Keeping Saddam away from mass-destruction weapons requires patience, perseverence, and an occasional bullet between the eyes.

Osirak and Beyond

By Rebecca Grant

PREVENTING Iraq from building Weapons of Mass Destruction has been a US objective for more than two decades. Airpower has played a key role in that struggle, which is far from over.

Defense analyst Anthony H. Cordesman noted in a recent analysis, "Iraq is the only major recent user of Weapons of Mass Destruction." Iraq's Nuclear, Biological, Chemical, and missile programs have emerged as Saddam Hussein's personal projects and they have survived many efforts to kill them off. From Israel's raid on the Osirak nuclear reactor in 1981 to Desert Storm in 1991 and another seven years of UN monitoring, keeping Iraq's arsenal in check has generated sanctions, inspections, and air strikes.

From the beginning, international concern has focused on a specific problem: the danger Iraq would use its Osirak reactor to produce weapons-grade material for a bomb program. Iraq purchased the reactor from France in 1975. It was designed as a civilian power plant that could also produce highly enriched uranium.

Iraq's attempts to develop its own nuclear power sources dated to the 1960s. However, Saddam Hussein himself began the Iraqi nuclear bomb program in the 1970s while he was still vice chairman of the Revolutionary Command Council, prior to assuming total control of the nation.

The Osirak facility has been attacked several times. Iran actually was the first to bomb the reactor area. On Sept. 30, 1980, in the opening days of the Iran–Iraq War, an Iranian aircraft lightly damaged the Osirak facility. In response, the official Iraqi news agency issued the

Photo via Israeli Air Force Magazine

An Israeli F-16 pilot's view as he lines up on Iraq's Osirak nuclear reactor in 1981.

following statement: "The Iranian people should not fear the Iraqi nuclear reactor, which is not intended to be used against Iran, but against the Zionist entity." In other words, the target was Israel.

Israel's Shocker

Israel took note and on June 7, 1981, shocked the world with a daring and completely successful surprise attack on Osirak.

Long before they actually pulled the trigger, Israel's leaders had been debating such a move. Maj. Gen. David Ivry, who was then chief of the Israeli Air Force, recalled that one of the conditions for the attack was "we have to attack before uranium was going to get to the facility, because otherwise, after attacking with uranium inside, it can cause radiation damage to the environment and so on."

Even when faced with the looming threat of a functioning nuclear reactor, Prime Minister Menachem Begin struggled with the decision to attack. It took "about one year" to get a consensus, recalled Ivry, "because there were a lot of people who hesitated." Ivry remembered going "every two or three weeks in the Cabinet to talk about it again."

Even without a guarantee of final approval, Ivry set the wheels in motion, holding detailed rehearsals of the strike. Then–Maj. Gen. Yehoshua Saguy, head of the Israeli Defense Forces' intelligence division, was one who argued for a nonmilitary solution. On the eve of the strike, Ivry recalled, "our leading intelligence community recommended not to attack" because of the risk to the unfolding peace process with Egypt.

However, Begin eventually concluded that Israel could not wait and had to destroy the reactor. He saw it as "my chance to save the Jewish people."

After Begin made the decision to attack, the head of the Israeli Defense Forces, Gen. Rafael Eitan, briefed the pilots who were preparing to carry out the mission. "The alternative is our destruction," warned Eitan.

On June 7, 1981, all was in readiness. The starting point for the raid was Etzion Air Base, located in the Israeli–occupied eastern Sinai, close to the town of Eilat. Israeli Air Force F-15 and new F-16 fighters roared off the 8,000-foot-long runway just before 4 p.m. They flew low and level throughout the flight to Iraq. At 5:35 p.m., they popped up to identify the target and release their bombs. "In one minute and 20 seconds, the reactor lay in ruins," reported an IDF statement. All aircraft returned to base.

Photo via Israeli Air Force Magazine

IAF used F-16s (such as this one) and F-15s for the Osirak attack. The raid took Iraq off the fast track to nuclear weapons, but Baghdad then spent the next decade pouring money and manpower into WMD development.

World reaction was intense. Condemnations of Israel far outpaced congratulations. In the US, feelings were mixed, and yet there was a strong undercurrent of relief. Sen. Alan Cranston (D–Calif.) spoke for many when he wrote in the *New York Times*: "The bold Israeli move eliminates the immediate threat."

The destruction of Osirak took Iraq off the fast track to nuclear weapons. Iraq responded with a double approach. Baghdad put at least 20,000 people to work on the nuclear program, pressing ahead with development of gas centrifuges to produce bomb-grade material. The Iraqis also pursued a second, outdated method based on the use of calutrons for electromagnetic separation to produce highly enriched uranium.

Flush with oil money in the 1980s, Iraq spent at least $10 billion to buy illicit components. Manufacturing and testing facilities were concealed at many sites in Iraq. The strategy worked: Former chief UN nuclear weapons inspector David A. Kay described how Iraq's nuclear efforts were dismissed by experts as a "shop 'til you drop" program. The fact is that Iraq, had it been left undisturbed, could have acquired a nuclear bomb by 1992.

Rude Interruption

A disturbance definitely was coming, however. Iraq's invasion of Kuwait on Aug. 2, 1990, soon raised the prospect of a war involving Weapons of Mass Destruction. During the Iran–Iraq conflict, Iraq used mustard gas and nerve agent weapons on 10 occasions between 1983 and 1988. About 25,000 Iranians and Kurds died, according to an estimate by Cordesman.

Biological and Chemical Weapons facilities were the top concerns of coalition planners. Gen. H. Norman Schwarzkopf judged Iraq's key military strength to be its "ability, evinced in the second Al-Faw campaign of the Iran–Iraq War, to wage an offensive with Chemical Weapons." In his book, *It Doesn't Take a Hero*, Schwarzkopf noted that it was "the possibility of mass casualties from Chemical Weapons" that constituted "the main reason we had 63 hospitals, two hospital ships, and 18,000 beds ready in the war zone."

For President George H.W. Bush, the need to clean out Saddam's Weapons of Mass Destruction was a compelling reason for going to war. In his now-famous Jan. 5 "last chance" letter to Saddam, Bush warned that the US "will not tolerate the use of

Chemical or Biological Weapons or the destruction of Kuwait's oil fields and installations."

Coalition air planners had identified "Nuclear, Biological, and Chemical Weapons" as one of 12 strategic target subsets and put NBC targets high on the priority list in case the war ended in just a few days. Most of these suspected sites were chemical and biological research, production, and storage facilities.

On Jan. 16, 1991, the target list contained just two nuclear facility targets—though more than 20 facilities later would be identified. Planners kept up the search for nuclear and other sites even after the start of the air campaign, but the task was daunting. As Kay later remarked, "There was little hard analysis that existed anywhere" on Iraq's nuclear capabilities.

The deployment of coalition forces spurred Iraq to accelerate its nuclear efforts. According to Cordesman's report, the goal was to produce a working bomb by April 1991. The crash program centered on recovering enriched fuel from Iraq's French and Russian–built reactors, in defiance of International Atomic Energy Agency safeguards supposedly in place.

Iraq also explored building a radiological "dirty" bomb that would spew radioactive material. It would furnish Iraq with a "nuclear" weapon without Baghdad's having to create a traditional nuclear explosion.

Back to Osirak

Coalition aircraft flew 970 strikes against NBC targets, using precision weapons for about 40 percent of those strikes. The air attackers struck both of the nuclear reactors built to replace Osirak. The Isis light-water reactor was destroyed, and a larger reactor was damaged, but the Iraqis hid whatever they could.

Air strikes hit hard against known biological warfare facilities like those at Salman Pak, but by then, the Iraqis "had relocated virtually all of their agent production equipment to Al-Hakam and other facilities and had buried all biological agent–filled munitions and agent stockpiles in areas likely to escape bombing," according to a Defense Department report.

Unfortunately, the lack of focused intelligence meant that other targets appeared late in the game. One was the Al-Athir complex 40 miles south of Baghdad, which turned out to be the heart of the nuclear program. The official Pentagon report on the Gulf War recorded that Al-Athir "was not confirmed until late in the war." The very last bomb dropped by an F-117 during the war targeted Al-Athir, inflicting only light damage. In fact, subsequent inspections found that Al-Athir was where Iraq worked with design of charges for nuclear bombs.

USAF photo

Iraq's 1990 invasion of Kuwait raised the specter of a war involving WMD. Coalition aircraft, such as this F-117, targeted nuclear reactors and biological/chemical weapons facilities, setting back research and production capability.

The *Gulf War Air Power Survey*, sponsored by the Air Force, concluded: "Overall, the United States did not fully understand the target arrays comprising Iraqi Nuclear, Biological, Chemical, and ballistic missile capabilities before the Gulf War. The Iraqis had, in fact, made these target systems as elusive and resistant to accurate air attack as possible, with some success."

Iraq had learned the lessons of Osirak.

The war ended after just 43 days of air operations. That was enough to degrade Saddam's military capability, but not enough to fully identify, much less eliminate, the Nuclear, Biological, Chemical, and missile quartet. Coalition air strikes ended the immediate threat of an Iraqi nuclear bomb and set back research and production. Kay commented 10 years later that, if the war had not intervened, the Iraqis would have "been producing enough material for somewhere around 10 to 20 nuclear weapons a year, maybe more."

The Gulf War suddenly ended before the coalition could ferret out all of Iraq's weapons workshops or fully assess what remained.

In April 1991, the United Nations passed Resolution 687, which was, in effect, a conditional cease-fire outlining an extensive plan for the disarmament of Iraq, as the Stockholm International Peace Research Institute described it. Iraq would remain under strict international sanctions until the UN certified it to be clear of Weapons of Mass Destruction.

The shooting had stopped, but the coalition military forces remained in theater and international diplomats still had a big job ahead of them.

The United Nations Security Council formed a special committee—UNSCOM—to verify Iraqi compliance with the resolution passed by the world body. It required Iraq to destroy and undertake never to use, develop, construct, or acquire nonconventional weapons or ballistic missiles with a range greater than 93 miles. The UN mandate gave the UNSCOM inspectors a free hand to inspect and verify destruction of existing capabilities and then monitor Iraq's continued compliance.

Another Iraqi Shock

Thus, the inspectors began what

would prove to be a seven-year effort to get to the bottom of the NBC and missile arsenals. However, intelligence agencies worldwide were in for a surprise. The magnitude of the Iraqi program "was a shock to everyone," said Kay. From 1991 through February 1998, UNSCOM supervised destruction of large quantities of Chemical Weapons components, including 28,000 munitions already loaded with chemical agents.

Over the years, Iraq tried repeatedly to block inspectors from using aircraft and delayed their access to sensitive sites. It took continued pressure from the coalition to prod Iraq into letting the inspectors do their jobs.

Not until August 1995 did the inspectors get a big break. Lt. Gen. Hussein Kamel, Iraq's minister of industry and minerals with responsibility for all Iraq's weapons programs, defected to Jordan and started talking. Confronted with detailed information about its activities, Iraq retracted previous declarations and owned up to an extensive Biological Weapons program and in-depth research on long-range missiles.

The tally of Biological Weapons finally declared by Iraq truly was astonishing. Between 1985 and 1990, Iraq had fabricated 25 Biological Weapon missile warheads and 166 400-pound aerial bombs filled with anthrax, botulinum toxin, or aflatoxin. Raw supplies included at least 19,000 liters of botulinum toxin solution, 8,500 liters of anthrax solution, and 2,500 liters of aflatoxin. Iraq also admitted researching other virus strains. In all, Iraq had run 18 major Biological Weapons sites before the Gulf War. One report described them as "nondescript" with "no guards or visible indications they were a military facility."

More shocking, the inspectors confirmed that Iraq was ready to use Biological Weapons. The research project at Taji produced 25 warheads for use on Iraq's developmental long-range Al-Hussein missile. Right up until Jan. 13, 1991, four days before the air campaign, Iraq was practicing with Biological Weapons belly tanks on its Mirage fighters.

Fortunately for the coalition, airmen in 1991 quickly got the Iraqi air force under control, and surviving front-line Mirage jets bugged out to Iran after a few weeks.

The inspectors also found Iraq was still working on Weapons of Mass Destruction even after the Gulf War. In November 1995, Jordan turned back a shipment of missile components headed to Iraq. UNSCOM inspectors dredged up more missile components dumped in the Tigris River. Tips from defectors led the inspectors to more documents. As late as 1997, Iraq was believed to have 79 civilian facilities that could be quickly used for Biological Weapons manufacturing.

"Good Bureaucrats"

Overall, said Kay, the Iraqis are "very good bureaucrats." They filed quarterly reports on weapons progress and kept detailed purchasing records. Kay recalled how the Iraqis stalled a team waiting to enter an eight-story building that was "jam packed with documents." The Iraqis tried to move the documents out, but the building elevator broke, and they only managed to clear out the ground floor. The most sensitive items were on the floors above, and the UNSCOM team got them.

"Essentially, we managed to seize much of the file records of their nuclear program," said Kay.

The run of success did not last long enough for UNSCOM to complete its mission. Iraqi intransigence—and splits in the UN Security Council—derailed the inspection efforts.

Trouble began in September 1991, when Iraqi personnel started to delay or block the free access of the UN inspectors. By 1996, Iraq was regularly denying the inspectors access to sites. UNSCOM inspectors videotaped Iraqis burning and dumping files while waiting to enter one site in September 1997.

Iraq's next tactic was to designate new "presidential" sites and then say they were off limits. At one point, Iraq expelled American nationals on the inspection team, letting them return only after diplomatic intervention by Russia. At the same time, China, France, and Russia cooled toward the inspection process and slowed the Security Council's momentum. In October 1997, those three permanent members abstained from a Security Council finding that Iraq was not cooperating with inspectors.

Despite a visit to Baghdad by the UN Secretary–General Kofi A. Annan to meet with Saddam Hussein in February, the situation deteriorated further in 1998. That fall, Iraq ceased cooperation with UNSCOM entirely.

The only alternative left was military attack. In the fall of 1998, the Clinton Administration, with British backing, sought allied support for a limited air campaign to target missile production facilities, air defenses, and other key targets. The campaign was set to launch on Nov. 14, 1998. However, Clinton, on the advice of National Security Advisor Sandy Berger, called off the strike

DOD photo

After the Gulf War, a UN committee was to certify that Iraq was clear of WMD. Baghdad failed to cooperate. The US and Britain then led Operation Desert Fox, striking targets such as this missile research and development center.

with less than an hour to go before the first Tomahawk land attack missiles were to be airborne.

Disappointed Saudi allies retracted their support for offensive operations. With no further progress on inspections, the US and British settled on a scaled-down strike plan. Word was passed to the inspectors to leave Baghdad, and on Dec. 16, 1998, the US and British led a three-day air campaign under the name Operation Desert Fox.

"Saddam Hussein must not be allowed to threaten his neighbors or the world with nuclear arms, poison gas, or Biological Weapons," Clinton said. Secretary of Defense William S. Cohen said the first goal of the operation was "to degrade Saddam Hussein's ability to make and to use Weapons of Mass Destruction."

70-Hour War

In 70 hours, US forces struck about 100 targets with a combination of Navy and land-based fighters, bombers, and cruise missiles. Subsequent reports claimed good results on targets, including missile production facilities.

The UNSCOM process managed, despite Iraqi intransigence, to destroy weapons and uncover much more of Iraq's weapons programs. When the UN inspectors left Baghdad in December 1998, the chance to lift sanctions against Iraq went with them. Resolution 687—the conditional cease-fire—could not be fully verified. After years of propaganda about the impact of the sanctions on civilian life, the sanctions policy itself was a liability.

With inspectors out, there was no way to know whether Iraq had restarted its WMD programs. UNSCOM inspectors left behind automated video cameras to monitor sensitive sites, but by 1999, the Iraqis had dismantled them.

All along, Iraq insisted on keeping together the teams of scientists and experts from the weapons programs. Most of these key personnel remained in Iraq. In August 2000, the CIA told Congress that, after Desert Fox, "Baghdad again instituted a reconstruction effort on those facilities destroyed by the US bombing, to include several critical missile production complexes and former dual-use [Chemical Weapon] production facilities." The CIA demurred, saying that it had no "direct evidence" of renewed Iraqi WMD programs but said that "given its past behavior, this type of activity must be regarded as likely." The CIA then went on to describe Iraq's efforts to build short-range missiles and convert Czech L-29 jet trainers into unmanned aeriel vehicles.

"The United Nations assesses that Baghdad has the capability to reinitiate both its CW and BW programs within a few weeks to months, but without an inspection monitoring program, it is difficult to determine if Iraq had done so," the CIA reported to Congress. Since Iraq retained a large pool of experts and some nonweapons-grade uranium, restarting a nuclear bomb program is also a possibility, especially if Iraq could import fissile material clandestinely. Clinton said at the time of Desert Fox in 1998, "left unchecked, Saddam Hussein will use these terrible weapons again."

Since Sept. 11, the focus on homeland security and the war against terrorism has put Iraq back in the spotlight. If the confrontation continues, airpower may once again be summoned to counter Weapons of Mass Destruction.

Pressure to develop a strategy to topple Saddam gained strength in fall 2001. The heat of the moment turned attention to Iraq as a supporter of terrorists and possible nest of Osama bin Laden sympathizers. Yet the anti–Iraq rhetoric was not just about settling old scores or expanding the war on terrorism right away. As it had a decade earlier, the issue of Saddam's ability and presumed lack of inhibition about using WMD lay at the heart of the Administration's cautious and cryptic remarks on Iraq.

In October 2001, Bush commented, "After all, he [Saddam] gassed his own people" and added "we know he's been developing Weapons of Mass Destruction." Former Congressman Newt Gingrich put it bluntly in a *New York Times* interview, saying: "If we don't use this as the moment to replace Saddam after we replace the Taliban, we are setting the stage for disaster."

"Just a Dangerous State"

National Security Advisor Condoleezza Rice clearly drew the link. "We worry about Saddam Hussein," she said in an interview with Al Jazeera TV. "We worry about his Weapons of Mass Destruction that he's trying to achieve." A senior Pentagon official claimed in December that the situation with Iraq's WMD had "gotten worse since UNSCOM was driven out." He added, "Iraq is just a dangerous state, purely and simply."

Iraq is probably not in position to produce its own fissile material for as much as five years. Still, experts believe Iraq could buy black-market weapons material with relative ease. "I think everyone that I know of in the community agrees that if the Iraqis had the nuclear material, high-enriched uranium or plutonium, they would have a weapon in less than a year," said Kay. "The explosive manufacturing and missile program has gone ahead."

The United States and coalition partners have succeeded in containing Iraq. That, however, provides no guarantee that Iraq could not rebuild its WMD capability. In May 2002, the UN Security Council voted to relax sanctions, and initiatives to get inspectors back inside Iraq remain in play.

If experience is any guide, even the most capable UN inspectors will need years to hunt down what progress Iraq has made on Weapons of Mass Destruction since 1998. Meanwhile, Saddam's WMD are a potential threat to the world whether in his hands or—worse—those of sympathetic terrorists. The menace remains.

President George W. Bush told a television interviewer in April: "I made up my mind that Saddam needs to go." ■

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