Cooperative Threat Reduction for Conventional Weapons Expertise

- Arms Control Today

December 2014

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Scientist redirection—the process of shifting employees of foreign weapons of mass destruction (WMD) programs to peaceful endeavors—has long been an important piece of U.S. Cooperative Threat Reduction (CTR) programs. Its goal has been to reduce the potential for scientists and engineers employed in WMD programs to disseminate their knowledge to other countries or to nonstate actors.

By assisting in the transition of WMD experts to peaceful employment, scientist redirection programs reduce the likelihood that these individuals will be targets of efforts to buy their expertise. In their simplest form, these programs provide a sense of hope for the future because the desperation associated with sudden unemployment can be a strong incentive for participation in nefarious activities.

That point applies to those employed in conventional and unconventional weapons programs. A little more than a decade ago, thousands of individuals with expertise in manufacturing dangerous conventional weapons suddenly lost their jobs in Iraq. The rise of violent nonstate groups that used improvised weapons suggested a link to the unemployed conventional arms manufacturers. CTR redirection programs have not included experts from conventional weapons programs, and the Iraqi experience illustrates why that needs to change.[1]

Lost Jobs, Lasting Implications

Earlier this year, in a televised interview, Iraqi Prime Minister Nouri al-Maliki described the role that former employees of Iraq's Military Industrialization Commission (MIC) continue to play in producing improvised weapons for terrorist groups in Anbar province.[2] The interview is one of many sources on the subject, all too familiar in the Middle East but largely ignored by those in the West. There is a reason that the term "IED," the acronym for "improvised explosive device," is now nearly as recognizable as "WMD" and why improvised weapons, of which IEDs are a subset, have been used on such a large scale in large pockets of the Middle East since the U.S. invasion of Iraq in 2003.

A decade ago, almost 50,000 individuals who had worked in Saddam Hussein's conventional weapons manufacturing programs lost their jobs when the Coalition Provisional Authority (CPA), the U.S.-led postwar entity responsible for Iraq's governance, transferred them to the Iraqi Ministry of Finance with drastically reduced salaries and few prospects for the future.[3]

This development left many Iraq watchers wondering how the CPA could justify putting so many Iraqis with dangerous knowledge out of work. As a violent insurgency gained a foothold in the aftermath of the invasion, observers familiar with Iraqi weapons production programs became increasingly concerned that individuals with conventional arms production expertise would find new employment opportunities with violent nonstate actors who would pay for their services. Although it was not immediately clear at that time what had led to the mass unemployment of MIC personnel, later analysis suggested that a main reason was that the Department of Defense, rather than the Department of State, had been given responsibility for postconflict operations in Iraq. The Defense Department had conducted little postwar planning for Iraq, but the State Department had generated an entire study that anticipated many of the challenges that would emerge during the postwar period. The State Department plans included a discussion on postwar treatment of Iraq's MIC employees.

The 'Future of Iraq' Study

Long before the U.S. invasion of Iraq, the State Department launched its Future of Iraq Project. Led by a State Department employee and supported by influential Iraqi expatriates, the study examined the problems that were likely to confront postwar Iraq. Germane to this article are the analysis and recommendations by the Defense Policy and Institutions Working Group, which recognized quickly

that the MIC employees would warrant special attention during the postwar period. The working group accurately foresaw the need to move the employees to peaceful endeavors. “Many institutes and factories of the Military Industry will be destroyed when the liberation of Iraq from the present regime is complete. But its members and scientists will still be there. It is important to see that the Iraqi Military Industry transform itself to civil use. Scientists that can produce Mustard Gas can very well produce medicine. And experts in Rocket technology can one day build aeroplanes and trains.”[4] As the working group noted, many MIC employees had the skills to make this transition feasible (fig. 1).

Figure 1: Reassigned Iraqi Companies

Under Order 75, the Coalition Provisional Authority in 2004 reassigned 25 companies and almost 50,000 employees from Iraq's Military Industrialization Commission to the Ministry of Finance. As the figure below indicates, many of the employees had skills in areas that were directly applicable to civilian work.

ENTERPRISE NAME	AREA OF ACTIVITY	NUMBER OF EMPLOYEES
Hutten	Ammunition, guns, mortars	5,473
Al Qaqa	Explosives, powder	5,365
Al Kadissiya	Guns, grenades, mortars	3,035
Salahuddeen	Communications, radars	2,900
Yarmuk	Ammunition, barbed wire	2,708
7 Nissan	Fuses, military shells	2,652
Al Rasheed	Missiles	2,290
Al Karama	Missiles	2,287
Bader	Tools, dies	1,631
Al Hareth	Radars, welding equipment	1,387
Al Fidaa	Hydraulic, pneumatic systems	1,285
Al Nidaa	Dies, molds, gears	1,281
Al Uboor	Mechanical machining	1,217
Al Ezz	Electronic switching	1,046
Al Kindi	Research and development on radars	976
Ibn Waleed	Repair of heavy armored vehicles	926
Jaber ben Hayan	Plastic, rubber, filters	904
Tareq	Pesticides, chemicals	896
Radwhan	Machining	760
Sanahareeb	Irrigation systems	675
Hammurabi	Pistols, small arms	636
Al Hadhar	Chemical products	572
Tabook	Powder for cartridges	532
Ibn Rushd	Quality assurance testing, inspection	448
Asahf al Kabir	Concrete additives	86

Source: "Coalition Provisional Authority Order Number 75: Realignment of Military Industrial Companies," April 20, 2004, http://www.iraqcoalition.org/regulations/20040420_CPAORD_75_Realignment_of_Military_Industrial_Companies__with_Annex_A.pdf

Given the State Department's awareness at that time of the need to shift MIC personnel to civilian manufacturing jobs, it would have seemed unlikely that Iraq's arms manufacturers would be overlooked. Yet, in the months immediately preceding the 2003 invasion, two factors combined to eliminate the potential for conversion of Iraq's defense industry and the redirection of MIC personnel to peaceful endeavors, as advocated in the Future of Iraq study. First, U.S. National Security Presidential Directive 24 broke with tradition and put the onus of postconflict operations in Iraq on the Defense Department rather than the State Department. The directive, which was issued in January 2003, provided little time for the Pentagon to prepare adequately for an undertaking as massive as the postwar governance of Iraq, a task unfamiliar to the uniformed military and one better suited to other government agencies.[5]

The directive, however, did not by itself seal the MIC's fate. Shortly after the Defense Department was given this postconflict responsibility, the director for the State Department's Future of Iraq study, Tom Warrick, was brought in to assist General Jay Garner, who had been selected to head the Office of Reconstruction and Humanitarian Assistance (the CPA's predecessor). Garner reportedly had been impressed with the detailed analysis contained in the Iraq study and sought to tap into the available expertise. Unfortunately, when it became known that Warrick did not support the Pentagon plan to install Ahmed Chalabi, the controversial leader of the Iraqi National Congress, as the new leader of Iraq, he was fired, reportedly at the direction of senior Defense Department officials. With its director gone, the Iraq study stood little chance of being used to guide postwar planning. Suddenly, the future for former MIC employees looked uncertain.[6]

For nearly a year after the U.S. invasion, the MIC was simply ignored. During that period, looters rendered many MIC facilities inoperable. In addition, they carted away large amounts of material suitable for IED production from defense industry establishments. For example, looting at the Al Qaqa State Establishment received a great deal of press coverage, as truckloads of explosives were reportedly removed from that facility alone.[7] When the CPA finally got around to conducting site visits at MIC facilities, it found many of them to be no longer viable. The results of these site visits were used to inform the publication of CPA Order 75, dealing with the "realignment of military industrial companies." As a result of this order, almost 50,000 individuals were reassigned to the Ministry of Finance with a drastically reduced salary and little hope for the future.[8]

As MIC personnel became essentially unemployed after the invasion at a time when an insurgency was mounting, the State Department implemented a scientist redirection program for a limited number of Iraqi WMD experts.[9] Clearly, there was a need for such a program. No active unconventional weapons program existed in Iraq prior to the invasion, but there was certainly residual expertise retained in the public sector. Although a small number of WMD experts were the object of efforts to prevent proliferation, nearly 50,000 individuals with knowledge of conventional arms manufacturing were almost completely overlooked. To judge from Maliki's interview earlier this year, it seems that even today, more than a decade later, MIC employees continue to lend their weapons manufacturing expertise to violent groups.

Looking Forward

The fiscal year 2015 budget request associated with the Defense Department CTR program suggests that U.S. nonproliferation programs are anything but a growth industry. Under the Obama administration's budget request, the CTR program would receive significantly less than what it had received for each of the previous two years.[10] If one considers only what the CTR program was originally created to do more than 20 years ago, along with the extent of the program's achievements to date,[11] the reduced budget is probably justifiable. After all, as one account puts it, the CTR program was created "to deal with yesterday's strategic weapons," and yesterday's threats have largely diminished. That diminution is due largely to long-standing efforts to reduce the former Soviet Union's WMD arsenal, as well as to the passage of time.[12]

WMD stockpiles in the former Soviet Union are no longer what they once were. Moreover, the prospect of proliferation of WMD expertise out of those countries today is much lower than it was nearly a quarter of a century ago, as former WMD scientists are presumably now either well into retirement or deceased. Nevertheless, an argument could be made that CTR programs now are more important than ever, requiring a considerable increase in funding. The strategic threat posed by the

potential for large-scale WMD proliferation out of former Soviet bloc countries has been replaced by a new threat. This threat, as described above, is one the CTR program might not have been originally intended to address, but is one to which the program is ideally suited to respond.

A study by the National Academy of Sciences (NAS) in 2009 on the future direction of CTR programs appears to support this argument.[13] The NAS report, which Congress requested in the National Defense Authorization Act for fiscal year 2008,[14] recommended that CTR programs should be "expanded geographically" and "updated in form and function" in order to "enhance U.S. national security and global security." The report also said that future CTR initiatives would need to be more responsive and flexible and that they would face "very different security challenges than those that inspired the original program nearly 20 years ago."[15]

Notably, nowhere does the NAS report imply that future CTR initiatives need to be restricted to dealing with WMD threats. This seems to leave the door open for the CTR program to respond to the threat posed by unemployed conventional weapons manufacturers, whether in a postconflict or failed-state environment.

Considering the amount of money spent on IED countermeasure technologies, upgrades to armored vehicles, and the creation of new organizations such as the Joint Improvised Explosive Device Defeat Organization, it might be prudent to invest in the expansion of CTR initiatives to encompass experts in the manufacturing of conventional weapons. Such an expansion clearly would not be a panacea that would shut off the access of violent nonstate actors to dangerous arms production knowledge. For those ideologically inclined to lend their expertise to violent nonstate groups, expanded CTR initiatives will do nothing. Yet, by offering an alternative to individuals who would provide such expertise solely to care for their families, an expanded CTR program may provide a viable option.

Preparing for the Next Iraq

Some may argue that Iraq was a unique situation and that it is unlikely a similar scenario will emerge in the future. Yet, it is not difficult to imagine that the Iraqi situation, in which mass unemployment of conventional arms manufacturers coincided with the rise of an insurgency, could arise in another country sometime in the future. Recent history suggests that a market already exists for those with such skills and that the market may extend beyond Iraq's borders.

Iraq may not represent the only country where unemployed conventional arms manufacturers have provided their services to violent nonstate groups during the last decade. Several accounts have emerged on the large-scale, organized efforts made by nonstate groups in Libya and Syria to manufacture improvised weapons. Reporter C.J. Chivers has provided accounts from both countries, describing the establishment of networks of makeshift workshops to produce improvised weapons.[16] It is not clear, however, whether experts from the conventional arms industries of either country have played a prominent role in such production or if the expertise originated from Iraq's MIC personnel. Media reports occasionally suggest that people with weapons-making backgrounds are lending support,[17] but the reports do not define the scope and scale of the problem.

Another potential objection to CTR expansion is that producing improvised weapons is not nearly as technologically challenging as producing nonconventional weapons. One does not need a doctorate in engineering to build a roadside bomb; instructions are available on the Web. Nevertheless, it would be unfair to characterize many of the improvised weapons encountered on Iraq's battlefield as easily reproduced by anyone with Internet access. IEDs come in many forms; a review of a wide range of publicly available sources reveals the increased sophistication of improvised weapons used by nonstate groups over time. For example, triggering devices underwent modification in Iraq in response to use of electronic countermeasures by the United States and other members of the coalition.[18] In another example, the Islamic Army of Iraq bragged about its ability to manufacture an improvised surface-to-air rocket capable of bringing down coalition helicopters.[19] There is no shortage of reporting that suggests that many of the improvised weapons employed in Iraq were produced by skilled arms manufacturers.[20]

Some may question the feasibility of expanding the CTR program to include programs for manufacturing conventional weapons on the grounds that the scale of the effort would be too large

to be viable, citing failed attempts at defense conversion in the former Soviet Union. In former Soviet countries, there were thousands of facilities and millions of employees that constituted the military industrial complex. In fact, a 1997 report by the General Accounting Office suggested that one of the major obstacles to defense conversion in the former Soviet Union was the sheer size of the effort (9 million to 14 million people in 2,000 to 4,000 enterprises).[21] As noted above, in Iraq, there were roughly 50,000 employees and a few dozen state-owned enterprises. Defense conversion and redirection in Iraq might not have been as difficult in Iraq if coalition forces had protected MIC facilities from looting and if the CPA had solicited input from senior scientists and engineers on shifting MIC facilities to civilian production.

Conclusions

Increased reliance by nonstate actors on improvised weapons over the past decade suggests that the international community is having some success in controlling illicit arms shipments. Nonstate actors would not be relying on improvised weapons if factory-produced arms were readily available. Given what now is known about nonstate actor dependency on improvised weapons, it is time to consider building on past successes by expanding the scope of CTR scientist redirection initiatives. Such initiatives might originally have been intended to combat the proliferation of nonconventional weapons and associated expertise out of the former Soviet Union, but similar undertakings probably would be effective in preventing conventional arms manufacturers from working with violent nonstate actors.

These recommendations come during a period of fiscal austerity and at a time when U.S. leaders are confronting a host of national security threats. As the 2009 NAS study stated, “[G]enerating action throughout an overburdened U.S. government at a time of budget cuts and change require[s] an agility seldom found except in time of great urgency.”[22] More than 20 years ago, Senators Sam Nunn (D-Ga.) and Richard Lugar (R-Ind.) drafted legislation that had a major impact on preventing WMD proliferation. Today, strong leadership is needed to limit the ability of violent extremist organizations to acquire expertise in manufacturing conventional arms. Expanding the existing CTR program is a sensible way to achieve that important goal.

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ENDNOTES

1. As with the term “improvised explosive device,” it has been difficult to formulate a definition of the broader term “improvised weapon.” For the purposes of this article, an improvised weapon is one whose explosive ingredient, initiation, triggering, or detonation mechanism, or delivery system has been produced outside of an arms production factory or modified from its original function. See Paul Gill, John Horgan, and Jeffrey Lovelace, “Improvised Explosive Device: The Problem of Definition,” Studies in Conflict and Terrorism, Vol. 34, No. 9 (2011): 732-748.

2. William T. Liimatainen, trans., “Al-Maliki Accuses Former Military Industrialization Officers of Leading Al Anbar Battles,” February 12, 2014, http://www.kitabat.com/ar/print/23023.html (in Arabic).

3. “Coalition Provisional Authority Order Number 75: Realignment of Military Industrial Companies,” April 20, 2004, http://www.iraqcoalition.org/regulations/20040420_CPAORD_75_Realignment_of_Military_Industrial_Companies__with_Annex_A.pdf.

4. Defense Policy and Institutions Working Group, U.S. Department of State, “The Future of Iraq Project,” May 24, 2002, p. 47, http://www2.gwu.edu/~nsarchiv/NSAEBB/NSAEBB198/FOI%20Defense%20Policy%20and%20Institutions.pdf.

5. For an analysis of the presdiential directive, see Council on Foreign Relations Task Force, “In the

Wake of War: Improving U.S. Post-Conflict Capabilities," 2005, p. 9, http://www.cfr.org/content/publications/attachments/Post-Conflict_Capabilities.pdf.

6. Charles Ferguson, No End in Sight: Iraq's Descent Into Chaos (New York: PublicAffairs, 2008).

7. "Tons of Iraq Explosives Missing," CNN, October 25, 2004, http://www.cnn.com/2004/WORLD/meast/10/25/iraq.explosives/.

8. Peter D. Smallwood and William T. Liimatainen, "Securing WMD Expertise: Lessons Learned From Iraq," Arms Control Today, July/August 2011.

9. Office of the Spokesman, U.S. Department of State, "Redirection of Iraqi Weapons of Mass Destruction (WMD) Experts Short-Term Program," December 18, 2003, http://2001-2009.state.gov/r/pa/prs/ps/2003/27409.htm.

10. See Office of the Comptroller, U.S. Department of Defense, "Fiscal Year 2015 Budget Estimates: Cooperative Threat Reduction Program," March 2014, http://comptroller.defense.gov/Portals/45/Documents/defbudget/fy2015/budget_justification/pdfs/01_Operation_and_Maintenance/O_M_VOL_1_PART_2/CTR_PB15.pdf.

11. Center for Arms Control and Non-Proliferation, "Fact Sheet: The Nunn-Lugar Cooperative Threat Reduction Program," June 2014 http://armscontrolcenter.org/publications/factsheets/fact_sheet_the_cooperative_threat_reduction_program/.

12. Committee on Strengthening and Expanding the Department of Defense Cooperative Threat Reduction Program, "Global Security Engagement: A New Model for Cooperative Threat Reduction," 2009, http://www.fmwg.org/sitefiles/nas%202009%20report%20-%20global%20security%20engagement%20-%20a%20new%20model%20for%20cooperative%20threat%20reduction.pdf (hereinafter NAS report).

13. Ibid.

14. National Defense Authorization Act for Fiscal Year 2008, Pub. L. 110-181, 122 Stat. 3 (2008), sec. 1301-1308.

15. NAS report.

16. C.J. Chivers, "Syria's Dark Horses With Lathes: Makeshift Arms Production in Aleppo Governorate, Part I," The New York Times "At War" blog, September 19, 2012, http://atwar.blogs.nytimes.com/2012/09/19/syrias-dark-horses-with-lathes-makeshift-arms-production-in-aleppo-governorate-part-i/?_php=true&_type=blogs&_r=0; C.J. Chivers, "Hidden Workshops Add to Libyan Rebels' Arsenals," The New York Times, May 3, 2011.

17. Luke Harding and Ian Black, "Syrian Rebels Add Explosives Expertise to Guerilla Tactics," The Guardian, July 31, 2012.

18. John Ismay, "The Most Lethal Weapon Americans Faced in Iraq," The New York Times "At War" blog, October 18, 2013, http://atwar.blogs.nytimes.com/2013/10/18/the-most-lethal-weapon-americans-faced-in-iraq/.

19. "The Islamic Army in Iraq Present a New Missile," Middle East Media Research Institute Special Dispatch, No. 1344 (November 2, 2006), http://www.memri.org/report/en/print1930.htm.

20. Ismay, "The Most Lethal Weapon Americans Faced in Iraq"; Stew Magnuson, "Bomb Making Skills Spread Globally," National Defense, June 2007; Micheal Eisenstadt and Jeffrey White, "Assessing Iraq's Sunni Arab Insurgency," Washington Institute for Near East Policy Policy Focus, No. 50 (December 2005), http://www.washingtoninstitute.org/html/pdf/PolicyFocus50.pdf.

21. U.S. General Accounting Office, "Cooperative Threat Reduction: Status of Defense Conversion

Efforts in the Former Soviet Union," GAO/NSIAD-97-101, April 11, 1997.

22. NAS report, p. vii.