



Research Highlights

Office of the Vice President for Research and Applied Learning
National Defense University

January 2011

About

The Office of the Vice President for Research and Applied Learning (OVPR/AL) at the National Defense University (NDU) operates under the direct supervision of the President of NDU and is the principal advisor to the President of NDU on all research related matters. The OVPR/AL mission is to promote and support research and to synthesize the research, publication, and applied learning activities of the Institute for National Strategic Studies (INSS) core research centers, NDU Press, and the Center for Applied Strategic Learning. A permanent member of the University Research Council, OVPR/AL also orchestrates liaison efforts with NDU colleges and components, the regional centers, and other national and international research centers and partners to inform and encourage collaboration.

These Research Highlights provide senior leadership at NDU, in the Pentagon, and throughout the broader policy and think tank community with unique insights into the full range of OVPR/AL research products, including publications, major trip reports, significant conferences/seminars, and games/simulations.

The opinions, conclusions, and recommendations expressed or implied within are those of the contributors and do not necessarily reflect the views of the Defense Department or any other agency of the Federal Government. Visit NDU Press online at www.ndupress.edu.

PRT Interagency Lessons Learned Project

The Center for Complex Operations (CCO), in conjunction with the interagency Best Practices Working Group, has been compiling lessons learned and best practices (using interviews and surveys) from civilian and military personnel serving on Provincial Reconstruction Teams (PRTs) in Afghanistan and Iraq. CCO's October progress report provides a number of unique preliminary insights and in particular, draws attention to problems in PRT training, mission focus, command and control, and funding.

Most PRT returnee respondents expressed a general understanding of the overall strategic mission but noted the lack of clear operational guidance in the field and the ad hoc nature of most program and funding decisions. A number of returnees noted a mismatch between pre-deployment training and their subsequent in-country responsibilities and experiences. Civilian and military respondents alike stressed the need for province-specific training, covering a broad range of local issues, from history, culture, language, security threats, and relations with the central government, to ethnic, religious, and tribal structure. The difficulty of understanding the needs and culture of the host nation often resulted in imposing U.S.-centric solutions, with some returnees stating that certain U.S. programs appeared to be "feel good" programs designed for U.S. audiences but not attuned to local culture.

Civilian PRT members confronted the issue of multiple loyalties, which confused mission goals. Civilian agency personnel found themselves responding to the PRT commander or team leader, to a line of operations (such as rule of law) director or agency mission director housed at the embassy, and to their home agency in Washington. It was often unclear whether a civilian agency representative was a member of the PRT or an agency liaison to the PRT. Civilian agency personnel often supported activities more in line with their agency's core mission instead of local imperatives or needs. At the same time, civilian agency representatives trying to support the PRT mission often did not get adequate support from their home agencies because the work of the PRTs tended to be far removed from the core missions of the agencies. Finally, PRT unity of effort was hampered in cases where interagency stakeholders did not have access to their own agency funding sources. Many civilian respondents believed that the military is under enormous pressure to spend as much money as possible as quickly as possible. Both military and

civilian respondents noted that under-spending carried the risk of losing funds in the next program cycle.

Redefining Success: Applying Lessons in Nuclear Diplomacy from North Korea to Iran

In the Center for Strategic Research's *Strategic Perspectives* No. 1, Ferial A. Saeed highlights the national security advantages of a nuclear pause, under which U.S. policy toward North Korea and Iran would shift focus from denuclearization to the short-term goals of improving nuclear transparency and securing vulnerable nuclear materials, with the two programs paused (at their current level of advancement) and under strict international monitoring. These short-term goals are identified in the 2010 Nuclear Posture Review and Quadrennial Defense Review as vital national security objectives. U.S. public statements would emphasize that denuclearization remains the ultimate objective and that we have the political will and the military capability to deal with any challenges posed by these states.

A nuclear pause must be linked to a broader political/diplomatic strategy. In the case of North Korea, the U.S. must develop with the Republic of Korea (ROK) a political/diplomatic strategy for coping with a range of possible succession outcomes, and procedures for coordinating responses among the U.S., the ROK, China, Japan, and Russia. A nuclear deal with Iran should be embedded in a policy of pragmatic containment that links U.S. Iran policy to U.S. efforts to stabilize Iraq and Afghanistan, and to establish a strategic partnership with Pakistan. This strategy will not solve the strategic dilemmas posed by North Korea and Iran, but it can afford better management of the nuclear challenges they present. It has the potential to alter the policy context in which the two nuclear standoffs play out—potentially shifting the political balance in favor of moderation over defiance. That, in turn, could create the conditions for successful denuclearization.

Private Contractors in Conflict Zones: The Good, the Bad, and the Strategic Impact

The U.S. has hired record numbers of contractors to serve in the conflict zones of Iraq and Afghanistan but has

not seriously examined their strategic impact. As detailed by T.X. Hammes in the Center for Strategic Research's *Strategic Forum* No. 260, there are clearly advantages to using contractors in conflict zones, but they have three inherent characteristics that have serious negative effects during counterinsurgency operations: (1) we cannot effectively control the quality of the contractors, (2) we cannot control their actions, and (3) the population holds us responsible for everything the contractors do, or fail to do. Contractors compete with the host government for a limited pool of qualified personnel and dramatically change local power structures. Additionally, they reduce the political capital necessary to commit U.S. forces to war, impact the legitimacy of a counterinsurgency effort, and reduce its perceived morality. These factors attack our nation's critical vulnerability in an irregular war—the political will of the American people.

The default policy position should be one of no contractors in conflict zones. If required, contractors should remain inside secure zones to minimize contact with the population. Additionally, if required, hiring preference should be, in order: host nation government organizations, host nation contractors, U.S. firms, and lastly, international firms. Deployed billets outside conflict zones should be filled with contractors whenever possible to reduce personnel tempo for U.S. forces. Future force planning efforts should be based on these assumptions.

Islamic Radicalization in the United States: New Trends and a Proposed Methodology for Disruption

To help policymakers understand and discuss the approaches to countering Islamic radicalization in the United States, the Center for Technology and National Security Policy conducted a study to assess both the nature of the threat and possible mitigation strategies. In *Defense & Technology Paper* No. 77, Samuel Musa and Samuel Bendett address the growing and evolving threat of domestic terrorism that is advocated and perpetrated by radical Islamic ideologues, as well as the emergence of the Internet as the battleground of ideas with the radical version of Islam. Over the past several years, the U.S.

government and law enforcement agencies have become increasingly concerned with the spread and influence of Islamic radicalization amongst U.S. citizens and naturalized American individuals. Many such individuals are taking action intended to harm Americans and American interests domestically or abroad. Evidence points to a sophisticated and evolving indoctrination campaign that targets not just Americans of Muslim faith, but the larger population. It is becoming essential to view the spread of this radicalization as a technologically advanced phenomenon that should be addressed within the context of the evolving nature of the threat.

Understanding Saddam's Non-Use of WMD in the Gulf War

The Conflict Records Research Center's (CRRC) David Palkki presented the results from his subject research study at the annual Center for Strategic and International Studies/Project on Nuclear Issues capstone conference at U.S. Strategic Command. Palkki found that Saddam did not use chemical or biological weapons during the 1991 Gulf War because he feared that such use might incite U.S. nuclear retaliation. While fear of nuclear retaliation deterred Saddam, U.S. Secretary of State James Baker's veiled threats to Iraq's foreign minister in January 1991 were unnecessary as Saddam had long suspected U.S. nuclear strikes in response to a variety of Iraqi behaviors.

Alternative explanations involving Iraqi fears about escalating U.S. objectives to include regime change, the ferocity of the Coalition's air campaign, and Iraqi technical difficulties are problematic and much less persuasive. The paper draws heavily on captured audio recordings of meetings between Saddam and his inner circle, copies of which are made available to scholars in the CRRC's researcher database.

NATO Command Structure: Considerations for the Future

The Center for Technology and National Security Policy's *Defense & Technology Paper* No. 75 by W. Bruce Weinrod and Charles L. Barry explores potential future reforms of the NATO command structure. The intent is

to stimulate thought on the current structure's fit to oversee the forces and operations of a growing array of NATO missions. From capacity building with partners to peace operations, humanitarian assistance, and combat operations, Alliance forces are continuously engaged in multiple theaters. These challenges demand a command structure with organizational flexibility, an agile and competent international staff, highly integrated information systems, and deployable elements to accompany mobile forces for sustained periods of time. The command structure and the interoperable communications and information systems that support it are the sinews that tie together the national and multinational forces of NATO and its partners. They also serve to link those forces to the political direction and decisions of the North Atlantic Council.

The paper discusses how to think about command structure reform in all its facets. It is a mission-based analysis that assesses the roles of component and joint commands, of Allied Command Operations and Allied Command Transformation. It offers illustrative options for the future and indicates which of these might better meet NATO's future requirement in terms of being minimally viable and capable of carrying out core missions.

Global Commons and Domain Interrelationships: Time for a New Conceptual Framework?

Increasing global commons challenges, to include the expanded scope of the commons, their increasingly congested and contested nature, and declining U.S. force levels, combine to make U.S. military access and freedom of action in the global commons more problematic. In the Center for Strategic Research's *Strategic Forum* No. 259, Michael Hughes and Mark Redden address, from a planning perspective, the least recognized and understood of the challenges, namely domain interrelationships within the commons; the idea that intra-domain military operations are increasingly dependent on inter-domain dependencies.

The commons have taken on an added degree of importance for the U.S. defense planning community over

the last several years. The traditional approach to military concept development for the global commons has been domain-centric (maritime, air, space and so forth). This planning construct, one of geographic “stovepipes,” lags the transformational nature of current opportunities and challenges in the commons, heightening the risk that domain interrelationships will not be adequately addressed. A new military planning paradigm that properly accounts for the full extent of domain interrelationships is required. This paradigm must fully quantify domain interrelationships, properly articulate the nature of the supported/supporting relationship for multi-domain evolutions, seek synergies and leverage in military operations through the exploitation of domain overlaps, and ensure combat effectiveness by mitigating risks associated with seam vulnerabilities. It must break down stovepipes and treat the global commons not as a set of distinct geographies, but rather as a complex, interactive system.

China’s Out of Area Naval Operations: Case Studies, Trajectories, Obstacles and Potential Solutions

In the Center for Strategic Research’s *China Strategic Perspectives* No. 3, Christopher D. Yung, Ross Rustici, Isaac Kardon, and Joshua Wiseman examine the future direction of the People’s Liberation Army-Navy (PLAN) out of area deployments and power projection capabilities based on the history of past deployments and an analysis of out of area operations of other military forces. These short- and long-term lenses are useful in understanding the scope and direction of a unique aspect of China’s maritime trajectory.

Five categories of challenges confront all navies operating at long distances from home ports: (1) distance, (2) duration, (3) capacity, (4) complexity of coordination, and (5) hostility of environment. From the case studies of other militaries, the research derived specific methods employed by other militaries to overcome out of area deployment challenges and assessed whether China is likely to follow. The five methods are (1) access to a facility or base for maintenance, repair, and other logistical support;

(2) self-protection (for example, aircraft carrier support); (3) use of mobile supply depots and floating bases; (4) intra-task force lift assets (e.g., helicopters); and (5) extensive use of satellite communications.

While the PLAN is in fact incrementally expanding its out of area operations, it still has some ways to go before it can operate effectively out of area and before it can be considered a global military power. Additionally, the study indicates that most of the PLAN’s tasks performed and lessons gained from out of area operations are not directly transferable to either a Taiwan contingency or some other notional major out of area contingency. Regardless though, a more capable and active PLAN presents new challenges for U.S. policy.

Combined Joint Task Force Horn of Africa Staff Training Program Support

In support of U.S. Navy Fleet Forces Command (FFC), the Center for Complex Operations (CCO) undertook a detailed review, from an interagency perspective, of the pre-deployment training program for the core military staff of Combined Joint Task Force Horn of Africa. Overall, CCO judged the training program to contain most of the essential subject areas necessary to understanding interagency planning and execution, though it fell somewhat short in providing the contextual strategic and operational foundation from which military plans could be integrated into U.S. government conflict prevention efforts in that part of Africa.

In the course of its review, CCO examined the training objectives, schedules, and course content of the program, and observed the end-of-course practical application exercises. It was determined that the nature and requirements for 3-D conflict prevention programs and the historical shortfalls of military partnership building programs needed additional emphasis. In addition, while student lectures addressed the various authorities and programs used in prevention activities, their exact nature and how they might be used received inadequate attention. On the positive side, the training program covered a wide area and attempted to bring officers, many of whom had

little appreciation of planning or operations outside their own service specializations, up to speed in a short period of time. In that, while it may not have met all expectations, the training provided staff officers with enhanced awareness of the interagency demands of their duties.

Measuring Stability: How Do You Know if You are Winning?

In this joint journal article, David Becker from the Center for Complex Operations (CCO) and Rob Grossman from Logostech review the first field application of a variant of the Department of Defense-supported Measurement of Progress in Conflict Environments (MPICE) tool. The evaluation occurred as part of the Haiti Stabilization Initiative (HSI), an innovative, inter-agency prototype program designed to regain control of the poor and violent urban slum of Cité Soleil before political/criminal gangs toppled the government. HSI tested a sophisticated Monitoring & Evaluation (M&E) program using MPICE for the period 2007-2010.

From Becker and Grossman's research, it was determined that when evaluating "success" in conflict situations and particularly across-sectors, one needs a clear "theory of change." Proving correlation or causality of change based on program efforts remains a challenge. Many stabilization or counterinsurgency programs do not evaluate themselves, nor can they, if they do not have a provable hypothesis. Additionally, the research highlighted the need to measure outcomes within and across sectors -- not just immediate outputs of programs. MPICE seeks to analyze outcomes as it quantifies performance and achievements (e.g., health of the population; level of security). Many programs look only at the immediate results of money spent, and at outputs (number of hospitals, security forces trained).

The analysis affirmed the importance of triangulating data and overlapping sources. The HSI metrics used perception-based data (surveys, focus groups, expert elicitation sessions) and non-perception-based data (objective documentation from MINUSTAH, statistics, crime reports) to provide a comprehensive and rich form of

"triangulation" analysis, allowing for program decisions based on more than gut feelings.

The U.S. government badly needs an "off the shelf" broadly accepted tool like MPICE. An approved tool is faster to deploy, improves management by forcing multiple agency goal integration, and builds credibility. There is no such tool fully embraced by the U.S. government at this time.

Strengthening Peacebuilding through Collaboration: UNDPKO-DOD-DOS-USAID

The Center for Complex Operations (CCO), with project leadership by Ambassador Nancy Soderberg, studied practical approaches to strengthening United Nations (UN)-U.S. Government (USG) collaboration in peacebuilding among senior USG and UN policymakers and field operators from the National Security Council, key USG agencies and Non-Governmental Organization (NGO) partners. As highlighted in the study's report, strengthened training and recruitment of UN peacekeeping forces through; the development of international peacekeeping training centers and a Clearing House/Virtual Clearing House; expanded training exercises between the U.S. and UN forces and coordinated regional efforts, especially with NATO; and the development of opportunities for training exercises with NGOs, are critical imperatives.

The study further detailed the importance of enhancing cooperation among, and the capability of, regional actors in missions; encouraging UN member states to contribute more for future peacekeeping operations; developing Humanitarian Affairs Information Units; and, prioritizing and seeking to remedy UN gaps in equipment, personnel, and training needs. Key highlights from the peacekeeping/peacebuilding planning realm included matching capabilities to mandates, re-evaluating the balance between civilian and military personnel in UN peacekeeping operations and utilizing civilian capabilities where feasible, enhancing planning efforts focused on contingency strategies and, making greater use of a "whole of government" approach. The study concluded with a call for the creation of an international collaborative civil-military reserve or standby capability,

integrating the efforts of the U.S. military, civilians and the UN, and drawing upon the resources of the UN-led Joint Operations Tasking Center (JOTC), the Humanitarian Assistance Coordination Cell (HACC), and the Coordination Support Conference (CSC).

A Contentious New START: A Snapshot of the Debate over the New START Treaty

In a Center for Strategic Research (CSR) *Research Memo*, Vincent Manzo provides a concise summary of the debate surrounding New START in the run-up to its ratification by the U.S. Senate on December 22nd. Submitted in support of U.S. Space Command and U.S. Strategic Command, the *Memo* relies on direct quotations from congressional hearings, opinion pieces, articles, and other publications to highlight the core arguments for and against ratification of the New START Treaty.

Manzo's research indicates that administration officials, members of Congress, and independent analysts are conflating three related but distinct issues associated with New START. These include (1) the overarching strategic requirements that the administration uses to size and structure U.S. strategic forces, (2) the narrower metrics by which U.S. officials evaluate the strategic effects of potential Russian non-compliance with the Treaty, and (3) the administration's hedge against Russian cheating. The overall conclusion is that the debate over the Treaty has been contentious, and that the fiercest opponents of ratification have not changed their positions despite administration attempts to address concerns over the verifiability of the Treaty, its implications for U.S. missile defense and Conventional Prompt Global Strike, and other issues.

Pandemic Influenza Table-Top Exercise

The Center for Applied Strategic Learning's pandemic influenza scenario exercised key members of the White House Office of Presidential Personnel, focusing the group on a near-term H5N1 threat. The group was divided into

three teams, with each team given the same task of advising the President as he responds to a developing H5N1 crisis.

The influenza vaccination dissemination plan was a key focal point during the exercise. It was found that what is contained in the 2005 Health and Human Services Pandemic Influenza Plan in terms of vaccine priority groups has to be re-examined on a by-event basis. Policy makers must look at the plan in terms of public perception and potential public outcry. Additionally, they must make the protocols for distribution clear to the citizenry. The exercise also highlighted the importance of strategic communication and the need to determine the public message.

Each team tended to grapple with particular problem areas. One such problem area was that of public confidence and how to maintain that confidence in national leaders during such a crisis. All groups consistently agreed that communication (both inter-governmental communication or coordination and communication to the public) is absolutely vital. Another lesson learned is that the interconnectedness of decision-making is critical when developing courses of action. Flexibility was also highlighted as crucial, especially with regard to surveillance as needs may change throughout the course of the crisis.

Strategic Communication Round Table Exercise

The Center for Applied Strategic Learning's strategic communication round table exercise, in support of the Senate's Committee for Homeland Security and Governmental Affairs, was designed to examine the national framework for U.S. strategic communication efforts. Highlighting the findings of the exercise was debate among the participants regarding whether or not a national framework for strategic communication actually existed, notwithstanding the President's Fiscal Year 2009 National Defense Authorization Act (Section 1055) report to Congress. Several of the key observations, most notably those addressing definitions, objective, themes, and interagency cooperation, reflect this lack of consensus among participants.

Another key take-away from the exercise was the observation that strategic communication must be firmly

rooted in U.S. objectives, meaning that a lack of clarity in strategic or intermediate level objectives presents a corresponding problem to strategic communication efforts. Stated differently, unity of mission is most important to effective strategic communication, not unity of message. The military's concept of "commander's intent" was cited as an example of a mechanism for ensuring overall objectives are widely understood and serves as a guide for subordinate level activities in a dynamic and fluid environment. As one participant noted, perhaps the most important audience of U.S. strategic communication is U.S. government personnel.

In addition to the linkage between strategic communication and U.S. objectives, the exercise drew attention to the importance of message targeting. In a development driven largely by technological change, it has become difficult or impossible to target messages to only reach specific audiences. Because there will always be recipients outside of the intended audience, the question of how much the target audience cares about the message, and how much other audiences care, becomes central to understanding the extent to which the message will "spill over" and what the impact will be on either the primary or secondary audiences. The inability to direct messages solely at foreign or domestic audiences is one manifestation of this issue, which led to discussion of the need to revise the legal framework dividing foreign and domestic communications.

The PLA Air Force: Evolving Concepts, Roles, and Capabilities

This Council on Advanced Policy Studies-Carnegie Endowment-NDU-RAND conference provided an extensive overview of current operational and programmatic trends within the Chinese Air Force. The first two of the conference's panels compared international concepts of airpower with Chinese concepts, highlighting a People's Liberation Army Air Force (PLAAF) shift from defensive to offensive operations and the concept of "air and space integration" as an Air Force effort to stake a claim to space missions (which are still up for grabs within the Chinese military). The third panel highlighted improvements in PLAAF equipment, noting the increasing number of fourth

generation fighters and modern surface-to-air missiles and the fact that the PLAAF remains centered around fighters rather than bombers or ground-based missiles (which are operated by the Second Artillery Corps). The fourth panel focused on aviation technology, with experts noting that the Chinese defense industry can now produce fourth generation fighters (though not modern fighter engines). It took China 25-30 years after fourth generation fighters entered service in the Western and Soviet Air Forces to reach this stage, but most air forces will be primarily equipped with fourth-generation fighters for the next decade. Center for Strategic Research Director of Studies Phillip Saunders and Josh Wiseman argued that as the Chinese aviation industry matures, it will be less able to acquire advanced technologies from foreign sources and may rely more on espionage to make future advances.

Bio-Inspired Materials and Devices for Chemical and Biological Defense

Transformational advances in chemical and biological defense are expected to depend heavily on biologically inspired technology. The Center for Technology and National Security Policy's *Defense & Technology Paper* No. 79 by James J. Valdes and Erica R. Valdes surveys biologically inspired materials and develops a conceptual path from natural materials to synthetic materials which in turn can be assembled into systems with properties found in living systems but which could not be replicated through traditional synthetic chemical technologies. The report discusses the ability to design and manufacture abiotic components which can be assembled into adaptive systems which will have applications to the defense industry.

The purpose of this review was to survey the field of biologically inspired materials and to develop a conceptual path from natural, biotic materials to completely synthetic, abiotic materials which can be assembled into systems via traditional synthetic chemical technologies. The ability to design and manufacture abiotic components which can be assembled into adaptive systems will have applications ubiquitous to the defense industry. Examples include sensors, adaptive camouflage, antibiotic

and antiviral agents, compact personal power, coatings, new green manufacturing processes—the list is endless.

Saddam, Israel, and the Bomb: Nuclear Alarmism Justified?

The Conflict Records Research Center's (CRRC) David Palkki presented the subject paper, co-authored with Dr. Hal Brands, at the annual conference of the Association for the Study of the Middle East and Africa. The paper draws on captured Iraqi records at the CRRC to assess how Saddam Hussein thought that Iraqi acquisition of nuclear weapons would affect Iraq's behavior toward Israel and the Palestinians. The authors find that from the time of Saddam's political ascendancy in the 1960s, Saddam saw Israel as a key threat to his regime. Saddam believed that Israel posed a military threat, prevented formation of a unified Arab state, and provided a base for imperialism. Anti-Semitic tracts such as *The Protocols of the Elders of Zion* contributed to Saddam's worldview in which Jews and Zionists played a role in virtually all of Iraq's afflictions.

Captured recordings of meetings between Saddam and his inner circle reveal that Saddam viewed acquisition of nuclear weapons as a prerequisite to conventional warfare with Israel. Saddam did not intend to attack Israel with nuclear weapons; rather, he wanted a nuclear arsenal to deter Israeli nuclear blackmail (and use), thereby enabling Iraqi liberation of Israel's post-1967 territories. In the case of Saddam's Iraq, acquisition of nuclear weapons would have underwritten more aggressive Iraqi policies at lower levels of violence.

Hours of Boredom, Moments of Terror: Temporal Desynchrony in Military and Security Force Operations

The “hurry up and wait” phenomenon in many military operations is aptly called “hours of boredom,” whereas the transition to meet sudden task demands when combat breaks out is sometimes deemed to consist of “moments of terror.” Increasingly, other national security and paramilitary force personnel (e.g., police forces, border patrol, operational intelligence

agents) also experience long periods of boredom interspersed with all-out response efforts when the going “gets hot.” These temporal rhythms are normal and expected in military operations, and are becoming so in other security operations as well. The Center for Technology and National Security Policy's *Defense & Technology Paper* No. 78 argues that leaders should, through training, prepare their troops for high levels of cognitive and physiological readiness; they need to anticipate executing operational plans that often require patience and apparent, sometimes boring inactivity that will eventually be followed by sustained maximum performance. This, in turn, is followed by anticipation of the next activity cycle as pulses in the normal sequence of boredom-terror-boredom—which is the military way of things.

Peter A. Hancock and Gerald P. Krueger in this study examine resultant psychological and behavioral implications for combatant and security personnel performance as viewed through application of a traditional *human psychological stress model*. Inadequate recognition of the implications resulting from long lull periods, combat pulses, and the need to recover from stress can lead to dysfunctional soldiering as well as poor individual and small unit performance. Accounting for such time-based transitions in the psychological state of military combatants and security force operators is important in configuring *resilience training* for small group leaders, their personnel, and their organizational units.