Infrastructure Targeting and Postwar Iraq

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ABOUT THE AUTHORS

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Brief Analysis

Using new operational concepts in concert with rapidly maturing strike technologies, the U.S. military will attempt to seamlessly dovetail the destructive process of warfare with the reconstructive effort of nation building in any future air operations against Iraq. Lessons learned from air campaigns conducted in Iraq during the 1990s have laid the foundation for a more finessed approach to infrastructure targeting.

Changes in Targeting from Desert Storm to Desert Fox

In Operation Desert Storm, a ground offensive was supported with extensive air strikes on every significant element of Iraq's dual-use power, communications, transportation, and industrial sectors. In a war that had the potential to become protracted, it made sense to destroy Iraq's ability to refine oil and produce ammunition, as well as its stockpiled reserves. At the same time, U.S. Air Force planners sought to cause only temporary damage to Iraq's economic infrastructure by precisely targeting easy-to-replace elements of key facilities rather than destroying such facilities outright.

Yet, these plans were thwarted by standard operating procedures that were deeply ingrained in the military community. Wary of underestimating Iraq, Desert Storm planners inflicted massive damage on the country's economic infrastructure. For example, instead of targeting rapidly replaceable electricity transformer yards and refined oil storage sites, U.S. forces destroyed hard-to-replace generator halls and cracking (distillation) towers. Initially, Tomahawk cruise missiles were used to dispense carbon graphite filaments over power stations, minimizing permanent damage while still causing blackouts. Yet, these sites were later used as bomb dumps for carrier-based aircraft returning to ship, rendering the less-destructive effects of the cruise missile strikes meaningless. Desert Storm also highlighted the unforeseen consequences of disrupting the highly interconnected critical infrastructure of a modern industrialized country, as attacks on dual-use power facilities caused cascading damage throughout the water purification and sanitation systems, exacerbating a public health crisis.

In the years following Desert Storm, these lessons were rapidly incorporated into targeting policy. During the four-day Operation Desert Fox in December 1998, the military took great pains to focus its strikes on Saddam Husayn's regime rather than on dual-use infrastructure. While numerous Ba'ath security, intelligence, and military targets

were destroyed, power and telephone systems were spared. The sole economic target, authorized after hard bargaining by Desert Fox planners, was an oil refinery linked to smuggling. This target was temporarily crippled in a strike designed by the Joint Warfare Analysis Center, which engineered a targeting solution that disabled the site for six months while minimizing pollution. Five months after Desert Fox, new types of carbon graphite munitions were used to disable Serbian electrical networks during Operation Allied Force, greatly reducing permanent damage. Moreover, current reports indicate that radio frequency (RF) devices that use electromagnetic pulse effects to disrupt advanced electronics are being weaponized for deployment in cruise missiles and guided bombs in the event of a new war in Iraq.

Targeting Iraq in 2003

Given the fact that the Iraqi military has been greatly reduced, U.S. Air Force planners recognize that the current operational problem is how to quickly overcome a static Iraqi defense in support of a high-intensity ground war that would likely begin nearly simultaneously with an air campaign. In such a situation, slowly maturing attacks on Iraqi dual-use industrial infrastructure would not be particularly useful from a military point of view. Military planners now recognize that targeting certain forms of infrastructure (e.g., the national electrical grid or public telecommunications) causes more disruption to civilians than to the enemy military and hence may not meaningfully reduce the risk to allied forces. Moreover, such attacks may cause collateral damage -- a particularly sensitive issue given Washington's uncertain mandate for war. According to a February 5, 2003, Pentagon briefing, strikes against dual-use facilities are now automatically considered to cause collateral damage, and thus require special authorization.

Moreover, according to the U.S. Agency for International Development's (USAID's) "Vision for Post-Conflict Iraq," the United States will strive to ensure that critical infrastructure remains operational following a war, with most transport links and water, sanitation, and electrical services functioning, especially in urban areas. Within eighteen months after a war, USAID plans to rebuild Iraqi infrastructure completely, even improving on prewar conditions. This will require limited infrastructure targeting in each sector:

Power. Strikes against Iraq's electricity grid will probably be limited, focusing on power transmission to specific government and military facilities. RF and other nonkinetic weapons are likely to be used to minimize permanent damage.

Water/Sanitation. USAID is preparing to deploy generators to key water and sanitation facilities in case of disruption, while personnel from the U.S. Army Corps of Engineers and firms such as Contrack and Morganti will be on hand within sixty days of war's end to operate Iraq's ten major facilities.

Transportation. Iraq's transportation network is unlikely to be dismembered as it was in 1991, when over forty road and rail bridges and all major airports were destroyed. For one thing, transport nodes are necessary for allied offensive and logistical operations. In addition, more precise twenty-four-hour, all-weather intelligence, surveillance, reconnaissance, and strike technologies will allow on-call air forces to interdict Iraqi movement without destroying basic infrastructure such as bridges. Moreover, an intact transportation network will be required immediately after a war, as USAID aims to restore humanitarian access to major seaports (e.g., Umm Qasr), airports (e.g., Basra), and the rail network in order to ensure rapid resumption of UN Oil-for-Food deliveries and domestic fuel distribution.

Petrol, Oil, and Lubricants. The need for a functioning transportation system and an expedient return of Iraqi oil to market following a war make it unlikely that facilities such as oil refineries will be extensively targeted. Initially, damage to downstream oil industry infrastructure will likely be tended to by the U.S. Army Corps of Engineers and civilian contractors Kellogg, Brown, and Root, Inc.

Communications. Certain types of telecommunications facilities have already been extensively targeted (e.g., microwave relay, tropospheric scatter, fiber-optic). The public telephone network has been spared in all air strikes since 1991 and is unlikely to be comprehensively targeted in the future. Yet, Iraq's radio and television jamming and transmission facilities will likely be destroyed in order to open the airwaves for extensive U.S. psychological operations. RF weapons may be used in attacks on government communications infrastructure, leaving large (yet isolated) segments of the system undamaged but functionally dead.

Implications

U.S. forces will face many wild cards. For example, Iraqi sabotage of oil infrastructure and bridges could reverse the effectiveness of finessed U.S. targeting policies, while a prolonged conflict could necessitate wider strikes on industrial facilities or infrastructure defended by the regime. Nevertheless, current U.S. targeting plans represent an unprecedented attempt to move seamlessly from war to reconstruction. In fact, psychological operations may be the only U.S. military measures that directly target the Iraqi public and key constituencies in the Iraqi regular military and militia (as distinct from the Republican Guard). As in the Desert Fox strikes, the regime's leadership, security forces, and weapons of mass destruction materiel will constitute a large share of the preplanned targets. Such a strategy will help spare infrastructure and avoid the overkill wrought by Desert Storm.

Michael Knights is joining The Washington Institute as a military fellow.

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