House in Search of Chemical Weapons," *Wall Street Journal*, April 16, 2003; Judith Miller, "U.S. Inspectors Find No Forbidden Weapons at Iraqi Arms Plants," *New York Times*, April 16, 2003

²⁵ Barton Gellman, "Covert Unit Hunted for Iraqi Arms," *Washington Post*, June 13, 2003;

²⁶ John J. Fialka, "U.S. Readies A Different Army to Search for Weapons in Iraq," *Wall Street Journal*, April 17, 2003,

²⁷ Barton Gellman, "Frustrated, U.S. Arms Team to Leave Iraq: Task Force Unable To Find Any Weapons," *Washington Post*, May 11, 2003, p. A1.

²⁸ See Seymour M. Hersh, "Annals of National Security: Selective Intelligence," *New Yorker*, May 12, 2003, and Barton Gellman, "Frustrated, U.S. Arms Team to Leave Iraq: Task Force Unable To Find Any Weapons," *Washington Post*, May 11, 2003, p. A1.

²⁹ "Briefing on the Iraq Survey Group," Stephen A. Cambone, under secretary of defense for intelligence, and Army Maj. Gen. Keith W. Dayton, director for operations, Defense Intelligence Agency, May 30, <http://www.defenselink.mil/transcripts/2003/tr20030530-0231.html>.

³⁰ Seymour M. Hersh, "Annals of National Security: Selective Intelligence," *New Yorker*, May 12, 2003. The best reporting on the issue at this writing, however, can be found in Barton Gellman, "Frustrated, U.S. Arms Team to Leave Iraq: Task Force Unable To Find Any Weapons," *Washington Post*, May 11, 2003, p. A1.

³¹ Bill Nichols, "Weapons Search Could Take Years," *USA Today*, May 16, 2003, p. 1; Judith Miller, "Radioactive Material Found at Test Site Near Baghdad," *New York Times*, May 12, 2003; Barton Gellman, "Seven Nuclear Sites Looted," *Washington Post*, May 10, 2003, p. 1.

³² Bob Drogan, "UN Nuclear Experts Back In Iraq," *Los Angeles Times*, June 6, 2003; "UN Nuclear Team Heads for Iraq," BBC News, June 4, 2003, 0943 GMT; Bob Drogan, "New Hunt for Iraqi Arms Resembles Old," *Los Angeles Times*, June 18, 2003. The U.S. Department of Defense spokesman explained the role of the IAEA by stating that, "The purpose of the inspection is to inventory and assess the condition of the material that is under IAEA safeguards at the Baghdad yellow-cake storage facility. The material at this facility includes approximately 500 metric tons of safeguarded uranium and several non-fissile radioisotope sources that are not under IAEA safeguards. The uranium is mostly in the form of yellow cake, an isotopically natural form that is an impure oxide. There is a small quantity of low-enriched and depleted uranium. Typically, the IAEA would conduct an NPT safeguards inspection at this location annually. The last inspection was conducted in December of 2002. Given the changed circumstances, the United States has determined it would be helpful to have the IAEA reinventory this location. I would like to underscore, though, that this is a cooperative effort. The coalition will be providing necessary transportation, security and other minimal logistics to the team, which will consist of seven IAEA experts. The safeguards activity will be led by the IAEA under the protection and auspices of coalition forces. To ensure safety and protection, coalition forces will accompany the IAEA at all times. Coalition nuclear experts will also participate in the inspection and the inventory. Upon completion of the inventory, the IAEA will repackage the material as necessary, reseal all safeguarded rooms, buildings and containers as appropriate, and the coalition will, as appropriate, assist in this effort. I want to note that this access to the IAEA is not an IAEA inspection pursuant to the U.N. Security Council resolutions and does not set any precedent for future IAEA involvement in Iraq in any disarmament or UNSCR-related activity. And lastly, we expect that the IAEA will share their findings with us as we work cooperatively on this effort." U.S. Department of Defense spokesman explained the looting problem as follows: "Tuwaitha, as has been stated earlier, is about a 23,000-acre facility that's about 20 kilometers to the southeast of Baghdad. And Site Charlie, where radiological materials, principally yellow cake were stored, consists of three buildings, and they're surrounded by a fence and a wall of concrete barriers about 12 feet tall on three sides. According to reports from civilians in the area, on or about the 10th of March, Iraqi army forces who were guarding the site reportedly left their weapons—some of their weapons with the local civilians—and abandoned the site. We also believe, from talking to the local civilians, that on or about 20 March, the 20th of March, the civilians

guarding the site abandoned it also. And, of course, we were conducting our attack across the Kuwaiti border on the 21st. On the 7th of April, U.S. Marines from our land component first arrived at Tuwaitha Site Charlie and assumed the security, and remained there until the 20th of April, when they turned over control of the facility to U.S. Army soldiers from another unit. And Tuwaitha Site Charlie has been secured and under the positive control of U.S. forces since the 7th of April. When the U.S. forces first arrived, they found the Tuwaitha site facility, Tuwaitha Charlie facility, in disarray. The front gate was open and unsecured, and the fence line and barrier wall on the back side of the facility had been breached. And the troops reported that there were no seals on the exterior doors of the buildings. But since taking control of Tuwaitha Site Charlie, no thieves or looters have been allowed inside the facility. We have taken several positive steps to try to mitigate any risks from Tuwaitha Charlie to either the soldiers or the population in the surrounding area or to the environment. And I'll list of a couple of those. Between the 8th and 10th of April, a team conducted an initial survey outside the buildings at Tuwaitha Charlie, and they determined that additional exploitation was required beyond their capability. And so the exploitation task force, the folks responsible for that operation, decided to keep the security at the site and to deny access to anyone except properly trained personnel. On the 18th of April, some Iraqi scientists from the Iraqi Atomic Energy Commission, who had worked at the facility, were allowed in to check the site and to mitigate any radiological hazards within their capability. And they moved some sources into a building from the concrete outside. On the 12th of May, our Threat Reduction Agency personnel arrived in Iraq and began planning for its operation at Tuwaitha Charlie. And between the 15th and 20th of May, our task force disablement and elimination team conducted its technical assessment and an inventory of what was there. And from what we know at this time, the quantity of materials we have found at the site exceeds the quantity of materials that we had assessed would be present at the site. On the 18th of May, a direct support team teamed up with the Coalition Provisional Authority personnel and some additional people from IAEC, the Iraqi Atomic Energy Commission, and they decided to conduct a buy-back operation because the troops were starting to hear stories that some of the barrels—there were barrels in the local community that resembled those that were at the site. The team went to two villages and offered to pay \$3 a piece for any items that may have come from the facility, and they pointed out what these items might look like. The team recovered over 100 barrels of various sizes and shapes and condition, as well as five radioactive sources and some other items. But virtually none of the people admitted to having taken the items from the facility. They said they had bought them. And indeed, barrels like these are ubiquitous around Iraq. And although there are some similar containers available in markets—and the same type barrels are sometimes found in people's homes. The team checked the items for radioactivity and also checked the people to reassure them. None of the people registered any radiation above normal background levels. And these barrels of various sizes and shapes and colors—none of them registered more than background level or slightly above normal background radiation. They then transported the items to Tuwaitha Charlie and secured them. And so, there's no way to tell at this point if they came from Tuwaitha, but they were taken back there just in case, for safety. The technical assessment also determined that outside the fence line at Tuwaitha Charlie, there was negligible risk to the soldiers guarding the site and to the population within a wide area out to a kilometer from the fence line. But the site had apparently been looted before U.S. soldiers arrived. Uranium materials and some other stored materials had been dumped on the floor in places, and in one building, there were a number of radiological sources scattered around the floor. Radiological readings measured only background levels out at the fence line, and readings at the buildings and inside were somewhere between two and 10 times background readings—background readings. We've been conducting weekly meetings with the Iraqi Atomic Energy Commission, with our coalition forces experts and with the Coalition Provisional Authority experts to continue the way ahead in a joint manner. We've developed a plan and objectives for improvement of the site. This week, the Center for Health Promotion and Preventive Medicine, commonly called CHPPM, arrives from the United States. And they'll conduct a risk assessment on the soldiers and Marines who were there and those who are still there. And the purpose of that is to reassure those soldiers and Marines, but also to determine what, if any, risks they might have occurred—incurred, rather, from being at—near the site. Together with the Iraqi Atomic Energy Commission and the Iraqi Ministry of Health, CHPPM will also help to conduct a wider search and a health risk assessment of the surrounding civilian area, out to about five kilometers. Iraqi scientists and physicians began that work this week by conducting an initial assessment and a census of those people out there. We also formed a joint team with the Iraqi experts and repaired and sealed the buildings as a further measure of safety, so that even if the weather changed to something severe that we hadn't expected, the

buildings would still be secure. We've also recruited a 100-man Iraqi guard force. And we're in the process of training them so that once they meet standards, they'll eventually take over the security. And of course, IAEA arrives in Baghdad this weekend to begin its work. And that's about all I have for opening comments." (Senior Defense Official, "Background briefing on the upcoming IAEA nuclear safeguards inspection and the Tuwaitha Nuclear Facility in Iraq," June 5, 2003, <http://www.defenselink.mil/transcripts/2003/tr20030605-0250.html>.)

³³ Judy Keen, "U.S.: Weapon Search has Barely Begun," *USA Today*, June 20, 2003.

³⁴ STATEMENT BY DAVID KAY ON THE INTERIM PROGRESS REPORT ON THE ACTIVITIES OF THE IRAQ SURVEY GROUP (ISG) BEFORE THE HOUSE PERMANENT SELECT COMMITTEE ON INTELLIGENCE, THE HOUSE COMMITTEE ON APPROPRIATIONS, SUBCOMMITTEE ON DEFENSE, AND THE SENATE SELECT COMMITTEE ON INTELLIGENCE. October 2, 2003; http://www.cia.gov/cia/public_affairs/speeches/2003/david_kay_10022003.html.

³⁵ See William J. Broad, "US, In Assessment, Terms Trailers Germ Laboratories," *New York Times*, May 29, 2003.

The CIA summarized the importance of this discovery as follows in a report on Iraqi Mobile Biological Warfare Agent Production Plants dated May 28, 2003 (http://www.cia.gov/cia/reports/iraqi_mobile_plants/index.html)

"Coalition forces have uncovered the strongest evidence to date that Iraq was hiding a biological warfare program.

- Kurdish forces in late April 2003 took into custody a specialized tractor-trailer near Mosul and subsequently turned it over to U.S. military control.
- The U.S. military discovered a second mobile facility equipped to produce BW agent in early May at the al-Kindi Research, Testing, Development, and Engineering facility in Mosul. Although this second trailer appears to have been looted, the remaining equipment, including the fermentor, is in a configuration similar to the first plant.
- U.S. forces in late April also discovered a mobile laboratory truck in Baghdad. The truck is a toxicology laboratory from the 1980s that could be used to support BW or legitimate research.

The design, equipment, and layout of the trailer found in late April is strikingly similar to descriptions provided by a source who was a chemical engineer that managed one of the mobile plants. Secretary of State Powell's description of the mobile plants in his speech in February 2003 to the United Nations (see inset below) was based primarily on reporting from this source.

Secretary Powell's speech to the UN in February 2003 detailed Iraq's mobile BW program, and was primarily based on information from a source who was a chemical engineer that managed one of the mobile plants.

- Iraq's mobile BW program began in the mid-1990s—this is reportedly when the units were being designed.
- Iraq manufactured mobile trailers and railcars to produce biological agents, which were designed to evade UN weapons inspectors. Agent production reportedly occurred Thursday night through Friday when the UN did not conduct inspections in observance of the Muslim holy day.
- An accident occurred in 1998 during a production run, which killed 12 technicians—an indication that Iraq was producing a BW agent at that time.

Analysis of the trailers reveals that they probably are second- or possibly third-generation designs of the plants described by the source. The newer version includes system improvements, such as cooling units, apparently engineered to solve production problems described by the source that were encountered with the older design. The manufacturer's plates on the fermentors list production dates of 2002 and 2003—suggesting Iraq continued to produce these units as late as this year.

The source reported to us that Iraq in 1995 planned to construct seven sets of mobile production plants—six on semitrailers and one on railroad cars—to conceal BW agent production while appearing to cooperate with UN inspectors. Some of this information was corroborated by another source.

- One of the semitrailer plants reportedly produced BW agents as early as July 1997.
- The design for a more concealable and efficient two-trailer system was reportedly completed in May 1998 to compensate for difficulties in operating the original, three-trailer plant.

- Iraq employed extensive denial and deception in this program, including disguising from its own workers the production process, equipment, and BW agents produced in the trailers.

Examination of the trailers reveals that all of the equipment is permanently installed and interconnected, creating an ingeniously simple, self-contained bioprocessing system. Although the equipment on the trailer found in April 2003 was partially damaged by looters, it includes a fermentor capable of producing biological agents and support equipment such as water supply tanks, an air compressor, a water chiller, and a system for collecting exhaust gases.

The trailers probably are part of a two- or possibly three-trailer unit. Both trailers we have found probably are designed to produce BW agent in unconcentrated liquid slurry. The missing trailer or trailers from one complete unit would be equipped for growth media preparation and postharvest processing and, we would expect, have equipment such as mixing tanks, centrifuges, and spray dryers.

These other units that we have not yet found would be needed to prepare and sterilize the media and to concentrate and possibly dry the agent, before the agent is ready for introduction into a delivery system, such as bulk-filled munitions. Before the Gulf war, Iraq bulk filled missile and rocket warheads, aerial bombs, artillery shells, and spray tanks.

The majority of our information on Iraq's mobile program was obtained from a chemical engineer that managed one of the plants. Three other sources, however, corroborated information related to the mobile BW project. The second source was a civil engineer who reported on the existence of at least one truck-transportable facility in December 2000 at the Karbala ammunition depot. The third source reported in 2002 that Iraq had manufactured mobile systems for the production of single-cell protein on trailers and railcars but admitted that they could be used for BW agent production. The fourth source, a defector from the Iraq Intelligence Service, reported that Baghdad manufactured mobile facilities that we assess could be used for the research of BW agents, vice production.

Our analysis of the mobile production plant found in April indicates the layout and equipment are consistent with information provided by the chemical engineer, who has direct knowledge of Iraq's mobile BW program. The source recognized pictures of this trailer, among photographs of unrelated equipment, as a mobile BW production plant similar to the one that he managed, even pointing out specific pieces of equipment that were installed on his unit.

Common elements between the source's description and the trailers include a control panel, fermentor, water tank, holding tank, and two sets of gas cylinders. One set of gas cylinders was reported to provide clean gases—oxygen and nitrogen—for production, and the other set captured exhaust gases, concealing signatures of BW agent production.

The discovered trailers also incorporate air-stirred fermentors, which the source reported were part of the second-generation plant design. Externally, the trailers have a ribbed superstructure to support a canvas covering that matches the source's description. Data plates on the fermentors indicate that they were manufactured at the same plant the source said manufactured equipment for the first generation of mobile plants. The plant also was involved in the production of equipment used in Iraq's pre-Gulf war BW program.

Employees of the facility that produced the mobile production plants' fermentor revealed that seven fermentors were produced in 1997, one in 2002 and one in 2003. The seven fermentors appear to corroborate the source's reporting that Iraq in the mid-1990s planned to produce seven mobile production plants. The two fermentors produced in 2002 and 2003 reportedly were sent to the al-Kindi Research, Testing, Development, and Engineering facility in Mosul—the site where the second trailer was found—and probably are the fermentors found on the trailers in U.S. custody.

There are a few inconsistencies between the source's reporting and the trailers, which probably reflect design improvements. The original plants were reported to be mounted on flatbed trailers reinforced by nickel-plate flooring and equipped with hydraulic support legs. The discovered plants are mounted on heavy equipment transporters intended to carry army tanks, obviating the need for reinforced floors and hydraulic legs. The trailers have a cooling unit not included in the original plant design, probably to solve overheating problems during the summer months as described by the source. The original design had 18 pumps, but the source mentioned an effort to reduce the number to four in the new design. The trailer discovered in late April has three pumps.

Coalition experts on fermentation and systems engineering examined the trailer found in late April and have been unable to identify any legitimate industrial use—such as water purification, mobile medical laboratory, vaccine or pharmaceutical production—that would justify the effort and expense of a

mobile production capability. We have investigated what other industrial processes may require such equipment—a fermentor, refrigeration, and a gas capture system—and agree with the experts that BW agent production is the only consistent, logical purpose for these vehicles.

The capability of the system to capture and compress exhaust gases produced during fermentation is not required for legitimate biological processes and strongly indicates attempts to conceal production activity. The presence of caustic in the fermentor combined with the recent painting of the plant may indicate an attempt to decontaminate and conceal the plant's purpose. Finally, the data plate on the fermentor indicates that this system was manufactured in 2002 and yet it was not declared to the United Nations, as required by Security Council Resolutions.

Some coalition analysts assess that the trailer found in late April could be used for bioproduction but believe it may be a newer prototype because the layout is not entirely identical to what the source described.

A *New York Times* article on 13 May 2003 reported that an agricultural expert suggests the trailers might have been intended to produce biopesticides near agricultural areas in order to avoid degradation problems. The same article also reported that a former weapons inspector suggests that the trailers may be chemical-processing units intended to refurbish Iraq's anti-aircraft missiles.

Biopesticide production requires the same equipment and technology used for BW agent production; however, the off-gas collection system and the size of the equipment are unnecessary for biopesticide production. There is no need to produce biopesticides near the point of use because biopesticides do not degrade as quickly as most BW agents and would be more economically produced at a large fixed facility. In addition, the color of the trailer found in mid-April is indicative of military rather than civilian use.

Our missile experts have no explanation for how such a trailer could function to refurbish anti-aircraft missiles and judge that such a use is unlikely based on the scale, configuration, and assessed function of the equipment. The experts cited in the editorial are not on the scene and probably do not have complete access to information about the trailers.

Senior Iraqi officials of the al-Kindi Research, Testing, Development, and Engineering facility in Mosul were shown pictures of the mobile production trailers, and they claimed that the trailers were used to chemically produce hydrogen for artillery weather balloons. Hydrogen production would be a plausible cover story for the mobile production units.

The Iraqis have used sophisticated denial and deception methods that include the use of cover stories that are designed to work. Some of the features of the trailer—a gas collection system and the presence of caustic—are consistent with both bioproduction and hydrogen production.

The plant's design possibly could be used to produce hydrogen using a chemical reaction, but it would be inefficient. The capacity of this trailer is larger than typical units for hydrogen production for weather balloons. Compact, transportable hydrogen generation systems are commercially available, safe, and reliable.

We continue to examine the trailer found in mid-April and are using advanced sample analysis techniques to determine whether BW agent is present, although we do not expect samples to show the presence of BW agent. We suspect that the Iraqis thoroughly decontaminated the vehicle to remove evidence of BW agent production. Despite the lack of confirmatory samples, we nevertheless are confident that this trailer is a mobile BW production plant because of the source's description, equipment, and design.

- The initial set of samples, now in the United States, was taken from sludge from inside the fermentor, liquid that was in the system and wipes from the equipment. A sample set also was provided to a coalition partner for detailed laboratory analysis.
- As we expected, preliminary sample analysis results are negative for five standard BW agents, including *Bacillus anthracis*, and for growth media for those agents. In addition, the preliminary results indicate the presence of sodium azide and urea, which do not support Iraqi claims that the trailer was for hydrogen production.
- Additional sample analysis is being conducted to identify growth media, agent degradation products, and decontamination chemicals that could be specific for BW agents, as well as to identify a chemical associated with hydrogen production.

Although individuals often interchangeably use the terms production plant and laboratory, they have distinct meanings. The mobile production plants are designed for batch production of biological material and not for laboratory analysis of samples. A truck-mounted mobile laboratory would be equipped for analysis and small-scale laboratory activities. U.S. forces discovered one such laboratory in late April.

The mobile laboratory—installed in a box-bodied truck—is equipped with standard, dual-use laboratory equipment, including autoclaves, an incubator, centrifuges, and laboratory test tubes and glassware. These laboratories could be used to support a mobile BW production plant but serve legitimate functions that are applicable to public health and environmental monitoring, such as water-quality sampling.”

One Iraqi defector has made claims of a much more serious ongoing biological weapons effort, but these have not been validated. See Bob Drogin, “Iraq Had Secret Labs, Officer Says,” *Los Angeles Times*, June 8, 2003.

The CIA issued the following statement on the discovery of the centrifuge on June 26, 2003 (http://www.cia.gov/cia/wmd/iraqi_centrifuge_equipment.htm):

- The head of Iraq’s pre-1991 centrifuge uranium enrichment program, Dr. Mahdi Shukur Ubaydi, approached U.S. officials in Baghdad and turned over a volume of centrifuge documents and components he had hidden in his garden from inspectors since 1991. Dr. Ubaydi said he was interviewed by IAEA inspectors—most recently in 2002—but did not reveal any of this.
- Dr. Ubaydi told us that these items, blue prints and key centrifuge pieces, represented a complete template for what would be needed to rebuild a centrifuge uranium enrichment program. He also claimed this concealment was part of a secret, high-level plan to reconstitute the nuclear weapons program once sanctions ended.
- This case illustrates the extreme challenge we face in Iraq as we search for evidence of WMD programs that were designed to elude detection by international inspectors.
- We are working with Dr. Ubaydi to evaluate the equipment and documents he provided us.
- We are hopeful that Dr. Ubaydi’s example will encourage other Iraqis with knowledge of Saddam’s WMD programs to come forward.

³⁶ Joby Warrick, “Iraqi Scientist Turns Over Nuclear Plans, Parts,” *Washington Post*, June 26, 2003, p. 14.

³⁷ Douglas Jehl, “Agency Disputes View of Trailers as Labs,” *New York Times*, June 26, 2003.

³⁸ CIA, *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, 1 January Through 30 June 2003*, November 2003, <http://www.cia.gov/cia/reports/index.html>.

³⁹ CIA, *Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, 1 January Through 30 June 2003*, November 2003, <http://www.cia.gov/cia/reports/index.html>.

⁴⁰ CIA, “Terrorist CBRN: Materials and Effects,” Washington, Director of Central Intelligence, June 2003, http://www.cia.gov/cia/reports/terrorist_cbrn/terrorist_CBRN.htm

⁴¹ CIA, “Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Munitions, 1 January Through 30 June 2003.” Washington, November 2003, http://www.cia.gov/cia/reports/721_reports/jan_jun2003.htm.