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Game theory and the warrior diplomat interagency cooperation in stability and reconstruction operations

Irmischer, Drew M.

Monterey, California. Naval Postgraduate School

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MONTEREY, CALIFORNIA

THESIS

**GAME THEORY AND THE WARRIOR DIPLOMAT:
INTERAGENCY COOPERATION IN STABILITY AND
RECONSTRUCTION OPERATIONS**

by

Drew M. Irmischer

December 2010

Thesis Advisor: Frank Giordano
Second Reader: Gregory Wilson

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REPORT DOCUMENTATION PAGE		*Form Approved OMB No. 0704-0188*

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.

1. AGENCY USE ONLY *(Leave blank)*	**2. REPORT DATE** December 2010	**3. REPORT TYPE AND DATES COVERED** Master's Thesis
4. TITLE AND SUBTITLE Game Theory and the Warrior Diplomat: Interagency Cooperation in Stability and Reconstruction Operations		**5. FUNDING NUMBERS**
6. AUTHOR(S) Drew M. Irmischer		

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
  Naval Postgraduate School
  Monterey, CA 93943-5000
		8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A		**10. SPONSORING/MONITORING AGENCY REPORT NUMBER**

11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB Protocol Number _____N/A_____

12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution unlimited	**12b. DISTRIBUTION CODE** A

13. ABSTRACT (maximum 200 words)

The U.S. has become increasingly involved with failed and failing states since the end of the Cold War in the 1990s. Further, failed and failing states are forecast to remain a national security issue well into the future. United States involvement with failed and failing states has primarily focused around reconstruction and stability operations, and crisis management efforts. Previous reconstruction and stability efforts have been wrought with inefficiency and agency stovepipes. The United States believes a whole government approach is the solution to effective reconstruction and stability operations. While most agree, interagency cooperation is imperative to the whole government approach, interagency cooperation is difficult to achieve in practice. The United States State Department has been placed in charge of reconstruction and stability operations but has limited resources available. The Department of Defense is the only agency with the resources available. The Department of State and Department of Defense resources, organizational structure, and capabilities are compared. Reconstruction and stabilization efforts of Provincial Reconstruction Teams in Afghanistan and Iraq are examined. An analysis utilizing Game Theory is performed to determine key mechanisms increasing interagency collaboration during reconstruction and stability operations.

14. SUBJECT TERMS Reconstruction and Stability Operations, Interagency Cooperation, Game Theory, Provincial Reconstruction Teams			**15. NUMBER OF PAGES** 93
			16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT
  Unclassified
	18. SECURITY CLASSIFICATION OF THIS PAGE
	  Unclassified
		19. SECURITY CLASSIFICATION OF ABSTRACT
		  Unclassified
			20. LIMITATION OF ABSTRACT
			  UU

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18

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GAME THEORY AND THE WARRIOR DIPLOMAT: INTERAGENCY COOPERATION IN STABILITY AND RECONSTRUCTION OPERATIONS

Drew M. Irmischer
Major, United States Air Force
B.S. Environmental Engineering, North Carolina State
University, 1997

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN INFORMATION OPERATIONS

from the

NAVAL POSTGRADUATE SCHOOL
December 2010

Author: Drew M. Irmischer

Approved by: Dr. Frank Giordano
                Thesis Advisor

                Col. Gregory Wilson
                Second Reader

                Dr. Gordon McCormick
                Chairman, Department of Defense Analysis

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ABSTRACT

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LIST OF ACRONYMS AND ABBREVIATIONS

ACT	Advance Civilian Team
AFRICOM	U.S. Africa Command
COCOM	Combatant Command
CRC	Civil Response Corps
CRC-A	Civil Response Corps Active
CRC-R	Civil Response Corps Reserve
CRC-S	Civil Response Corps Standby
CRSG	Country Reconstruction and Stabilization Group
DFID	Department for International Development
DIME	Diplomatic, Informational, Military and Economic
DoD	Department of Defense
DoS	Department of State
FDO	Foreign and Commonwealth Office
FOB	Foreign Operating Bases
FY	Fiscal Year
ICAF	Interagency Conflict Assessment Framework
IMS	Interagency Management System
IPC	Integration Planning Cell
ISAF	International Security Assistance Force
LGCD	Local Governance and Community Development
MOD	Ministry of Defense
NGO	Non-Governmental Organization
NSPD	National Security Presidential Directive
OEF	Operation Enduring Freedom
OPA	Office of Provincial Affairs
PCC	Policy Coordinating Committee
PCRU	Post-Conflict Reconstruction Unit
PDD	Presidential Decision Directive
PRT	Provincial Reconstruction Team
QIP	Quick Impact Projects
R&S	Reconstruction and Stabilization
S/CRS	Office of the Coordinator for Reconstruction and Stabilization
SOUTHCOM	U.S. Southern Command

U.K.	United Kingdom
USAID	United States Agency for International Development
USDA	United States Department of Agriculture

I.   INTRODUCTION

A.   BACKGROUND

With the ending of the Cold War in the early 1990s, the U.S. became increasing involved with failed and failing states. This involvement continues to rise, and is expected to remain a threat to U.S. National Security for the near future. John Herbst, Coordinator for the Office of Reconstruction and Stabilization said the following in testimony before the House Armed Service Committee (2007).

> Weak and failed states pose a serious security challenge for the United States and the international community. They can become breeding grounds for terrorism, weapons proliferation, trafficking in humans and narcotics, organized crime, and humanitarian catastrophes.

Furthermore, failed and failing states are forecast to remain a National Security issue well into the future. The U.S. Joint Forces Command (2010) had the following to say about failed and failing states in the Joint Operating Environment:

> Weak and failing states will remain a condition of the global environment over the next quarter of a century. Such countries will continue to present strategic and operational planners serious challenges, with human suffering on a scale so large that it almost invariably spreads throughout the region, and in some cases possesses the potential to project trouble throughout the globalized world. (p. 50)

The U.S. continues to strive for possible solutions in an effort to battle the continuing threat. U.S. government leadership knows the solution will contain a whole government approach requiring effective interagency collaboration.

Since the end of the Cold War, the U.S. has evolved its reconstruction and stabilization (R&S) approach in an effort to unify interagency partners. In the 1990s, President Clinton enacted Presidential Decision Directive PDD/NSC 56 Managing Complex Contingency Operations attempting to formally bring together interagency organizations collaborating on R&S crises and operations. In 2001, National Security Presidential Directive 1 began to operationalize the four elements of national power: diplomatic, informational, military and economic (DIME). NSPD-1 outlined the organization of the National Security Council System to accomplish this task. In 2004, President Bush established the U.S. Department of State (DoS) Office of the Coordinator for Reconstruction and Stabilization (S/CRS) in an effort to correct the U.S. perceived unpreparedness in Iraq. The process continued with the signing of NSPD-44: Management of Interagency Efforts Concerning Reconstruction and Stabilization, which placed the DoS in charge of coordinating and leading all integrated United States Government efforts in R&S crises and operations.

The ability to improve U.S. R&S operations and crisis management requires a whole government approach. While

interagency organizations understand the need to collaborate, the expertise and resources required for an effective whole government approach is lacking.

B.   PROBLEM

Establishment of the S/CRS and NSPD 44 has made DoS responsible for coordination and the leader of U.S. R&S operational and crisis management efforts. DoS has been placed in-charge, however, it has not been given resources to carry out the task. In addition to insufficient funding and resources, R&S operations in Iraq and Afghanistan have followed U.S. military action and occupation. Occupying U.S. military forces have been required to perform R&S operations. While on paper DoS should have the lead in R&S operations, the Department of Defense (DoD) already has soldiers on the ground and requisite resources to conduct R&S operations. Without the DoD resources, DoS has essentially no capability to carry out R&S operations in Iraq and Afghanistan. President Barack Obama made the following statement following a 17,000-troop increase in Afghanistan:

> We are going to need more effective coordination
> of our military efforts with diplomatic efforts
> with developmental efforts with more effective
> coordination with our allies in order to be more
> successful. (Obama, 2009)

While an understanding that a whole government approach is needed for R&S operations is key, it does not directly correlate into effective interagency collaboration. Interagency cooperation, especially between DoS and DoD, is paramount for successful R&S operations. As R&S operations

in Iraq and Afghanistan continue the question arises; what can effectively increase DoD and DoS cooperation in R&S operations?

The cooperative aspect of interagency operations does not come naturally to government or civilian agencies. While individual agencies recognize the importance of cooperation, they tend to be more concerned with individual goals and responsibilities. According to Olsen (2008),

> Whatever the value of coordination, which is generally recognized as a good thing, it means giving up some degree of autonomy to others, which also generally involves limits on what one can do unilaterally – that is, coordination can reduce efficiency of an individual agency to carry out task-specific, agency-specific objectives. (p. 225)

In addition, each government or civilian agency fosters vastly different cultural values, perspectives, and structures. A report on an Army After Next experiment comments that:

> The diversity of the interagency, with each agency having its own culture, hierarchy, bias, misperceptions, and unique perspectives, makes unity of effort difficult. (Tucker, 2000, p. 1)

This results in agency decision makers approaching interagency negotiations with a competitive decision making mentality.

When conducting interagency collaborations or negotiations, most participants are trained to approach the bargaining table as if they are engaged in a *zero-sum game*— that is, if another agency wins, my agency loses. This approach reflects classic competitive decision making. If

DoD and DoS collaborations or negotiations are shifted to cooperative decision making, the level of DoD and DoS cooperation in R&S operations will increase. The increases in cooperation will lead to improved effectiveness of R&S operations. Additionally, during many stability and reconstruction operations a major limiting factor in the effectiveness of operations is clearly defined, unified goals. The level to which DoD and DoS can develop clearly defined, agreed upon operational goals that are known and understood by all participants will determine the effectiveness of the R&S operation.

C.   ASSUMPTIONS

Several assumptions have been made in evaluating the effectiveness of increasing interagency decision making to increase collaboration. First, the DoS and DoD are the two major decision making players influencing R&S crisis management and mission operations. The DoS has been placed in charge of R&S while the DoD has larger resources and annual budgets. The DoS country team or ambassador is typically in charge of the country or area of operation. However, in Afghanistan and Iraq the DoD has been conducting military operations on the ground prior to R&S operations. The DoD military troops on the ground and its vast resources are required to support R&S operations. Second, the organizations involved in R&S crisis management and operations, namely DoS and DoD, agree that a whole government approach is needed. In addition to the organizations as a whole, the DoS and DoD decision makers at the operational and tactical level believe a whole government approach is the solution. Third, failed and

failing states will continue to be a national security issue for the U.S. in the future. Since the U.S. sees failed and failing states as a national security issue, the U.S. will commit R&S resources and troops to diffuse the issue.

The final set of assumptions relate to interactions between DoS and DoD during R&S crisis management and operations. Despite cultural and organizational differences, it was assumed that both organizations and their decision makers make reasonable decisions with foreseeable outcomes that further their goals. It was assumed decision makers of both organizations act as reasonable actors in the Game Theory analysis.

D.   THESIS

The impetus for this thesis was to determine key factors that will facilitate an increase in interagency collaboration. Interagency collaboration is a combination of U.S. governmental agencies knowledge, networks, knowledge, and resources. Interagency collaboration includes the ability to bring together human and material resources required to conduct R&S crisis management and operations. The ability to transition DoD and DoS decision making from competitive to cooperative will increase interagency collaboration during R&S crisis management and operations. The ability to shift to cooperative decision making requires incentives, promises, and a threat of retribution. Achieving cooperative decision making during R&S operations requires unity of command, unified funding, incentives for individuals and organizations to promote collaboration, and unfettered information sharing leading to clearly defined goals and operating procedures. Scope was

limited to the decision-making interaction of DoD and DoS during R&S crisis management and operations. DoD and DoS are the main interagency players during R&S operations and thus are the focus of this study.

E.   METHODOLOGY

The ensuing chapters compare and contrast DoS and DoD R&S crisis management and operational capabilities. Comparison focuses on organizational construct, capabilities, and resources available. U.S. government documents and reports were analyzed to provide current R&S capabilities and resources.

Case studies of three Provincial Reconstruction Teams (PRTs) were evaluated. The PRTs used include U.S.-led PRTs employed in Afghanistan, U.S.-led PRTs in Iraq, and United Kingdom (U.K.) led PRTs in Afghanistan. These case studies were examined to determine the level of interagency collaboration, overall effectiveness, and level of interagency cooperative decision making. Empirical data on PRT's in Afghanistan and Iraq are based on open-source published accounts including analytical literature.

Further examination includes a Game Theory analysis of DoD and DoS decision making. Game Theory is a branch of applied mathematics and economics studying human interactions using rules of play and alternate choices (Levine, 2010). The formal modeling approach replicates a social situation specifying player's options, incentives, and information available to determine actions taken to

maximize individual returns. The modeling will provide a clear picture of DoD and DoS decision making with respects to interagency collaboration.

One challenge of using game theory is the assumption of rational actors. Decision makers do not always act in a rational manner. We rarely, if ever, know with 100% certainty what each decision maker was thinking during negotiations or what personal biases effected their decisions. Additionally, decision maker's objectives may differ from assumed values used in the Game Theory model.

The effect of this assessment is intended to increase U.S. interagency collaboration and overall R&S effectiveness. While the agencies involved understand the need for a whole of government approach, the execution has had limited success. With the U.S. government facing mounting debt and the global economy continuing to stall, future R&S funding will likely be limited. The ability of the DoS and DoD to effectively collaborate during R&S crisis management and operations will play a vital role in mission success.

II. STABILITY AND RECONSTRUCTION CAPABILITIES AND CULTURE COMPARED: DOS VERSUS DOD

In an effort to increase coordination and the whole government approach to R&S operations, President Bush in December 2005, signed NSPD 44: *Management of Interagency Efforts Concerning Reconstruction and Stabilization*. The purpose of NSPD 44 was to increase coordination, planning, and implementation for reconstruction and stabilization operations in foreign countries (Bush, 2005). The need to establish a single agency, responsible for coordination of R&S operations, was realized. NSPD 44 states

> The Secretary of State shall coordinate and lead integrated United States Government efforts, involving all U.S. Departments and Agencies with relevant capabilities, to prepare, plan for, and conduct stabilization and reconstruction activities. The Secretary of State shall coordinate such efforts with the Secretary of Defense to ensure harmonization with any planned or ongoing U.S. military operations across the spectrum of conflict. (Bush, 2005)

While NSPD 44 established the DoS as lead agency for coordination, the DoD has significantly more resources and budget available. This chapter describes DoS and DoD R&S structure, policies, and resources.

A. DOS CAPABILITIES

In July 2004, the S/CRS was initially established by the Secretary of State, and later under section 408 of the Consolidated Appropriations Act of 2005 (P.L. 108-447) (Lepak, 2009, p. 35). Buss (2005) stated that the creation of S/CRS was an attempt to close key gaps in civilian

planning and operational capacity that had previously jeopardized reconstruction operations (p. 3). The current stated mission of the S/CRS is

> To lead, coordinate and institutionalize U.S. government civilian capacity to prevent or prepare for post-conflict situations, and to help stabilize and reconstruct societies in transition from conflict or civil strife, so they can reach a sustainable path toward peace, democracy and a market economy. (U.S. Department of State, 2010)

Figure 1 depicts the organizational chart for the S/CRS.

Figure 1.   S/CRS organization chart (From U.S. Department of State, 2010)

The S/CRS incorporates the Interagency Management System (IMS), the Civil Response Corps (CRC), and the planning framework for reconstruction and stabilization to facilitate this mission.

The IMS for R&S was approved March 2007. The three-tiered scalable system is used to coordinate relevant agencies planning and mobilization actions during R&S crises operations. IMS is a management system coordinating interagency effort. The system is comprised of the following three tiers:

1. Country reconstruction and stabilization group (CRSG). A Washington-based decision-making body equivalent to a *policy coordinating committee (PCC)* with a planning and operations staff.

2. Integration planning cell (IPC). A civilian planning cell deployed to the relevant geographic combatant command or multinational headquarters to integrate and synchronize civilian and military planning.

3. Advance civilian team (ACT). A team consisting of one or more subordinate interagency management and coordination field advance civilian teams that deploy to support the chief of mission. (U.S. Army, 2008, pp. B1-B2)

Previous attempts to construct a CRSG have produced inefficiencies and unneeded redundancy. In an effort to address an expanding crisis in Sudan, the S/CRS in 2005, stood up a CRSG with limited success. According to Bensahel, Oliker, & Peterson (2009),

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The creation of a new CRSG for Sudan with a separate leadership structure led to unnecessary duplication, and the CRSG subsequently merged with the existing regional PCC. (p. 42)

The IPC does not create plans; their job is to help integrate civilian and military planning for specified crisis. The problem is "S/CRS has yet to develop a civilian contingency plan. Without such a plan, the IPC has nothing to integrate with military contingency plans" (Bensahel, Oliker, & Peterson, p. 43). While ACTs are a good idea, minimal current staffing has prevented a good idea from producing results.

The Civil Response Corps is the S/CRS organizational construct to build a standing and reserve force of trained deployable civilians for S&R crisis response and operations. The Corps has three levels including an active, standby, and reserve component.

1. **Active Component (CRC-A)** officers are full-time Government employees whose specific job is to train for, prepare, and staff reconstruction, stabilization and conflict prevention efforts. They are able to deploy within 48 hours and focus on critical initial interagency functions such as assessment, planning, management, administrative, logistical, and resource mobilization.

2. **Standby Component (CRC-S)** officers are full-time employees of their departments who have specialized expertise useful in reconstruction and stabilization operations and are available to deploy within 30 days in the event of a reconstruction and/or stabilization operation.

3. **Reserve Component (CRC-R)** officers are U.S. citizens who have committed to be available within 45-60 days of call-up to serve as U.S. Government temporary employees in support of

overseas reconstruction and stabilization operations. Reserve officers are critical to efforts to bring "normalcy" to countries by filling capabilities career U.S. Government employees simply cannot match in expertise or in number. (Please Note: the Reserve component has not yet been funded.)(Office of the Coordinator for Reconstruction and Stabilization, 2010)

The Secretary of State requested funding for 250 full-time active employees, 2,000 standby members, and proposed to build a reserve force for the Civil Response Corp (Office of the Coordinator for Reconstruction and Stabilization, 2010). If the Civil Response Corps attains the desired manning level, the resource could be a significant asset for R&S operations. As of the end of 2009, the staffing was nowhere close to proposed levels. At that time, the Civil Response Corps was comprised of two components: 78 full-time Active members and 554 Standby members (Office of the Coordinator for Stability and Reconstruction, 2009, p. 8).

The planning framework for Reconstruction, Stabilization, and Conflict Transformation was developed as a guide for U.S. government planners to create civilian R&S operations plans. The DoD assisted S/CRS in developing the framework. Originally drafted in 2005, extensive coordination delayed the release date until 2008. The version released was a significantly scaled down version highlighting only the framework's principles. The R&S PCC approved the abbreviated framework in May 2008. The approved document outlines crisis-response planning and long term scenario-based planning. Long-term scenario-based planning is similar to military contingency or deliberate planning.

The planning process consists of a four-stage process: situation analysis, policy formation, strategy development, and interagency implementation planning. The process is designed to be a planning cycle, with each stage revising and contributing to the other stages. Situational analysis for R&S planning should include a comprehensive interagency assessment using the Interagency Conflict Assessment Framework (ICAF) and include existing data from prior planning and intelligence from interagency partners (Principles of the USG Planning Framework for Reconstruction, Stabilization and Conflict Transformation, 2008, p. 3). Policy formation is the stage where the overall R&S policy is developed and plan implementation tasks are developed. The CRSG or PCC planning team then uses the policy statement to develop a strategic plan during the strategic development stage. R&S operations likely to involve significant U.S. military presence require the combination of planning efforts between the Geographic Combatant Commanders and planning in Washington (Principles of the USG Planning Framework for Reconstruction, Stabilization and Conflict Transformation, p. 4). The final step is Interagency Implementation planning culminating the planning process in the field to finalize the R&S strategy and plan. The Principles of the USG Planning Framework for Reconstruction, Stabilization and Conflict Transformation state, "Interagency implementation planning is an interactive process to synchronize diplomatic, development, and defense implementation planning and tasks" (p. 5). The entire four step planning cycle must be flexible, thus

allowing for real-time updates and changes to the strategy and plan based on real world intelligence and situational changes.

The planning framework has been developed over the past five years and continues to be a work in progress. Initially, vast differences in civilian and military planning cultures presented barriers. The planning culture continues to move towards the military contingency based planning as the S/CRS continues to evolve. According to Bensahel, Oliker, & Peterson (2009):

> S/CRS initially shared the State Department's planning culture, which focuses on problematic planning for the next fiscal year (FY) and not on planning for unseen contingencies. Over time, however, the office's specific mission led it to adopt the more contingency-planning approaches in support of its long-term, scenario based planning….It has not yet been used to develop a contingency plan that can be integrated with existing military plans. (p. 41)

There has been progress, but limited staffing has hampered development of long-term scenario based plans capable of being integrated with military contingency plans.

B.   DOD CAPABILITIES

In the past, the DoD has been focused mostly on combat operations to win wars. Recent low intensity conflicts, humanitarian efforts, and wars in Afghanistan and Iraq have highlighted a need for the U.S. military to perform stability and reconstruction operations. Extended counter-insurgency operations followed the initial success of regime removal in Afghanistan and Iraq. During the counter-insurgency operations, the U.S. military was and is still

needed to provide security and conduct R&S operations. The
DoD is the only organization with the abundant resources
required fully supporting needed R&S operations globally.
With that being said, the DoD is continually improving and
building R&S capabilities in order to meet growing demand.
In an effort to increase R&S capacity DoD, has made
stability operations a core capability, increased joint
planning guidance to include R&S operations, instituted
programs to increase DoD regional knowledge, and stood up
Combatant Commands (COCOMs) focused on R&S operations versus
traditional combat operations.

Following lessons learned from R&S operations before
and during the wars in Afghanistan and Iraq, the DoD
released DoD Directive 3000.05 in November 2005. The
Directive made stability operations a "core mission" for the
first time, essentially on the same level with combat
operations for the U.S. military. According to the DODI
3000.05 (2009),

> The Department of Defense shall be prepared to:
> Conduct stability operations activities
> throughout all phases of conflict and across the
> range of military operations, including in combat
> and non-combat environments….Support stability
> operations activities led by other U.S.
> Government departments or agencies…, foreign
> governments and security forces, international
> governmental organizations, or when otherwise
> directed. (p. 2)

The DoD needs to have the capability of conducting
stability operations on its own with no support from other
U.S. governmental agencies. The core mission designation
increases resources, training, and budget demands to ensure

U.S. military forces are capable of conducting R&S operations at the high standard expected from U.S. military.

In addition to making stability operations a core mission, DoD also has expanded its planning guidance to include contingency plans for stability operations. Joint Chiefs of Staff (2010) broadens military planning guidance to include noncombat activities for stabilizing countries or regions, preventing hostilities and post combat activities that emphasize stabilization, reconstruction, and transition governance to civil authorities. Joint doctrine recognizes the following six phases of military operations as spelled out in JP 3-0.
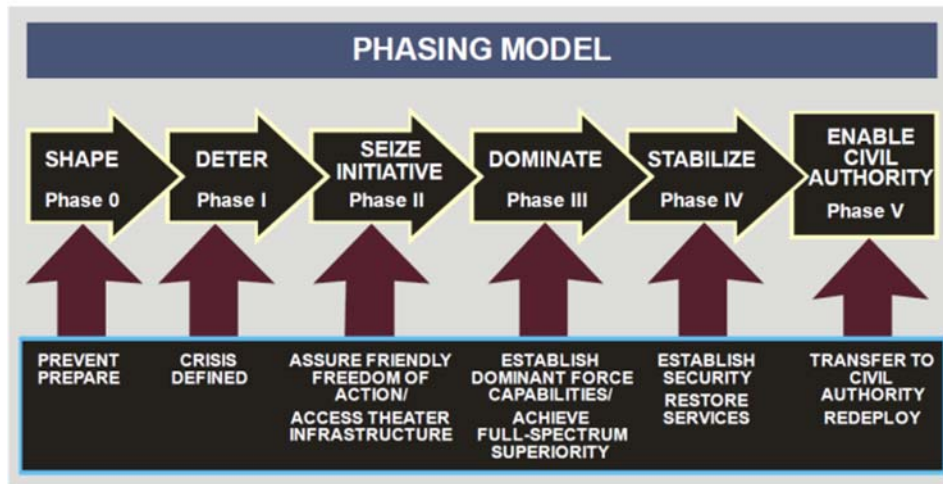

Figure 2.   Phasing Model (From Joint Chiefs of Staff, 2010)

The Joint planning process addresses each of the six phases during plan development. DoD uses the planning process to develop military campaign plans and contingency plans for R&S operations that do not include traditional combat operations. The R&S operations typically take place during phases IV and V.

> Stability operations are necessary to ensure that
> the threat (military and/or political) is reduced
> to a manageable level that can be controlled by
> the potential civil authority or, in noncombat
> situations, to ensure that the situation leading
> to the original crisis does not reoccur or its
> effects are mitigated. (Joint Chiefs of Staff,
> 2010, p. IV-29)

According to Ruiz (2009),

> Non-combat forces, such as civil affairs,
> information operations, medical, engineers, and
> military police, have an increased level of
> effort during the shape and enable civil
> authority phases. (p. 11)

The DoD continues to pursue cultural awareness and diversification programs in an effort to increase R&S capabilities. According to Christoff and Laurent (2007):

> The military services also have taken
> complementary actions to improve stability
> operations capabilities. For example, the Marine
> Corps has established a program to improve
> cultural awareness training, increase civil
> affairs planning in its operational headquarters,
> and established a Security Cooperation Training
> Center. Navy officials highlighted service
> efforts to (1) align its strategic plan and
> operations concept to support stability
> operations, (2) establish the Navy Expeditionary
> Combat Command, and (3) dedicate Foreign Area
> Officers to specific countries as their key
> efforts to improve stability operations
> capabilities. (p. 13)

Senior military leadership is aware of the need for language and cultural training.

> No training is more crucial to the U.S. military
> than education in critical foreign languages and
> cultures, the chairman of the Joint Chiefs of
> Staff said yesterday. (Kruzel, 2009)

The U.S. military has continued to develop cultural awareness training for individuals prior to deployment. The ability to understand adversarial and host nation cultures is required in conducting successful R&S operations.

DoD has also targeted two specific COCOMs to emphasize stability operations. According to Bensahel, Oliker, & Peterson (2009):

> In fact, two U.S. Combatant Commands (COCOMs), U.S. Southern Command (SOUTHCOM) and the nascent U.S. Africa Command (AFRICOM), are more focused on building security relationships and preventing conflict than on combat operations. (p. 6)

Looking forward, the DoD has determined the need to promote and conduct R&S operations in the regions controlled by SOUTHCOM and AFRICOM. DoD has thus structured those COCOMs in an effort to respond to and conduct R&S operations when required. According to Shin (2009), "AFRICOM offers a new way to respond to crises, and to prevent fragile states in Africa from relapsing into instability" (p. 30). Additionally McFate (2008) believes more than any other DoD initiative, AFRICOM demonstrates that DoD recognizes that security and development are inextricably linked and must be delivered simultaneously (pp. 10–16).

C.   ORGANIZATIONAL CULTURAL CHALLENGES: DOS AND DOD

The ability to bring different government agencies together to accomplish a common goal is challenging at best. Defense Secretary Robert Gates (2010) criticized the interagency process in a speech at the Nixon Center saying,

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America's interagency toolkit is a hodgepodge of jerry-rigged arrangements constrained by a dated and complex patchwork of authorities, persistent shortfalls in resources, and unwieldy processes.

Contributing to the difficulty in DoS and DoD collaborations, are the facts that these two agencies have vastly different cultures, organizational structures, and capabilities and resources available to conduct R&S operations. Rife & Hansen (1998) characterize the cultural differences between DoS and DoD by saying, "These two cultures are as alien as life forms from two competing planets. They are generally polar opposites in character, in approach to problem solving, and in worldview" (p. 3). These cultural differences between DoS and DoD lead to differing agency goals and operational methods to achieve those goals. According to Kem (2007),

Competing claims and "tribal rivalries" are a concern when there are dramatic differences in the cultures of the different agencies….Within each department, there is also a natural resistance to change and transformation. (p. 12)

The culture differences exist and the process of change does not come quickly.

There also exists a major cultural difference in operational planning philosophy and methods. The DoD spends a lot of time and resources planning for contingency operations throughout the world. The DoS has limited planning resources and spends the majority of those resources on crisis management planning. The stark differences in planning cultures have prevented the required collaborative planning effort necessary for effective R&S mission execution.

The DoD is characterized by a rigid hierarchical organizational structure, while the DoS has a much more flexible structure. The disparity in organizational structure leads to problems in decision making when individuals from DoD and DoS are forced to work together during interagency R&S operations. DoD members are familiar with strict command structures and accountability, while DoS members come from an organizational culture with less defined structure. The immense disparity in resources available to DoD and DoS is also problematic in conducting R&S operations. While the S/CRS from the DoS may be in charge of the operations, the R&S operations require DoD resources. Additionally significant R&S funding is coming from DoD in the form of 1207 Funds. There is no single pot of money funding R&S operations.

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III. PROVINCIAL RECONSTRUCTION TEAMS

A.   BACKGROUND

Provincial Reconstruction Teams (PRTs) are civil-military organizations established near the end of 2002. They were designed to draw together civilian and military capabilities in R&S operations. The PRT model initially started in Afghanistan and subsequently expanded to Iraq in 2005. As of 2009, there were 23 PRTs operating in Iraq (Provincial Reconstruction Teams Fact Sheet, 2009). In addition, there are currently 26 PRTs in Afghanistan, 12 of which are under U.S. command (Provincial Reconstruction Teams, 2010). PRT models vary greatly with no real standardized model existing. Three PRT models, U.S.-led PRTs in Afghanistan, U.S.-led PRTs in Iraq, and the United Kingdom (U.K.) led PRT in Mazar-e-Sharif are discussed later. While the PRT concept started with U.S. components, the idea has spread to International Security Assistance Force (ISAF) partners. The concept of PRTs is essentially the same in Afghanistan and Iraq, but structure and components are different. PRTs in Afghanistan tend to have military leadership, whereas a DoS Foreign Service officer runs PRTs in Iraq. There exists no top-level interagency body to oversee and coordinate interagency PRT activities. All PRT coordination is carried out at the country level and below.
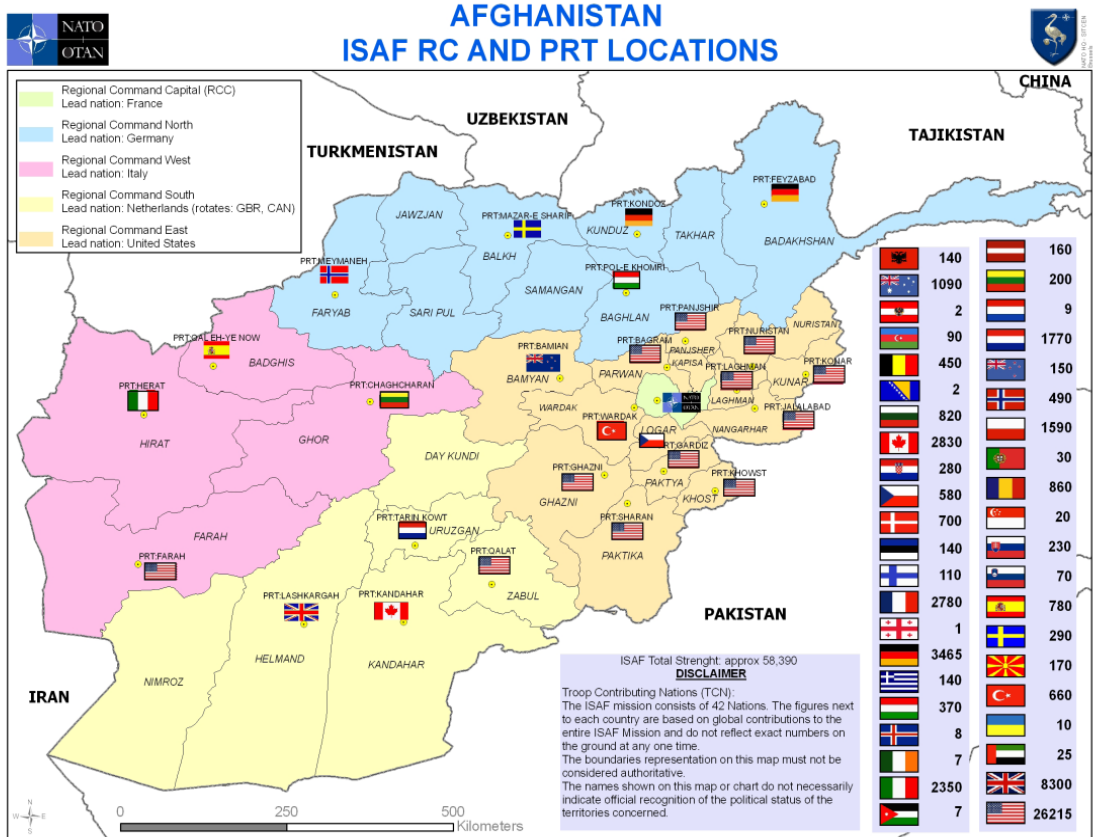
Figure 3.   Afghan PRT locations (From ISAF Maps & Logos, 2010)

In Afghanistan, PRTs were initially positioned under U.S. forces in Operation Enduring Freedom (OEF) until Oct 2006, when "All of the PRTs in Afghanistan have been under one theater military command (ISAF) since October 5, 2006" (ISAF Provincial Reconstruction Team Handbook Edition 4, 2010, P. 1).   While ISAF retains theater level control, individual countries maintain tactical control at the PRT level.   In Iraq, the U.S. maintains theater level control of all PRTs.   With the transition to Iraqi control in 2007, the Office of Provincial Affairs (OPA) was created within the U.S. Embassy Bagdad to provide operational oversight to PRTs (Perito, 2008, p. 49).   This is consistent with the civilian

nature of PRT leadership in Iraq. However, PRTs in Iraq are
still very dependent on DoD logistical support to travel and
operate (United States Institute of Peace, 2007, P. 7).
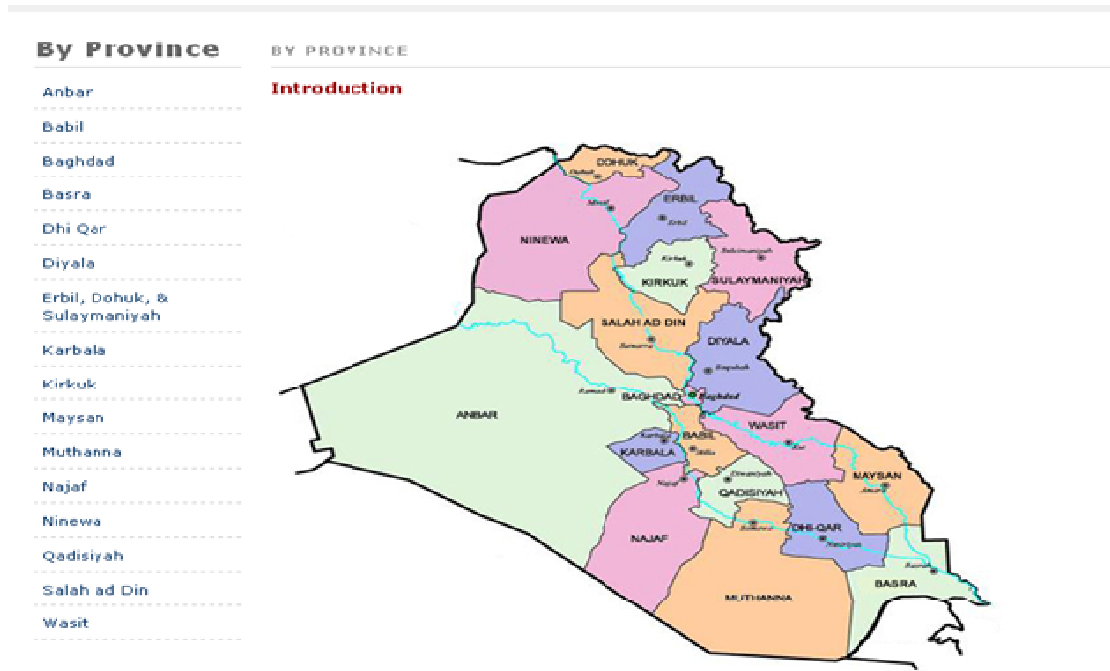
Figure 4.   PRTs in Iraq by province (From U.S. Embassy
                 Bagdad Iraq, 2010)

     PRT structure or makeup was not standardized allowing
maximum flexibility in accomplishing the mission.   In
addition to a lack of standardization, there existed no PRT
doctrine or agreements between interagency organizations to
specific tasks, requirements, or expectations of roles in
PRTs. According to Perito (2008),

        PRTs in Afghanistan and Iraq lack an overarching
        strategy, set of common objectives, and a common
        concept   of   operation   and   organizational
        structure. (p. 5)

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Without overarching guidance, each country leading a PRT developed their own size and structure in an effort to maximize available resources and capabilities. This lack of oversight has contributed to the vast difference in PRT structures across Afghanistan and Iraq. While the lack of standardized structure, doctrine, and agreed upon concept of operations has increased PRT flexibility, it has also hindered cooperative interagency decision making.

B.   U.S. PRTS IN AFGHANISTAN

U.S.-led PRTs in Afghanistan consist of 60-120 individuals. They included a small number of U.S. civilians including representatives from DoS, United States Agency for International Development (USAID), and United States Department of Agriculture (USDA). If the civilian agencies could not support the required positions, it was left to the U.S. military to fill the bodies. In addition to U.S. members, a representative from the Afghan Ministry of interior was assigned to the PRT. The U.S. military components included a PRT commander, two civil affairs teams, operational and administrative staffs, and force protection elements (United States Agency for International Development [USAID], 2006, p. 8). The goals of the Afghan PRTs were to improve security, extend the reach of the Afghan government, and facilitate reconstruction in priority provinces (Center for Army Lessons Learned, 2007, p. 56). Figure 5 shows the U.S. PRT structure utilized in Afghanistan.

```
                    ┌──────────────┐
                    │   Regional   │
                    │   command    │
                    └──────┬───────┘
                    ┌──────┴───────┐
                    │  Task force  │
                    └──────┬───────┘
    ┌──────────────┐       │
    │ State, USAID,│       │
    │ USDA         │┄┄┄┄┄┄ │
    └──────────────┘
```

• PRT commander
• State representative
• USAID representative
• USDA representative

Leadership team

PRT deputy commander

| Administration/ operations | Combat service support | Security | Civil affairs, engineers, and military police |

Military staff

┄┄┄┄┄ Civilian officials report to home agencies

Source: GAO analysis of Department of Defense, State, USAID, and USDA information.
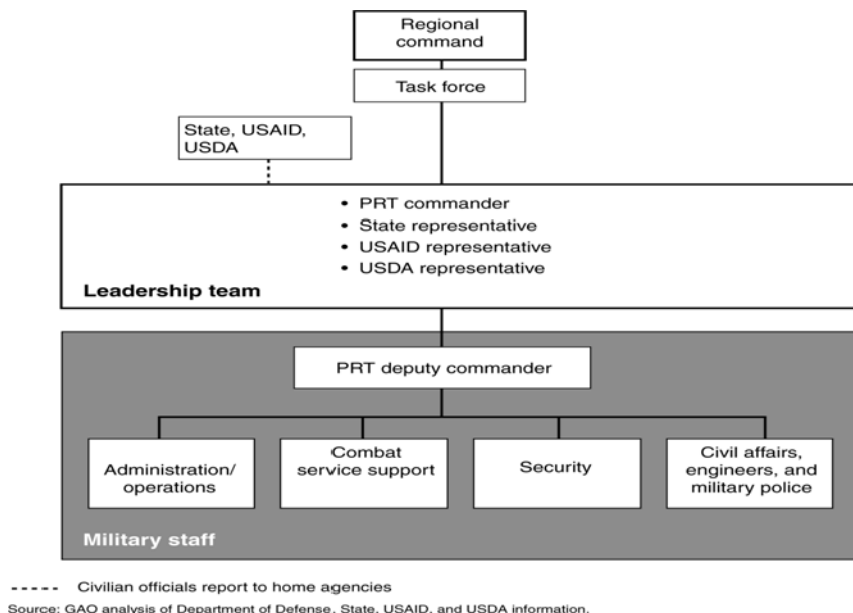
Figure 5.   Structure of U.S. PRTs in Afghanistan (From
                Government Accountability Office, 2008)

The main objective during PRT inception was to have
military and civilian members of the PRT collaborate
maximizing the capabilities of the PRT. In theory, this was
an excellent idea; however, the ability to collaborate was
rarely if ever maximized in practice. There was a lack of
doctrine or standards established defining roles within the
PRT. Fraser (2009) supports doctrine defining PRT roles
saying:

> Defining the civil-military relationship serves
> to create an effective team and delineating joint
> doctrine for "team building" aspect of operations
> will only enhance these CM relationships. (p. 12)

Initially, some military PRT commanders were confused
by the role of civilians within PRTs.

> While initial guidance gave civilians decision-
> making leadership on reconstruction and
> governance issues, many military officers viewed

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civilians as more advisory and believed the commander had final authority over all PRT activities, especially when security challenges seemed paramount. (United States Agency for International Development [USAID], 2006, P. 13)

The lack of clear roles within the PRT caused initial confusion and when not addressed by a competent PRT commander, led to continued PRT problems.

If the military commander of the U.S.-led PRT did not proactively incorporate non-DoD representatives into PRT leadership decisions, the goals of the PRT suffered. (United States Agency for International Development [USAID], 2006, p. 10)

While a military officer technically led the PRTs, there was no real command over civilian personnel. According to officials from State, USAID, and USDA,

civilian officials assigned to PRTs report to their agencies for administrative matters; for example, a State official at the U.S. embassy conducts performance ratings for State Officials assigned to PRTs. (Government Accountability Office, 2008, P. 5)

This leads the DoS member of a PRT to promote DoS agendas and projects into PRT decision making. In an effort to keep his boss or performance rater in the embassy appeased, the DoS member of the PRT needs to push DoS agendas. This causes the DoS member to agree on projects and plans aligned with the DoS agenda and resist ideas disagreeing with DoS policies. Since the DoS individual is potentially rated on his ability to promote DoS policy within the PRT, the interagency collaboration within the PRT suffers.

U.S.-led PRTs in Afghanistan experienced a large disparity in DoD and DoS resources. The DoD resources were overwhelming and led to disproportionate DoD influence in PRTs activities. According to Perito (2008), DoD interest in PRTs included the new, "core U.S. military mission" of stability operations and as tools for winning hearts and minds (p. 48). Thus, PRTs emphasized, "Quick Impact Projects (QIPs), small-scale short term projects aimed at pacifying local populations and building trust" (Perito, p. 48). The DoD was providing the majority of the personnel resources need to fill PRT positions. While the goal was a mix of civilian and military members, the overwhelming majority of PRT members were military. Table 1 shows the number of military members versus civilian personnel assigned to PRTs in Afghanistan.

Table 1. Number of U.S. Military and Civilian Personnel Assigned to PRTs in Afghanistan, 2007-2008 (From Government Accountability Office, 2008)

	DOD	State[a]	USAID[b]	USDA	TOTAL
2008					
U.S.-led PRTs	1021	11	11	12	1055
Other PRTs	N/A	7	8	0	15
Total	1021	18	19	12	1070
2007					
U.S.-led PRTs	994	11	11	7	1023
Other PRTs	N/A	7	9	0	16
Total	994	18	20	7	1039

A central issue for PRT operations and decision making came from the various sources of funding for PRT operations. Funding for PRTs in Afghanistan initially came from DoD's Overseas Humanitarian Disaster and Civic Aid (OHDACA) budget

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(McNerney, 2006, P. 36). Funding shifted to reconstruction aid through ESF and the DoD's Commanders' Emergency Response Program (CERP). CERP funds do not have the bureaucratic processing associated with other funds. According to Malkasian and Meyerle (2009),

> Most funding since 2004 for U.S. PRT activities has come from the Commanders Emergency Response Program (CERP), a fund designed to give U.S. military commanders the ability to spend money quickly on small projects without much bureaucratic processing. (p. 7)

Additionally,

> In October 2006, Afghan PRTs began to implement a successor program to QIP, the new Local Governance and Community Development (LGCD) program. (Katzman, 2010, p. 54)

Often the agency controlling project funding determined the type of project funded. Whatever agency controlled the money, funded projects supporting their agency's goals and policy objectives. DoD has the advantage in procuring money since the CERP funds make up the bulk available resources and they are relatively easy to access.

C.   U.S-LED PRTS IN IRAQ

U.S.-led PRTs used in Iraq are structured different and slightly smaller that U.S. PRTs in Afghanistan. In Iraq U.S.-led PRTs, average about 60 members varying from 35-100 members (Tarnoff, 2007, P. 19). Civilian DoS Foreign Service Officers lead Iraq PRTs with the deputy commander being a military officer. PRTs in Iraq had no defined goals or performance measures. According to Office of the Special Inspector General for Iraq Reconstruction (2007):

in our reports on the status of the PRT Program
in Iraq, issued in October 2006, and July 2007,
we recommend that the U.S. Ambassador and the
Commanding General, MNF-I develop clearly defined
objectives and performance measures to guide the
PRTs and determine their accomplishments.   We
have previously noted limited actions taken to
address this recommendation. (p. 5)

Each PRT was essentially given flexibility to deter
objectives and no measures of performance existed to
determine PRT effectiveness.

Civilian staffing is much larger in Iraq PRTs than
Afghanistan PRTs.   While the civilian staffing is much
larger in Iraq PRTs, the ability of the DoS to recruit
personnel to fill PRT positions is limited. According to a
report from the United States Institute of Peace (2007),
"The State Department had trouble finding volunteers,
particularly among essential mid-level officers with
regional experience and language skills" (p. 3). This lack
of qualified volunteers led the DoS to fill the positions
with whatever individuals could be found and recruited. The
lack of incentive programs enticing top tier DoS individuals
from filling PRT positions lowered the overall PRT
capability.

As with U.S.-led PRTs in Afghanistan, there were no
agreed upon responsibilities and authorization between DoS
and DoD positions. According to the United States Institute
of Peace 2007 report,

Ambassador Khalilzad and Multinational Force
Commander General George Casey issued an "initial
instructions" telegram establishing the PRTs, but
no Washington interagency-approved doctrine or
concept of operations governed the first PRTs in
Iraq.   Nor   are   there   agreed   objectives,

> delineation of authority and responsibility between the civilian and military personnel plans or job descriptions. (p.3)

Individuals assigned to PRTs were given flexibility to establish their own goals and get the job done.

While the organizational chart for U.S.-led PRTs in Iraq appears to delineate authority, it rarely worked that way on the ground. Perito (2008) said,

> Each PRT has a defined leader, but these leaders do not exert command authority over the activities of other agencies' staff members. As a result, there can be incoherence in the planning process. (p. 50)

The lack of clearly defined authority chain, allowed the planning process to have multiple agendas instead of a single joint process. The lack of a single interagency process hindered PRT the decision-making process with each agency supporting its own agenda.

There were initial disputes between DoS and DoD over funding and resources for PRT operations. Security was a major concern for U.S.-led PRTs in Iraq and only military units could provide the needed security. U.S.-led PRTs in Iraq are located on Foreign Operating Bases (FOB) in or near Provincial capitals (Perito, 2008, p. 50). If the military leadership on the base were not willing to provide security needed for PRTs, they were helpless and unable to leave their FOBs.

> Interagency dispute over whether the US military would provide protection….led to many PRTs being virtually paralyzed, unable to deploy from FOBs for prolonged periods of time. (Perito, 2008, p. 50)

Eventually, a Memorandum of Agreement between the DoD and DoS was signed in Feb 2007 providing U.S. military security to PRTs outside the FOBs (Office of the Special Inspector General for Iraq Reconstruction, 2007, p. 5).

PRT funding in Iraq comes from numerous agencies and sources. Originally, the funds came from Iraq Relief and Reconstruction Fund and then transitioned to the Economic Support Funds in three categories. The three categories included PRT/PRDC program, the Local Government Program, and the Quick Reaction Fund (a shared DoS/ USAID fund designed to mimic the flexibility of DoD's CERP)(Report on Iraq Relief and Reconstruction, 2007). PRTs in Iraq also received funds from the DoD's CERP. The multiple and diverse nature of funding streams are confusing to individuals within the PRTs and the local individuals they are designed to help. Michelle Parker a former PRT member had the following to say at a House Armed Services Committee Oversight and Investigations Hearing (2007),

> There must be a better alignment of mission and resources on a PRT level. The military supports security sector reform, USAID supports reconstruction and development, yet neither have funding mechanisms that are appropriate to those jobs.

D. UNITED KINGDOM'S PRTS IN AFGHANISTAN

The U.K. operates three PRTs in Afghanistan with a slightly larger average size than the U.S. model. According to Perito (2008),

> The U.K. PRT model in Afghanistan averaged 100
> personnel of which around 30 are civilians; led
> by a civilian; with an emphasis on local capacity
> building, and an ability to operate in volatile
> areas. (p. 5)

The U.K. model strives to encapsulate the whole government approach with coordination between Foreign and Commonwealth Office (FDO), the Department for International Development (DFID), and the Ministry of Defense (MOD). Jakobsen (2005) says the following comparing U.K.-led PRTs to U.S.-led PRTs, "they [U.K.-led PRTs] differ in that the three components lead the PRT jointly and that the concept of operations is clearer" (p 21). During the early stages of PRT use in Afghanistan, the U.K.-led PRTs were able to establish strong cohesion and buy-in between involved agencies. Perito (2008) stated, "The British PRT model demonstrates a high level of coordination between the ministries, with clear differentiation of tasks between them" (p. 43).

The Post-Conflict Reconstruction Unit (PCRU, later renamed the Stabilisation Unit) was established in an effort to institutionalize the coordination. The Stabilisation Unit's key tasks were assessment and planning, providing experienced civilian personnel to work in insecure countries, identifying collecting and disseminating lessons learned and works in countries at the request of parent Departments and the Cabinet Office (Stabilisation Unit, 2010). While the Stabilisation Unit has been involved in PRT planning since 2005, some question its ability.

U.K.-led PRTs are working toward collective funding. The MOD has far and above more resources than the other two organizations. However, the MOD does not have the ability

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to fund QIPs or give grants. The approved grants are managed by the DFID. The fact the MOD has the resources but requires DFID to approve grants requires interaction and collaboration between the two agencies on funds granted. The U.K. is working to develop a common funding source approved by all three agencies. The "stabilisation fund" and the Global Conflict Prevention Pool are designed to provide unified funding to PRTs (Perito, 2008, p. 43). A common funding source approved by the three agencies would increase the coordination amongst PRT leadership.

The first U.K.-led PRT was located in Mazar-e-Sharif. Individuals from the FDO, DFID, and MOD experienced a strong degree of cohesion equally heading the PRT. The leadership briefed together and took responsibility for their organization's responsibilities within the PRT. The lead FDO representative was fluent in the local language and well versed in local culture enhancing the PRTs capabilities. Information was shared freely amongst PRT leadership. There was a concerted effort not to duplicate non-governmental organization (NGO) efforts already conducted in the region. The British Government engaged in extensive pre-deployment consultation with NGOs, the United Nations, and the local community both during the planning stages and after initiation of activities (Perito, 2008, p. 44). The whole government approach of Mazar-e-Sharif PRT became the model on proper PRT operation. According to Perito (2008), "The Mazar PRT became known as the "British Model" and was viewed by many observers as the best way to organize and operate PRTs" (p. 44).

E.   ANALYSIS OF PRTS

PRTs appear to be a breakthrough approach, essentially bringing together interagency organizations to maximize R&S efforts.   In theory, PRTs should promote the whole government approach effectively collaborating toward common R&S goals and objectives.   The reality of the situation has not produced the results forecast in PRT conception and development.   Many believe while PRTs have not yet produced the results believed possible, they are still improving and providing meaningful results.   According to Drolet (2006), "The concept of Provincial Reconstruction Teams has proven beneficial in both Afghanistan and Iraq" (p. 15).

Initially, PRTs were developed in an ad hoc nature to quickly field the idea.   It has been over seven years since the first PRT was established in Afghanistan and an interagency PRT doctrine still does not exist.   There is a PRT playbook and PRT lessons learned copulation but no defined doctrine for PRT organization and operations similar to DoD Joint doctrine.   In addition, there is no real PRT concept of operations, mission objectives, or specific PRT goals.   Perito 2007 had the following to say testifying before the House Armed Service Committee,

> Improvisation is not a concept of operations. PRTs really need an agreed concept of operations and an agreed organizational structure with a single chain of command. (as cited in U.S. Congress. HCAS, 2008, p. 18)

Furthermore, cooperative decision making is paramount in effective interagency collaboration.   The lack of cooperative interagency decision making has hindered

U.S.-led PRTs from effectively collaborating. According to Ginger Cruz 2007, the Deputy Special Inspector General for Iraq Reconstruction

> On the issue of civil-military integration, the problem that we are finding is that there is really no permanent, predictable method of integrating decision-making and resource-sharing. Instead, there is a patchwork quilt of memoranda of agreements and FRAGOs [fragmentary orders] and military orders and cables that, all together, sort of provide the policy underpinnings that are used by PRTs. (as cited in U.S. Congress. HCAS, 2008, p. 18)

DoD and civilian leadership has been a good fit with highly effective collaboration in only a limited number of U.S.-led PRTs. In such cases, success was "personality driven." Success of PRTs decision making and collaboration cannot rely on personalities. The HASC Oversight and Investigations (2008) had the following to say about individual personalities "Rather than depending exclusively on personalities for success, the right interagency structures and processes need to be in place and working" (p. 32). The U.K.-led PRT in Mazar-e-Sharif was established with effective decision-making processes and structures in place, allowing for effective collaboration between the FDO, DFID, and MOD.

In addition, U.S.-led PRTs have struggled with a lack of unified command. There has been a defined PRT commander. However, that commander lacks true authority over the PRT and individuals assigned to the PRT. One of the findings from the HASC Oversight and Investigations (2008) was

Neither the stabilizations and reconstruction activities, nor the civilian and military personnel serving on Provincial Reconstruction Teams in Afghanistan and Iraq, enjoy unity of command. This shortcoming inhibits unity of effort, which can result in uncoordinated, and even counterproductive, outcomes. (p. 35)

The individuals working for the commander were supervised and reported to individuals outside the PRT organization. This led to conflicting interests for the individuals working within the PRT. Individuals within the PRT were compelled to promote their agency's agendas as opposed to collaborative PRT agendas.

The U.K.-led PRT model included training prior to individuals being assigned to PRTs from its inception. The U.S. has since established training for individuals prior to deploying with PRTs. The training is limited, but it does provide a chance for individuals to gain an awareness of what other interagency partners bring to the PRT. This information flow has begun to break down interagency cultural barriers in decision making. Training needs to continue expansion, increasing the information flow and interagency capabilities and cultural knowledge within all organizations.

U.S.-led PRTs suffered from multiple and mismatched funding sources. DoD CERP funds were easily accessible with little to no bureaucratic red tape. This often led to DoD influence in PRT decision making on what projects were approved; since DoD was funding the project. In an effort to increase PRT effectiveness, PRT funding needs to have a single common fund. According to Perito (2008),

Common funds like the U.K.s planned
'stabilization [sic] fund' will encourage
different agencies represented in the PRT to work
together more closely. (p.18)

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IV. MODELING ANALYSIS

The comparison analysis of DoD and DoS R&S organizational structure and capabilities illustrated a significant DoD resource advantage. The PRT case study comparison showed a lack of cooperation during decision-making processes negatively effects interagency collaboration. The break down in interagency decision-making cooperation was due to a lack of information sharing, differing agency cultural biases, uneven resource allocation, lack of command unity, non-existent interagency doctrine, and multiple funding sources. In some cases, exceptional individuals were able to overcome these obstacles, effectively collaborating during interagency decision making. The example of the U.K.-led PRT in Mazar-e-Sharif showed how effective interagency cooperative decision making could enhance interagency collaboration. In this chapter, Game Theory mathematical modeling is used to analyze DoD and DoS decision making. Zero sum decision making is discussed then the game is transitioned to cooperative decision making. The result of shifting to cooperative decision making is an increase in interagency collaboration.

A. DEFINING THE GAME

Game Theory is a branch of applied mathematics providing a formal modeling approach to situations in which decision makers interact with opposing agents, choosing strategies to maximize returns while taking the opponents strategies into account (Straffin, 1993, p. 3). Initially,

zero sum decision making is discussed with no opportunities for DoD and DoS to cooperate. This simulates the decision-making idea where if DoD wins then DoS loses and if DoS wins then DoD loses. The analysis will progress to a cooperative decision-making game where DoD and DoS have the ability to collaborate and increase interagency effectiveness. Game theory will provide an analysis of the benefits of moving the DoD versus DoS decision making from a zero sum competitive game to a cooperative decision-making game. The game further illustrates a necessity for incentives, promises, and the threat of retribution.

B. QUESTIONS TO BE ANALYZED

As the U.S. continues to conduct R&S operations, will moving from competitive Zero Sum decision making to cooperative decision making increase interagency collaboration between the DoD and DoS? Additionally, what will maximize interagency collaboration during cooperative decision making between the DoD and DoS?

C. THE ZERO SUM GAME

Previous interagency organizations fostered cultures of competitive decision making. Competitive decision making was based on the belief, if I win, then you lose, and if you win, then I lose. This type of decision making negatively affects interagency collaboration since organizations are focused more on promoting their organizational interests and policies than working together for the benefit of the U.S. The beginning of PRT development in Iraq is an example of competitive decision making.

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U.S. military forces had been in Iraq for a few years when the DoS began pushing to employ PRTs. The DoD did not support the development of PRTs in Iraq, but the U.S. Government sided with the DoS and supported PRT development. While the DoS pushed the PRT idea in Iraq, the DoS did not have the resources to make Iraq PRTs self-sufficient. The PRTs were located on FOBs and relied upon the DoD for security and almost all support functions. In order for PRTs in Iraq to leave the FOBs and execute their mission, they needed security support from the DoD. The DoD would have to sacrifice other missions to provide security support to PRTs. Since the DoD did not support the development of PRTs in the first place, they withheld the PRT security support. Without security support from DoD military units, PRTs were helpless and could not leave the bases they were assigned to. The competitive decision-making culture led to a stalemate for about a year. The DoS had won the fight to employ PRTs to Iraq; however, the DoD would not provide any support. The DoD did not support the establishment of PRTs in Iraq and saw the DoS policy as a decision making loss.

This zero sum stalemate took about a year to resolve when a Memorandum of Agreement was signed by the DoS and DoD clarifying what security support PRTs in Iraq would receive. The U.K.-led PRT case study provides evidence cooperative decision making will result in effective interagency collaboration. The U.K.-led PRT developed combined policies and goals and fully supported those policies and goals. When the U.K.-led PRT briefed their plans and results, all agencies members within the PRT stood together explaining the combined policies and goals. The ability of the U.K.-led PRT to effectively collaborate was a result of

cooperative decision making. Increasing interagency collaboration between DoD and DoS requires the game to be changed from competitive decision making to cooperative decision making. Transitioning the game to a cooperative decision-making game will create a partial sum game, increasing game value for individual players as well as overall game value.

D.   PARTIAL SUM GAME

The Partial sum game is set up replacing opposing agencies strategies with a cooperative strategy. Figure 6 represents the set up of the partial sum game between DoD and DoS.

		DoS	
		DoS policy and goals	Combined policy and goals
DoD	DoD policy and goals	AC	AD
	Combined policy and goals	BC	BD

Figure 6.   DoD vs. DoS partial sum decision making notional

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Possible results:

AC–DoD chooses DoD policies and goals; DoS chooses DoS policies and goals

AD–DoD chooses DoD policies and goals; DoS chooses combined policies and goals

BC–DoD chooses combined policies and goals; DoS chooses DoS policies and goals

BD–DoD chooses combined policies and goals; DoS chooses combined policies and goals

The author has established the payoffs or utility of game. Cooperative decision making determined the game's payoffs. The author assumes both players are rational and maximizing their individual outcomes. The author has determined the following rankings of DoD and DoS strategies in Tables 2 and 3. These values are subject to interpretation and individual values.

Table 2. DoD options

DoD Options:
4-Best. DoD chooses DoD policies and goals; DoS chooses combined policies and goals
3-Next best. DoD chooses combined policies and goals; DoS chooses combined policies and goals
2-Least best. DoD chooses DoD policies and goals; DoS chooses DoS policies and goals
1-Worst. DoD chooses combined policies and goals; DoS chooses DoS policies and goals

Table 3. DoS options

```
DoS Options:


4-Best.   DoS chooses DoS policies and goals; DoD chooses
combined policies and goals
3-Next best.   DoS chooses combined policies and goals; DoD
chooses combined policies and goals
2-Least best.   DoS chooses DoS policies and goals; DoD
chooses DoD policies and goals
1-Worst.   DoS chooses combined policies and goals; DoD
chooses DoD policies and goals
```

When the DoD choose their own policies and goals, and
the DoS choose combined policies and goals, it provides the
highest DoD payoff. Typically, the DoD already has boots on
the ground conducting operations, and will have to provide
significant resources to support any R&S operation. The DoD
will have plans developed with policies and goals
determined. With the DoS choosing combined policies and
goals, the DoD will have strong leverage since they are
pushing DoD policies and goals while the DoS is pushing for
cooperation. The outcome will be combined policies and
goals similar to DoD's policies and goals.

DoD's second best utility is when both DoD and DoS
choose combined policies and goals. The DoD continues to
place a significant emphasis on joint operations and
training. The DoD rewards individuals for joint duty
assignments and education. In addition, the DoD has a
strong culture of doing what is required for successful

mission completion. Most believe in the current environment, a whole government approach is needed to successful execute R&S missions.

DoD's third best utility occurs when the DoD choose DoD policies and goals and the DoS choose DoS policies and goals. This results in a potential stalemate as resulted in the zero sum game. Even though the DoD has a significant resource advantage the S/CRS has been placed in charge of R&S operations. This situation results in the possibility DoS policies and goals will be adopted over DoD policies and goals. Combined policies and goals allow the DoD to provide some input into the policies and goals, whereas the DoD has no say in DoS policies and goals.

The DoD's worst option occurs when the DoD choose combined policies and goals and the DoS choose DoS policies and goals. This situation gives the DoS advantage in the decision making process. The DoS in pushing their polices and goals while the DoD is working for cooperation. The overall R&S policies and goals adopted are more likely to resemble the DoS policies and goals.

Examining the utility of the game from the DoS perspective reveals similar utilities. When the DoS choose their own policies and goals and the DoD choose combined policies and goals provide the highest DoS payoff. The S/CRS of the DoS has been placed in charge of R&S operations and is thus potentially responsible for any R&S operation. The DoS wants the overall R&S policies and goals to resemble DoS polices and goals. With the DoD choosing combined policies and goals, the DoS will have strong advantage since they are pushing DoS policies and goals while the DoD is

pushing for combined policies and goals. The outcome will be combined policies and goals resembling DoS's policies and goals.

DoS's second best utility is when both DoS and DoD choose combined policies and goals. The DoS is well aware they do not have the resources available to support R&S operations. Successful R&S operations will require DoD resources. While the DoS wants to promote DoS policies and goals to further the DoS, the DoS believes a whole government approach is needed for successful R&S mission execution.

DoS's third best utility occurs when the DoS choose DoS policies and goals and the DoD choose DoD policies and goals. This results in a potential stalemate as resulted in the zero sum game. This outcome is similar to DoD's third best outcome discussed previously.

The DoS's worst option occurs when the DoS choose combined policies and goals and the DoD choose DoD policies and goals. This situations gives the DoD advantage in the decision making process. The DoD is pushing their own polices and goals while the DoS is working for cooperation. The overall R&S policies and goals adopted are more likely to resemble the DoD policies and goals.

Based on the rankings of the options listed above in Tables 2 and 3, the following "game" is used to determine the Nash Equilibrium.
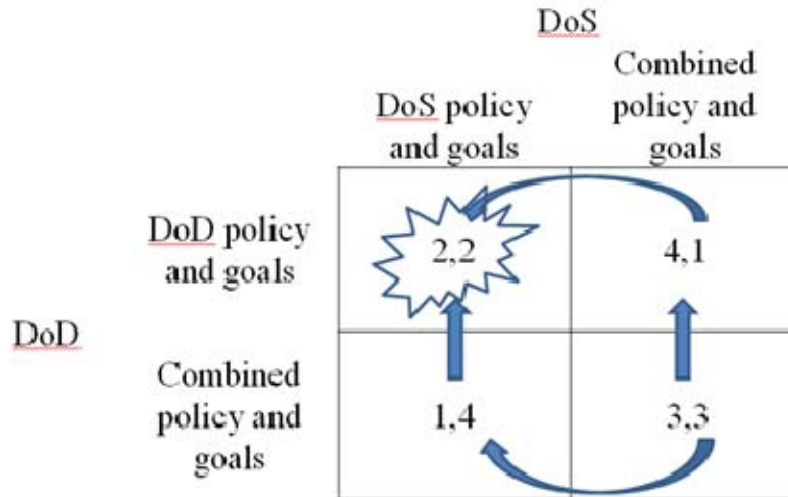
Figure 7.   DoD vs. DoS

When visualizing the "game," we see the classical Prisoner's Dilemma game. Both DoD and DoS have dominant strategies. The dominant strategies are to choose the strategy with their organization's policies and goals. The Nash Equilibrium is at (2,2)—DoD chooses DoD policies and goals, and DoS chooses DoS policies and goals. While the outcome (3,3) looks promising, it is very unstable since both DoD and DoS can improve from this position. An example of the defection from combined policies and goals to individual organizational policies and goals was noted in U.S.-led PRTs in Afghanistan. While a military commander led PRTs, the military commander did not rate the performance of DoS individuals within the PRT. The performance of DoS individuals within the PRT was evaluated and documented by DoS Embassy personnel. In an effort to receive good performance ratings, DoS individuals within the PRT pushed DoS Embassy policies and goals. These DoS individuals within PRTs would support combined policies and

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goals as long as the combined policies and goals were similar to the DoS Embassy policies and goals. Once the combined policies and goals differed from the DoS Embassy policies and goals, the DoS individual would defect, opposing the combined policies and goals. The military PRT commander would have no recourse, since they did not rate the DoS individual within the PRT.

The influence project funding had on PRT policies and goals additionally illustrated the tendency to defect to individual organizational policies and goals. Numerous funding sources were utilized to pay for PRT projects. The result was the organization controlling the money, controlling the policies and goals. In order to obtain project funds, the PRT project needed to support the funding organizations policies and goals. The combined policies and goals were supported as long as those policies and goals sought to accomplish projects the funding organization wanted to see completed. If the projects disagreed with the funding organizations policies and goals, the project would not receive funding.

These examples illustrate the classical Prisoner's Dilemma game. Strategic moves can determine if a better outcome is achievable. However, we know ultimately the ability to improve the game will take incentives, assurances, and/or threat of punishment.

1. Strategic Moves and Prudential Security

Potential strategic moves were evaluated for both players, DoD and DoS. The starting points for the strategic moves are listed below.

-The likely outcome without communications is (2,2)

-DoD has a dominant strategy of choosing DoD policies and goals

-DoS has a dominant strategy of choosing DoS policies and goals

-A Nash equilibrium exists at (2,2)

Evaluating DoD strategic moves produces the following results. A first move from DoD or forcing DoS to make the first move produces the DoD's third best outcome (2,2). There is no improvement from playing the game without communications. The DoD does not have a threat since that option does not hurt DoS. The only potentially beneficial strategic move is a promise, which would move the game to (3,3) if the promise is carried out and believed by DoS. Evaluating DoS's strategic moves produces the same results. The only beneficial strategic move is a promise, which if carried out and believed by the DoD would produce an outcome of (3,3). The outcome for both players at (3,3) is their second best outcome.

In evaluating each player's prudential security, one player will be maximizing, while the other player is minimizing. The DoD's security level will be found by evaluating the DoD's game while the DoD is maximizing and the DoS is minimizing. The security level for each player demonstrates the highest value of the game that player can ensure if the other player moves to a strategy of minimizing.

Figure 8 shows the results of the DoD's game when played alone. The DoD is attempting to maximize the game while DoS is attempting to minimize DoD's outcome. The prudential strategy for the DoD is choosing DoD policy and goals resulting in a security level of two.
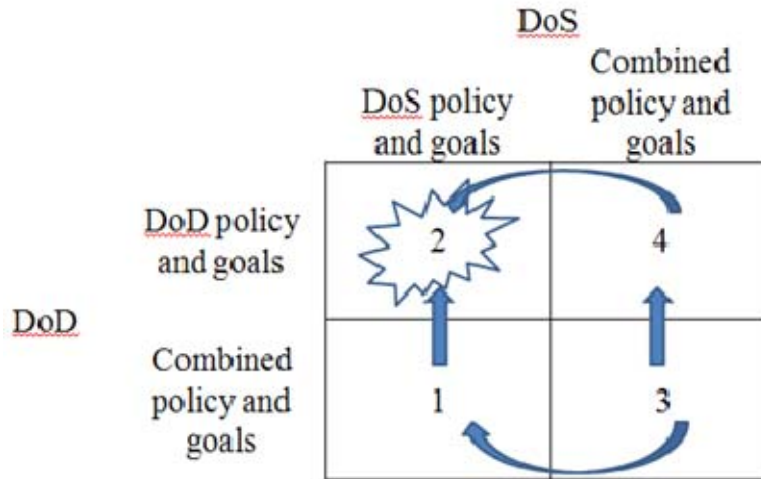

Figure 8.   DoD Security Level

Figure 9 shows the results of the DoS's game when played alone. The DoS is attempting to maximize the game while DoD is attempting to minimize DoS's outcome. The prudential strategy for the DoS is choosing DoS policy and goals resulting in a security level of two.
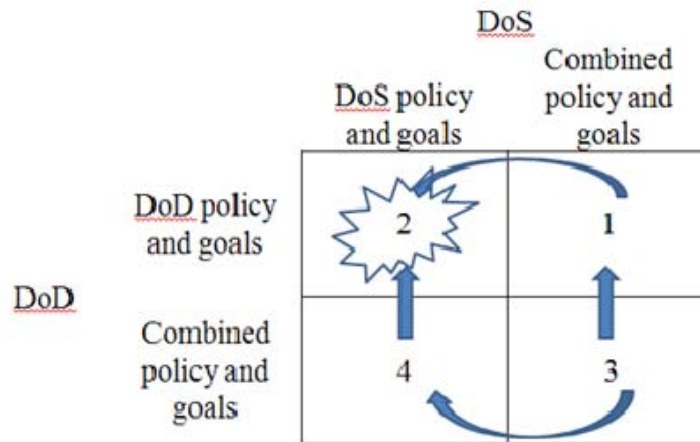
Figure 9.   DoS Security Level

The results of examining each player's games individually produce security levels of two for both players. It also demonstrates prudential strategies that are the same as the individual's dominant strategies. The security level of the game is the same as the game outcome when played conservatively without communications. Interval scaling will be used to further examine the game to determine how to implement policies or agreements to maximize the game.

2. Interval Scaling

In order to further evaluate the game, an interval scale from zero to ten will be used to weigh the DoD and DoS options. The options were ranked with ten being the best and zero being the worst. The best option (and awarded a "10") is for the DoD to choose DoD policies and goals while the DoS chooses cooperative policies and goals. This gives the DoD a significant edge in ensuring the overall policies and goals will be similar to their policies and goals. The

next best option occurs when both the DoD and DoS choose cooperative policies and goals. In this case, the DoD is in agreement with the cooperative policies and goals, which will ultimately be in line with the overall operational policies and goals. The value assigned to this option for the DoD is eight. The DoD has shifted culture from an individual organization to a Joint mindset. The operational focus and result-based mindset leads to a willingness to work together to accomplish the mission. Even when organizations and individuals within the DoD do not like each other, they have the ability to put differences aside to accomplish the mission. With that being said, the third best option is when DoD chooses DoD polices and goals and DoS chooses DoS policies and goals. This option is given a value of two. The low score is due to the potential overall operational polices and goals will not be aligned with DoD policies and goals. The DoD's worst outcome (awarded a "zero") is occurs when the DoD chooses cooperative policies and goals while the DoS chooses their own policies and goals. This results in the overall policies and goals aligning more with DoS policies and goals than DoD policies and goals.

The options available to DoS are essentially in line with DoD options. The best option (awarded a "10") is for DoS to choose DoS policies and goals while DoD chooses cooperative policies and goals. This gives the DoS a significant edge in ensuring overall policies and goals will be similar to their policies and goals. The next best option occurs when both DoS and DoD choose cooperative policies and goals. In this case, DoS is in agreement with cooperative policies and goals, which will ultimately be in

line with overall operational policies and goals. The value assigned to this option for DoS is five. The DoS is significantly smaller in size, capacity and funding compared to the DoD. The political struggles for larger budgets are often political and based on recent accomplishment. When DoS has a larger impact on overall operational policies and goals, it provides political capital to DoS. In the eyes of DoS, this will result in larger future budgets and expanded roles. With that being said, the third best option is when DoS chooses DoS polices and goals and DoD chooses DoD policies and goals. This option is given a value of three. The low score is due to potential overall operational polices and goals that may not be aligned with DoS policies and goals. The value is slightly higher than the DoD score on its same option since the DoS is bureaucratic and believes it has a political advantage in aligning the overall operational policies and goals with proposed DoS policies and goals. The DoS's worst outcome (awarded a "zero") occurs when DOS chooses cooperative policies and goals, while the DoD chooses their own policies and goals. This results in the overall policies and goals aligning more with DoD policies and goals than DoS policies and goals.

3. The Game with Cardinal Values

Tables 4 and 5 represent the updated options with cardinal values.

Table 4. DoD options with cardinal values assigned

DoD Options:
10-Best. DoD chooses DoD policies and goals; DoS chooses combined policies and goals
8-Next best. DoD chooses combined policies and goals; DoS chooses combined policies and goals
2-Least best. DoD chooses DoD policies and goals; DoS chooses DoS policies and goals
0-Worst. DoD chooses combined policies and goals; DoS chooses DoS policies and goals

Table 5. DoS options with cardinal values assigned

DoS Options:
10-Best. DoS chooses DoS policies and goals; DoD chooses combined policies and goals
5-Next best. DoS chooses combined policies and goals; DoD chooses combined policies and goals
3-Least best. DoS chooses DoS policies and goals; DoD chooses DoD policies and goals
0-Worst. DoS chooses combined policies and goals; DoD chooses DoD policies and goals

The results of evaluating the game with newly assigned cardinal values are summarized in Figure 10 and the section below.
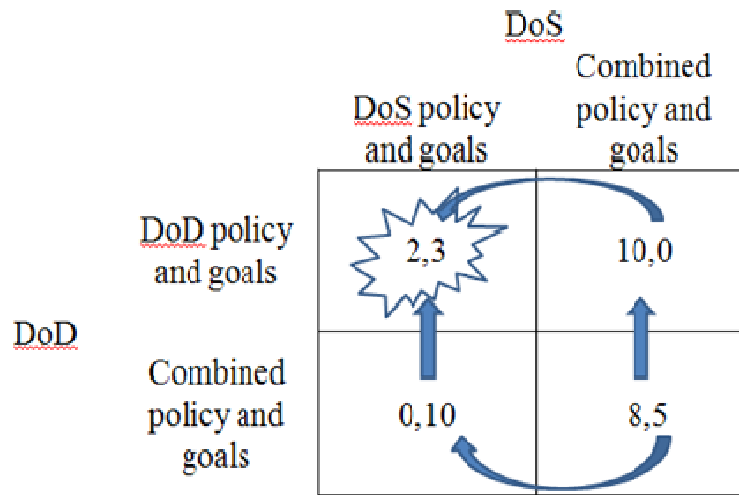
Figure 10.   DoD vs. DoS with cardinal values

The game with cardinal values essentially produces the same results as the first game.

-The likely outcome without communications is (2,3)

-DoD has a dominant strategy of choosing DoD policies and goals

-DoS has a dominant strategy of choosing DoS policies and goals

-A Nash equilibrium exists at (2,3)

-DoD's only strategic move is a promise

-DoS's only strategic move is a promise

-DoD's prudential strategy is choosing DoD policies and goals results in security level two

-DoS's prudential strategy is choosing DoD policies and goals results in security level three

Evaluating the game, we can see the Nash Equilibrium of (2,3) is not an acceptable solution for the game. While Nash arbitration illustrated in appendix B does provide a higher outcome for the game, a mixed strategy game is not feasible in making national security decisions. To eliminate the mixed strategy requirement, the DoS value of the game for its second best option could be raised. DoS's second best option occurs when both the DoS and DoD choose cooperative policies and goals. Raising the value from five to seven would result in a pure strategy solution, achieving the Nash Point. The results from the likely outcome, Nash Equilibrium, strategic moves, and security levels would remain the same. However, the Nash Point would be (8,7) with DoS playing a 100% strategy of combined policies and goals. Potentially the use of standard operating procedures, memorandum of understandings, and interagency doctrine could increase the cardinal value of the game. While the value of the game could be increased to (8,7) the result is still unstable. The Nash equilibrium will remain at (2,3). The resulting outcome of (8,7) looks very promising, but as with all Prisoner's Dilemma games, the only way to improve the game overall is through incentives, promises, and/or threat of retribution.

4. Incentive, Promises, and Threat of Retribution

The results of strategic moves demonstrated both DoD and DoS could improve with the use of a promise. A successful promise requires the organization making the promise to be credible and able to influence the other

player to accept the promise. In addition to maintaining the promise, a threat of retribution needs to exist. If the promise is broken, either player can improve their position and subsequently place the other player in their worst position. The use of incentives presents the same problem as the promise. If there is no threat of retribution, either player can move the game to their optimal solution and the opposing player's worst solution.

A solution to the DoD versus DoS game is for R&S funding levels to be based on levels of interagency cooperation. For this to work, an oversight agency or board would need to be created to determine the level of interagency cooperation. The oversight agency would use defined measures of performance and effectiveness metrics to evaluate R&S interagency cooperation. This would be similar to bonuses achieved in the civilian sector for meeting defined goals and milestones. Ideally, both the DoS and DoD would agree upon these metrics. When DoD and DoS both choose cooperative policies and goals, funding incentives would be provided to both the DoD and DoS R&S operational funds. When both agencies choose their respective policies and goals, there would be no funding incentives. These incentives would also work as a threat, since if they do not cooperate, they do not receive funding incentives.

Furthermore, decision makers for both organizations need to be held accountable for the level of cooperation. In many cases, there is no unity of command within R&S operations. The level of cooperation is high until DoD or DoS decision makers do not agree, then the decision making becomes competitive. The examples of U.S.-led PRTs in Iraq

and Afghanistan provide supporting evidence. Without a designated individual in charge, who is able to hold DoD and DoS individuals accountable, interagency cooperation is limited. Unity of command within R&S operations must exist to provide an effective threat of retaliation.

E.   CONCLUSION

Game theory can provide a useful lens to examine interagency decision making between DoD and DoS during R&S operations. Competitive decision-making ideologies have no place in interagency operations. In order to increase interagency collaboration, R&S decision making needs to transition to cooperative decision making. In addition, there needs to be an increase in the level of information available for DoD and DoS decision makers to maximize the game. The use of R&S interagency doctrine, memorandums of agreement, and standard operating procedures provide solutions to increase the level of information available. The use of promises between organizations would increase the value of the game; however, there will need to be some measure of assured retribution. Incentives are another possible solution to increase the game. Funding incentives may be the answer, providing both incentive and threat of retribution. If DoD and DoS choose to cooperate, then funding is increased, but when cooperation ceases funding is cut. Within a system where a government organization's methods of increasing funding drive their policy decisions, funding incentives have a lot of potential.

V. CONCLUSION

In the future, failed and failing states are, and will, continue to be a national security threat to the U.S. The ability for the U.S. to effectively conduct R&S operations and crisis management is essential to mitigating the threat from failed and failing states. Since the end of the Cold War, the framework for conducting R&S operations has evolved. The entire U.S. government agrees a whole government approach is needed to effectively conduct R&S operations and crisis management. The two main organizations controlling R&S operations and crisis management are the DoS and DoD. The S/CRS of the DoS has been placed in charge of coordinating R&S operations and crisis management. Yet, they do not have the resources to support the operations. The DoD is the only organization with the vast resources required to conduct R&S operations and crisis management.

The decision-making relationship has been competitive between the DoD and DoS. This produced a zero sum game where if one organization won the other lost. This zero sum competitive decision making led to ineffective interagency collaboration during R&S operations. U.S.-led PRTs in Iraq were basically useless for about a year due to competitive decision making. The PRTs needed security provided by the DoD, however the DoD was not willing to provide the security support. This led to the PRT being stranded helplessly on FOBs where they were stationed. After nearly a year, the DoD

and DoS signed a Memorandum of Agreement establishing PRT security support requirements. This allowed the PRTs to leave FOBs and conduct R&S operations.

The ability to move from competitive decision making to cooperative decision making dramatically improves interagency collaboration. The U.K. PRT in Mazar-e-Sharif was able to bring together individuals from the FOD, the DFID, and the MOD. The cooperative decision making established combined goals and policies uniting the PRT and increasing interagency collaboration. Many believe the U.K. PRT was the gold standard to use in PRT establishment and operation.

Modeling provides an analytic framework utilizing Game Theory's principles of strategy and risk calculation to illustrate the likely outcome of the decision-making interaction between the DoD and DoS. DoD and DoS decision-making strategies are assigned payoff numbers then the game proceeds to determine the likely outcome of the combined strategies. The resulting gaming matrix is a Prisoner's Dilemma, meaning each player will choose to better his or her outcome by betraying any promise made to the other player. Both the DoD and DoS have significant but different advantages in the R&S decision making game. The S/CRS of the DoS has been placed in charge of R&S crisis management and operations. While the DoS has been placed in charge, the DoD has significantly more resources available to support R&S operations. The DoS requires DoD resources to accomplish R&S crisis management and operations.

DoD and DoS organizationally know the best approach to effective interagency collaboration is through a whole government approach. While on paper the whole government approach is agreed upon, in execution the idea falls short. Interagency collaboration works well until individual organizational policies and goals differ from the combined policies and goals. Once the policies and goals differ the DoD or DoS decision maker defects to support individual organizational policies and goals. Incentives, promises, and the threat of retribution need to exist to keep DoS and DoD decision makers from defecting to their organizational policies and goals.

Information sharing between the DoD and DoS will increase the overall level of the game. The ways to increase the level of information are to create interagency R&S doctrine and publications. This would also include Memorandums of Agreement between the DoD and DoS laying out organizational responsibilities and tasks. The R&S doctrine, interagency publications, and Memorandums of Agreement would help move R&S operations to have clearly defined operating procedures and goals. Information sharing can only increase the value of the game if cooperative decision making exists. Unified funding with incentives tied directly to defined levels of cooperative decision making and unity of command will promote cooperative decision making.

A.   RECOMMENDATIONS

R&S crisis management and operations is funded through multiple sources with the funding agencies controlling what projects are funded. This hold on R&S funding allows the

individual agencies to control R&S decision making. When
the policies and goals are not in line with the funding
agencies policies and goals, projects are not funded. In
PRT examples, the DoD controlled funding through CERP funds.
The majority of the projects funded were quick impact
projects supporting the DoD policies of seeing immediate
results.

To eliminate the funding agencies from influencing R&S
crisis management and operations, a single funding source
should be established that is separate from the DoD and DoS.
This single funding source should support projects that are
in line with combined DoD and DoS policies and goals. The
combined policies and goals should be determined early on to
provide a clear operating concept for R&S operations. In
addition to a single R&S operational funding source,
incentive funding should be tied to levels of interagency
cooperative decision making. Incentives for cooperative
decision making need to based on agreed upon metrics and
regulated by a separate oversight agency. These incentives
would work similar to a civilian sector bonus for achieving
established goals and timelines. The DoD and DoS would
receive incentive funding for R&S crisis management and
operations based on their level of cooperative decision
making with R&S crisis management and operations.

The second recommendation is to create a unified
command structure within R&S crisis management and
operations. Creating this unified command structure will
keep accountability on DoS and DoD decision makers within
R&S crisis management and operations. The decision makers
need to be held accountable for their level of cooperative

decision making. As seen in the examples of U.S.-led PRTs in Afghanistan, a military commander was in charge on paper but really had no control over DoS personnel within the PRT. The DoS personnel were evaluated and rated by DoS individuals within the Embassy.

The unified command structure needs to be established by interagency doctrine and publications to clearly define roles, responsibilities and authorities. A unified command structure would also help to create clearly defined operating concepts and solidify individual agency roles within R&S crisis management and operations. The environmental factors and situational needs could determine if a DoS or DoD individual was placed in command. However the individual in command needs to have authority over all the personnel.

Failed and failing states will continue to persist as U.S. national security threats. R&S crisis management and operations will continue to be required. A whole government approach and interagency collaboration sounds easy and good on paper, but is extremely difficult in the field. The military has been working to master joint operations for over 20 years and arguably still has a long way to go. Interagency collaboration during R&S crisis management and operations needs to be effective now, not 20 years down the road.

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APPENDIX A. GAME THEORY AND THE WARRIOR DIPLOMAT: USING GAME THEORY TO INCREASE INTERAGENCY COOPERATION IN STABILITY AND RECONSTRUCTION OPERATIONS

A.   GAME THEORY TERMINOLOGY

In an effort to increase the understanding of methods used, the following terms are defined when using game theory:

1.   The Payoff Matrix of a game is the matrix wherein each row corresponds to a player's maximizing strategy, each column corresponds to a players minimizing strategy, and the matrix entry is the payoff resulting from the strategy choices of that row and column.

2.   Zero-sum describes a situation in which a player's gain or loss is exactly balanced by the losses or gains of the other player. It is also called a competitive game.

3.   Nash equilibrium, named after John Nash, in which each player is assumed to know the equilibrium strategies of the other players, and no player can benefit from changing only his or her own strategy unilaterally.

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APPENDIX B.   GAME THEORY AND THE WARRIOR DIPLOMAT: USING GAME THEORY TO INCREASE INTERAGENCY COOPERATION IN STABILITY AND RECONSTRUCTION OPERATIONS
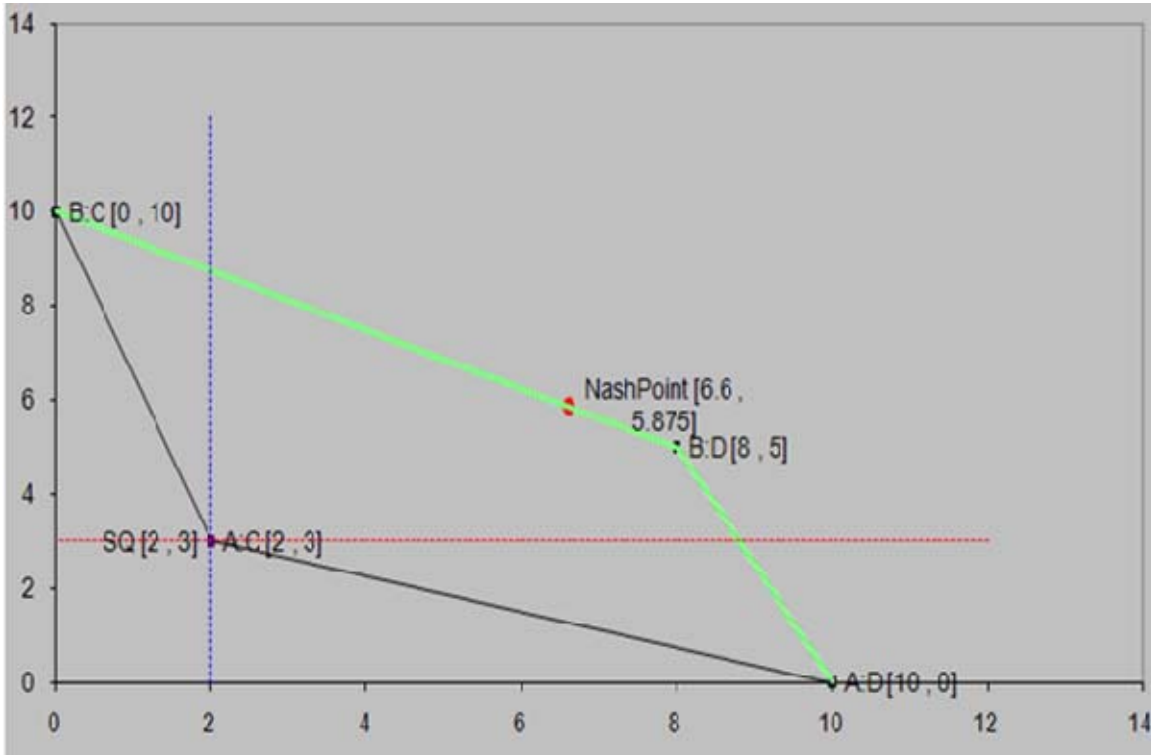
A.   NASH ARBITRATION

Figure 11.   DOD vs. DOS graph computing Nash arbitration solution

The following are assumed values for the graph.

A:C-DOD chooses DOD policies and goals; DOS chooses DOS policies and goals

A:D-DOD chooses DOD policies and goals; DOS chooses combined policies and goals

B:C—DOD chooses combined policies and goals; DOS chooses DOS policies and goals

B:D—DOD chooses combined policies and goals; DOS chooses combined policies and goals

The graph in Figure 11 depicts the payoff polygon for the game with cardinal values. The security levels of the DOD and DOS (2,3) are also depicted. The Pareto Optimal points are the Line Segments B:C-B:D-A:D. The fair point for the game, or the Nash Point, is (6.6, 5.875). In order to reach the Nash Point, the following strategies need to be played by respective players. DOD plays a strategy of combined policies and goals 100% of the time and DOS plays a strategy of DOS policies and goals 17.5% of the time and combined policies and goals 82.5% of the time.

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