ABSTRACT

NATIONAL DEFENSE UNIVERSITY'S INFLUENCE ON U.S. NATIONAL SECURITY POLICY: CASE STUDY ABOUT THE CENTER FOR THE STUDY OF WEAPONS OF MASS DESTRUCTION

Ann E. Rondeau, Ed.D.
Department of Counseling, Adult and Higher Education
Northern Illinois University, 2010
Lemuel Watson, Director

This dissertation touches on a series of events leading to an aspect of United States public policy dealing with weapons of mass destruction (WMD). After exploring the literature that describes the understanding of public policy, this paper uses the case study method to understand why and how a single research center and a particular set of circumstances and events led to the development of United States WMD elimination policy. The study is guided by two framing questions and three supporting questions. The framing questions are:

1. How did the National Defense University's Center for the Study of Weapons of Mass Destruction (WMD Center) influence U.S. policy?
2. How did the WMD Center's research influence the new policy and mission area for the Department of Defense's WMD elimination mission?

The three supporting questions are:

3. Why is a U.S. policy on elimination of WMD necessary

4. How did research inform policy on elimination of WMD?
5. Why did policy-changing research occur at the NDU Center for the Study of Weapons of Mass Destruction rather than at a similar institution of higher education?

The dissertation posits that the WMD Center significantly influenced U.S. policy in ways accommodated by a collegial and collaborative culture of non-attribution and expertise providing a non-partisan environment committed to a practical outcome. Methodologically, the dissertation explores the nature of public policy development and research perspectives of policy analysis in theory and then takes a case study approach to coherently and logically understand the affects and effects of research influence on public policy in a specific place, time, and context. Specifically, this study then applies the case study approach to considering the environment, forces, and causes that contributed to the WMD Center's leadership role in creating the WMD elimination mission.

NORTHERN ILLINOIS UNIVERSITY

DEKALB, ILLINOIS

DECEMBER 2010

NATIONAL DEFENSE UNIVERSITY'S INFLUENCE ON U.S. NATIONAL SECURITY POLICY: CASE STUDY ABOUT THE CENTER FOR THE STUDY OF WEAPONS OF MASS DESTRUCTION

BY

ANN E. RONDEAU

A DISSERTATION SUBMITTED TO THE GRADUATE SCHOOL

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE

DOCTOR OF EDUCATION

DEPARTMENT OF COUNSELING, ADULT AND HIGHER EDUCATION

Thesis Director
Dr. Lemuel W. Watson

ProQuest LLC
789 East Eisenhower Parkway
P.O. Box 1346
Ann Arbor, MI 48106-1346

ACKNOWLEDGEMENTS

I wish to express my sincere appreciation, abiding respect, and admiration for my dissertation committee professors at Northern Illinois University, especially my primary thesis adviser, Dr. Lemuel Watson, for his guidance and sound advice. Through four dissertation chairs and several committees, the NIU College of Education faculty has been steadfast, persistent, patient, and faithful in its support of this endeavor, for which I am profoundly grateful.

Without the daily guidance and learned assistance of Dr. John Yaeger and the keen eye and professional judgment of the manuscript editor, Ms. Eileen Daniels, I could not have finished this project, nor had as much fun discovering the remarkable stories of the National Defense University. I thank them for their constructive criticism, encouragement, and good humor. I also thank Mr. Adam Jungdahl for his most capable skills at translating a concept into a discernible model and graphic.

I will always be immensely grateful and indebted to the director of the Center for the Study of Weapons of Mass Destruction, Dr. John Reichart, and all the researchers and participants who so expertly contributed to this study. They opened themselves, their doubts, their victories, their certainties, their retrospective reflections and their own journeys of discovery and professional performance to this interested and inquiring "outsider" who was not part of their strongly bonded team. Their forthrightness was of enormous value. Their service to our country will go largely

unheralded and in this very fact they stand even taller as exemplars of "doing the right thing" in informed and objective ways for our nation and humankind. They are a remarkable team for whom acknowledgement is less important than their positive effects on working to ensure that the world is a safer place.

Special acknowledgement is warmly accorded to Ms. Susan Lemke, Special Collections Librarian, and to all librarians at the National Defense University Library. They are a focused team of extraordinary professionals who are tireless in their passions toward assisting researchers, scholars, students, and faculty in their quest for knowledge and information.

It is with special thanks that I acknowledge my family and friends for their encouragement, belief, confidence, support and embracing smiles. I also want to acknowledge my personal staffs over the past several years, especially the staff members at USTRANSCOM and NDU. I thank them for all their assistance.

Lastly, I would like to acknowledge those who are involved in the search for a safer world, one without the fear of the use of weapons of mass destruction.

DEDICATION

I dedicate this work to my mother and sister. They have been enormously inspiring to me for a lifetime – always encouraging, passionate, and steadfast in pursuit of knowledge, the delights of our sensory world and the satisfactions of the intellect. They have always inspired asking the best questions toward greater insights and have always engaged in the most vibrant and interesting discussions toward greater discernment and wisdom.

I also dedicate this work to those civil servants of the United States government who have taken prudent risks, pursued excellence, exercised professionalism, sought effective and positive solutions and who have run the distance in good and right service to the nation and the American people. Amongst these public servants are the scholars and researchers noted in this paper as well as my own parents and sister.

TABLE OF CONTENTS

Chapter Page

Chapter Page

Chapter Page

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

CHAPTER 1

INTRODUCTION: UNDERSTANDING PUBLIC POLICY

Today, the men and women of our National Defense University are helping to frame strategies through which we are fighting and winning the war on terror. Your Center for Counter-proliferation Research [renamed the Center for the Study of Weapons of Mass Destruction] and your other institutes and colleges are providing vital insight into the dangers of a new era.

President George W. Bush
Speech at NDU, May 2001

Since the founding of Harvard University in 1636 (Morison, 1935), the American university system has constantly evolved. John Dewey (1916) reminded higher education of its role by drawing attention to the fact that education must have some frame of reference toward which to move with a unifying objective. He believed that the unified frame was democracy and its function was to build a civil society. This study will examine a recent specific example of how research in higher education contributes to a civil society.

Several key elements go into the development of sound public policy: perceived need, strategic imperatives, national will, informed research, effective leaders, effective processes, effective relationships, and a degree of serendipity in the confluence of forces and events that lubricated the flow of movement toward policy development, establishment, and implementation. Professionally acquired knowledge and experience at the tactical, operational, and strategic levels in the matter of nuclear warfare and a

fundamental understanding of the effects of weapons of mass destruction are essential toward understanding the larger topic of weapons of mass destruction. Critical strategic thinking is vital toward enduring and relevant public policy. Informed outcomes matter.

Hence, *To what end?* and *Why?* are intriguing questions at many levels. When the objective question is answered existentially with the single answer of survival, the mind pressurizes focus with *How?* It is then that the intellect grasps that the process – the how – may itself be largely determinative of the correct and most effective response. With that realization comes the imperative to correctly understand the environment, forces and causes that affect the *how*. In a democracy the *how* and *why* and *to what end* are essential elements of public policy. A key requirement for the analyst and researcher is to understand what informs, influences, and drives public policy in ways that make it as constructively effective as possible and to further understand how applied research and analysis can bring particular insights to the effects of public policy (Lasswell, 1936).

The act of understanding public policy retrospectively and prospectively belies purposeful action, experiential understanding, intellectual vitality, and pragmatic adaptability dispositive to the activity of free societies. Analytical understanding informs actions and presupposes the elements of public policy: objective and subjective factors, feedback, evaluations, assessments, implementation, resources, redress, modifications, approval, expansion, contraction, adjustments, participation, debate, and political environment. There is a normative and phenomenological quality to the merits and value of public policy.

Policy development and understanding of desired outcomes in a democracy further predisposes toward a view that knowledge looms large both as input and outcome of analysis. Knowledge is viewed as means and ends in the intentions, understanding, and implementation of public policy. There are epistemological and phenomenological qualities to the expectations of public policy.

Policy within a democracy should make sense, be rational, measurable and assessable, reasonable and supportable. Policy should be largely supported through majority consensus and should have as its main impact improved outcomes. The effects of policy have obvious practical and pragmatic qualities that require practitioner perspective.

Analyzing public policy is a natural act within the din and dissonance of democracy's discourse and the very act of engaging in the grand opus of democracy compels an analytical understanding of the effects of public policy. What then defines its order, consonance and harmony? How do we learn, understand, interpret, and critically assess the symphony of public policy?

Understanding these questions is important to interpreting that part of our lives, our identities, and those parts of our essence that we know through our citizenship. Language, purpose, value, identity, and connectedness are parts of lives that are defined through Aristotle's definition of polity. Human beings are fundamentally social beings and social essence implies interaction, personal experiences, mutual interdependences, and decisions about how *what* affects *whom*.

Political Considerations and Public Dialogue

Within this context, the activity of analyzing the origin, meaning and effects of public policy needs to be understood. This activity is all the more interesting and critical when considering how the polity feels about and acts upon their group notions of an educated and knowledgeable citizenry. This activity also serves to inform decision makers about directions and vectors that most appropriately address a problem or opportunity. Knowing and knowledge are indeed power in this sense. How and why public policy approaches the development of knowledge says much about how the polity – the people – view their collective sense of responsiveness and responsibility to the knowledge prosperity of their tribes, their nations, and their collective selves.

In the specific case of policies that effect and affect the United States' approach to weapons of mass destruction, the observer can arguably contend that considered and informed scholarship and research have been sometimes laid victim to the passions of partisan political arguments. Such a situation can give way to despair, especially considering the stakes involved in the serious implications of weapons of mass destruction and unprecedented access to such weapons. This matter is especially problematic when non-state actors are involved, whose intentions are less translatable than has been the case in our understanding of the Westphalian near-certainty of nation-states' strategic intentions.

A fairly consistent and remarkable sustained view persists of the danger and risk of weapons of mass destruction. Uncertainty about the intentions and use of weapons of mass destruction has piqued the attention of two recent United States presidents who

hail from different ends of the political spectrum – President George W. Bush and President Barack Obama.

Three significant events which furthered the public dialogue on the subject took place at National Defense University (NDU): two speeches by President Bush in 2001 and 2004 and a speech by Vice President Biden in 2010. A pattern has been established. The fact that NDU was the deliberate location of these seminal Administration addresses and that the substance of their speeches was at least partially informed by applied research and work produced at NDU's Center for the Study of Weapons of Mass Destruction (WMD Center), all point to direct linkages of an applied research institution with public policy. Yet, little is recorded about the events surrounding the center's influence and effects.

Historical Context: Background of NDU and the WMD Center

As stated in its official publications, the mission of NDU is to prepare military and civilian leaders from the United States and other countries to evaluate national and international security challenges through multi-disciplinary educational and research programs, professional exchanges, and outreach. To achieve this mission, NDU is committed to excellence in discrete and yet broad areas of focus: joint professional military education, intra-governmental and whole-of-government strategic leadership development, and international security professional leadership education. The university's broad objectives include developing strategic leaders and stronger decision-making capacity in those leaders.

There is no clear scholarly examination on the role of National Defense University research on public policy. The nature of the research mission of professional military education institutions has been a source of debate since their establishment (Yaeger, 2005). Frances E. Leupp proposed in the 1900 Christmas edition of *Harper's Weekly* that the newly proposed Army War College should be developing solutions for U.S. national security strategy. The concept is similar to the Wisconsin idea of a university solving the state's social, political and economic problems (McCarthy, 1912; Nerhaugen, 2003), only in this case it would be a war college solving national strategic problems (Leupp, 1900). This analysis is an opportunity to document whether or not Leupp's vision has been fulfilled by examining a specific policy.

Before World War II, American scholarship in the profession of arms matured in each of the military services more or less independently. Requirements for advanced education for leaders of the nation's land, sea, and air forces were met as they arose, and with distinction, by postgraduate colleges set up by and for the respective services of the United States armed forces (Yaeger, 2005). The 20th century imposed a growing need for closer ties between force and diplomacy, between America's military services and the industries that arm them, and particularly among the military centers of higher learning and research. This identified need led to the creation of the Army Industrial College in 1924 and, after World War II, the formation of Joint colleges of higher learning. The new Joint colleges created were the Armed Forces Staff College, now Joint Forces Staff College, and the National War College. In 1947, the name of the

Army Industrial College was changed to the Industrial College of the Armed Forces. The name change was a reflection of the joint nature of the Industrial College.

Research Centers and Other Components of NDU

NDU was established in 1976 to consolidate the nation's defense community intellectual resources. The Industrial College of the Armed Forces and the National War College became the first two constituent units of the new institution devoted to Joint higher learning. Today, NDU is comprised of five colleges. The Joint Forces Staff College was added to the university in 1981 and a year later the Department of Defense Computer Institute, now the Information Resources Management College (or *i*College), was added. The newest college in the university is the College of International Security Affairs, which was created in 2002 as the School for National Security Executive Education, and then renamed in 2008.

Although these five colleges lie at the heart of the university's educational mission, developments in national security have required marked growth in the university's research functions and their associated research centers. The Institute for National Strategic Studies was established early in the life of NDU as a policy research and applied strategic learning organization. The Institute for National Strategic Studies provides timely, objective analysis, and gaming and applied learning events to senior decision makers and supports NDU educational programs. Since 1994, the WMD Center has helped U.S. government agencies to understand the security implications of WMD proliferation, fashion effective responses, and educate their emerging leaders on

these challenges. The Center for Technology and National Security Policy was established in 2001 to study the implications of technological innovation for U.S. national security policy and military planning. After 9/11 the Center for Complex Operations was born out of an identified need to understand the new challenges in the national security environment across the broad spectrum of national and international life, from humanitarian assistance to nation-building and partnership capacity. The Center for Joint Strategic Logistics was established in November 2009 in response to the need, identified by the Office of the Secretary of Defense, the Defense Logistics Agency, the Joint Staff and the United States Transportation Command, to better understand and integrate analytical approaches and applied research to the sciences and practice of strategic logistics.

Subsequent to passage of federal legislation known as the Goldwater-Nichols Act (1986) and the House Armed Services Committee Skelton Panel Report (1989), the university sought authority to award master's degrees to graduates of the Industrial College of the Armed Forces and the National War College. The U.S. Department of Education conducted an extensive review of both programs and, in 1992, recommended to Congress and the President of the United States that NDU have authority to confer the Master of Science degree in National Resource Strategy to graduates of the Industrial College of the Armed Forces and the Master of Science degree in National Security Strategy to graduates of the National War College. In addition to receiving this degree-granting authority, the university, for quality enhancement purposes, elected to seek regional accreditation of its graduate degree programs. Initial accreditation was

granted by the Commission on Higher Education of the Middle States Association on February 20, 1997. In accordance with Middle States Association policy, those master's degrees awarded in academic year 1994-1995 and subsequently are accredited. Today, the National Defense University is authorized to award the following four graduate degrees: Master of Arts in Strategic Security Studies, Master of Science in National Resource Strategy, Master of Science in Joint Campaign Planning and Strategy, and Master of Science in National Security Strategy. The university is pursuing accreditation toward awarding a limited number of doctoral degrees by 2014.

Purpose and Research Questions

These factors led to a natural question regarding the *what* of the research centers. What became apparent is how little has been written about the contributions of National Defense University to society's benefit. This realization also led to an even greater awareness: the lack of historic record about the effects of seminal applied research conducted at National Defense University. More specifically, upon inquiry, it is evident that NDU researchers played a significant role in time and context toward national policy dealing with weapons of mass destruction. None of this has been recorded. The absence of any record of effects and an appreciation of the substance of those effects triggered this study and inquiry. It is the first step in the process of establishing a record through oral history and case study of the Center for the Study of Weapons of Mass Destruction.

The general purpose of this study, then, is to explore through a single case study how an institution of higher education's research center directly influenced national security policy. More specifically, the following two questions were developed to frame the study:

1. How did the research of the National Defense University's Center for the Study of Weapons of Mass Destruction (WMD Center) influence U.S. policy?
2. How did the WMD Center's research influence the new policy and mission area for the Department of Defense's WMD elimination mission?

Three supporting questions that provide focus and direction for this project are:

3. Why is a U.S. policy on elimination of WMD necessary?
4. How did research inform policy on the elimination of WMD?
5. Why did policy-changing research occur at the NDU Center for the Study of Weapons of Mass Destruction rather than at a similar institution of higher education?

Significance of Research

Minimal research exists on how research centers at federal higher education institutions influence U.S. society. Much extant awareness of such influence is either anecdotal, a matter of endnotes or summary acknowledgements concerning the cultural and institutional history of a specific research center. Policy forums and research centers in general survey, research, and engage in inquiry about concerns, challenges,

and opportunities; however, very few models are available for institutions of higher education to use with regard to evaluating the effects of such policy centers. This study is intended to expand the literature and knowledge base of the diversity of institutional types in higher education.

In parallel with the paucity of research noted above, minimal institutional research exists regarding the effects of specific research done by the National Defense University. The one scholarly document of the history of National Defense University (Yaeger, 2005) focuses on the educational mission. Numerous articles have been written about contributions from National Defense University; however, none has undergone critical analysis, either internally or externally.

Ultimately, this research renders a contribution to the literature of counter-proliferation of weapons of mass destruction. Policy analysis will be used to set the analytical context for the *why* and *how* of National Defense University's Center for the Study of Weapons of Mass Destruction and, further, how the center's research influences United States' policy on the elimination of weapons of mass destruction. More specifically, this study focuses on the WMD Center's research influence on the new policy and mission area for the Department of Defense's WMD elimination mission. The information obtained from this study could encourage institutions of higher education to demonstrate the benefits that such applied research centers have on general policies. In this way, a better understanding can be achieved that could result in more engaging and mutually leveraging support between researchers and practitioners. Perhaps a resurgence and renaissance of applied research will be directed toward

solving real problems and addressing real challenges, perhaps finding new methods that are less onerous and yet more accountable. In this way, a better understanding can be achieved that could result in more engaging and mutually leveraging support between researchers and practitioners. Such efforts would be a great benefit in today's context in which individuals, legislators, and government agencies are examining the benefits of higher education in the 21st century. This study could produce a framework that directly demonstrates such benefits.

Framework for Analysis

The purpose of this dissertation is to partially commit to record the rather remarkable set of events that led toward major policy that now spans two Administrations. Case study methodology will be used to examine how National Defense University's Center for the Study of Weapons of Mass Destruction research influences United States' policy on the elimination of weapons of mass destruction. More specifically, this study focuses on the WMD Center's research influence on the new policy and mission area for the Department of Defense's WMD elimination mission.

Summary

This chapter has introduced the fundamental conviction that: research can be effectively applied toward public policy through trust-based relationships. Since researchers can simultaneously be practitioners and academic observers of themselves,

their personal relationships matter in public policy development. Specifically, this chapter has introduced National Defense University's Center for the Study of Weapons of Mass Destruction as a unique and singularly seminal center of research. The center has focused on outcomes and has had a direct impact on practitioners and the blending of applied research and praxis on public policy. This chapter concludes by proposing the use of a phenomenological case study methodology as the framework for analytical understanding of that impact. Analytically understanding the development and logic of public policy is essential to its relevance and endurance as well as to its rational applications and implementation.

CHAPTER 2

RESEARCHER AS PARTICIPANT

At the time, I asked about strategic defense capability: Could we develop the means to defend against a Soviet nuclear attack? The response was that defense against nuclear attack was impossible…. Ensign Ann Rondeau, U.S. Navy

My philosophy is derived largely from professional experience as a senior United States Navy officer with more than 35 years of active duty experience. I have spent a career focused on myriad mission sets, including operational effectiveness, training and education, strategic thinking, and policy analysis.

I currently have the privilege of leadership and service as President, National Defense University. It is a master's degree-granting institution and graduate education consortia of five colleges, six research centers, and three regional centers. National Defense University is the premier center for Joint Professional Military Education as envisioned in the 1986 Goldwater-Nichols Department of Defense Reorganization Act and is under the direction of the Chairman, Joint Chiefs of Staff. The position as President of National Defense University follows a career of diverse experiences that has included several assignments in military training and undergraduate and graduate education. Graduating with a degree in history and social sciences in 1973 from Eisenhower College, in 1982 I earned a master's degree in comparative government from Georgetown University. I began my career with an affinity for understanding the

strategic and practical effects of public policy. I have served in leadership, staff, operational, and command assignments in myriad mission areas: fleet operations (anti-submarine warfare, air operations, operations, intelligence, maritime transportation, and sealift), strategy and policy, training and education, business enterprise, and shore installations. (See Appendix A for a detailed list.) I served as a White House Fellow and as a Chief of Naval Operations Fellow. In the context of the operational Navy, I am Surface Warfare qualified, earning qualifications on both Merchant Marine vessels and U.S. Navy combatant ships. I hold subspecialty qualifications in political-military affairs, operational intelligence, operations analysis, strategy and planning, and military transportation. I am a licensed private pilot and a permanent member of the Council on Foreign Relations. I have had the privilege of being conferred an honorary doctoral degree in public service from Carthage College, Kenosha, Wisconsin, based on my work in training and education. I am deeply predisposed to believing that a life of action should be and can be in balance with a life of the mind and that each of us gathers wisdom through aggregating, integrating, analyzing, understanding, and applying knowledge along life's journey.

Dispositionally, I am of the view that the United States has the requirement to sustain a durable and long-term strategic perspective of its national security and national health, including an appreciation for balanced capability that hedges threats and leverages opportunities. I believe in a strong national defense capability for the United States. Further, I am keenly aware that much of the work of public policy and decision making is phenomenological. The work has intentionality at its core and is directed

toward something and constitutes an experience about a discrete matter and it is surrounded by enabling and constraining conditions. As importantly, the work is based on relationships and inter-personal associations over time.

My first assignment in the Navy was multi-disciplinary, including a requirement for expertise in nuclear warfare authentication protocols and disciplines as well as operational communications, cryptology, and associated operational standards and policies. The assignment was professionally defining in the process of gaining insight, building capacity, and gaining deep awareness about the effects of major catastrophic warfare, specifically nuclear warfare. I came to generally understand the science and effects of nuclear warfare as well as the strict procedures for authentication and command and control of our nuclear weapons systems.

As an Ensign, the most junior officer rank in the U.S. Navy (comparable to a Second Lieutenant in the U.S. Army, Air Force, or Marine Corps), I was surrounded by senior officers who were professionals of the first order. They also were seriously minded teachers and mentors. Each of them allowed me to ask questions and engage in the conversations of learning and understanding. It was during one such conversation that I distinctly remember discussing U.S. strategic doctrine and principles associated with the Mutual Assured Destruction Doctrine, which was fundamentally, strategically, and operationally offensive in nature. At the time, I asked about "strategic defense" capability: Could we develop the means to *defend* against a Soviet nuclear attack? The response was that defense against nuclear attack was impossible because the technology was not developed; there were also some practical and political benefits and strategic

advantage if the Soviets believed we would strike pre-emptively if we perceived that we were in danger of being attacked. The risk of mutually assured destruction was an effective deterrent on the merits of intent.

It was about two years earlier that President Nixon ordered the elimination of U.S. production of chemical and biological weapons. The corollary view was that nuclear capability was the only means remaining around which to construct strategic deterrence. It was, then, with some validation many years later that I agreeably read and learned of President Reagan's Strategic Defense Initiative. The concept made sense to me, even if the technology was a long way from being credibly effective. Motivated by the Reagan Administration's Strategic Defense Initiative policy mandate and assigned to a policy and strategy position on the Navy staff in the Pentagon, I then became discreetly involved in the nascent development of thought that led to the removal of tactical nuclear weapons from U.S. Navy ships.

Along with these experiences I have had several assignments and/or engagement with and involving political-military affairs and public policy, in defense and other areas of national interest, including with the Department of Justice, Federal Bureau of Investigation, Drug Enforcement Agency, Department of State, U.S. Agency for International Development, Office of Foreign Disaster Assistance, United Nations, NATO, Public Health Service, Department of Interior, Department of Education, and with the public policy concerns in the states of Louisiana, Tennessee, Illinois, and California; and in regions of the Midwest, Midsouth, Pacific Northwest, and the Pacific Rim. In essence, I have working understanding and knowledge of how public policy is

formulated, created, and implemented at both state and federal levels. In that acquired knowledge, I am mindful that my perspective is shaped as both practitioner and student.

Thus, I come to the topic of this dissertation from several perspectives and biases. Ideas matter, but theory needs to be transformed into practice in order to have full effect; theory is not enough; study is not enough; conceptualizing is not enough. Though the "life of the mind" is to be prized, it is intensely personal; the "life of action" translates beliefs, knowledge, and wisdom into the activity and affairs of societies and polities, whether to the detriment or benefit of the public. A rich understanding of history, public policy, and political-military issues serves toward greater competency and capacity in the area of national security policy development.

CHAPTER 3

A REVIEW OF THE LITERATURE

Higher education will need to focus on outcomes and the outcomes produced must be relevant to the needs of those who live beyond the campus walls. Kent M. Keith

This dissertation largely addresses the benefits academia can bring to real outcomes and the role of higher education as a benefit to society in one specific area -- applied research. This inquiry also discusses the response of higher education to the needs of those who are specifically targeted and purportedly served.

Kent M. Keith noted that the future of institutions of higher education would depend on serving a broader population. The successful institution would build partnerships, especially with government and industry, and these partnerships would be based on services that are relevant to the stakeholders. He wrote of "the responsive university in the twenty-first century" in this way:

> …Responsiveness is in the eyes of those being served…. [They] will judge the university in terms of the quality of their relationships with the university, and the quality of the outcomes of those relationships…To be responsive, institutions of higher education will need to be service oriented. They will need new internal relationships…. [They] will also need new external relationships…partnerships with government policy makers and joint ventures with other institutions. Higher education will need to focus on outcomes and the outcomes produced must be relevant to the needs of those who live beyond the campus walls…. (Keith, 1998, pp. 163-4)

Universities need to take Keith's advice seriously. The research being done at this level has the potential to have far-reaching effects on society.

University Research and Benefit to Society

The value of the research university is further validated by Erich Bloch, former director of the National Science Foundation. Bloch approached the significance of the research component of universities from a problem-solving perspective. In every area of concern to government, additional knowledge adds value. In his testimony before the U.S. Senate Committee on Commerce, Science, and Transportation, he stated:

> The solution to virtually all the problems with which government is concerned: health, education, environment, energy, urban development, international relationships, space, economic, competitiveness, and defense and national security, all depend on creating new knowledge and transmitting that knowledge in useable form to all our citizens. (Bloch, 1990, p. 2)

Duderstadt (2000) later added to Bloch's statement reinforcing the idea that the new knowledge was created by research, the product of university research centers. Therefore, the solution depends on "the health of America's research universities" (Duderstadt, 2000, p. 110).

Articulating concern about the direction the United States is taking regarding its research universities and proposing a number of recommendations for funding and support, Duderstadt (2000) opined:

> The research partnership between the university and the federal government continues to be a relationship of great value to our nation and the world. The American public, its government and its universities should not surrender the long-term advantage of this research partnership of a short-term loss of direction or confidence. At a time when many of society's other institutions do not seem to be working well, the research university is a true success story…. (p. 131)

In serving a broader mission, the university will enhance its contributions and benefits to society and will attract the resources and credibility to ensure others want, need, and

value the applied knowledge toward real outcomes. In this manner, as Keith noted, "…the faculty and administration will find fulfillment in engaging in the richness of the human condition and influencing the future of the human enterprise" (Keith, 1998, p. 172).

Using Boyer's Four Domains (1990), Braxton, Luckey, and Helland (2002) addressed scholarship using a broader view of research as the general acquisition of knowledge. Johnston's discussion of Boyer built on this idea. Through presentation and publication, which are common activities of all universities, a body of new knowledge is built and passed on. This process is intellectually exciting for those involved because it challenges them to keep current in their field of expertise and fully informed of new discoveries (Johnston, 1998).

Braxton, Luckey, and Helland (2002) examined and appraised faculty engagement in the scholarship of discovery. One of their conclusions, related to their assessment of Boyer's "Prescriptions for Institutional Emphasis on the Scholarship of Discovery" is noteworthy for this paper:

> That is, faculty members in research universities tend to publish more discovery-oriented scholarship than do their faculty counterparts in doctoral-granting universities and in more teaching-oriented colleges and universities…. Moreover, academics in research universities publish more within the discovery domain of scholarship than they publish within the scholarly domain of application, integration and teaching…. (Braxton, et al., 2002, p. 42)

In the great debate about the transformation and contributions of higher education is the nature of activity both inside and outside the academy and the alternate integration or segregation of discovery research from applied research as well as all other parts of the life of the academy. Cole (2010) noted that the university system

within the United States, which combines English undergraduate education with the German model of graduate specialization and research, has yielded most of the innovations in modern life such as the laser, the algorithm for Google searches, and FM radio. The "ambition to excel and fierce competitiveness have led American research universities to become the engines of our prosperity" (Cole, 2010, p. 24). After World War II, research in government-controlled laboratories was expanded to universities and funded with taxpayer dollars. This funding allowed creative university leaders to build centers of excellence. And as part of the process, universities produced the talented workforce needed in a post-industrial society. This evolution led to the discoveries that have transformed the quality of our lives (Cole, 2010).

Cole critically lamented what he saw as incremental starvation of the fuel and energy that have ensured the academy's role in global progress, noting that the research vibrancy and brilliance of American research universities have been eroded by cuts to university funding, post-9/11 over-reaction which denied visas to brilliant young students from the wrong countries, the U.S. Patriot Act of 2001, and the commercialization of intellectual property. He then challenged the reader: "It is our decision, the decision of all Americans. Are we willing to make the choices, sometimes difficult choices that are necessary to keep our great American universities the best in the world?" (Cole, 2010, p. 25).

On a more upbeat note, a wider range of consideration is centered on the necessities of recognizing the landscape (insight), moving toward advantage (timing and resources), and reorganizing (leveraging opportunity). In a speech he gave as Chief

of Naval (Navy and Marine Corps) Research, Rear Admiral Paul G. Gaffney II focused on the establishment of research universities in the United States and the benefits they bring to the nation. He noted the complementary roles between research universities and industry and the contribution of research to the nation's prosperity, security, and intellectual vitality. He said, "The American research university is one of the great achievements of the 20th Century and U.S. research universities have contributed powerfully to the nation's prosperity, security and intellectual vitality" (2000, p. 1). He further stated:

> The American research university is largely responsible for creating the intellectual capital that has made our country strong and economically competitive. It has brought to America many of the world's greatest minds, people of the world who later joined the U.S. workforce as contributing citizens. (2000, p. 2)

Gaffney (2000) called university research institutions "masters of the art of the possible" (p. 3). Their strength is the ability to look at farfetched solutions, as well as deliver applied research to government and industry consumers.

After listing challenges for the New Millennium and in closing, Gaffney echoed Cole:

> An informed citizenry can retain an informed, engaged interest in something that will continue to exert a dominant and controlling influence on their lives.... The members of the Society of Research Administrators make a vital contribution to this nation's intellectual and human capital. I can't thank you enough for the quiet work…you do every day, work that too often goes unnoticed and unrecognized. (Gaffney, 2000, p. 3)

Rothaermel and Ku (2008) addressed the role of research universities through *intercluster innovation differentials*. They posit that *cluster innovation performance* is determined by the cluster's endowment with financial, intellectual and human capital.

Specifically, research universities are critical elements to innovative performance in a regional technology cluster "which play a critical role by serving as a source of knowledge spillovers and producing graduates who disseminate tacit knowledge within a cluster" (p. 17). From their particular vantage point at Georgia Tech, Rothaermel and Ku (2008) introduced the interesting and certainly reasonable idea that clusters of competence and expertise, if aggregated effectively, reflexively as well as consciously produce high-yield applied knowledge directly applicable to a body of work and outcomes.

Omenn (1982) wrote of re-energizing the research university. With an implied counterpoint to the more skeptical tones of Cole, Omenn saw advantage in the "excitement and high commercial value placed on basic and applied research in genetics…[as] reenergizing the once-fruitful relationship between the academic and industrial sectors…" (p. 49). Further he contended:

> The benefits for universities and faculty of such arrangements include the potential for long-term research support less entangled in government red tape; help from industry in making new knowledge and technology commercially useful…; broader educational experiences, industrial exposure, dissertation topics, and employment opportunities for students; and stimulation of the research faculty themselves through interaction with industrial scientists and engineers and through access to specialized industrial equipment (p. 49).

Omenn fully expected that industry would increasingly turn to academic institutions for sources of new discoveries and for links to new opportunities (p. 50).

The argument appears to be less about the benefits to society of our research institutions than it is about the sources of support and funding and the nature of relationships and associations. Both views affirm the point, however, that there is clear

benefit to society of diverse, robust, and vigorous research activity -- the stuff of knowing, learning, and applying.

Higher education and its role in the broader public analysis of public policy is under-studied and under-analyzed. Not many examples exist of analytical considerations of the intersections among higher education, applied research, and applications toward public policy as direct benefits to society. Correspondingly, an abundance of institutional analysis provides little in the way of understanding the threads that connect higher education and applied research with the development of public policy. The lack of a holistic understanding of those interconnections and interdependencies undermines the ability to articulate the worth of research within institutions of higher learning.

Models need to be developed. For the purpose of this analysis and with analytical sensitivity to case study methodology, Figures 1 and 2 provide a relational graphic that implies the interconnections between applied research and policy analysis with actual policy development outcomes. The relevance of applied research and its ties to policy formulation is depicted by a single, dynamic, and constantly rotating cylinder, with characteristics of the processes shown in their discrete parts. Two views of the cylinder are used to show the feedback and illustrate the sometimes continuous processes involved. The continuous motion is illustrated in a supplemental media file. This graphic proves the utility of the model as a heuristic device.

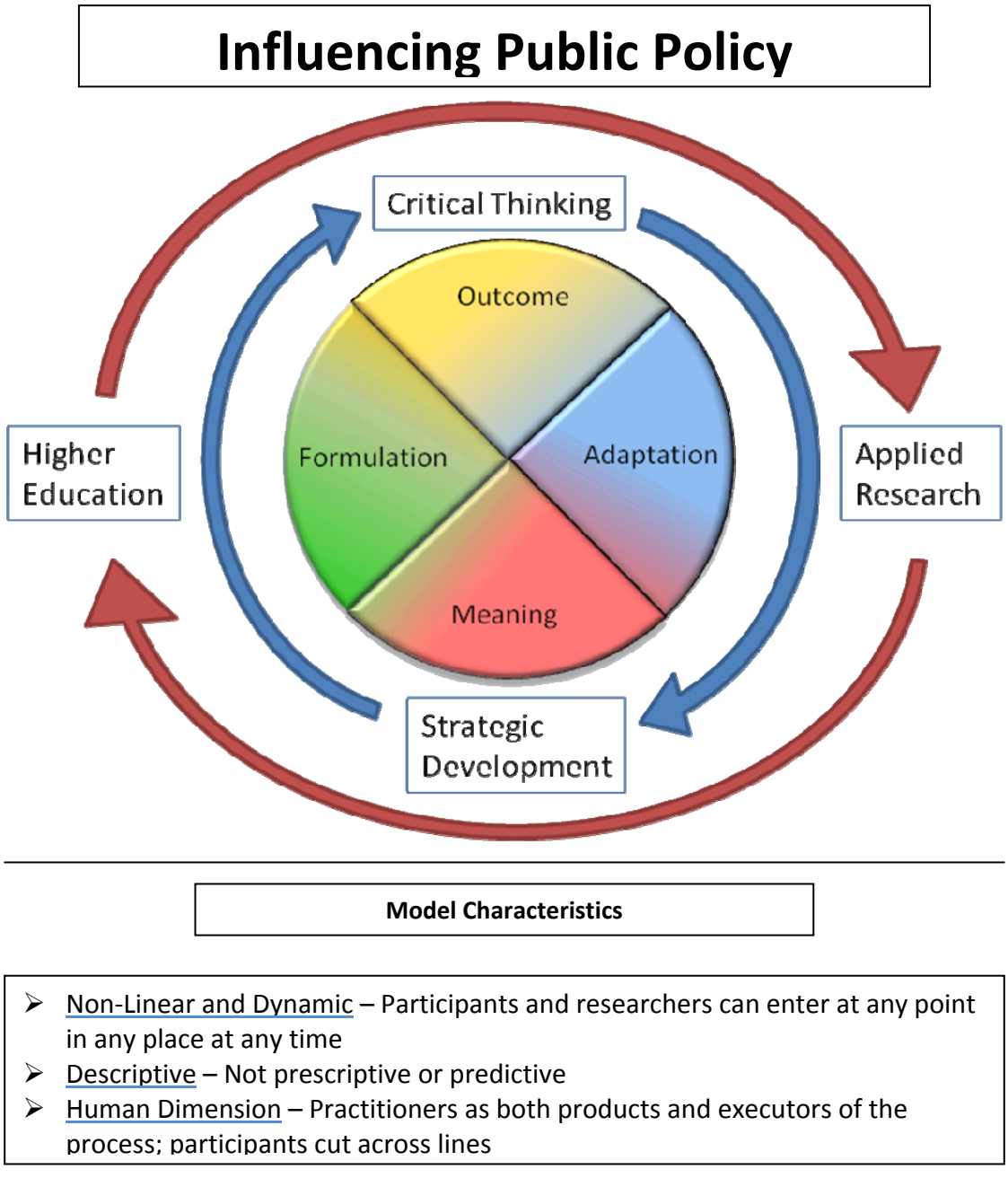

Figure 1: Influencing Public Policy (top view).

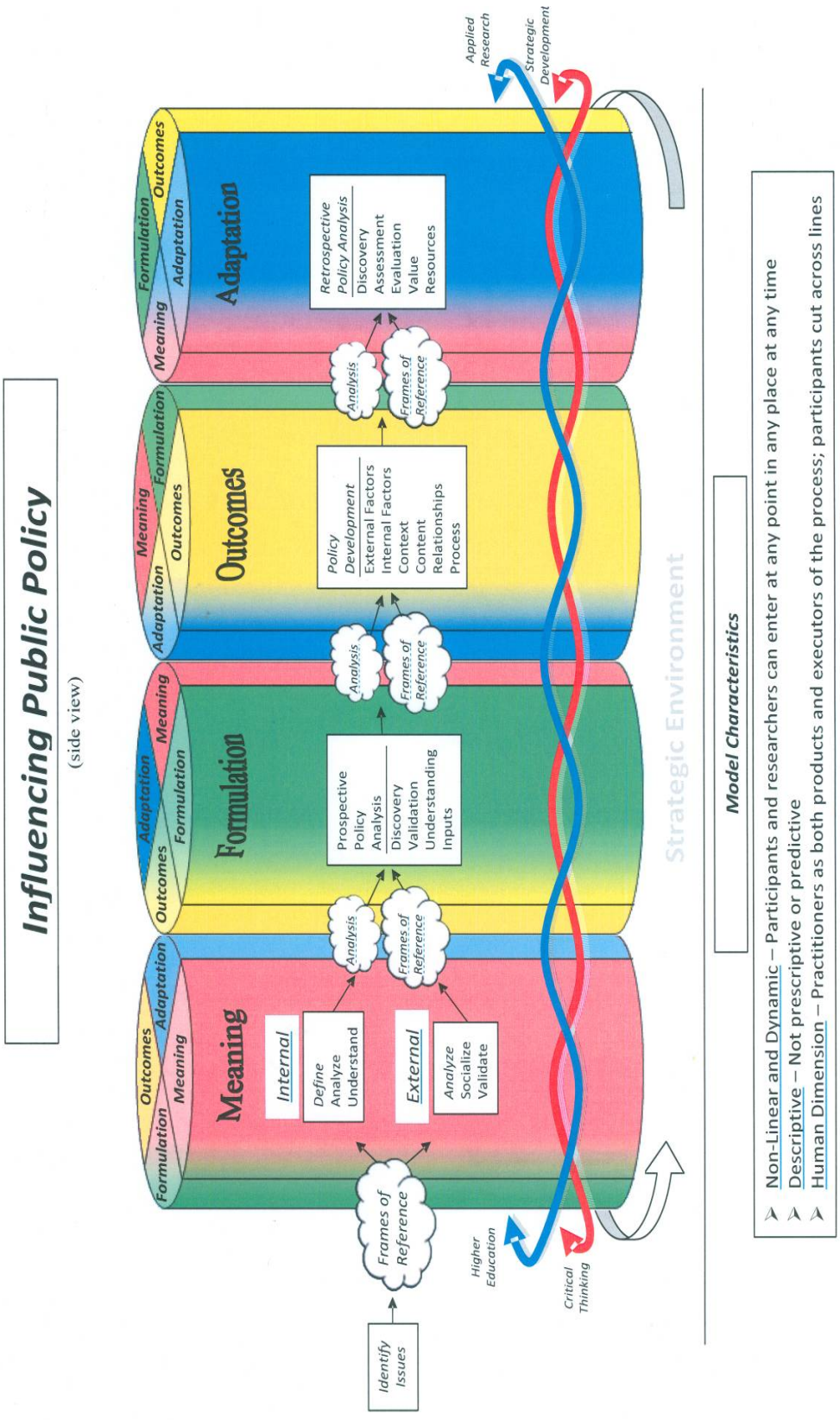

Figure 2: Influencing Public Policy (side view).

Definition of Public Policy

Policy, more specifically public policy, has relatively clear definitional coherence. No matter the source, there is a core sense of what comprises policy as content: (1) a course of action adopted and pursued by a government, ruler, political party, etc.; (2) a plan or course of action, as of a government, political party or business, intended to influence and determine decisions, actions and other matters; and (3) a way of government or government administration.

Considerable governmental activity is focused on analyzing and understanding policy, both retrospectively and prospectively. Government offices such as the Office of Science Policy Analysis are an obvious nod to the power of effective public policy, but also to the influence of those who engage in the process. The iconic fact that the Office of Science Policy Analysis quite consciously offers policy fellowships in health, science, and technology policy provides further evidence that the United States government values inquiry on its own effects, demands, and requirements for effective policy. Understanding policy processes and effects is imperative to both those who govern and those who are governed.

A search of the Internet revealed that academic courses in public policy and policy analysis are wide ranging; and address topics such as processes, discrete cases, histories, trends, theories, philosophies, sociology, administration and management, law, empirical and statistical analyses, methods, means, models, agendas, cultures, predispositions, philosophies, theories, biases and perspectives, and sponsors. In her

own endeavor to understand what she was tasked to teach, Romero (2001) gathered 32 graduate-level policy analysis syllabi that revealed little in common and, furthermore, revealed substantive differences in scope and content.

Further to the point, a representative search of the Internet revealed a broad range of approaches by academia to policy analysis. At the University of Florida, policy analysis largely focuses on institutions that make public policy. At the Lyndon B. Johnson School of Public Affairs at the University of Texas at Austin, policy analysis focuses a great deal on empirical methods. At the University of Chicago, course coverage is wide, deep, and across disciplines and methods of analytical endeavors, and at the University of Wisconsin, offerings are highly influenced by methodological considerations.

Definitions of policy analysis abound, but the literature generally revolves around two dimensions of public policy: development and implementation. Viewed another way, analytical literature of public policy essentially consists of two perspectives: (1) the analytical and descriptive analysis of policy (retrospectively explaining policy) and (2) the prescriptive analysis for policy (prospectively formulating and proposing).

National security policy provided the context for early maturity of public policy and associated analysis and a rather consistent application of agreed analyses unknown in any other discipline or practice. This consistency was particularly so during Cold War policy development. The range of analysts included national security giants such as Nitze, Rosenau, Kissinger, Brzezinski, Morgenthau, and Nye as well as national

security policy scholars such as Mearsheimer (2001), Kugler (2006), and others. Policy analysts considered national security policy in terms both broad and specific, such as: power, personalities, demographics, military, cultural, technological, environmental, poverty, wealth, health, comparative governments and economies, monetary, values, macro and micro economics, energy and natural resources, spheres of influence, ideologies, institutions, and leadership. The comprehensive nature of national security policy analysis, with its associated facility with quantitative and qualitative analytical methods and perspectives, was, and in many ways remains, one of its distinctive characteristics.

Multi-disciplinary Analysis

The public policy research area of national security offers rich forms of multi-disciplinary analysis. As a means to achieving both order and common methodological grounds, conducting national security analysis falls principally into four methods: historical analysis, strategic analysis, systems analysis, and operations research and analysis. Increasingly, the case study approach is being used in national security analysis. The influences and dynamic adjustments of globalization and the Information and Knowledge Age have affected the important foundations that national security analysts have built toward a more integrated, encompassing, poly-dimensional and multi-disciplinary approach to understanding both national and international policies. The world and the issues of human activity may no longer be viewed through a single political, economic, military, or resource lens. Single-discipline analysis and associated

techniques of each can provide discrete insights, but truly informed national security policy analysis needs to reflect the interdependencies of effects. This consistent tendency in national security policy toward multi-disciplinary vectors and considerations argues increasingly for various forms of case studies as an approach to understanding context and reflecting the iterative and connected qualities of national security policies over time. The case study method also provides to the scholar and analyst a linkage toward relevance that often eludes even the most earnest researcher.

Suffering from a sort of psyche of disassociation, much gnashing of scholarly teeth in the academy has occurred regarding dismissal and separation of scholarly policy analysis from actual policy development. Dye (1986) opined that, in part, the gap between practitioners and scholars has been due to reluctance by academicians to deal comprehensively with the practical world of public affairs, including consequences of public decisions.

Binnedijk (personal communication, June 26, 2010) wrote that "…there is a large and growing gap between most government/political science departments and the Association of Professional Schools of International Affairs schools." With a view toward applied research, Binnedijk further contended that government/political science departments are so quantitative and theoretical that "…the Washington practitioner would find no use in most of their products…but these …departments are self-reinforcing. A doctoral candidate trained in a school with the Association of Professional Schools of International Affairs would have a very difficult time landing a teaching job after graduation in most government and political science departments.

Those departments clone themselves." Thus, for Binnedijk the gap between practitioners and scholars has widened and the basic research accomplished in the academy has become increasingly irrelevant to those who affect history. Binnedijk concluded that "the Association of Professional Schools of International Affairs (APSIA) PhDs, by contrast, tend to end up teaching in other APSIA schools or places like NDU" (Binnedijk, personal communication, June 26, 2010). However, this does not mean that applied research cannot have a strong theoretical base, but that the theoretical base needs to be relevant, discernible, and understandable to the practitioner.

Similarly, Nye (2009) argued that the gap between academic researchers and national security practitioners is growing, mostly because of institutional practices of academia. He contended that scholars of international relations eschew going into government and even fewer policy makers return to contribute to academic theory. He further noted that few scholars of international relations ever held policy positions. Nye (2009) quipped that "…the danger is that academic theorizing will say more and more about less and less" (para. 5). He concluded that:

> The solutions must come via a reappraisal with the academy itself. Departments should give greater weight to real-world relevance and impact in hiring and promoting young scholars. Journals could place greater weight on relevance in evaluating submissions. Studies of specific regions deserve more attention. Universities could facilitate interest in the world by giving junior faculty members greater incentives to participate in it. That should include greater toleration of unpopular policy positions….If anything, the trends in academic life seem to be headed in the opposite direction. (Nye, 2009, para. 7)

Orton notes that "Chris Lamb [Dr. Christopher Lamb] …rightly observed that it is a vicious circle created by both parties: as academics move away from policy, policy

makers rely less on academics, which pushes academics further away from policy…" (J. Orton, personal communication, June 28, 2010).

With emergence of policy analysis as a field of inquiry, Dye (1986) saw a way to close the seam by shifting the focus to public policy and then relating his observations to the causes and consequences of government activity. He identified a number of areas of domestic public policy and applied an analytical construct from political science's abilities to describe events and explain impacts. Dye was interested in more than the academic-practitioner seam, though. He posited that policy analysis provides perspective on the entirety of the political system, including output and outcomes. The content of public policy, both in terms of expected and unexpected consequences, involves assessing the impact of environmental forces on the content of public policy; analyzing the effect of various institutional arrangements and political processes on public policy; inquiring into the consequences of various public policies for the political system; and evaluating the impact of public policies on society (Theodoulou & Cahn, 1995).

The matter of *consequences* and *outcomes* of public policy is essential to Dye and, arguably, to the full loop that should constitute public policy, including effective and measurable feedback loops, measurable and assessable outputs and outcomes, and criteria for understanding worth and value. At the most practical level of focus, Theodoulou and Cahn (1995) noted that public policy architects concerned themselves with the question posed almost 75 years ago by Harold Lasswell (1936): *Who gets what, when, and how?*

Quantitative and Qualitative Aspects of Policy Analysis

Emerging from an impulse to better understand policy making and decision making, definitions of policy analysis are consistent in their vectors around notions of the acts of government ascribed and linked to a higher good, alongside a supremely pragmatic perspective of just wanting to get it about right. One definition of policy analysis can be taken from an applied social science discipline. Multiple methods of inquiry and arguments may be used to produce and transform policy-relevant information, and then this information may be utilized in political settings to resolve policy problems. (Fischer & Forester, 2007)

Fischer, Miller, and Sidney (1982) developed a handbook for the study of public policy analysis. Believing that policy analysis provides a better understanding of the policy-making process, it can offer decision makers relevant knowledge about pressing economic and social problems. Their comprehensive treatment considered theory generated by methods and normative value, as well as ethical issues surrounding practice. They examined stages of policy-making process and identified political advocacy in the policy process, noting rationality in the policy process as well as the role of policy networks and learning. The authors detailed argumentation, rhetoric, and narratives and explored comparative, cultural, and ethical aspects of public policy. Fischer and Forester (2007) further addressed quantitative and qualitative aspects of policy analysis and provided tools and methods for understanding policy.

As a discipline toward policy development, representative structural and existential definitions are represented most notably in the national security literature.

Kugler (2006) noted that systematic policy analysis matters in the process of government decision making. For the national security analyst, Kugler (2006) understood that public policy is essentially an intensive effort to explore the core properties of other policies and to examine not only their goals and activities, but their rationales and results as well. One outcome of such an exercise is to identify new goals to be pursued and to resurrect old goals that may need fresh efforts to determine if they are being pursued in the most effective and efficient manner.

As with Dye, Kugler acknowledged the essentiality of understanding results and outcomes if there is any hope of sustaining currency and attaining effectiveness and efficiency. As a framework, analysis of public policy implies answering Lasswell's *who gets what, when, and how?* Such analysis requires threading, particularization, and a resultant understanding of consequences.

No matter the definition, the *activity* of analyzing policy is obviously energized and enjoined, with degrees of variation in definition and with varying degrees of success at being effective. As a practical (and perhaps even an ethical) matter and with a view toward currency, relevance, accountability, value, and worth, the entire life-cycle of public policy must be considered and managed: from its generation and development to implementation and execution; to outcomes and consequences; to assessments and adjustments; to reconsideration, refreshment, and renewal.

Implementation-Focused Definitions

In a considerably more discrete sense, policy implementation, client-based and practitioner-based definitions are most notably and usefully provided by Weimer and Vining (2005) and less interestingly but hyper-functionally in the *how-to* works of Yanow (2000) and Bardach (2005). For these scholars, analytically understanding public policy is defined as both a path toward better policy development, execution, and public administration as well as social and political activity (Bardach, 1977). In the case of these implementation-focused definitions, Weimer and Vining (2005) noted that policy analysis is informed by social values and is relevant to public decisions.

Policy analysis as principally implementation and evaluation phases of the policy process provides for a highly operational definition. In the context of implementation, policy analysis is thus a set of measures that describe policy's value both in terms of its appeal and its implementability and by its intended versus actual consequences. In this sense, policy analysis examines implementation juxtaposed to understanding complex and dialectical chains of actions, reactions, and interactions. This definition of the activity presses toward analytical understanding between policy and implementation (Pressman & Wildavsky, 1973).

Bardach (1977) approached implementation from the metaphorical point of view of a game. Majone (1975) and Wildavsky (1966, 1980; with Pressman, 1973) approached implementation's relationship to policy rather abstractly through the necessity to implement and actualize policy with attendant relativism to the amount actually implemented. On the other hand, Sabatier and Mazmanian (1980) viewed

implementation through a process-focused conceptual framework that has as its analytical parts: (a) tractability of the problem, (b) ability of the statute to structure implementation, (c) non-statutory variables affect implementation, and (d) stages (dependent variables) in the implementation process. Geva-May (1997) sought a prescriptive and practical definition of methodology toward public policy. She detailed a view toward maturing precision and operational craft.

Process of Public Policy

In the end, the heartbeat of policy development began and continues as a consideration about how people are governed in the body politick and of what informs and drives focus of the polity at specific points in time. As with major philosophical movements, public policy mirrors the public's gestalt and its views of priorities in response to the time. The sense of national imperatives and associated national will drive public policy in democracies. As public access to information and the mechanisms of governance have become more intimate and personalized over time, those responses and reflexes to the public good have arguably decreased as major strategic policies and increased as discrete and targeted policies. In either case, whether grand and all-encompassing or particularized and incremental, they are in response to conditions and context in point of time. Ironically, because of the processes of public policy, many policies may be time-late to conditions they are intended to serve and thereby retrospective in effects. This condition is especially so as policies becomes less strategic and more tactical, targeted and particularized. Understanding public policy

thereby becomes exquisitely an insight into temporal factors and specific conditions – whether historical, current, or forecasted.

At its best, policy development (and associated research and analysis) is the practical side of the Great Principles of democratic philosophies. The very notion of human dignity that underlies democratic principles requires careful examination regarding the consequences of public policy. Analytical thought and scholarly understanding require both objective and subjective interpretation. Further, research that informs and inspires policy analysis implies informed and knowledgeable public action. Publicly informed and generated policy analysis cannot be considered outside the context of a democratic ethos that gives to the scholar, researcher, and public the right, access, authority, desire, and prerogative to understand public policy at all its levels. Furthermore, public policy must be held accountable to the aims, objectives, goals, and intentions of the public it is intended to serve. The public pays for the policy, both as revenue and as consequence. Thus, every grand scheme of democratic philosophy relies on analytical threads to understand – and adjust and adapt to – the effects of democratically derived public policy. Grand philosophies notwithstanding, policy analysis in the modern era is specifically knowable and the policies which the discipline works to understand are subject to specific accountability.

Modern Public Policy

McCool (1995) posited that the origins of modern understanding of policy analysis lie in the work of Merriman (2001), who, writing in the years between the

World Wars, sought to connect theories and practices of politics to the activities of government. In his response to events of the World Wars, Holocaust, and Cold War as well to the extraordinary scientific, medical, and technological advances of the time, Lasswell and Kaplan (1950) called for development of a distinctive policy science. They viewed policy science as a vital element in a political strategy to maintain democracy, active and rational citizenship, and human dignity, which they saw as particularly acute requirements in the wake of World War II, Nazism, and Stalinism. With intellectual grounding in Dewey, Merriam, Kuhn, and behavioralism, Lasswell argued that quantitative analysis and the scientific method were important elements to policy science. Lasswell's prescriptions for empirically driven, methodologically rigorous, and a flexible style of policy research focused on solving problems serve as DNA for modern policy analysis. Nearly any historical perspective can provide insight into the future, if only by way of understanding how people respond to events, circumstances, and their environments. If, prompted by the circumstances of his time, Lasswell and his associates saw a need to analytically understand policy, then the same should apply across any continuum of social and related changes.

The enormous influence of scientist-philosopher Thomas Kuhn (1962) is evident in various turns of attending arguments about public policy. Kuhn broke with strict positivist doctrine and constructed his famous notion of paradigms, paradigm shifts, scientific inquiry and associated transformations, incommensurability, and a host of other concepts that described continuous paradigmatic change. Kuhn had great influence on the likes of Lasswell, Sabatier, and others in the discipline of public policy.

The literature on rationality, positivism, and post-positivism is long, substantively sophisticated, and complicated. A specific and operational notion of rationalism and rationalist behavior requires at least glancing mention as being part of the historical heritage of policy analysis. Whether one concedes to the populist rationalism of a Jefferson or Jackson or the more elitist rationalism of Madison or Hamilton, inherent in rationalist thought is the belief that facts matter. In policy development within a democratic polity, there is inherent confidence that those who govern and those who are governed will ultimately act rationally. Whether the start point is economic, philosophical, or political, and whether possessing spiritual, reflective, objective, humanist, or other qualities, Man is considered essentially rational in his daily life. Rational Man is pre-dispositionally one of the most optimistic views of Man in political philosophy.

Page and Shapiro (1992) addressed this matter when they considered policy in the context of a rational public, including the fact that change in the political world could alter the perceived costs and benefits of policy alternatives for many citizens at once. The ability to adapt and adjust intrigued and inspired Page and Shapiro (1992) in their excellent considerations of *public man* as *rational man* (most reliably in aggregation of a group and constituency, even more than individually). In this natural impulse toward rationality, the activity of policy analysis and outcomes assessment takes place.

Made possible by a centralized and pervasive media, several factors contribute to the rational character of collective public opinion. The public is educated by

listening to and discussing political debates and gathering information from experts, foundations, think tanks, commentators, and the media. When citizens understand how their needs and values bear upon public policy, it helps them form policy preferences intelligently Page and Shapiro (1992). This position is not to state that in the world of policy development that pure logic, absolute Truth, perfect wisdom, and pristine insight are possible. However, the long line of distinctly American political thought attributes to the public both the ability and capacity to assess the best means toward good governance and wise policies.

Modern public policy has historical lineage to an intellectual compromise: policy by fully immersed professionals who are trusted to act in good faith and with competence in balance with understanding and acceptance by citizens whom the policy affects. Terms, degrees, and types of investment, idioms, methods, language, presentations, and levels of sophistication will differ, but largely our history is one of public policy both as a strategic and intellectual matter as well as practical and tactical activity.

Page and Shapiro explained that Dewey saw inquiry and communication as the keys to the functioning of democracy, as ways to make consequences known and to create an "organized, articulate Public" (1992, p. 392). This quality is the stuff of the life of an intelligent, modestly learned, and continuously learning polity and public. The relevance of this quality is central to public policy in democracies. Further, this goal is the matter of political education that can help ensure quality and high-payoff

policy. If the public is rational, then the public is expected to be informed and able to assess the good of public policy and related benefits to society.

Concluding Thoughts on the Literature Review

Very few models are available for institutions of higher education to use with regard to evaluating the effects of policy centers. Policy forums and research centers in general survey, research, and engage in inquiry about concerns, challenges, and opportunities; however, the literature review reveals that these institutions rarely engage in analysis on how they became successful. One of the benefits of this study is the expansion of the literature and knowledge base of these institutional types in higher education.

Although numerous articles have been written about contributions from National Defense University, none of the articles has undergone critical outside analysis. Of the material that is available, much of it is either anecdotal, or a matter of endnotes or summary acknowledgements concerning the cultural and institutional history of a specific research center. The one scholarly document of the history of National Defense University (Yaeger, 2005) focused on the educational mission. Scholarly work focusing on a university research center is rare.

Since policy analysis will be used to examine how research of the National Defense University's Center for the Study of Weapons of Mass Destruction influenced United States' policy on the elimination of weapons of mass destruction, this literature review was critical to the process. In the course of identifying authors and reading their

contributions to the subject of public policy, many relationships were identified and few contradictions or inconsistencies noted. However, as the material was organized, integrated, and evaluated, gaps were discovered and questions arose. The current literature on public policy is lacking in specific, operational applications of theory. This literature review helped clarify the problem and generated more questions. These questions led to seeking an illustration of the challenges posed and finding the best research method to investigate the problem.

Summary

This chapter has reviewed seminal and representational literature that seeks to address the value of the research components of universities to the benefit of society. The literature selected argued positions surrounding resources, organization, center predispositions, and biases, culture, methodologies, and overall approaches. Further, the literature helped toward a fuller understanding of what is meant by the term *public policy,* if the intent of applied research is to influence and affect public policy. Further, the chapter identifies that minimal research exists on how research centers at federal higher education institutions influence U.S. society. Thereby the chapter serves to set up the remainder of this paper's interest and focus: the work of the National Defense University's Center for the Study of Weapons of Mass Destruction and its seminal work from 1994-2006 as illustrative of the effects of applied research toward the direct development of specific public policy. Ultimately, this research will render a

contribution to the literature on how research centers at federal higher education institutions influence U.S. society through development of public policy.

CHAPTER 4

METHODOLOGY

You would use the case study method because you wanted to understand a real-life phenomenon in depth, but such understanding encompassed important contextual conditions—because they were highly pertinent to your phenomenon of study.

Yin, 2009

The choice of methodology is directly linked to the success of this study. The literature review and the research questions pointed to a preferred method. However, each research method was carefully considered and compared to other methods before a selection was made. After looking at different methods and considering such factors as the type of information involved, the time period, and the research questions, some methods were eliminated. Once the choice of methods was narrowed down, two methods required closer scrutiny. These methods seemed to overlap and both methods looked like they were equally good fits for the study. However, careful consideration of all aspects revealed that one method was preferred over another. This method, the case study method, was the best fit for this study and will be explained in detail.

Even in a single case study, the subject is too broad to cover in depth and some parameters must be imposed. In this study, certain assumptions were made, a set of questions was used to limit the scope, and a period of time and other limitations were imposed or addressed.

Assumptions, Limitations, and Delimitations

This research is based on the assumption that knowing and understanding the origins and processes of public policy is important. This assumption is especially relevant with a policy that has core existentialist qualities, which is certainly the case for weapons of mass destruction. A further assumption of this research is that the work will be, even in its self-awareness and identification, a starting point. Dynamic analytical understanding will be essential toward sustaining a successful set of national and international policies and protocols. Nothing less than national and international survival and co-existence are at stake.

Seeking to understand enormous complexity through simple forms is useful in this regard, particularly in the context of near-real time. Exploring and describing through "who, what, where, how, why, and to what end" provide helpful navigation points through the fog and narrow channels of politics, information, misinformation, conflicting data, bureaucratic labyrinths, organizational evolutions, and leadership dynamics. These questions support a "justifiable rationale for conducting an exploratory study, the goal being to develop pertinent hypotheses and propositions for further inquiry...such questions deal[ing] with operational links need to be traced over time…" (Yin, 2009, p. 9).

Limitations and delimitations are necessary to focus the project and define the scope of the project. It would be impossible to consider everything. Limitations may influence the results or identification of the results. These limitations are aspects of this single case study investigation over which the researcher has no control. Delimitations

are the boundaries placed around the project which will purposefully exclude some facets that may be related to NDU, the WMD Center, and specifically to larger United States government entities in general. These identified boundaries narrowed and focused the efforts, yet were broad enough to contain the information that was pertinent to the investigation.

An elementary limitation is the availability of accurate data and codified history and conversations. This limitation is particularly relevant to the chronological structure used for this study. Reconstructing past events and providing meaning guided by the research questions require that sufficient documentation and knowledgeable individuals are available to do this. With forethought and intent, many of the conversations surrounding the WMD Center's work at the time were non-attributable so that an environment of mutual trust and confidence could be gained in service to the clear objective. Other governmental agencies or entities and academic institutions outside of NDU are not included in the analysis phase of the study, and therefore they fall under the realm of delimitation. This project is about NDU and the WMD Center only. This study is focused on the broader strategic view of how and why the research activity of the WMD Center was able to affect public policy. Another limitation is that the Department of Defense records examined by the researcher were only the unclassified documents. Accessing classified documents poses an unnecessary restriction on the researcher. Finally, for its part, the single case study approach is vulnerable to being too particularized. With its tendency toward a microcosmic perspective, the single case study could end up being misconstrued by readers -- another possible limitation.

Comparison of Research Methods

Studying and comparing these three aspects with the five major research methods (Experiment, Survey, Archival Analysis, History, and Case Study) yielded the matrix in Table 1.

Table 1

Determination of Research Methods According to Yin (2009, p. 8)

Method	**Form of Research Question**	**Requires Control?**	**Focus on Contemporary?**
Experiment	how, why?	yes	yes
Survey	who, what, where, how many, how much?	no	yes
Archival Analysis	who, what, where, how many, how much?	no	yes/no
History	how, why?	no	no
Case Study	how, why?	no	yes

The methods overlap (Boruch & Foley, 2000), yet a careful examination of the matrix shows that the best fit is the case study. The primary condition to differentiate between research methods is to classify the types of research questions that will be asked. The research questions in this study are all *how* and *why,* which favor case studies, histories, or experiments. To distinguish among these three leads to examining the extent of control over behavioral content and the degree of focus on contemporary

as opposed to historical. There is no intention of controlling any event, which narrows the choice to case study or history.

Different research methods offer unique advantages. In the circumstances of this project, two methods seem attractive: the historical and the case study For this study, the distinction then comes down to a contemporary exploration which fits Yin's (2009) criteria: a *how* or *why* question is asked, and it involves a contemporary set of events over which the investigator has no control (p. 13). The research is contemporary in that it does not deal with the dead past. Individuals associated with the events to be examined are living. Therefore, it is a contemporary exploration as opposed to historical.

Case Study Approach

Case study research is holistic, descriptive, and interpretative, and it features three essential characteristics: (1) Particularistic: focus is on a particular situation, event, program or phenomenon; (2) Descriptive: a rich description of the phenomenon being studied; and (3) Heuristic: the reading's understanding is illuminated and discovery is made possible – either of new meaning or validation of what is already known (Merriam & Simpson, 2000, p. 108). The case study approach can contribute to the value of research, new knowledge, and increased insight. In this study, the case study approach offers potential for better understanding of how applied research may influence public policy.

Keying specifically off of Yin's taxonomy of the case study methodology, this study is composed of two primary elements. First is the study proposition, the National Defense University's Center for the Study of Weapons of Mass Destruction made unique and singular contributions to the WMD elimination mission. This dissertation posits that the center significantly influenced U.S. policy in ways accommodated by a collegial and collaborative culture of non-attribution and expertise. It was this culture that provided a non-partisan environment committed to a practical outcome. Second is the unit of analysis; the subject of weapons of mass destruction (WMD) has been and continues to be the subject of analyses and commentary. This scrutiny is what happens to consequential public policy. Perspective matters. With the fundamentals of exploring the lenses through which public policy is viewed, this study takes a closer look at the inter-relationships by viewing, seeing, understanding, and analyzing public policy. In this case, the National Defense University's Center for the Study of Weapons of Mass Destruction is examined in light of policy relevant to weapons of mass destruction. Description, perspective, and prescription comprise the essentials of this work. The intent is to provoke thought and ideas toward how policy decision makers seek to effectively and contextually understand WMD as a national imperative.

The study is guided by two framing questions and three supporting questions. The framing questions are:

1. How did the research of the National Defense University's Center for the Study of Weapons of Mass Destruction (WMD Center's) influence U.S. policy?

2. How did the WMD Center's research influence the new policy and mission area for the Department of Defense's WMD elimination mission?

The three supporting questions that focus and extend the framing questions are:

3. Why is a U.S. policy on elimination of WMD necessary?
4. How did research inform policy decisions on the elimination of WMD?
5. Why did policy-changing research occur at the NDU Center for the Study of Weapons of Mass Destruction rather than at a similar institution of higher education?

Importantly for this project, Yin (2009) described case study research as a design and method that seek analytical understanding. He addressed anew the practical applications of quantitative and qualitative analyses and the use of mixed approaches and methodologies toward practical and applied social science analysis. Yin stated that case study is used to contribute to our knowledge of individual, group, organizational, social, political, and related phenomena. He explained that "…the distinctive need for case studies arises out of the desire to understand complex social phenomena. In brief, the case study method allows investigators to retain the holistic and meaningful characteristics of real-life events" (p. 4). Case studies are particularly useful when the boundaries between phenomena and context are not clearly evident.

In methodological alignment with Lasswell's sociological and public policy question of *who gets what,* Yin (2009) noted that case study research serves research questions that are represented by the basic categorization scheme of the familiar *who, what, where, how,* and *why* questions. The *what* question

> ….is a justifiable rationale for conducting an explanatory study, the goal being to develop pertinent hypotheses and propositions for further inquiry…. In contrast, *how* and *why* questions are more explanatory and likely to lead to the use of case studies…as the preferred research method. Such questions commonly deal with operational links needing to be traced over time…. If you needed to know *how* or *why* the program had worked (or not) you would lean toward…a case study…. (p. 9)

Yin's approach and Laswell's aim toward understanding *who gets what, when, how, and why* are fundamentally complementary.

Focusing on the act of decision making, Schramm and Roberts (1971) noted that a case study was in actuality an attempt to explain a set of decisions and tell why they were taken, how they were implemented, and with what result. Yin added: "In other words, you would use the case study method because you wanted to understand a real-life phenomenon in depth, but such understanding encompassed important contextual conditions—because they were highly pertinent to your phenomenon of study" (Yin, 2009, p. 18). Guided by Yin, an understanding is possible of how the case study approach provides the keenest analytical insight into the WMD Center's effects on the WMD elimination mission.

This study will provide insights to future researchers on ways to use the case study method (Fraenkel & Wallen, 2000). The case study method requires the researcher to explore a single phenomenon (the case) bound by time and activity and use a variety of data collection procedures for the timeframe (Merriam, 1988).

The desire in choosing a research method is to avoid gross misfits. Prior to choosing a method there must be a thorough literature review and research questions posed. The research questions developed earlier are a strong indication that the case

study method is preferred because the research questions seek to explain *how* or *why* some social phenomenon works. Table 1 shows the methods that were considered and how the research questions and other data determined the selection of the best method. With the prerequisites of the literature review and research questions met, a method was selected. According to Yin (2009, p. 8), each research method may be used for three purposes: (a) exploratory, (b) descriptive, and (c) explanatory. Creswell (2007) also supported these distinctions. To choose the method, the researcher: (a) examined the form of the research question, (b) determined if it required control of behavioral events, and (c) determined whether or not the method focused on contemporary events.

Key Types of Data

The appropriate data need to be collected to find explicit links among the data, the questions asked, and the conclusions drawn. Fraenkel and Wallen (2000), Creswell (1994), and Yin (2009) offer six sources of evidence for case studies: documents, archival records, interviews, direct observation, participant-observation, and physical artifacts. In this case not all sources are available; however, that should not preclude an overriding principle of obtaining multiple sources of evidence. Documents, archival records, and interviews will be the primary sources. For internal validity, the combination of interviews and source documents will find convergence among sources of information. Several issues were examined and resolved during the process of data collection and the selection of participants.

Documents and Archival Records

The Special Collections section of the NDU Library at Fort Lesley J. McNair in Washington, DC, serves as a repository for the archives of the four colleges on the McNair campus, and the university's research centers located in the Washington, DC, area. The NDU Library's Special Collections, Archives, and History branch is comprised of a growing collection of personal papers, student papers, academic and local history, historical photographs, maps, prints, and artifacts. Local history materials on Fort McNair, together with records of the institutional history of National Defense University and its constituent colleges, are also available for research. Access to these documents can be arranged through the Special Collections branch.

Many historical documents supporting this research were provided by this repository. Unfortunately, the archival materials in these collections are largely not catalogued, but they are extensive and include an extraordinary compilation of original source documents. The collection includes numerous personal and official papers which provide a first-hand record of many key internal and external events in the university's history. NDU Special Collections has holdings pre-dating World War I. The number of documents examined for this project was reduced by narrowing the timeframe to include only the years from 1994 through 2006.

Interviews

Once the archival information was collated and analyzed, it formed the basis for finalizing the list of individuals to interview, as well as specific questions that would be

asked of each interviewee. The interview data fulfilled the purpose of supplementing the written primary source data (Balian, 1988). Those interviewed provided context (Steffens & Dickerson, 1987). The purpose of the interviews was to derive primary-source interpretations and make meaning of the information available (Gubrium & Holstein, 2002).

Before conducting any field work, the requirements for Institutional Review Board approval were met, and throughout the interview process board regulations were strictly upheld. Interviewees were contacted and provided a short introduction to the project and the purpose and use of the information sought in the interview. All interviews took place in person and were scheduled on a date and time and at a place convenient to the interviewee. Length of interviews varied between one and three hours, averaging about an hour and a half. During the interviews, participants were assured that they would receive a transcript of the interview and would be given the opportunity to approve or disapprove of the use of any information contained in the final transcript.

The interviews were digitally recorded and then transcribed by the researcher. Interviewee recollections were compared with other interviews and the archival data to ensure accuracy. As Browne and Keeley (2001) recommended, the transcripts were examined to identify ambiguous words, phrases, and assumptions before any attempt to interpret the data was undertaken. Follow-up interviews were conducted as needed.

Interviews are one of the most important sources of case study information (Tellis, 1997b). For this study the open-ended interview was the most valuable tool.

Each interviewee was able to relate the narrative of the time period covered in this study through personal experience. Although those interviewed relied on memory, the open-ended questions were answered confidently by the participants. Those chosen for the interviews were principal actors in the events that took place. The interviewees often referred to each other and corroborated each other's opinions, as well as information obtained from other sources. These key respondents were able to provide insights into events and also some degree of analysis of events, which helped to answer the *why* and *how* questions. Respondents agreed on many of the turning points or highlights in the development of the WMD Center and its ability to influence public policy. Additional material of interest which was brought out during the interviews was added to the case, where applicable.

Participant Selection

The design for this research was predicated upon identifying key groups or individuals, inside and outside of NDU, who have direct knowledge of how the WMD Center research influenced U.S. policy. There was conscious and conscientious focus on primary actors/participants rather than on eye witnesses. The sampling was purposeful and deliberate, focusing on key players who were engaged in and essential to the work. In this research situation, non-random procedures for selection to be interviewed were employed. More specifically, purpose sampling, which relies heavily on the judgment of the researcher (Ary et al., 2006), was used to select study participants. Evaluation of the historical records was used to determine who should be

interviewed. The degree of participation in conferences, symposia, workshops, and authoring research papers weighed heavily in purposefully deciding who should be interviewed. The two triggers from written records to determine who should be interviewed were: (1) evidence of knowledge to contribute to answering the five research questions and (2) degree of involvement in developing WMD policy.

The main actors and their actions and the content of their work could not be considered for analysis without understanding the environment and context in which they operated. McDowell (2002) is clear in his assertion that events cannot be examined in isolation. With this in mind, the evaluation of records was used to: (1) determine when groups of people came together to work on WMD policy, (2) understand the background and setting where these interactions took place, and (3) understand the language, terms, and nuances of the culture of people working on WMD policy. The WMD Center's influence on policy is better understood once the culture and context are known.

The intent was to interview people who might possess unique insights and who could answer the following questions:

1. How did the research of the National Defense University's Center for the Study of Weapons of Mass Destruction (WMD Center's) influence U.S. policy?
2. How did the WMD Center's research influence the new policy and mission area for the Department of Defense's WMD elimination mission?
3. Why is a U.S. policy on elimination of WMD necessary?

4. How did research inform policy decisions on the elimination of WMD?

5. Why did policy-changing research occur at the NDU Center for the Study of Weapons of Mass Destruction rather than at a similar institution of higher education?

Additional factors considered were educational background, publishing record on the subject of WMD, research experience in addition to experience with the WMD Center, and familiarity with other government entities.

Table 2

Characteristics of Study Participants that Correlate to the WMD Center's Research and Influence on Policy and the WMD Elimination Mission

Study Participants (P1-P5)	P1	P2	P3	P4	P5
Doctorate Degree	•	•	•		
Master's Degree	•	•	•	•	•
Prior Paid Research Experience	•	•	•	•	•
Prior WMD Research Experience	•	•	•	•	•
Author of Publication on WMD	•	•	•	•	•
Previous Employment at another University			•		
Previous Employment at another Think Tank		•		•	•
Previous Employment in Private Industry				•	
Direct Involvement (WMD Elimination Mission)	•	•			•
Indirect Involvement (WMD Elimination Mission)			•	•	
Personal Relationship with White House		•	•		
Personal Relationship with Congress					
Personal Relationship with Department of Defense		•		•	•
Personal Relationship with State Department			•		
Personal Relationship with other Federal Agency					
Veteran of U.S. Armed Forces	•				

Five candidates were ultimately selected to be interviewed and their backgrounds are summarized in Table 2. All were directly or indirectly involved in the WMD elimination mission research. They had come to the center from various government and non-government agencies. One was a retired military officer and one had worked for a major defense contractor. Others had held positions in the Department of Defense and the Department of State. All had some prior experience in the field of counter-proliferation. Pseudonyms were not used. These five individuals are recognized experts and work in a narrow field of research. It would be easy for anyone to identify them. Therefore the IRB approved a process where the interviewees consented to being identified.

One of the goals of the interviews was a dispositive view toward multiple source verification and resolution of inconsistencies (triangulation). The intent of the interviews was to acquire rich narratives and an understanding from the perspective of the interviewee about how the WMD Center's research influenced U.S. policy on the elimination of weapons of mass destruction. The five individuals identified through purposeful selection fulfilled the objectives of providing rich narratives and triangulation.

Application of the Case Study Methodology

This single case study will use three of the six main sources of evidence. These multiple sources will enhance the validity of the study. The type of evidence available and the strengths and weaknesses of each are presented in Table 3. The researcher's

awareness of the strengths and weaknesses of each type of evidence throughout the data collection period will assure that the highest quality of materials gathered during this phase of the study

Case studies can be either single case or multiple case studies. A single case approach was chosen and a contemporary example identified. Since single case studies require careful investigation to avoid misrepresentation and to maximize the investigator's access to the evidence (Tellis, 1997a), the researcher had an ideal situation. The researcher's leadership role allowed unrestricted access, brought attention to a component of the university that had otherwise gone unnoticed, and initiated historical documentation and an oral history process that would have otherwise been lost. The researcher's access to a phenomenon that was previously inaccessible maximized the value of the single case study and contributed to the research design. The chronological recounting of the organization's founding and development furthers the understanding of how and why phenomena occurred as it did.

An empirical investigation of a contemporary phenomenon within its real-life context is one situation in which case study methodology is especially applicable (Tellis, 1997a). This methodology was carried out in stages, which included design, conduct, analysis, and development of conclusions, recommendations, and implications. During the first stage, philosophical and theoretical foundations of public policy were explored and literature on public policy reviewed.

Table 3

Types of Evidence Used in the Single-Case Application of the Case Study Methodology to the Study of the WMD Center

SOURCE OF EVIDENCE	STRENGTHS	WEAKNESSES
Documentation	• Stable – repeated review • Unobtrusive – exist prior to case study • Exact – names, titles, publications, etc. • Broad coverage – extended before and after time span	• Dependent on organization's cooperation • Lack of organized storage and lost files • Retrievability – difficult • Access – may be blocked or classified • Reporting bias – reflects author bias
Archival Records (not included in documentation above)	• Held in Special Collections • Precise and quantitative	• Accessibility - limited • Biased selectivity
Interviews	• Targeted and focused on case study topic • Insightful – perceived causal inferences • Open-ended questions – developed narrative	• Response bias – reflect known outcomes • Incomplete recollection • Selective memories – generalized • High Reflexivity – (interviewees express what interviewer wants to hear)

(adapted from Yin, 1984, p. 80)

The second stage of the methodology used in the study is the actual case, the historical account of the WMD Center. The account narrative was built from the written material and interviews. The two tasks associated with this stage were collecting data and conducting interviews. During this process an important piece of documentation was created – a timeline of the major events that occurred at the WMD

Center from 1994 to the present. The timeline and narration of the story of the center are closely interrelated with the study of public policy development. This stage of the investigation provided the types of evidence available in the case organization: documentation, archival records, and interviews.

Although no single source has a complete advantage over the others, the three sources used together provided a triangulation of evidence. The use of triangulation increases the reliability of the data and the process by which it is gathered (Tellis, 1997a). During the course of the investigation, there were times when all three sources of evidence were used together. Documentation provided by the center, as well as historical records from the university library, was discussed during the interviews. The rationale for using these methods together proved to be correct. Use of all three sources reinforced each other and brought about synergistic results.

This data collected from multiple sources during this phase was organized and interviews transcribed. All evidence was carefully accounted for and positive control of the documentation was always maintained. Multiple interviews contributed to the validity of the historic documents and the publications provided by the center. The source of much of the quantitative data is university records, which are in the public domain.

Field procedures consisted of holding interviews at the place and time most convenient to the interviewee. Travel and disruption to personal schedules were minimized and follow-up interviews were accomplished through phone calls or short appointments. Strict adherence to IRB guidelines were maintained throughout the

interview process. The analysis of the interviews will show that the researcher considered not just the voice and perspective of those interviewed, but also the interaction between them. This technique is one aspect of the case study method that is particularly useful in this study. Additionally, the depth of the data gathering was increased during the interviews by using open-ended questions. This interviewing technique provided additional insights, and the interviews also confirmed the recollections of other people interviewed. The free-form style of interviewing participants was ideal for the particular case organization under study and was a comfortable style for the participants. A short while after the interviews, the interviewees were given the opportunity to edit the transcripts, establishing the definitive documents for analysis and quotable material. This database of evidence was used throughout the analysis and recommendation stages.

Analysis of Case Study Evidence

The objective of the researcher is analysis of the highest quality. Four principles lie behind all good social science research (Yin, 1980, 1981, 1993, 2009): (1) The analysis has to demonstrate that all of the evidence was examined. The key research questions should be examined with rival hypotheses to help ensure all the evidence was studied. (2) All major rival interpretations will be addressed. Throughout the process, determinations will be made on alternative explanations for the findings. (3) The analysis will address the most significant aspect of the case study. It will stick to the larger issues and not be derailed by lesser issues. (4) The researcher will use her own

prior, expert knowledge of the case study. Yin (2009) pointed out that there is a "strong preference for the researcher to demonstrate awareness of current thinking and discourse about the case study topic" (p. 114). The researcher needs to be mindful of the quality and enduring nature of the evidence and the credibility and wisdom of the participants. This study endeavors to meet that standard.

Case study research employs a triangulation research strategy (Tellis, 1997a). The requirement for triangulation stems from the need to confirm the validity of the data. According to Yin (1984), this technique can be accomplished by using multiple sources of data. More specifically, data source triangulation will be employed in this study. Data source triangulation involves looking for consistent data in different contexts (Denzin, 1984). Fortunately, a satisfactory inventory of data exists on the topic being examined. The NDU library has an extensive collection of documents including congressionally mandated annual reports. In particular, these annual reports document significant events which the WMD Center conducted in support of national security since the center's inception in 1994. Other sources of data include major speeches by U.S. presidents, vice presidents, and secretaries of defense; formal correspondence between the NDU president and various Department of Defense constituents; and symposium records provided by the WMD Center. Additionally, the WMD Center has its own array of information such as research papers (published and unpublished), briefing slides from presentations to conferences and symposia, and agendas and attendance records of workshops and symposia.

The foundation of the analysis is the five research questions of this study. According to Yin (1993) and Tellis (1997a), the data must be analyzed in relation to the five *how* and *why* questions. Comparing the data to the five research questions is the first task of the researcher in guiding this project. The method requires discerning meaningful categories of evidence, collecting the evidence, and analyzing that evidence in relation to the questions. One of the most important aspects of the analysis is to subject the evidence to external and internal criticism. The goal of external criticism is to verify authenticity; the objective of internal criticism is to establish meaning and value (Shafer, 1980). For documents and records located in the NDU Library Special Collections, the external criticism had taken place through the professional librarians' validation protocols. The analysis includes an interpretive account (the case study) intended to establish and understand the meaning of historical events that provide answers to the research questions.

Using a modified technique of explanation building (Yin, 1993) and a chronological timeline of events, evidence will be presented in different ways using various interpretations. The researcher's knowledge and experience are critical to this study and will be applied to maximum advantage. Analysis of the data will flow from the descriptive framework around which the case study is organized and will show that all relevant evidence was used and all rival explanations were considered (Tellis, 1997a).

Summary

The methodology used for this study served as a template for the research. From archival records, interviews, and a detailed history of the WMD Center during the period of time covered in this study, and through the development of a matrix toward clarity, it was important and useful to see that the case study method, the framing questions, and the literature review fit well together. This case study methodology gave the researcher a very clear picture of how to examine a particular event and how to relate this analysis to policy development. The case study method authentically clarifies the significance, relative merits, and meaning to the events studied and the questions posed.

CHAPTER 5

CASE STUDY: THE WMD CENTER 1994-2006

I thought this is a perfect opportunity to do research in the area of combating weapons of mass destruction and reached out to John and soon to Seth and others and we began the Center. I think it's worked great, not only in terms of conducting research and promoting education, but also in terms of having a direct impact on policy.

Dr. Robert Joseph, 2010

As institutions, research centers have much in common. They all foster the search for knowledge, contribute to educational pursuits, and produce written products, but not all are models that could or should be emulated. A university research center that has influenced policy at the national level is a model to pursue. The qualities that made the National Defense University's Center for the Study of Weapons of Mass Destruction a success were not apparent at first. However, this investigation revealed that values and personal relationships made a difference. These remarkable qualities allowed the research of the WMD Center to influence decision makers and resulted in new policy for the United States.

Overview of Study

The study will begin with an overview of the project and a review of the field procedures, followed by an explanation of the case study questions, and an outline of the project's subject. The narrative will be used in the analysis of public policy and the

difference a university research center can make. Finally, the research questions and recommendations will be discussed.

This case study offers a directed discussion of public policy and the influence that research centers can have on national policy decisions. The study will recount the history of the organization, document published and unpublished supporting material, and capture the views of the participants on why they had the type of influence they did. Furthermore, the study will explain why the outcomes can be used as a model for future research. The case will be presented as a short history of the WMD Center during the period of time (1994-2006) covered in this study.

Introduction to the Case Subject

The topic of weapons of mass destruction has become familiar to readers today. However, in 1993, the letters WMD were meaningless to the general population. Nuclear proliferation was the greater concern, and not many people were involved in research concerning biological and chemical weapons. From the beginning, the WMD Center charted a path through an unexplored area. The name, Center for Counter-proliferation Research, was chosen to describe the new research group at National Defense University.

In 2004, on the 10th anniversary of its founding, the name of this university component was changed to the Center for the Study of Weapons of Mass Destruction (WMD Center). *Counter-proliferation* too narrowly defined what the center did. Furthermore, it was a term suffering from overuse by the Department of Defense and

most broadly associated with the National Security Strategy. The center personnel wanted a name that would clearly distinguish the problem they were working on, something that was not currently overused. So the name was changed to simply identify the research topic -- Center for the Study of Weapons of Mass Destruction. The center is commonly referred to by an abbreviated title, WMD Center. In this case study, the WMD Center or "the Center" will refer to both the original name and the current name of the research center.

Setting the Stage: Two Years after the Gulf War

The Gulf War ended in 1991 when the Iraqi government accepted the permanent cease-fire terms of the UN Security Council Resolution. Additionally, Iraq agreed to pay war damages to Kuwait and its allies, and agreed to UN-supervised destruction of its development facilities for chemical, biological, and nuclear weapons. Two years later, the success of this weapons "clean-up" dominated the thinking about how to handle WMD (Persian Gulf War, 2008).

The use of WMD presented a horrific global threat. "The Bottom-Up Review" (a step-by-step process used to develop key assumptions, broad principles, and general objectives and translate them into a specific plan for U.S. strategy, forces, and defense resources) was conducted by the Department of Defense in 1993 *(National security in the post-cold war era: A report on the bottom up review,* 1993). This review identified the # 1 security threat to the United States as weapons of mass destruction (WMD) in the hands of a small number of antagonistic regional adversaries such as Iraq. The

Regional Defense Strategy, released in the waning days of the Vice President Cheney period, also emphasized this threat. President Clinton addressed the threat of WMD in public speeches. In his address to the United Nations General Assembly in September 1993, he vowed to give WMD proliferation a higher profile (McColl, 1997). In fact, in his first major policy statement on nonproliferation, Clinton offered three guiding principles. A higher priority would be given to nonproliferation and these issues would become an integral element of our foreign relations. Second, the United States would actively see trade and technology exchange with nations abiding by global nonproliferation norms. And third, the U.S. would promote effective nonproliferation efforts and integrate nonproliferation and economic goals by building consensus (Bernstein et al., 2009, pp. 1-2).

On December 7, 1993, Secretary of Defense Les Aspin spoke to the National Academy of Sciences in Washington, DC, and articulated a new initiative called the Defense Counter-proliferation Initiative. Comparing the spread of weapons of mass destruction to the threat of a nuclear attack by the Soviet Union, the Secretary's message was an urgent call to form new strategies and develop research. This speech was a turning point from Cold War strategies to new capabilities in order to better deal with new threats.

Creation of the WMD Center

In July 1994, a new research group was organized at NDU by Dr. Robert (Bob) Joseph. It was called the Center for Counter-proliferation Research. The Center was

started specifically with an eye to do policy-oriented research on this very new initiative, counter-proliferation. Six months later, Dr. John Reichart came to the Center, and Dr. Seth Carus joined the team in 1997. Describing the Center's typical work, Carus said, "Most of the projects were episodic in the sense that they weren't considered sustaining. ….The idea was to explore a cutting-edge issue, make the policy community smarter, and then move on to the next issue" (Carus, 2010, p. 7).

Among those who studied WMD, as well as the general population, a growing perception created concern that leaders were not giving adequate attention to the problem of these weapons. At the WMD Center, the director realized what this meant:

> We needed to have another avenue other than the traditional non-proliferation approaches--treaties, weapons and material control regimes and things like that--because these regime leaders are likely to be risk-takers, they're going to be outside normal treaty constraints. Aspin anticipates that the normal State Department-centered activities, like the nuclear non-proliferation regime, aren't going to be enough. (Reichart, 2010, pp. 3-4)

According to Reichart, the WMD Center, then called the Center for Counter-proliferation Research, "was established by a senior person to be a somewhat independent voice in what is a brand-new focus area of the Defense Department" (Reichart, 2010, p. 6).

Research fellows came to the Center through various means. Government workers at that time were often detailed, or given temporary government assignments, in order to fill vacancies and provide professional, on-the-job development. The Center benefited from scholars who were detailed for periods of a few months to several years. Also, the Intergovernmental Personnel Act (IPA) allowed government agencies to non-competitively hire employees from academia and from federal, state or local

government for a limited-term project requiring expertise. Those employees, known as IPAs, shared expertise and perspectives among the various sectors of government and academia, and the cost was shared by the agencies involved. For example, Carus came to the Center as an IPA from the Center for Naval Analysis.

In these ways, the Center became home to a professionally and experientially diverse group of responsible, passionate people who had been and continued working within the government with a unifying purpose. They believed in the issue, but with seasoned mindfulness about the requirement for informed and analytically credible approaches. The Center was able to pick up the "best of the breed" experts in unconventional ways that allowed it to become a nearly instantaneous organization of veteran experts and professionals whose interest in and dedication to WMD issues were known and proven. Carus explained how this small community developed at the Center, when he said:

> There's a dynamic that is important here in terms of how this particular issue evolved in the sense that one of the things that happened as a result of the lead-up to the Iraq war is that the Center basically developed a small community of people within the government. So, for example, the people who had actual operational responsibility for putting together elimination activities at the Defense Threat Reduction Agency were part of this working group leading up to the 2003 war. And as a result, we subsequently got all kinds of cooperation that are difficult to get on issues where the system is not interested. Because there was a forcing function, it developed a small community, and that small community played an important role for the next five or six years. (Carus, 2010, p.16)

This small community was made up of diverse groups of people working in the field of counter-proliferation. Some worked for the Department of Defense and other federal government agencies, some worked in private industry, some were consultants,

and others were university professors and professional researchers. The variety and diversity of experience contributed to the success of this small community of experts.

Statesmen and Scholars Come to the Center

The Center brought people together and served as a model for how collaboration can benefit the individual and for the nation. Professional people often move between government and academia, a function that adds value on several levels. For example, a half a century earlier, George Kennan moved between the diplomatic and academic worlds, defining the terms of the Cold War. From this center at NDU, the current brain trust took on the arduous task of counter-proliferation research. As the Center formed a group of experts in the field, it also brought practitioners into the research area. Two of these practitioners who worked at the WMD Center were Dr. Mitchel Wallerstein, Deputy Assistant Secretary for Counter-proliferation, and Robert (Bob) Joseph, National Security Council Senior Director for Proliferation Strategy, Counter-proliferation, and Homeland Defense, and later Under Secretary of State for Arms Control and International Security during the George W. Bush presidency. Others sponsored the Center's work or participated in activities at the WMD Center. Among these practitioners were Clinton appointee Dr. Ashton B. Carter, Assistant Secretary of Defense for International Security Policy, and Senior Executive Service career civil servant Franklin C. Miller, Principal Deputy Assistant Secretary of Defense for Strategy and Threat Reduction, who was President George W. Bush's Senior Director for

Defense Policy and Arms Control at the National Security Council. Each played an important role in the development of the NDU research center.

As scholars and researchers, this group of government officials, along with others, worked together despite the distraction of partisan politics. NDU was fortunate to have Joseph teaching at one of its colleges, the National War College, where he had the opportunity to put his ideas into action. Through his efforts the WMD Center was conceived and established with a small group of researchers. Joseph was the first director of the WMD Center. "Bob Joseph was an important voice in the Administration's policymaking on nonproliferation as well as other matters. He has been called the godfather of the Proliferation Security Initiative because he really was the driving intellectual force behind that" (Right Web, 2010).

Reflecting on his role as the first director of the WMD Center and his later work on the National Security Council as Senior Director for Proliferation Strategy, Counter-proliferation, and Homeland Defense during the Bush Administration, Joseph said:

> And I can tell you from personal experience that during the first three years of the Bush Administration, it was the thinking that had been done at the Center that provided the foundation for the development and the articulation, promulgation of national strategies, the first comprehensive national strategy for dealing with combating weapons of mass destruction, for example. (Joseph, 2010, p. 55)

Joseph said that the Center's publications had a direct impact on the national strategies that were being developed. He credited the WMD Center with this impact when he confirmed:

> The thinking that we had done at the Center, the writings that we had done, the contributions that these gentlemen and others from the Center had made, had a tremendous impact, and it was a very direct impact. If you look at the

> unclassified national strategies in a number of areas, you can trace their origins to what we published here at the Center before 2000. (Joseph, 2010, p. 55)

Two of the first few members of the WMD Center came from other government agencies. Both men brought with them their proven expertise in policy research and specific knowledge of security issues. Dr. John F. Reichart came to the WMD Center from the State Department where he served as a member of the Policy Planning Staff. While at the State Department, he provided advice and analysis to four secretaries of state on European security policy and a wide range of global political and military issues. Dr. W. Seth Carus came to the WMD Center from the Center for Naval Analyses. He had worked on studies for the Office of the Secretary of Defense on the impact of nuclear, biological, and chemical weapons. (Additional biographical information on WMD Center personnel who participated in this study is offered in Appendix B.)

Government officials working in academia, adding their expertise to ongoing research and then becoming practitioners where they applied this research to education and policy, were following in George F. Kennan's footsteps. A good example of this Kennanian aspect was realized when Joseph left the Center and went to the National Security Council as Senior Director for Proliferation Strategy, Counter-proliferation, and Homeland Defense during the Bush Administration. Much of the Center's work was carried with him to the National Security Council. His years of research at the WMD Center directly contributed to the National Security Strategy of the new Administration.

Development of the Center

The inception and growth of the Center depended upon several factors: political climate (even during changes of Administrations), seriousness of the issues, personal relationships and passionate commitment of the experts' seasoned and confident professionalism, government personnel policies, and sources of funding. These factors allowed the Center for Counter-proliferation Research to grow and become the WMD Center. The most prominent factor was, as the name change indicated, the research subject area – weapons of mass destruction. Even with more than a hundred think tanks in the Washington, DC, area, the WMD Center was unique.

The WMD Center, positioned within the National Defense University, has always had close ties to government. From its inception, those at the Center understood the need for broad cooperation and collaboration with government departments and agencies, as well as military interface. The urgency to study and communicate information to the field gave the Center an operational focus as well as a strategic one. This dual track was truly a new and unique mission for the research center. The urgency of the WMD issues meant that there was no time to let thought develop. As the military prepared for war, the WMD process had immediate implications for U.S. force structure, doctrine, and expenditures. From the beginning, the WMD Center took both a policy and operational focus. The researchers worked with the policy makers and with the military combatant commands toward the goal of linking the policy and operational communities together.

Working with the government, the Center faced Administration changes as well as majority party changes. Shortly after the Center's formation, the Administration changed from President Clinton to President Bush. However, the turmoil of the transition period did not hurt the WMD Center because the topic was too big, too important, too deadly, and too real to change focus when the president and his team changed. The change in Administration, however, allowed scholars to go from academia to government, and political appointees to come out of government as political positions were vacated and filled. Even when the majority party changed, the topic of WMD did not change priority. Reichart said, "It is one of the issue areas where politics never intrudes at all. So there was no hard transition from Clinton to Bush. Just like now, after eight years of Bush, no hard transition to the senior leaders in the Pentagon on these issues" (Reichart, 2010, p. 9).

Initial Proposals

Researchers at the WMD Center were working short-term projects on various topics and then moving on to other short-term projects. One project centered on the aftermath of the Gulf War and the lessons learned. Those at the Center realized that there was more that had to be learned from the hard lessons in Iraq, that it would be a long time before there was closure to the WMD issues, and an analysis of the planning process was needed. "By the mid-1990s, significant quantities of Iraq's nuclear, chemical, and biological weapons programs had been destroyed or rendered harmless under UN supervision" (Cleminson, 2003, p. 2). And "the fact remained that it was the

possession of weapons of mass destruction that was alleged to constitute an immediate threat to the United States. Therefore, it was important for the United States and its wartime partners to have the opportunity to re-evaluate and confirm aspects of the decision-making process…." (Cleminson, 2003, p. 3). Immediate comprehensive research of all aspects of the threat of WMD was urgently needed. The Center director realized that this topic would not be another short-term project, and that success of research efforts in this area would also depend on capturing the attention of the right people in the Pentagon (Reichart, 2010). In fact, the research that grew out of the lessons learned would dominate the work of the Center for the next several years.

A useful visualization tool, the timeline developed for this case study guides the narrative of the WMD Center. The timeline for the years 2000 to 2006 (see Figure 3) shows significant events related to the WMD Center (internal influences) and their relation to important external events such as site visits, briefings, and speeches. It provides useful evidence that in the period of the six years addressed in this study that the WMD Center was able to influence public policy by playing an active role in the government and military arenas as well as reacting to external conditions. The upper section indicates events external to and yet seminally effective to the Center's work and the lower section indicates events internal to the Center's activities that both influenced and were influenced by external events. Both the upper and lower sections of the timeline help to explain the changes over a period of time that allowed the WMD Center to become directly involved in the WMD elimination mission. The timeline guides and supports the narrative of the WMD Center as the subject for this case study.

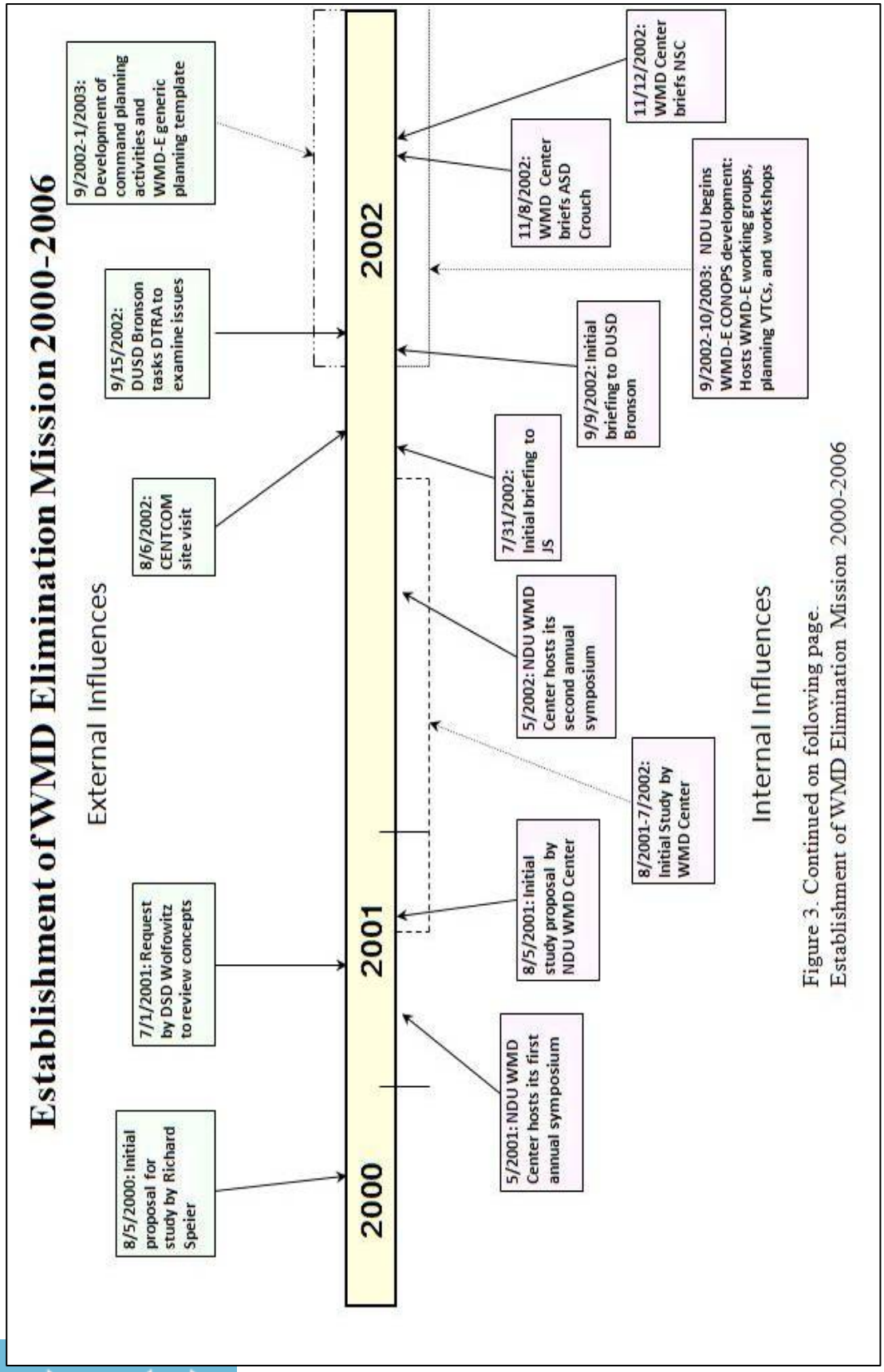

Figure 3. Continued on following page.
Establishment of WMD Elimination Mission 2000-2006

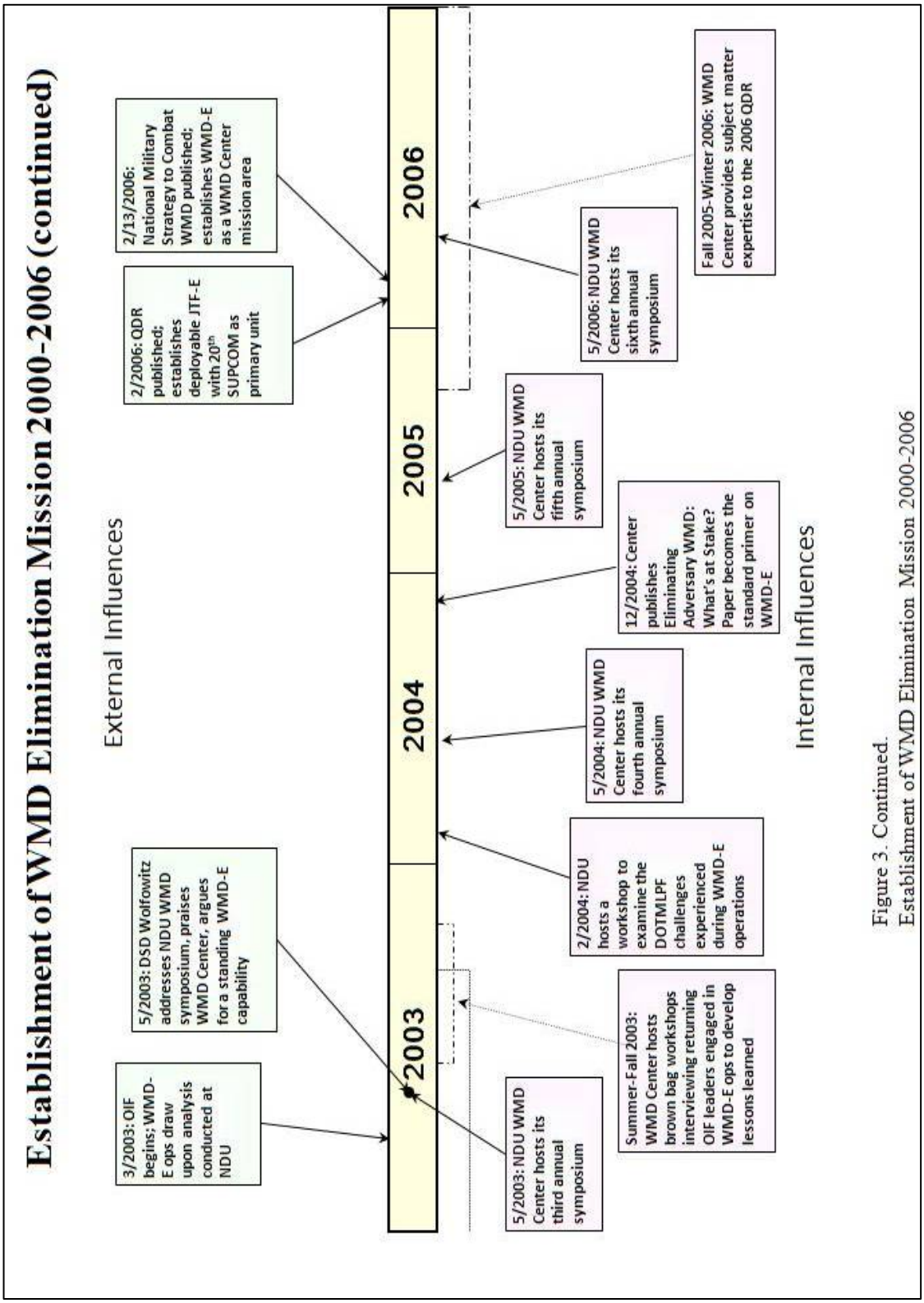

Figure 3. Continued.
Establishment of WMD Elimination Mission 2000-2006

During the years prior to the beginning of this timeline, the WMD Center had established itself as a service-focused organization that produced useful research to the Department of Defense and U.S. military forces. The *Annual report of the National Defense University* for academic year 1997 to 1998 stated:

> The Center's research initiatives focus primarily on deterrence and defense against regional adversaries armed with NBC weapons. These initiatives include major projects on adversary use concepts, the effects of chemical and biological weapons on U.S. forces and operations, and the refinement of U.S. operational concepts and doctrine. The Center also has an ambitious set of projects related to nuclear smuggling and DoD's role in domestic preparedness to meet the growing threat of NBC-armed terrorists. (Chilcoat, 1998)

The Center continued to ensure an awareness among policy makers and operators of the proliferation threat as it related to defense policy, programs, and military operations. The *Annual report of the National Defense University* for the 2001 calendar year touted that the Center "… contributed to the basic understanding of the security implications of proliferations, as well as to the challenge of fashioning an effective response (Gaffney, 2001).

The work of the Center had not gone unnoticed. In August 2000, another project dealing with military preparedness and the increasing terrorist threat came to the Center. Rebecca K. C. Hersman, who was a senior research fellow at the WMD Center, received a short research proposal from Dr. Jim Thomas, Special Assistant to the Deputy Secretary of Defense. Dr. Richard H. Speier had been promoting the proposal for some time. In 2000, a research proposal by Dr. Richard Speier (a retired government official working as an independent consultant in the field of nuclear proliferation), worked its way through the Pentagon and into the hands of a researcher

at the National Defense University. The topic in the title, *Counter-proliferation research proposal: Post-war Operations against WMD*, would become the focus of activity of the Center's work for the next decade. The research proposal asked the question, "What might a regime look like if there were another conflict in Iraq?" The proposal was based on the assumption that we should learn more lessons from the UN inspection following the first Iraq war. Joseph, the Center's director, realized this type of study was critical to the success of future military missions. This research effort was financially supported, and the WMD Center prepared to accept the proposal and respond to the need (Counter-proliferation research proposal: Post-war operations against WMD, 2001).

Hersman said that from the beginning "there was a sense of urgency about looking at this" (Hersman, 2010, p. 4). As the project developed, Hersman recalled that "for us, it became a process of discovery of just how little was being done, just how unprepared we were, and trying to find a way persuasively to communicate that to people in a position of authority" (Hersman, 2010, p. 6). Not only did decision makers need to be educated on the issues surrounding weapons of mass destruction, but the general public, at that time, was not focused on the need for action concerning the problems posed by weapons of mass destruction.

The formal project began on August 24, 2000, when the *Outline for the Objective Report: "Lessons Learned—Disarmament of Iraq—a Critical Appraisal of UNSCOM"* was released by ITT Industries Advanced Engineering & Science Division, a company under contract for this work. This critical document was the result of work

by Speier and Dr. James W. Poarch, Senior Scientist at ITT Industries. The *Outline for the Objective Report: "Lessons Learned—Disarmament of Iraq—a Critical Appraisal of UNSCOM"* proposed a study that would mine the successes and mistakes of recent United Nations Command experience after the Gulf War. The study would also serve as a template or blueprint for the eventual establishment and operation of any future disarmament or arms control activity. The *Outline for the Objective Report: "Lessons Learned—Disarmament of Iraq—a Critical Appraisal of UNSCOM"* addressed pre-war readiness, war planning, planning for post-war operations, field operations and their support, and completion or unraveling. The section on planning for post-war operations stressed early planning. "How can the plans for post-war disarmament operations be developed early enough so that (a) they are not subject to last-minute formulation, (b) they are known to the war planners early enough to be dovetailed with the war plans, and (c) they can be implemented almost immediately after the cease-fire?" (*Outline for the Objective Report: "Lessons Learned—Disarmament of Iraq—a Critical Appraisal of UNSCOM"*, 2000, p. 3) At the same time, ITT Industries Advanced Engineering & Science Division produced briefing slides that further described this evaluation of U.S. support to the United Nations Special Commission (UNSCOM). (The UNSCOM was set up to implement the non-nuclear provisions of the resolution and to assist the International Atomic Energy Agency (IAEA) in the nuclear areas.) The proposed endeavor was not intended to be a history of what happened, but rather a starting point for future post-war disarmament operations. Resulting efforts formalized the Speier

research proposal by spelling out the 18-month, four-phase project that would require multi-agency support for an estimated cost of one and a half million dollars.

Funding was the first of many challenges for the WMD Center. When the Center was first established, it was not funded by the university and was dependent on funds from other sources. Initial funding came from the Office of the Assistant Secretary of Defense for Atomic Energy. At that time, the role of this atomic energy organization was expanding to include issues associated with chemical and biological weapons, implementation of arms control treaties and agreements, counter-proliferation programs, and the Cooperative Threat Reduction program to assist in the elimination of WMD in the former Soviet states.

Request to Review Concepts

In December 2000, Joseph went to the National Security Council and Reichart became director of the WMD Center. Reichart explained that "largely due to personal relations between the Center and Jim Thomas, who was special assistant to Paul Wolfowitz [Secretary of Defense under President George W. Bush from 2001-2005], we [the WMD Center] got a request from Wolfowitz to review all of these concepts dealing with the potential elimination of weapons of mass destruction" (Reichart, 2010, p. 10). On July 1, 2001, the Center received the request from Secretary Wolfowitz to review these concepts.

On August 6, 2001, Speier drafted a paper titled, *Counter-proliferation Research Proposal: Post-war Operations Against WMD*. This research proposal

explained the elimination of WMD as a post-war problem and described the concepts in terms of the post-war activities after Operation Desert Storm. The author warned that "if such post-war operations are not better integrated with war and post-war planning, the adversary is likely to be left with significant WMD capabilities," and he described the need to "increase our readiness… in order to minimize the adversary's residual WMD capabilities" (Speier, 2001, p. 1). Thus the top three objectives were: (1) to obtain participation by personnel from the Joint Staff and the commands as well as civilians with which they will interact in conducting post-war operations; (2) to understand the technical, operational, politico-military, and intelligence aspects of such activities and identify next steps to integrate them with counter-proliferation planning; and (3) to improve future planning documents and activities (Speier, 2001, pp. 1-2).

The proposed timeline in Speier's research proposal included three phases of activity within 18 months. Phase I would survey what was known and identify key people to participate in the second phase. Phase II would bring these operators together. During this phase the Center for Counter-proliferation Research would host three workshops in Washington, DC. These workshops would explore three aspects of the problem: technical and operational, politico-military, and intelligence and other classified parts. Phase III would begin with a workshop that would integrate insights and "consider next steps to prepare the U.S. for post-war operations" (Speier, 2001, p. 3).

No one anticipated the events of September 11, 2001, or imagined the impact of that day. The urgency of the study increased and basic assumptions changed, directly

affecting the direction of the Center's research. Reichart explained, "What changed most post-9/11 is a much more focused consideration of the nexus between terrorism and WMD as opposed to mainly looking at state actors and WMD. Before 9/11, of course, everyone realized that terrorists could use WMD. So the change isn't like a light switch, but more like a rheostat. We did a lot of work on terrorists and WMD long before 9/11" (Reichart, 2010, p. 22).

Focus on external audiences changed as the Center grew. Following movements of key people to various government positions, new avenues of access opened to the Center and the Center's focus changed directions as these key players changed positions. For example, focus was increased on the National Security Council when Joseph was there, and then the focus shifted to the State Department when Joseph became Under Secretary of State. Focus changed somewhat within the Department of Defense by following key players from office to office. For example, the Center benefited from the support of Michele Flournoy, Under Secretary of Defense for Policy, who at that time served as both Principal Deputy Assistant Secretary of Defense for Strategy and Threat Reduction and Deputy Assistant Secretary of Defense for Strategy (Reichart, 2010, p. 31).

Analysis Conducted at the WMD Center

One of the greatest values of a research center is the role it plays in asking questions. Between August 2001 and July 2002 the WMD Center focused on the initial study to learn more lessons from the United Nations inspection following the first Iraq

war. The researchers at the Center expanded this focus and looked at the big picture, the overarching strategy. Carus said:

> I think we never viewed elimination as being solely about Iraq. We were responsive to the immediate demand about Iraq, but our view was, if this is a real issue, it's not about a particular country, it's about a capability we need to have across the board. And so yes, we were responsive and recognized that the request had to do with a very specific country and a specific context, but I think neither John nor Rebecca (Reichart nor Hersman) viewed this as being distinctive to Iraq. If it had just been Iraq, I don't think we would have put the effort into it. (Carus, 2010, p. 14)

The people directly involved in the elimination research saw a greater purpose and application of their work. They did not confine their research to any specific country or military operation.

On August 6, 2002, Center researchers visited and conducted on-site discussions with staff officers of United States Central Command. (The United States Central Command is a unified combatant command of the U.S. armed forces, under the operational control of the Secretary of Defense. Its area of responsibility is the Middle East, including Egypt and Central Asia.) During this initial visit to Central Command, Center staff developed points of contact and nurtured shared relationships. Afterward, they infrequently met by video teleconference. As part of the early planning process for the workshop project, the NDU research team, along with Office of the Secretary of Defense Policy and Joint Chief of Staff representatives, met with Central Command and Special Operations Command staff. This meeting had the support of the Deputy Secretary of Defense and helped "both command planners and the broader policy community to understand the unique political, technical, informational, and operational challenges affecting the plan to eliminate an adversary's nuclear, biological, and

chemical weapons together with their attendant missile-related delivery systems" (Joint Staff, 2001). The Central Command site visit established professional contacts among the represented organizations. These personal relationships were critical to the success of the planned workshops and conferences.

For this important meeting at MacDill Air Force Base in Tampa, Florida, headquarters of the Central Command, the WMD Center prepared a briefing titled, *Post-War NBC/M Elimination Operations*. The briefing described the scope of the project, definition of terms, and pointed out that the "bulk of the effort would be at the operational level," and "insights would feed up and down the other levels of analysis" (*Post-war NBC/M elimination operations*, 2002, p. 6). The NDU research team proposed a two-track plan: one track for the policy community and one track for military planners. The projected products and outcomes included meetings and workshops to hone issues, build community, and develop institutional knowledge. At the same time, analytic efforts proceeded with lessons-learned analyses, which led up to a prospective scenario-based analysis (ITT Industries, 2000).

Indeed, during 2002, the study proceeded on two separate tracks. One track concerned the pending war with Iraq and the worry that a leak would have detrimental political ramifications. The other track concerned the need to form a *community of interest* on these issues. This track took a different position and eventually became the predominant one. Despite the separate tracks, the Center very clearly saw the need to bring people together on this topic. Workshops were the easiest way to start building a community of interest. So the Center returned to its heritage and drew upon its past

successes as the host for various workshops, symposia, and meetings. A series of three workshops was proposed.

On September 9, 2002, Rebecca Hersman gave the first rendering of what she refers to as her "emperor-has-no-clothes briefing." The initial briefing was presented to Lisa Bronson, Deputy Under Secretary of Defense for Technology Security Policy and Counter-proliferation. As a result, on September 15, 2002, Bronson tasked the Defense Threat Reduction Agency to examine these issues.

The Workshop Series

Speier drafted the Statement of Work titled, *Post-war Elimination of Iraqi WMD*, dated June 20, 2002 -- nearly a year after his original research proposal (Speier, 2002). The Statement of Work laid out three, half-day, secret-level workshops on the elimination of Iraq's WMD. Each workshop was condensed to a one-hour briefing prepared by the workshop chairperson. As indicated on the timeline, the workshops were held between September 2002 and January 2003.

Since one of the greatest values of a research center is to ask more questions, these workshops provided the forum to ask multiple, open-ended and unconstrained questions. The proposed workshops were based on widespread assumptions: (1) the United States was close to going to war with Iraq, (2) one of the war objectives would be to eliminate Iraq's weapons of mass destruction, and (3) the work of elimination would be handled by people on the ground, not aerial bombers.

The value of the workshops increased as participants were drawn to the Center and its research. The first of the series of three workshops was hosted by the WMD Center on September 5, 2002 (UNSCOM/IAEA, 2002). The 30 people who attended this half-day workshop included government officials, contractors, and National Defense University personnel. No military officers were in attendance. The second workshop drew heavily upon the initial insights of the first workshop. This workshop was attended by more than 30 people of the same backgrounds, and the agenda format was the same. The third workshop was held on October 30, 2002, and was a pivotal event (*NBC/M elimination: Issues for DoD*, 2002). Although the number of participants was about the same, the agenda differed from the first two workshops. The turning point of the day occurred when two military officers took some personal, but agreed, risk to come forth with information that caused high-level officials at this meeting to take notice. They saw the Center's concerns firsthand -- the military planners lacked preparedness and were deficient in their development of how to deal with this serious issue.

WMD Center participants at all three workshops and the annual conferences were Dr. John Reichart, Dr. Rebecca Hersman, and Dr. Jason Ellis. The cross-cutting themes and observations from the workshops were published in December 2004 in an Occasional Paper titled, *Eliminating Adversary WMD: What's at Stake?* by Hersman. This booklet covered the important lessons gleaned and the recommendations formed through the work of the WMD Center (Hersman, 2004).

Catalyzing and Facilitating the Flow of Information

The project of researching WMD developed along two parallel, but interactive tracks that set in motion a confluence of associations, relationships, and events that led to definitive points of principle and planning imperatives by Center researchers: one track for the policy community (workshops), another for the war planners (site visits). Both required methodical approaches that ensured threading together what was known and not known. Through careful aggregation, integration and association of events, the WMD Center team understood better than anyone both the details and larger concepts involved in WMD generally and associated with Iraq specifically. Center researchers and participants would facilitate information flow between policy and planning communities. The Center's goals included honing issues, building community and relationships, and developing institutional knowledge. The core of knowledge about WMD at all its policy and practical levels was starting to gravitate toward one place: the WMD Center.

During the remainder of the year, several important events took place. On July 21, 2002, the WMD Center team briefed the Joint Staff. This briefing began a continuous dialogue among Pentagon staff officers, both in the Office of the Secretary of Defense and in the Joint Staff, focusing particularly on the matter of U.S. military readiness to exploit and "eliminate" WMD weapons sites, specifically in Iraq and generally elsewhere. On November 8, 2002, the WMD Center (Reichart and Hersman) briefed The Honorable J. D. Crouch II, Assistant Secretary of Defense (International Security Policy). On November 12, 2002, they briefed the National Security Council.

In December 2002, the Center prepared a briefing on NBC/M elimination. This briefing reviewed the project and described the direct and indirect results (*NBC/M elimination: Issues for DoD*, 2002).

Between September 2002 and October 2003, NDU began WMD Elimination Concept of Operations development. The WMD Center hosted working groups, video teleconferences, and workshops, and during this time (September 2002 to January 2003) produced an important WMD elimination generic planning timeline. This timeline illustrated the kinds of activities that needed to be undertaken and a proper sequence for an elimination mission to be successful. It detailed circumstances that may affect the mission and described a variety of conditions: whether a permissive environment or a non-permissive environment, whether the war is still going on or hostilities have ended, and other such conductions. This timeline provided a conceptual framework that people could use to think through the different environments, the capabilities needed, in what time sequence, how quickly, and so forth. A viewgraph of this timeline was used in the Center's briefings (*NBC/M elimination: Issues for DoD*, 2002). It was titled, *Conceptual Overview & Project Timeline*, and dealt with activities between July 31 and November 12, 2002. Beginning with the Joint Staff Briefing on July 31, the slide was used repeatedly during the following meetings: the Central Command Site Visit on August 6, the Deputy Under Secretary of Defense Briefing on September 9, the Planners Video Teleconferences on September 12 and October 15, the DoD Workshop on October 30, the Assistant Secretary of Defense Briefing on November 8, and the Policy Coordination Council Briefing on November 12. In September and October,

there were three working groups on the topics: United Nations Command Lessons, Threat Reduction/Arms Control, and Mission Scoping.

The months between August and November 2002 were a very active and productive time for the WMD Center. Hersman recounts that during this time the Center "gamed everything over and over again trying to find ways to try to walk the line appropriately. And it was very difficult because we're obviously uncovering major problems in saying things that people did not want to hear" (Hersman, 2010, p. 11). In this way, Center participants preserved their ability to operate within the system and carefully maintained their credibility in this politically charged atmosphere.

Significantly, by the fall of 2003 the Center had singularly built up a substantial list of "Lessons Learned" that covered 2001-2003 without ever having any of assessments and analysis leaked or compromised. With earned trust, the stage was set for further work by Center participants in the matter of developing critical analyses and definitive public policy.

At this point, following the failure to find WMD in Iraq, the larger issue of WMD was extremely sensitive. Because of that sensitivity, the agenda and participation at the next workshop was tightly held and limited to government members only. Lisa Bronson, Deputy Under Secretary of Defense for Technology Security Policy and Counter-proliferation, was involved with putting this workshop together. This meeting was the first for the Center to expand beyond small control sets to the broader community. However, all the workshops lacked general/flag officer attendees. The highest ranking military officers were colonels (Carus, 2010, p. 28).

The Center was responsible for: (a) assisting command planners and the policy community to understand, assess, and develop possible approaches to elimination of an adversary's NBC/M capabilities and (b) building upon CONPLAN 0400 guidance to plan and conduct post-war NBC/M elimination operations. The Center's efforts had both direct and indirect results. The direct study products and deliverables (workshop reports, quick turn-around studies, and analytical briefings) were provided to planning elements with the U.S. government. More importantly, the Center served as a catalyst, posing questions, identifying possible solutions, and turning actions back to relevant organizations.

Interviews with Returning OIF Leaders

After the workshops, the Center began focusing on the next steps in their research. Hersman proposed debriefing everyone coming back from Operation Iraqi Freedom (OIF) who was engaged in the WMD mission area. She initiated and executed the project during the summer and fall of 2003 when the WMD Center hosted weekly or bi-weekly brown bag sessions. From talks with returning OIF leaders engaged in WMD elimination operations, the Center developed lessons learned. Hersman said, "We met there about once a week, or once every other week, and developed lessons, partial lessons learned, and it was an emotional catharsis, like a therapy session" (Hersman, 2010, p. 14).

Unexpectedly, these group discussions, while being extremely informative for the researchers, also had a cathartic effect for the participants. These veterans benefited

from the opportunity to talk about their experiences, and relationships were re-established and new relationships were made. Many of the comments made in hindsight provided revelations of facts heretofore unknown and analyses and assessments of processes and outcomes. In additional to contributing to an oral history of the event, these returning leaders gained personal benefit from these exit interviews. Without these meetings their histories would have been lost forever, and their beneficial retrospective would have never been possible. Everyone involved wanted to be heard and the feedback was forthright and experience-based. The fact that they were being heard by experts, seasoned professionals, and researchers ensured a deep understanding by both those being debriefed and the debriefers. Informed questions intelligently posed provided the opportunity for informed insight intelligently rendered.

During the last half of 2003, the Center wrapped up the workshops and interviews with returning OIF leaders. Reichart assessed that by then the Center had visibility within the Pentagon. Colonels were starting to discuss what to do; there were a lot of internal deliberations (Reichart, 2010, p. 6). Reichart described this period as one of transitioning. Responsibility for action was transferred from the personnel at the WMD Center to the leadership at the top levels of the U.S. government and military:

> Almost in that sense it was our turnover to the system. We carried this as much as we could carry this as a small Center. We'd done all the work that no one else did, summer and fall 2003; we did all these workshops with returning OIF leaders who told their story about what went right and mostly what went wrong, so February we hold a big conference. And it's basically over to you guys. (Reichart, 2010, p. 6)

During this period, the NDU researchers began to see the results of their influence in the political realm. Their efforts captured the attention of the Pentagon at many levels, including the Office of the Deputy Secretary of Defense.

Deputy Secretary of Defense Action on WMD Elimination

Deputy Secretary of Defense Paul Wolfowitz spoke at the WMD Center's third annual conference on counter-proliferation on May 13, 2003. He praised the work of the WMD Center and argued for a standing WMD elimination capability (Wolfowitz, 2003). In thanking the Center, he said:

> I'd also like to thank NDU's Center for Counter-proliferation Research, which has truly been in the forefront of policy and strategy on this crucial issue….. In fact, last fall at my request the center also undertook an important study concerning the post-Saddam elimination of Weapons of Mass Destruction in Iraq. They worked closely with Central Command planners and with senior Washington officials. And that work has helped to set the stage for our current work in Iraq and for our anticipated additional work there. (paras. 9-10)

After praising the work of the WMD Center, Wolfowitz called for a new approach toward counter-proliferation. He outlined some of the changes when he said:

> In essence, we are working to make counter-proliferation a lot more like counter-terrorism and to change both. Our approach calls for earlier and more aggressive efforts to prevent and neutralize threats before they materialize, recognizing that it will no longer do to simply wait until after the fact to retaliate. Iraq is an example. But our efforts can't stop there. (paras. 17-18)

Wolfowitz spoke to a generally accepted truth that the possibility of future WMD attacks must be taken very seriously and increased preparations and new capabilities were needed. He said that even though weapons of mass destruction were not used in the Iraq war, we must consider the real possibility of these weapons being

used in the future. The WMD Center directly contributed to what Wolfowitz described as the basis for the WMD elimination mission. He further stated:

> As with all other aspects of our WMD defense capabilities, the enduring elimination challenge will not be just a matter of ensuring a sufficient number of people outfitted with the appropriate equipment, but also ensuring that those well-equipped personnel have the proper concepts, doctrine, and training to use those capabilities effectively to accomplish their mission. (para. 44)

His emphasis on the concepts, doctrine and training was exactly what the WMD Center had been briefing to the WMD community. Wolfowitz said, "The general public may never know about much of this work, but you've [Center personnel] helped to blaze new trails in uncharted, difficult, hazardous, and increasingly important terrain" (para. 42). He emphasized that "WMD in the hands of rogue states and terrorists is the greatest security threat we face in this decade, we will continue to have a requirement for a robust WMD elimination capability even after the discovery and the destruction of Iraq's capabilities" (para. 42).

In this speech Wolfowitz concluded, "In future conflicts we should not end up playing *pickup games* when we are trying to put together forces for eliminating Weapons of Mass Destruction in the aftermath of a conflict." Characterized by his sports analogy, this speech was later referred to as the "pickup games speech." Researchers at the WMD Center recognized this speech as a turning point in their efforts, and acknowledgment of the important work being done at the Center. This policy pronouncement during the early Bush Administration had its conceptual origins in the Clinton Administration, even as approaches to implementation differed. The strains of consistency are important to the enduring coherence (and targeted divergence)

of related policy development. The *what* and *why* were agreed, which was similar to sustained agreed strategic principles reflective of the Cold War. It was the *how* that changed, due to political philosophy, personalities, content and a very different context in the light of pre- and post-9/11 dynamics and atmospherics.

President George W. Bush Action on WMD Elimination

On February 11, 2004, President George W. Bush gave a major policy speech at NDU. In this speech, he proposed seven steps to help combat the development and spread of weapons of mass destruction (Bush, 2004). He said:

> On September the 11th, 2001, America and the world witnessed a new kind of war. We saw the great harm that a stateless network could inflict upon our country -- killers armed with box cutters, mace and 19 airline tickets. Those attacks also raised the prospect of even worse dangers of other weapons in the hands of other men. The greatest threat before humanity today is the possibility of secret and sudden attack with chemical or biological or radiological or nuclear weapons. (paras. 8-9)

Bush went on to explain that control of weapons of mass destruction could no longer depend on deterrents that would make them weapons unlikely to be used in a first strike. He said:

> In the Cold War, Americans lived under the threat of weapons of mass destruction, but believed that deterrents made those weapons a last resort. What has changed in the 21st Century is that, in the hands of terrorists, weapons of mass destruction would be a first resort, the preferred means to further their ideology of suicide and random murder. …small groups of fanatics or failing states could gain the power to threaten great nations, threaten the world peace. (para. 10)

In May 2004, the WMD Center's annual symposium was attended by more than 200 people, and Hersman's briefing reached a greater number of people. While the

Pentagon worked on specific issues, the Center was reaching out and building a larger community of interest. Experts involved with the elimination of Iraqi weapons of mass destruction during and following Operation Desert Storm were essential to a secret-level discussion and made up a large percentage of the group convened at this NDU-hosted, one-day conference in Washington. A dozen former United Nations Command (UNSCOM) and International Atomic Energy Agency (IAEA) officials and a range of government participants and non-government specialists met to draw upon lessons learned for future NBC/M elimination. (The International Atomic Energy Agency [IAEA] is the world's center of cooperation in the nuclear field. It was set up as the world's Atoms for Peace organization in 1957 within the United Nations family. The agency works with its member states and multiple partners worldwide to promote safe, secure and peaceful nuclear technologies.)

A sense of consolidation and turnover existed as 2004 drew to a close. During that year the WMD issues were consolidating inside the Pentagon, and the Center was able to concentrate on other important aspects of studies dealing with WMD. During this period, Hersman finished her field work and began writing the lessons learned. By the end of the year, this information was published in *Eliminating Adversary Weapons of Mass Destruction: What's at Stake?* (Hersman, 2004). This publication, a concise primer on the subject of WMD, drew attention to the "greatest threat."

Establishment of the WMD Elimination Mission

In 2005, Jim Thomas, Special Assistant to Secretary Wolfowitz, asked the WMD Center to provide support to the Quadrennial Defense Review. The Quadrennial Defense Review is part of the continuum of transformation in the Defense Department. Its purpose is to help shape the process of change to provide the United States with strong, sound, and effective war-fighting capabilities in the decades ahead. Throughout the fall of 2005 and winter of 2006, the WMD Center provided subject-matter expertise to the 2006 Quadrennial Defense Review. In February 2006 two things happened nearly simultaneously: the 2006 Quadrennial Defense Review was published on February 6, 2006, and the National Military Strategy to Combat Weapons of Mass Destruction was published by the Joint Chiefs of Staff on February 13, 2006.

The National Defense Strategy gave reality to the WMD mission and established a deployable Joint Task Force – Elimination (JTF-E) with the 20th Support Command as the primary unit. The 20th Support Command was not immediately equipped to support the additional mission. It took a year and a half (October 2007) from when the Quadrennial Defense Review was published establishing a Joint Task Force – Elimination until there were enough elements within that organization for it to become operational.

According to Reichart, between the two Quadrennial Defense Reviews (2002 and 2006), real assets were assigned (*Quadrennial defense review report*, 2001). The 2002 Quadrennial Defense Review, as Reichart said, "established this [WMD elimination] as a mission and gave reality to it, and the other [the 2006 Quadrennial

Defense Review] actually gave it more permanent reality" (Reichart, 2010, p. 34). The National Defense Strategy of March 2005 provided a foundation for the Quadrennial Defense Review Report which was published on February 6, 2006. The National Defense Strategy called for continuing reorientation of capabilities to address non-traditional, asymmetric challenges. These challenges include irregular warfare, catastrophic terrorism employing weapons of mass destruction, and disruptive threats to the United States' ability to maintain its qualitative edge and to project power (*National military strategy to combat WMD*, 2005).

Addressing the WMD issues, the 2006 Quadrennial Defense Review included the Secretary of Defense's modification of the Unified Command Plan by designating the Commander of U.S. Strategic Command as the lead Combatant Commander for integrating and synchronizing efforts to combat WMD (*Quadrennial defense review report*, 2006). This designation established for the first time a single focal point charged with integrating the department's efforts for combating WMD in support of the geographic Combatant Commanders' operational requirement, and designated the Defense Threat Reduction Agency as the primary combat support agency for U.S. Strategic Command in its role as lead combatant command for integrating and synchronizing combating WMD efforts (*National military strategy to combat WMD*, 2005).

On February 13, 2006, National military strategy to combat WMD was published. The National military strategy to combat WMD articulated eight mission areas that revolve around the WMD issues. The eight mission areas are: offensive

operations, elimination operations, interdiction operations, active defense, passive defense, WMD consequence management, security cooperation and partner activities, and threat reduction cooperation. "Elimination Operations are operations systematically to locate, characterize, secure, disable, and/or destroy a State or non-State actor's WMD programs and related capabilities." (*National military strategy to combat WMD*, 2006, p. 23).

> The National military strategy to combat WMD confirmed that:
>
> Military efforts will need to be integrated with other organizations and nations that possess capabilities, resources, or information that can contribute to the mission. In general, the demands across the full spectrum of combating WMD will require the military to work closely with domestic agencies, allies, and partners to dissuade, deter, and defeat those who seek to harm us with WMD. Precluding the convergence of WMD and terrorism requires, in great part, coordinating combating WMD objectives with the objectives of the Global War on Terrorism, as described in the *National Strategy for Combating WMD Terrorism*. (*National military strategy to combat WMD*, 2006, p. 19)

Secretary of Defense Donald Rumsfeld adjusted the institutional and departmental focus of the Department of Defense requirements process to concentrate on capabilities and capability portfolios. One aspect of this complex re-orientation was to assign synchronizer roles to the Functional Combatant Commanders. As synchronizer for a specific aspect of defense capabilities, the Combatant Commander was responsible for horizontally (and somewhat vertically) bringing together all aspects of U.S. governmental capabilities toward a specific requirement. Southern Command was made the global synchronizer for countering terrorism; Strategic Command was made the global synchronizer for countering WMD, strategic communications, and cyber

security. Efforts to make Transportation Command the global synchronizer for joint logistics were less robust (Rumsfeld, 2005).

On January 6, 2005, the Secretary of Defense signed a memo establishing U.S. Strategic Command as the synchronizer and coordinator for the countering WMD mission. This memo addressed to the Chairman of the Joint Chiefs of Staff and the Commanders of the Combatant Commands designated responsibility for combating WMD and emphasized the importance of the WMD mission. This memo said:

> The President's national strategy to combat WMD describes WMD in the hands of hostile states and terrorists as one of the greatest security challenges facing the United States. The strategy reinforces the need for the Department of Defense (DOD) to continue to develop an integrated and comprehensive approach to counter the WMD threat. As an essential step toward that approach, the Department requires a lead to integrate efforts to support the combatant commander's requirements to execute operations to combat WMD. (Rumsfeld, 2005)

The need to integrate and synchronize Department of Defense-wide efforts in combating WMD was given priority. All efforts across the entire spectrum of doctrine, organization, training, material, leadership, personnel and facilities were included. Strategic Command's response was to require that it have synchronization authority for every aspect of the capabilities portfolio (eight mission areas), not just the discrete mission of WMD elimination. This set of circumstances set up an interesting imperative for the WMD Center: to fill the analytical vacuum between articulation of countering WMD as a national priority and the gauzy status of who had the substantive lead. The Center took on the mantle of the responsibility for addressing the matter of countering WMD. Facts and national circumstances required the researchers and policy experts to fill a breach that they believed threatened the existence of the nation.

On August 26, 2005, Commander of U.S. Strategic Command, General James E. Cartwright, replied to the Secretary of Defense describing how the responsibility for combating WMD would be carried out. Effective on that date, U.S. Strategic Command established a subordinate component, the Center for Combating Weapons of Mass Destruction, to assume these duties and described its role. The Center for Combating Weapons of Mass Destruction's primary responsibility would be to support the commander of the U.S. Strategic Command as the lead combatant commander for integrating and synchronizing DoD in combating WMD. The Center for Combating Weapons of Mass Destruction would accomplish the mission by planning, integrating and synchronizing DoD efforts with other agencies, maintaining global WMD situational awareness, and supporting U.S. Strategic Command in advocating combating WMD (Cartwright, 2005).

The establishment of the research center, Speier's proposal on WMD, and the passionate commitment of the researchers made a difference beyond what was expected from a small university research center. The WMD Center's research had catalyzed actions at the highest levels. From the President and Secretary of Defense, to the military commanders, action involving the concepts developed at the WMD Center influenced U.S. policy.

Application of Influencing Public Policy Model

Applying the model noted in Chapter 3 provides additional insights into the effects of the Center and application to the WMD elimination case study as

follows:

Meaning: During the period 2000 through 2002, the NDU's WMD Center explored the problems associated with elimination of WMD programs, drawing heavily on the UN experience in Iraq. This work identified a generalized problem that attracted the attention of Pentagon officials who saw its potential importance in the event of future military attacks on Iraq.

Formulation: In mid-2002, Pentagon officials formally requested the WMD Center to formalize its initial exploratory work. This led to engagement with experts drawn from relevant components of the Department of Defense involved in planning for the anticipated Iraq war. By late 2002, the role of the WMD Center ended as the military attempted to develop operational capabilities.

Outcomes: During late 2002 and early 2003, the Defense Department developed capabilities based on the concepts developed in the formulation phase.

Adaptation: Even as the military conducted military operations, the community of experts involved in the formulation of the new concepts discovered serious flaws that required rethinking the approach adopted before the war. More significantly, concerns regarding execution of the mission were expressed by senior officials in the Pentagon and White House, including the President.

The widespread recognition of the execution failures led to requests to rethink how the mission was executed. This led to the initiation of a second cycle.

Meaning: During the summer and fall of 2003, the WMD Center initiated an informal lessons-learned exercise through a long series of brown bag lunches involving

many of the same experts who participated in the earlier formulation phase. In addition, individuals involved in implementation also were drawn into the discussion.

Formulation: In February 2004, the WMD Center hosted a one-day conference formally requested by OSD to communicate lessons learned from the Iraq war. This initiated internal discussions within the Pentagon that led to significant bureaucratic realignments within the Defense Department, including assignment of the combating WMD mission to STRATCOM and the adoption of combating WMD as a major focus of the 2006 Quadrennial Defense Review.

Outcomes: The 2006 Quadrennial Defense Review assigned a high priority to developing capabilities for WMD elimination and for the development of new command and control structures for this new mission. WMD elimination was made a formal DOD mission.

Center Vulnerabilities

Guided by Yin (as demonstrated in Table 3), an objective consideration of the Center's inherent strengths also paradoxically highlights its weaknesses. The work of the Center was highly dependent on the cooperation of various agencies and departments in the federal government. Conversely, once the Center established its *bona fides* and credibility, the cooperation given to the Center expanded its access to experts from across a broad spectrum. That stated, as a result of its unique and singularly advantaged access to leaders throughout the government's agencies and departments, the Center has a requirement for particular vigilance in its biases and

temptations toward reporting, analyzing and assessing from experts invested in specific public policy objectives.

Similarly, the perspectives of practitioners in the arena of formulating and compelling toward specific public policy will oftentimes perceive events through the prisms of success and failure to deliver on a mission and objective, rather than through the prism of effecting incremental change over time. In the case of the WMD Center, there appears to have been keen discipline about and awareness of this intellectual slippery slope and concomitant peer reviews and peer critiques to inoculate against the potential for this weakness and, further, to ensure substantive and content objectivity in the midst of contextual events.

The Center has been reliant on relationships and exquisitely faithful to non-attribution in order to be successful; thus, its own documentation is difficult, if not impossible, to logically retrieve. Although some of this circumstance addresses a larger issue of documentation in the Information Age, the matter is also somewhat cultural to the Center as well as to the urgency toward action that was being required by decision makers in light of the events of September 11, 2001. The agility of the Center and its authentic intellectual rigor and policy development success through relationships has had the downside of too little process rigor and attention to the details that documentation would otherwise provide. This is obviously useful to the practitioner at the time, especially when trying to get things done in the press of the moment and the crucible of events. In the larger scheme of things, the elasticity of documentation processes constrains analytical and historical understanding for the researcher and

scholar as well as for the objective recording of important events in the life of the polity. These vital considerations for the researcher and the practitioner require a scrutinizing perspective and judgment throughout the process of the analytical journey.

Summary

This chapter establishes the origins of the WMD Center, particularly its founding in 1994 as the Center for Counter-proliferation Research, and its subsequent evolution. Between 1994 and 2006, the chronological scope of this case study, the WMD Center was a focal point for WMD research. (A complete synopsis of the timeline is available in Appendix C.) With rigorous interactive energy and endeavors such as extensive workshops, critical briefings, and exchanges of ideas, experiences, and opinions, the Center became a focal point for engagement by practitioners. During this 12-year span, the Center's research created new directions and priorities for public policy and military preparedness. Located at the National Defense University in Washington, DC, the WMD Center influenced the thinking and planning that resulted in the establishment of the critical WMD elimination mission. Conscientious about its vulnerabilities and weaknesses, the WMD Center continues to influence and shape public policy.

CHAPTER 6

ANALYSIS OF DATA

After the 1991 Gulf War proliferation "wake-up call," institutes and organizations – large and small, official and non-official – also had an important impact in changing U.S. strategy and posture to deal with the global WMD threat. The National Defense University's Counter-proliferation Center stands out as a good example. During the early to late-1990s, the Center ran a series of "counter-proliferation games." Many, many hundreds if not thousands of officers, defense officials, and others played the "red" and "blue" sides in regional clashes involving the threat or use of WMD against U.S. forces, U.S. allies, or the American homeland. For all of these players, the lesson learned and set out in their plenary reports was repeatedly the same: "No longer could we blithely assume away this WMD proliferation threat. Instead, WMD in the hands of a small regional adversary could pose major military difficulties for U.S. forces and those of our friends – and we had better take that WMD proliferation threat seriously. Indeed, it could kill us."

Ambassador Lewis A. Dunn
Speech to Program for Emerging Leaders
June 21, 2010, National Defense University

This case study examined the Center's work on WMD elimination and its effects on both the anticipation of war and the response to the strategic, operational, and tactical threats posed by WMD. Data were gathered from documents, archival records, interviews, and the case narrative in the previous stages of this investigation. This evidence was presented in different ways using various interpretations. Since the case study methodology does not rely on statistical analysis, the experience of the researcher is a key element in this analytic strategy. One analytic technique employed was a modified form of explanation building (Yin, 1993). This general analytic approach follows the case narrative and timeline. The analysis flowed from the descriptive

framework around which the case study was organized. This analysis showed that relevant evidence was used, rival explanations were considered, and the researcher's knowledge and experience were applied to maximum advantage (Tellis, 1997a).

With an appreciation of the case subject itself, this chapter will consider the raw data collected and draw analytically and conclusively from this evidence in response to the core questions. (1) How did the research of the National Defense University's Center for the Study of Weapons of Mass Destruction (WMD Center) research influence U.S. policy? and (2) How did the WMD Center's influence the development of a new policy and mission area for the Department of Defense on WMD elimination mission? Using these questions and approaching the case from different perspectives, a detailed analysis was performed and analytic generalizations are offered based on the research questions that drove this study. The researcher took care to avoid bias as the data are presented to the reader. Wherever possible, additional analytic techniques were used including ordering the information, creating displays, and crafting other logical comparisons in order to assure a high-quality analysis.

Overview of the WMD Center

Established in 1994, as the Center for Counter-proliferation Research, the Center for the Study of Weapons of Mass Destruction's original name reflected its place at the vanguard of setting the national agenda. During the early 1990s, counter-proliferation was a nebulous term that was introduced into the national security lexicon with

Secretary of Defense Les Aspin's 1993 speech about a new Defense Counter-proliferation Initiative.

At the time, Dr. Ashton Carter, the current Under Secretary of Defense for Acquisition, Technology, and Logistics, was appointed to the new position as Assistant Secretary for Nuclear Security and Counter-proliferation. Earlier in 1993, as political positions were being filled in the Clinton Administration, Dr. Robert Joseph—then a senior civilian in the Office of the Secretary of Defense for Policy—was the lead person for this new portfolio. In the summer of 1993, Joseph came to the National War College as a faculty member. His inchoate idea for a research center devoted to countering proliferation threats took shape at that time. Realizing that NDU's Institute for National Strategic Studies had different research priorities, Joseph sought a separate center that could contribute to the ongoing work within the Pentagon on the new counter-proliferation initiative. Joseph, who taught for many years before joining the National War College, knew all too well that history is the combination of chance and design. With half seriousness, he recalled the good fortune of the founding of the Center when the acting director for the Institute for National Strategic Studies missed his scheduled meeting with the president of NDU and Joseph persuasively made his case. The president of NDU agreed that the timely creation of a new NDU research center would provide an opportunity to help forge national policies in this area.

Through a series of letters between the President of NDU and the Joint Staff, the Center for the Study of Weapons of Mass Destruction was founded in July 1994, with the Institute for National Strategic Studies agreeing to host the Center. From the start,

the Center was funded externally from NDU. Its initial funding source was through the office of the Assistant to the Secretary for Atomic Energy. Over time, funding sources included the Office of the Secretary of Defense for Policy, the Defense Threat Reduction Agency (and predecessor agencies), the United States Air Force, and the Joint Staff.

From its inception, Joseph succeeded in casting the Center as interagency both in composition and mission. Initially, the Center consisted only of Dr. Joseph and two officers provided by the Air Staff. In January 1995, the Center's current director, Dr. John Reichart, joined the group. For several years, the Center grew very slowly through professionals detailed from the Departments of Energy (Mr. Jim Ford, who was a Senior Executive Service-5), State (Paula DeSutter who later became an Assistant Secretary of State), and Defense. In 1997, the Center's current Deputy, Dr. Seth Carus, joined the Center as an Intergovernmental Personnel Act employee and then as a Title 10 employee in 1999. In the same time frame, Ms. Rebecca Hersman (currently Deputy Assistant Secretary of Defense for Countering Weapons of Mass Destruction) joined the Center along with a number of others.

Over the past several years, the Center has expanded its involvement in the professional education of emerging leaders, including and most especially within Department of Defense. The Center hosts national classified conferences annually for the American WMD community; it administers its own three-year program for young emerging leaders from within the national security agencies, and it plays an important

role in facilitating improved WMD education programs within the Joint Professional Military Education System.

With regard to the latter, the Center conducts annual WMD education conferences for research and teaching faculty, an outreach program extending from commissioning sources to senior service schools, system-wide information technology tools linking Department of Defense's degree-granting schoolhouses, and a premier case study program concentrating on WMD issues. In many ways as a result of its work on WMD elimination, the WMD Center established itself, and continues to mature, as a consequential contributor to public policy. In this manner and in other ways, the Center responded affirmatively to the challenge referenced earlier regarding the benefit to society of university research as posed by Kent Keith: "Higher education will need to focus on outcomes and the outcomes produced must be relevant to the needs of those who live beyond the campus walls…" (Keith, 1998, pp. 163-4). The Center equally responded in the affirmative to the value of university research on creating "new knowledge" to government solutions (Duderstadt, 2000, p. 110).

WMD Research and Public Policy

Though variously addressed over several Administrations, proliferation was openly confronted as a growing threat during President Clinton's Administration. Public statements were particularly cast in the context of expanded democratization and globalization. Additionally, the Administration was increasingly focused on *loose nukes* as a result of the fall of the Soviet empire. The Nunn-Lugar legislation and very

deliberate and methodical efforts were enacted to ensure that nuclear weapons did not transfer from former Soviet hands into those of hostile and rogue states. In *Countering Weapons of Mass Destruction: Looking Back, Looking Ahead*, Bernstein, Caves, and Carus (2009) explained: "In parallel, Department of Defense civilian leadership sought to integrate the threat posed by WMD into all aspects of its planning and operations" (p. 3).

At the time, the Defense Counter-proliferation Initiative (1993) focused on three important areas of effort relevant to this study: (1) a series of studies and analyses toward better understanding of WMD in all its parts, (2) a more systematic and better resourced approach to defining requirements and capabilities, and (3) a counter-proliferation concept plan developed as guidance to regional and combatant commands. This Initiative further stated that, "In responding to an act of WMD terrorism, the Defense Department would have significant capabilities to contribute – though it was not clear that sufficient units, assets, and expertise existed to support a robust response…" (Bernstein et al., 2009, p. 5).

The Administration of President George W. Bush started with a more skeptical view of long-held disarmament approaches. After 9/11, however, "…the salient prospect of catastrophic terrorism led the President to conclude that a comprehensive campaign against WMD proliferation was imperative" (Bernstein et al., 2009, p. 5). The Bush Administration crafted a series of strategic documents that articulated an important perspective relevant to this study: "Deal with the 'WMD world' as it is: a

complex, diverse landscape. Combating WMD policy must be rooted in political reality and in objective assessment of what is possible" (Bernstein et al., 2009, p. 7).

At this point, the WMD Center understood its obligations and its mandate. The Center applied its expertise and developed a series of reports and activities, which were addressed in more detail in the case narrative. Notable at this juncture is the fact that the Obama Administration has continued an emphasis on non-proliferation of both nuclear weapons and other WMD, with the political irony of building on the concepts and initiatives of both the Clinton and Bush Administrations (albeit with a reduced number of experts imposed by the Bush Administration).

In remarks at the National Defense University on May 7, 2009, Under Secretary of Defense for Policy, Michele Flournoy characterized WMD as one of the most critical threats facing both the United States and the world. She observed that any WMD crisis would quickly go global and pledged an absolute commitment to make up for lost time in preparing the Department of Defense for responding to large and complex WMD events. She identified WMD as one of the five specific security challenges for the forthcoming Quadrennial Defense Review (2006, pp. 42-43).

Bernstein, Caves, and Carus continued:

> During the National Defense University Center for the Study of Weapons of Mass Destruction's May 2008 symposium, one panel endeavored to forecast the saliency of WMD issues for the new Administration…It anticipated WMD issues would be less salient than for the Bush Administration…Yet, the Obama Administration, like its post-Cold War predecessors, has placed WMD among its top national security priorities…. (Bernstein et al., 2009, p. 45)

The WMD Center research was vital to the development of national security strategies and related public policy.

Analysis of the Five Research Questions

When the WMD Center was chosen as the object of the case study, the two framing questions and the three supporting questions were easily identified. These questions will be used in the analysis. As each question is considered, the researcher will look for linkages between the Center and the outcome of influencing public policy. Findings and conclusions are aligned in a manner to answer the original *how* and *why* questions.

The following analysis will explore the various lenses through which such public policy can be viewed. The lenses involve how policy is analyzed and understood, how much of the politics of a public policy is determined by the analytical perspective selected rather than on the merits of the core issue itself, how research can impart toward public policy in ways that directly benefit society, and how much passionate intellectual interest by the academy can complement dispassionate and professional analytical rigor toward useful outcomes that benefit society.

Besides delineating and understanding the work of the WMD Center, this case study served as a vehicle for principal participants to assess and understand their work through retrospection and reflection. An analytical self-assessment by key Center leaders led them into Boyer's (1990) research domain of the great scholarship of discovery. Dye notes in his focus on the entirety of the political system that such scholarship is critical to useful outcomes and involves assessment of the impact of environmental forces, analysis of the effect of political processes, an inquiry into consequences, and an evaluation of the impact (Dye, 1986).

Examining the effects of relationships is another useful component of this scholarship of discovery and analysis. The meaning of the experience and process itself provided interesting insights into the passions, roles, and behaviors of researchers whose work has direct relevance to current issues and is tied to political equities and genuine and definable national interests. The interviews of participants revealed deeply held convictions about the unique role of the WMD Center in the development of public policy on weapons of mass destruction. An analysis of the study questions provides further understanding.

Question 1: WMD Center Influenced U.S. Policy

How did the research of NDU's WMD Center influence U.S. policy? This question may be analyzed three ways: process, responsiveness, and outcomes (Duderstadt, 2000). As a matter of process, the WMD Center research was able to influence U.S. policy in a number of general ways. Sound, consistent, and aggregated research compelled policy makers and operational planners. The quality, breadth, and depth of the work were such that the research was applicable and relevant to both policy makers and operational planners. With patience, persistence, and method that spanned a ten-year period, the Center built upon sound research that was thoroughly vetted over an extended course of time. The research was coherent, steadfast, peer reviewed (informally), and both inductively and deductively derived. The soundness and durability of work provided credibility.

Responsiveness to national leadership priorities and imperatives was consistent and coherent. The Center is located in Washington, DC, and is sophisticated about Administration messaging and development of public policy. Being attentive to the public and private guidance of at least two presidents and four secretaries of defense, the WMD Center tracked and effectively responded to the rather remarkable consistency of both parties that occupied the White House. It is interesting to compare the continuity of the Obama Administration's wording on WMD in the May 2010 National Security Strategy: "*the gravest danger* [emphasis added] to the American people and global security continues to come from weapons of mass destruction, particularly nuclear weapons," with the Bush Administration's first National Security Strategy (September 2002): "*The gravest danger* [emphasis added] our Nation faces lies at the crossroads of radicalism and technology. Our enemies have openly declared that they are seeking weapons of mass destruction, and evidence indicates that they are doing so with determination." In a document that at some level sets to distinguish itself from the last Administration, both statements use the exact same term, *gravest danger*. The WMD Center understood the rhythms and interactions that make national security public policy. By identifying and understanding the threading between two Administrations, the Center was able to approach WMD policy in ways that would ensure sustained and consistent approaches over time, even if different in style. More pointedly, the Center sought to close the rhetoric-reality gap wherein Presidents Clinton, Bush and Obama consistently asserted their concerns about WMD as the

gravest danger – a seemingly constant refrain of strategic imperative by three presidents that has not been translated into military or federal government priorities.

Relationships mattered. All of the principals, action officers, writers, negotiators, interlocutors, and agents, knew each other. Personal and professional relationships and knowledge of each other served to engender trust, predictability, leveraging of respective skills and strengths and, importantly, risk taking. Relationships became key and catalyzing to events surrounding the WMD elimination mission. The result was more informed advice and consequently more informed decisions. The rule of exclusivity that often dominates relationships in Washington was absent from the relationships built by the Center. New ideas, new theories, new data, counter-intuitive insights, countervailing research, and contrarian views were welcomed and considered. Relationships within Washington and among department and agency experts and with Central Command experts, operators, and planners were critical and essential to trust, risk, and ultimately to fully formed strategy, policies, planning, operations, and even tactics. The inhibitor at key junctures was the level of security clearance. (There are three levels of government security clearances: confidential, secret, and top secret. A clearance, along with a need to know, grants an individual access to classified information). Security clearance was a constraint that was actually welcomed by some of the experts so that they could remain conscientiously objective. Classified information was not necessary to participate in the discussions of overarching strategies and concepts.

As a matter of outcomes, the WMD Center was able to influence U.S. policy in a number of specific ways. The WMD Center's research was sufficiently credible to compel funding. Resources were obtained for more policy-related research, as well as for organizational and military unit readiness and capabilities to counter WMD, especially focused prospectively on Iraq.

The Center's work became a critical part of the 2006 Quadrennial Defense Review. Highly dissatisfied with what was coming out of the bureaucracy in support of the Quadrennial Defense Review, Deputy Assistant Secretary of Defense Jim Thomas asked the Center's Rebecca Hersman to draft a more declarative statement on WMD, including the development of a Joint Task Force on Elimination (JTF-E) and to shape improved military capabilities, especially in the U.S. Army. This fact became key to the Center's effects on implementation and, as Kugler (2006) stated, on understanding and affecting new goals to be pursued or old goals that need fresh efforts and how all key goals can be pursued in the most effective and efficient manner. Or, based on national imperatives and strategic priorities, and as Lasswell posed: Who gets what, when, and how? The Quadrennial Defense Review would later become a place to stake a claim to the importance of WMD and draw attention to the WMD elimination mission.

Outcomes of the Center were based on a realistic appreciation of execution and likelihood of implementation. The Center's key personnel had a practical perspective that reflected Weimer and Vining's (2005, p. 24) view of implementation as "client-oriented advice relevant to public decisions and informed by social values." Leaders of

the Center well understood the hazards of a gap between public policy and implementation, thereby threading policy all the way through to planning, operations, tactics, techniques, and procedures. This cluster of innovators understood the need to be balanced with a community of implementers to ensure successful, meaningful, and effective outcomes.

In summary, the Center influenced public policy in several ways: (1) through processes that were consistent, coherent, repeated, reliable, and trust-based; (2) through responsiveness to national imperatives and demands articulated by political leadership; (3) through sound and enduring relationships of trust and dependability that allowed greater degrees of risk and forthrightness; and (4) through conscientious policy implementation that ensured a practitioner-focused appreciation for what was possible rather than for what was idealized beyond the ability to deliver.

Questions 2: WMD Center Influenced Elimination Mission

How did the WMD Center's research influence the development of a new policy and mission area for the Department of Defense WMD elimination capabilities? Definitional extrapolation served to thread and link theory with policy and operational planning. Implementation of a policy was viewed by the Center as critical to the need and to the opportunity. As a result, the term *elimination* had to be more deliberately defined while also being operationally feasible. Concept and operations, theory and feasibility, research and practice all had to come together within the WMD elimination mission. As Reichart noted:

> …elimination in the future isn't going to look like elimination in the past when you waited until a conflict was over, or you moved in years later with UN inspectors only when they were totally free to move about. In the future, elimination could be an immediate post-war and we even have to think about it happening during war itself. During wartime, you have to be very conscious about what you strike, what you don't strike. While the kinetic solution may be good for this kind of WMD target, it's going to be horrible for another kind of WMD target. And this probably was one of the biggest and maybe the most obvious but also the most important thing we finally came up with…. (Reichart, 2010, p. 11)

Researchers developed operational parameters and boundaries based on definitional protocols and context. Having the advantage of experts, years of prior work, and a significant degree of political coalescence, the Center approached WMD policy both as program and plan. The team sought to answer questions of practice such as what the program should look like, where things are located, who is involved, how much money is involved – and to incorporate that knowledge into operational planning. This strategy was significant. Scholars and researchers were, in this case, establishing operational parameters based on hard-earned knowledge (Reichart, 2010).

In summary, the Center's research influenced U.S. policy on elimination of WMD due to its: (1) predisposition toward applied research, (2) eschewing partisan politics and maintaining an apolitical culture, (3) intent on developing and sustaining a WMD elimination community of interest, (4) ensuring relevance by preserving competent and responsible access to political leaders, (5) development of and the conscious and targeted research focus on the practitioners of public policy, and even though it was counter-intuitive and somewhat paradoxical, (6) independence from the federal government in terms of a predisposition toward a specific policy or mindset.

Question 3: Necessity of WMD Elimination Policy

Why is a U.S. policy on elimination of WMD necessary? The threat of WMD is, at its worst, existential and cataclysmic in the most extreme sense. Whether nuclear, biological, chemical, or otherwise, WMD require national will over sustained time to be both countered and eliminated. Elimination implies not only the elimination of weapons themselves, but also the extended capabilities and capacities that support WMD. The end of the Cold War has brought forth a dramatic rise of untethered and unconstrained *bad actors* who will not be compelled by treaties and non-proliferation protocols. Concomitant with this trend is the ever-growing access through markets and information to the knowledge about how to build and deploy WMD. Past means and norms that governed the behavior of nation-states in the late 20th century are not as malleable or dependable in the new age. Risk and cost are assessed differently by non-state actors and the U.S. Department of Defense has sought to understand the threats and risks as well as the solutions and military contributions to those solutions.

Democracies depend on public approval and rely on public rationality (Page & Shapiro, 1992). In this first principle of democracy, the Center team found itself in the crux of a dilemma: how much transparency, public education, public consent and assent should be sacrificed in the name of efficiency and effectiveness in the face of a clear and present danger? Were the informed and effective insiders sufficiently self-governed to ensure exquisitely good judgment about when, where, and why to go public? Was the access of being able to *tell truth to power* at the expense of public awareness about the risks and unpreparedness of the nation?

The value of university research as measured by its associated contributions is clear. A holistic appreciation of applied research as it affects public policy requires examination of the foundations of the values that influence the demand for the research in the first place. These fundamental values are embedded in our society. Values such as truth and freedom obviously contribute to the formation of public policy, and research in any subject area is based on these values. When a university research center takes on a topic as pressing as weapons of mass destruction, the subject matter adds urgency to the effort. This scenario was the case at NDU when a small group of researchers turned their attention to counter-proliferation.

The Center team believed (and believes) that the consistency across Administrations and the constancy across experts served to ensure the rightness of their arguments and approach. The threat of WMD was, and is, great, and informed research and compelling arguments have been generated. From this foundation, the public can be informed about the threat and risks of WMD without being fully informed about how the public policy is developed. In this regard, the Center reflects the views of Page and Shapiro (1992) in their work on the public man as rational man, since research produced by the Center helped citizens understand how their needs played a part in policy formation; and how use of research products led to the formation of intelligent policy preferences. The Center's team confidently believed that the risk involved in WMD issues was real and dire. Their work successfully informed public policy. A basis for the Center's strength was collaborative research that included multiple perspectives and a diversity of approaches.

In summary, a U.S. policy on elimination of WMD is necessary because of the existentialist threat posed by those who would wreak havoc using such weapons. In a democracy, however, such policy cannot be successfully developed, approved, and implemented without national will and accompanying resources to support and sustain the capability. Scholars and researchers can assume the responsibility of informed work that then needs to be translatable and understandable not only to those who have decision-making authority, but also to the public at large. Public policy reflects a democratic nation's will about its priorities and imperatives. Only after that consensus is obtained can capability be developed, shaped, matured, and connected to real outcomes and capacity.

Question 4: Research Informed Elimination Policy

How did research inform policy on elimination of WMD? WMD issues were considered on three different levels: theoretical/conceptual (definitional context), operational/planning (practical aspects of tactical and operational elimination before, during, and after a military operation), and strategic (failed WMD-capable states). The Center used gaming and developed actual "games" to address the latter, considering any number of potential failed states and related consequence management should those governments and states fail and politically disintegrate. This work was relatively new at the time, threaded to later work related to Iraq, Pakistan, and North Korea, among others.

Senior leader assumptions were well understood. Because of established relationships, access to and engagement with senior policy makers, and a vast amount of interpersonal experiences, assumptions were subjected to clarification, coherence, logic, and imbedded into analyses of policies, solutions, and approaches.

In addition, a community of interest was developed and sustained. The Center team clearly and definably viewed the need to form a community of interest on ideas addressing counter-proliferation. They included in this activity of coalescence various workshops that explored many questions, including some directly related to operating concepts and capabilities. Thus, the Center developed a community of interest that brought together not only scholars and researchers, but also practitioners and operators from across the government – all under the same umbrella of knowledge and experience interaction. This approach led to seminal cooperation and collaboration rarely seen in government. That community of interest has remained in tact throughout the Center's life and has selectively and carefully expanded.

Experience allowed for new distinctions and immediate impact on policy makers based on extant work. The research of the Center was sufficiently fundamentally sound so that the team was able to immediately transition to "a much more focused consideration of the nexus between terrorism and WMD as opposed to state actors and WMD" (Reichart, 2010, p. 22). Fewer discoveries of new concepts and realities occurred as priorities and foci of the work were adjusted. This aspect facilitated responsiveness and agility toward policy development that might have otherwise eluded other research entities. As a result, the Center director was the first briefer to the Bush

Administration's National Security Council about terrorists, failed states, nuclear weapons, and WMD. The Center was responsive to the requirement of the moment and thus became the "first responders" as scholars and experts to senior policy makers. The work of the Center was remarkably relevant and timely. The Center's size at this time is notable: it numbered five staff members. A selected list of the interview questions asked of these people is available in Appendix D.

Maintaining an objective and apolitical approach to the WMD challenge and imperative enabled optimal dialogue and sharing of information and expertise. The Center established respectful, professional, and apolitical relationships with military planners; government department and agency operators; and Special Forces, Army Chemical Corps, and other functional experts that led to unfettered and open discussions by practitioners with researchers. This extended and trusted dialogue led to the development by scholars of a comprehensive briefing of lessons learned. This dynamic also led to research with the Defense Threat Reduction Agency on the matter of how to detect and identify WMD programs.

Access determines relevance. The character of the Center is that it always had experts who had credible access to senior policy makers at the National Security Council, White House, Pentagon, State Department, and CIA. This access led to the ability to aggregate and integrate current information, issues, and understanding of framing guidance being disseminated throughout the government. At no time was the WMD Center out of the loop of influencers. The Center has always enjoyed unprecedented access which led to its work being particularly fresh and relevant to

policy makers. This access also allowed for some interesting dynamics. For instance, Rebecca Hersman authored a briefing which she kept tightly guarded during that year.

> That she walked around town amongst the cognoscenti…. It wasn't a classified brief, but because of the sensitivity, political sensitivity, we were concerned during that whole year that somebody would leak it because it was a lot of bad news in terms of lessons learned. So we were careful to hold off publication until after the election and it was no longer a potential political football. (Carus, 2010, p. 33)

The low-key approach that was taken is evident in the patience shown by all of the WMD Center staff. The value that each person placed on his or her access to policy makers was a fundamental rule that established and optimized confident relationships.

In summary, the Center's research informed decision makers who developed WMD elimination policy. A huge factor in getting the research to these decision makers resided largely in the team's competence of how federal government programs and plans are set in motion. In addition, knowledge of the Defense Department and its structure was essential to successful policy development. The Center coalesced and coagulated its work around consecutive Administrations' slightly varying but essentially similar and useful views of elimination of WMD. With sophisticated interpretation of the definition of elimination, the Center understood and worked inside the nuances and necessities of forming word pictures and concepts that could be universally understood and fairly easily discerned and branded. From the point of agreement on core operational principles, assessment tools and protocols could be applied, thereby informing policy from its initial concept through its execution.

Question 5: WMD Center Situational Advantages

Why did policy-changing research occur at the NDU Center for the Study of Weapons of Mass Destruction rather than at a similar institution of higher education? Administration turnovers and turnovers within Administrations provide the paradoxical opportunity for continuity. In the turnover between the Clinton and Bush Administrations, some Bush counter-proliferation experts were asked to remain onboard until new political appointees could be put in place. In the turnover of any Administration, the need to keep essential knowledge is critical. Secretaries of Defense, Deputy Secretaries of Defense, Secretaries of State, and subject matter experts – all flow into and out of Administrations. Yet the demand for continuity of knowledge and expertise persists. Key figures and experts moved to NDU where the then new Defense Counter-proliferation Initiative could be studied, independently and yet knowledgeably. This endeavor required starting a WMD Center (then called the Center for Counter-proliferation Research) in order to keep the research activity separate and distinct from the daily educational activities. Experts needed a home-base where they could work on relevant and related WMD research. This movement and requirement provided the Center with the opportunity to provide continuity of action, confluence of information and knowledge, and consistency of intent. The research work persists, unabated and uninfected by an otherwise highly politically charged environment. The WMD Center became the final point for continuity for WMD research.

This pattern starts to resemble the approach taken in the seminal research and writing conducted by George F. Keenan when he developed the famous Keenan papers

relevant to U.S. relations with the Soviet Union – an expert(s) is brought to NDU to focus on a long-sustained and enduring set of research activities that informs policy across several Administrations and across political party lines. NDU became the locus of the work, with access to policy makers and decision makers, with objective assessments of extant Administration policies by experts in preceding Administrations. The continuity of the research lends consistency and coherence to WMD policy development and to later bipartisan support of WMD elimination. The strong support occurred even during highly charged political dynamics in all other parts of the government. The handful of researchers, and larger group of engaged practitioners, came from across government departments and agencies. They had accrued many years of knowledge that was informed through research, and they consistently applied their informed judgments to national WMD policies.

The Center was able to maintain focus. Because of its connections with NDU the WMD Center team had the advantage of maintaining connections with influencers through its activity with Department of Defense, Department of State, Department of Energy, Defense Threat Reduction Agency, and other U.S. government entities, while not being required to delivery policy on a political timeline. The small team at the WMD Center had no pressure from political appointees and chose to stay away from overly contentious issues that might distract them from the real issue and imperative at hand. They chose what they would not address (all other aspects of arms control) and what they would address (counter-proliferation). The Center enjoyed trust across the government and consequent intellectual and operational independence from political

pressure. Unlike other think tanks that are often paid for research services by various government agencies and advocacy groups, NDU's WMD Center was required by mandate, mission, and ethos to remain above the political fray. The intended focus thereby consistently attracted experts with deep knowledge and research in the same area. The Center earned a brand of excellence for counter-proliferation. The Center's team, both actual and virtual, was acknowledged to be deeply focused on one area, thereby ensuring solid policy formulations as an outcome. Geography of this issue was ideal for NDU. Everyone who worked this new mission either worked in, or came through, Washington, DC.

Access and location can provide advantage. They are clearly determinative in NDU's place in national security policy development. With co-location to all three branches of the federal government, NDU's location provided researchers professional intimacy with public policy processes as well as access through proximity to influencers and actual policy developers and decision makers. As well, the proximity to major think tanks and other intellectual, scholarly research and archival resources, enhanced NDU's ability to approach issues from a multi-disciplinary, multiple-perspectives orientation. Conversely, NDU and the Center had an intellectual competitive advantage over most think tanks in that there was no sponsorship or fee-for-service work. The compelling subject area was the only customer. Service colleges would naturally come to issue from a service perspective. Federally Funded Research and Development Centers evolved from research facilities established to meet the special needs of World War II and were later called Federal Contract Research Centers. These centers would

naturally have a bias toward an Office of Secretary of Defense perspective. The exclusive quality was NDU's reputation as a neutral "honest broker" located in Washington, DC, and with access to decision makers that gave it intellectual credibility and policy-influencing heft. The Center thereby leveraged its reputation for political neutrality, with a bias toward what the research revealed.

The Center was developed with conscious forethought about its work in support of the Department of Defense, Department of Energy, and others. This role established immediate customers and client-focused products that solidified its research applications toward public policy. The Center was commissioned at the behest of the Deputy Secretary of Defense and endorsed by the Chairman of the Joint Chiefs of Staff. These actions lent even more relevance to the work. Clearly, NDU's reputation and location facilitated the WMD Center's immediate credibility and heft in the world of applied research toward public policy.

"It's just the ability to get people in a room" (Reichart, 2010, p. 42). A section of the interview dialogue associated with this study reveals an important dynamic: gathering together practitioners and researchers who achieve a *critical mass* of best effects and generate the rising of a critical leader or player who catalyzes action. In one particular case this exact scenario occurred:

> Rondeau: So [Major General] Bromberg is catalyzing in this June meeting?
> Reichart: Yes, absolutely. I didn't know him before, but I still remember his name.
> Carus: Catalyzed by him and catalyst. What I remember… was that across the board there were disagreements, all the[officers] were frustrated because somehow none of them had been able to get their flags [generals and admirals] engaged on this issue, and so the strategy was we hold a

> meeting with the flags and maybe someone will bite, which worked out perfectly. (Reichart, 2010, p. 42)

People like Major General Bromberg are another example of how the location of the WMD Center worked in its favor. The ability to bring a two-star general officer to meet with people at the Center was due to its proximity to the Pentagon and to other places, agencies, and factors that frequently bring people to the Washington, DC, area.

In summary, the specific research was conducted at NDU uniquely due to a number of reasons, including: (1) close collaboration between experts of preceding and succeeding Administrations as a means to maintain continuity of knowledge, (2) the conscious and deliberate development and nurturing of a WMD community of interest, (3) the Keenan legacy, i.e., place highly qualified and respected experts at NDU to take advantage of location and center of gravity of scholars, influencers and policy makers, (4) the ability to maintain substantive focus and not allow distractions to the core issues, (5) the ability to reach across agencies and departments of the federal government to ensure the policy was multi-disciplinary and interagency in nature and fact, and (6) the lack of micromanagement by faculty politics, partisan politics, governing boards, or public opinion and the surprising degree of freedom of movement as well as independence of research direction.

Factors Contributing to the Success of the WMD Center

The dual nature of National Defense University makes it unique. Private universities and Washington-area think tanks are replete with researchers who study arms control, nuclear disarmament, and related topics; however, only an institution

within the government could have the success of the WMD Center. This ability to straddle the government and private sectors gave researchers at NDU niche leverage. In addition, the Center's director and senior fellow researchers properly surmised that other places were studying the nuclear issues (which were politically more contentious, but also could bring more scholarly acclaim), but minimal research was being conducted on the counter-proliferation of weapons of mass destruction. The success of the Center was also evident in its ability to expertly communicate the issues to policy decision makers and military planners. The Center team did an excellent job of capturing doctrine and leading the discussion in this community. Another contributing factor to the success of the Center was the non-attribution aspect of its efforts. The ability to speak freely was assured by the policy of the Center and was morally binding to all workshop and conference participants and attendees. Written products were composite views, not attributed to any single person or group, and reflected both the substance and tenor of the discussions. They were not consensus products.

Two very conscious decisions formed the character of the WMD Center. One decision was to stay away from politically contentious issues, and the other was to work within the government. Both decisions were deliberate on the part of the Center director, and carried out by the senior research fellows. Both decisions also required and depended a great deal on the right and conscientious judgment of those researchers. At core was the matter of the friction inherent in the balance between professional effectiveness possible only through political discretion in conflict with the rhumbline of moral obligation.

The political level of sensitivity and the "consistent deep thinking of the Center's team" were important (Hersman, 2010, p.16). Hersman said, "We put a lot of energy into managing the process in such a way that we could preserve trust" (p. 18). And she stated, "We didn't push the academic freedom issue, because we wanted to be effective in the process" (p. 17). Working internally required a great degree of trust. The decision to not go public with discoveries, but maintain the secrecy of the lessons learned, was often debated among those at the Center. For Hersman, this meant working through an ethical dilemma about whether or not she had a moral obligation to be more public with her information. And the personal decision, in her words, was "not to make political hay out of it in any way" (Hersman, 2010, p. 17).

A telling point is the element of risk that was taken by the Center researchers. As Hersman said, "First of all, as a researcher in the Center at NDU, I was unbelievably exposed and at considerable personal risk, professional risk. And we had to constantly manage that because we were knee deep in a very senior, political, ideological [conflict]" (Hersman, 2010, p.13). Additional risk came from the NDU leaders, who were not significantly involved with the WMD Center at this time and therefore did not offer high-level support for the researchers.

The success of the Center depended on a lot of people who were responsible to do the right thing and who formed beneficial relationships. Hersman said, "…cultivating relationships, protecting relationships. It's critical because I could have beaten my head against the door, but if I didn't have those other key people who were

also willing to participate in doing the right thing and they hadn't over time come to trust me, then nothing would have happened" (p. 22).

Men and women who were passionate about the issue of WMD turned personal concern into action. Hersman believed that research centers have "a special obligation to speak hard truths to decision makers, to ask difficult questions, to delve into different topics, and to come up with ways to do that and to serve the department with some sense of vision" (p. 17). Her personal philosophy and ethical behavior directly contributed to the WMD Center's success.

Critical Gaps and Complex Challenges

For all of the Center's extraordinary contributions, some nettlesome methodological gaps and policy irresolutions have affected the Center. Two gaps exist. One is the lack of records due to archival problems. A considerable amount of original policy material has been lost or misplaced and either inadvertently or intentionally destroyed. While technical research has been well maintained, other policy briefings, notes, papers, and documentation were not filed, archived, or maintained. Much material was misplaced with no determination of how to find it. Some of the material was printed matter, and other research materials were recorded electronically and lost due to hardware failures. This problem reflects an ironic general trend in research as original work, such as when important correspondence is relegated to emails and other electronic means. The maintaining of electronic archives is highly particularized work requiring skilled technicians. With a small research Center that was resourced as a

start-up, there was no support infrastructure to ensure archival disciplines, especially with regard to policy development work and writings. The Center was comprised of front-line researchers who were physically very active in their inter-relationships and interactions, but who had limited capabilities and skills in managing the research that was being conducted. The significant political risk involved in their seminal work likely contributed to the problem. The requirement for exquisite discretion and careful stewardship of complex and influential policy work in a trusted environment did not necessarily facilitate documenting and archiving the material.

The second gap is the paradox of trust and non-attribution in balance with the disciplines of research and archival standards. Clearly, deep and abiding trust has existed among all those involved in the Center's seminal work. This community of conscience became imbued with a related dependability that frequently required taking political risk, launching intellectual journeys of discovery, gauging equity calculations and, in several cases, putting professions and reputations on the line. Participants learned that they could make real progress without risk of having conversations leaked or in-progress seminal work put in jeopardy by premature public disclosure. This positive dynamic of open exchange meant that many conversations were not documented. However, protected non-attribution discussion presents the researcher with its own challenges: how to track timelines, human activities, and personal and institutional responses and how to understand the linkages and connections to related research. By writing few papers and by providing even fewer for publication, the Center researchers preserved their ability to operate within the system. In a highly

politically charged atmosphere, the Center's team maintained credibility with those positioned to act. The proximity to leaders accountable for policy making demanded an even higher degree of discernment.

Hersman said of this dynamic:

> You can't pretend that you're sitting at UCLA when we're sitting at Fort McNair [NDU]. But we had the special opportunity and I think special obligation to speak hard truths to decision makers. To ask difficult questions, to delve into different topics and to come up with ways to do that and to serve the Department, with some sense of vision….I think we successfully found a way to walk the line in a very politically charged topic. We made certain sacrifices to do that. But they were willing, at the end of the day, they were willing to let us in and, at the end of the day, I think we made a difference (Hersman, 2010, p. 17).

This factor led to good policy with sustained bipartisan support. The practice, however, makes historical research exceedingly difficult and case study research potentially fractured and incomplete. Center personnel are aware of the balancing act between public (transparent) interests versus private (undisclosed) effectiveness, as well as the need to be cautious and collaborative with that of taking stands in opposition to conventional wisdom and equity suppositions.

The irresolution that remains is that of the vulnerability of assessing judgment about validity of the Center's research when WMD were not found in Iraq at the beginning of Operation Iraqi Freedom. Much of the WMD work was about elimination processes and counter-proliferation policies, regimes, and protocols. The Center became involved when WMD elimination policies and operations were largely related to projections of Saddam Hussein's possession of WMD and his intentions to use them.

This alignment made the Center somewhat vulnerable to the politics of the moment and of *causus belli* debates.

When this question was posed to Center members and other policy-development participants, principals, and proponents, the response was universal: What if the intelligence had been right? Didn't we have a responsibility to plan for the worst case? The Center staff members and their project colleagues firmly believed that the overall core research and data regarding counter-proliferation was sound. They believed the data were profoundly disturbing about the country's lack of preparedness for a WMD attack on the homeland -- the presence of WMD on the battlefield notwithstanding. The Center researchers maintained focus on the entire tapestry and its seams, and they were not side-tracked by the public debate concerning activities in Iraq and the ensuing political recriminations.

In summary, this chapter presents analysis of the data gathered through case study methodology. First-person interviews, documentation, experience-based judgments, and a timeline of events contributed to this analysis. Further, the chapter considers the factors that contributed to the Center's successes as well as to some gaps that could contribute to Center vulnerabilities over time.

CHAPTER 7

DISCUSSION AND RECOMMENDATIONS

All of these factors – changing national priorities, shifting intellectual currents, and the evolving character of the university itself – suggest that a primary mission of higher education in America, research and scholarship, is likely to change as well.

James J. Duderstadt
A University for the 21st Century

Using the lens of single case study methodology applied to National Defense University's Center for the Study of Weapons of Mass Destruction, this study has sought to understand applied research and the advantage it provides to public policy. The look has been retrospective in nature.

Overview of Study Results

This chapter will consider what is prospectively promising about the Center's applied research in forward-leaning ways to the public discourse and public good in the 21st century. As time and effects are predictably compressed in unprecedented ways, applied research and its benefit to society will correspondingly increase in value. This chapter will end with conclusions drawn from the case study, and relate these conclusions to the discussion in the introduction of this dissertation, especially the words of Leupp that were penned at the beginning of the 20th century.

Introduction

This study has an exciting and uplifting quality – it acknowledges our research institutions and researchers as gems in the American knowledge and education crown. More to the point, opportunity is before us, in the words of Duderstadt, "to…work hard to develop university communities where uncertainty is an exhilarating opportunity for learning" (2000, p. 288). The optimism that comes forth from this study is borne in the deep and abiding respect for the legacy and the promise of research in the American context of scholarship.

There is work to be done. The Center for the Study of Weapons of Mass Destruction is in a deadly serious endeavor to work against the existentialist threat of WMD. Much needs to be learned in the substance and content of this work. That stated, as a methodological model for applied research, many other areas of exploration about the Center would be useful to applied research in the 21st century.

Institutional Barriers and Balance

Notably, this study has provided context for how the Center team thinks about institutional history and about the value of institutions to outcomes and public policy. The study also has revealed impressive and critical relationships among professionals from very different experiences working at a very high level of trust and mutual respect toward a common cause.

In discussions both in person and via correspondence, Dr. Christopher Lamb, Director of NDU's Center for Strategic Research, provided useful insights. He noted

that policy-relevant, insider research often is considered less rigorous by academics and academically respectable research is often considered less relevant by policy makers. This sentiment echoes what was evident in the literature review of research entities overall and the worth of their contributions to the practical benefit of society. Lamb (2010) argues that the Manichean nature of the argument is a false one and distracts from the inherent advantage of an integrated and collaborative approach toward research and praxis. He argues persuasively that there is no contradiction between relevance and rigor, though tension exists between the two. As the director of the pure research branch of NDU, Lamb noted that he tries to manage the balance between relevance and rigor within his center by focusing on the following actions:

- Recognize that the NDU mission requires applied as opposed to basic research, i.e., strategic, policy-relevant research that is rigorous. In this regard, we are defining the meaning of strategic research and identifying best research practices for the Center for Strategic Research.

- Distribute valued insider research to the sponsors with our branding readily apparent so we get credit for insider work.

- Devote some portion of our annual research plan to unsponsored research when a good case can be made that it is relevant to the national security enterprise. This action fuels the passions of our researchers and produces some of our best products.

- Encourage publication in respected academic outlets and be willing to invest in the time that it takes. Personnel evaluation criteria are being re-written in part for this purpose.

- Increase quality through peer-review processes without sacrificing speed. An internal process has been developed for this purpose and timeliness of data is being tracked.

- Increase collaborative, multi-disciplinary research (C. Lamb, personal communication, June 25, 2010)

In this manner, researchers and practitioners can break down institutional barriers. Reflection and pure research can be combined with experience and operational knowledge alongside intuition and acquired knowledge. Resources, conscientious and multi-disciplinary dialogues, collaborative endeavors, and true partnerships can aid in the breaking down of barriers that otherwise constrain and narrow scholarship efforts. Researchers and practitioners can take into account the whole of available knowledge, with less time on aggregation than on analysis and development of solutions and ideas. The labor intensity of information and facts gathering can be leveraged and shared and resources can be more efficiently expended on what is actually in hand and how to process and understand scholarly materials. Thus the work of research becomes more relevant while the role and contributions of the researcher become more immediate and more knowable. Lamb's practices reveal that this kind of 21st century research activity is not only aspirational, but also possible. Furthermore, this kind of research activity is evident in the work of the WMD Center.

Knowledge workers can be best leveraged toward policy making in the 21st century through adherence to the preceding suggestions. Though more formalized in nature than is characteristic for the WMD Center, the Center for Strategic Research provides some form that might be useful to the WMD Center's purposes and those of the researcher. These are also leading recommendations for the Center to consider as it develops and further matures and leads the work, practices, and outcomes of applied research institutions.

Recommendations for Research and Study

This dissertation inspires future study in several areas. A first area for future work is the degree to which the WMD Center's judgment about the presence and readiness of WMD in Iraq was wrong or overmatched or mistaken. In addition, research is needed on how readiness (specifically the lack of readiness) of U.S. forces to counter WMD affected the Bush Administration's approach to cause-and-effect in the war in Iraq, Operation Iraqi Freedom. During interviews and throughout the literature there is a constant refrain of fundamental belief in the presence of WMD in Iraq prior to U.S. Operation Iraqi Freedom, based on science, multiple sources of intelligence, interviews, observable facts, informed analysis, and stated intent by Saddam Hussein. More work needs to be done in this area, outside of an examination of intelligence and more inside the intent, mindset, and thinking of decision makers.

Second, a case study should be undertaken that continues along a temporal pattern and beyond the end-point of this study's research and extends from 2006 to the present time.

Third, establishing a permanent program of oral history for all researchers, research centers, and scholars at National Defense University would go a long way toward: (1) understanding discrete and specific policy development and national-level decisions, (2) establishing a historical record of research activity, (3) gaining an appreciation for the work of NDU's respective researchers, (4) placing research at NDU in context with current events, (5) maintaining and archiving the unique work of NDU

given its nearly singular status within the Department of Defense and other government departments and agencies, (6) preserving the thoughts and collective memory as well as the environmental gestalt to understanding specific public polices, and appreciating and honoring the work of researchers overall. This work would be a move forward as increasingly researchers and historians struggle with the lack of documentation, letters, papers, and other correspondence. And, as noted earlier, original work can be lost in the ether of the Information Age or locked inside computers and hard drives without any institutional governance.

Fourth, strategies should be explored that deeply engage the operator-practitioner in the research as he/she is experiencing the work and in retrospective perception of the work. In other words, research is needed on how to imbed the practitioner into the researcher and vice versa so that first-hand knowledge can be acquired and later analyzed and discerned in more timely ways. The speed of events and the demands of a democratic public in the Information Age argue for more informed and pristinely accurate information based on real experience that will serve research relevance and responsiveness.

Fifth, and critical to the kind of challenges that Duderstadt posits, is to explore the Center for its successful difference: What makes it new, fresh, and somewhat unorthodox and yet effective?

A sixth area of future study would be to examine and forecast the possibilities for strategic partnerships and alliances among research entities – universities, think tanks, operational practitioners -- using the Center's work with and among the milieu of

competitive federal agencies as a template toward alliance formations and interdependent optimization of research.

Recommendations for Practice and Policy

In the considerable literature on research institutions, an implied question is**:** Where is the research university headed? In the case of National Defense University, it houses a unique model that brings together research and education in ways that are collaborative and not competitive. Furthermore, the NDU student body embodies expert observers of their profession, of the world both largely and in its parts, as well as practitioners in the arts and skills of their professional craft. Fundamentally, NDU must and should optimize and leverage the very core of its research culture: that of practice. NDU cannot be successful if it assumes the constructive conceit of pure science and pure research. On the other hand, NDU can be an extraordinary model of a type of research institution that focuses entirely on *praxis* and the world of national security strategy and policies as a direct result of informed research and bipartisan support. In this way, NDU could, with its unique access to national decision makers, manifest a positive and constructive trend in the demand that American research institutions respond to federal funding scrutiny, public confidence, and the demands of public officials for outcomes and deliverables as the result of financial investment, national security imperatives, and national strategic opportunities.

As Dr. James Douglas Orton, a George Washington University professor and NDU researcher, commented:

> There is no question in my mind that the best work of my career has been conducted…at NDU shoulder-to-shoulder…working face-to-face to bridge the gap between theory and practice. To the extent that NDU reaches out to high-quality theory and research, and [in turn], academia reaches out to NDU in order to inform national security practice, NDU can be…game changing…for the U.S. national security system. (J. Orton, personal communication, June 28, 2010)

The resulting NDU culture also has the nearly unprecedented capacity and potential to achieve applied research unmatched in any other part of the government. The character and workplace environment at NDU are unique. This factor has led to new insights and approaches to public policy that increasingly leverage public policy in beneficial ways. The WMD Center model features trusting relationships and intellectual courage in concert with strong science and expertly informed analyses. Truly, the societal needs of the nation could be more evenly and well met if these features were modeled and broadly pursued.

NDU can provide a model for applied research that can directly lead to better governance in all matters of public life. To achieve this potential for national strategic good, NDU needs to understand itself culturally, professionally, operationally, and intellectually. NDU needs to deeply pursue what it knows and does well and pursue broadly only what applies to its core strengths. In other words, NDU must ensure it constantly self-assesses and secures its productive niche, instead of trying to be all things to all people. This vision toward understanding and strengthening its core competencies paradoxically will provide the opportunity and invitation toward broader and deeper opportunities in relevant, applied research. NDU will increasingly and dependably provide the greatest good to the nation and the world.

Organizations can change thinking, especially if they are sustained and managed the way the Center for the Study of Weapons of Mass Destruction has been from its inception. Between 2000 and 2006, the WMD Center at NDU was the catalyst for the establishment of the WMD elimination mission area at this research center.

Today, the WMD Center facilitates a greater understanding of the challenges presented by nuclear, biological, and chemical weapons to U.S. security interests through research, education, and outreach. The Center is the focal point for professional military education on combating WMD. According to Joseph, "The Center has enormous support within the civilian defense intellectual community" (Joseph, 2010, p. 58).

The future of the Center as a focal point for issues related to WMD is robust. As Reichart affirms, "A lot of it is simply the fact that a small institution working quietly that is trusted by stakeholders can get well ahead of the government in conceptual thinking, attract enough good people, and begin to build consensus that things need to change" (Reichart, 2010, p. 15). Reichart captures a complex reality in the simplest of terms. He describes the urgings toward a new paradigm of integration between research and public policy. This paradigm could lead toward new work as universities and research centers re-discover and re-define their footing in this new century.

Duderstadt (2000) addressed the broader entity of the research university and its characteristics and challenges. Duderstadt made several points that are relevant to what has been learned through the more particularized WMD Center experience. The academic research enterprise has played a critical role in the conduct of more applied,

mission-focused research in a host of areas. Tendencies toward specialization have increased and generous funding for the sciences has widened the gulf between the social and natural sciences and humanities. Specialization within the academic disciplines, driven by the explosion in knowledge, was one of the important trends in higher education. In our increasingly knowledge-intensive society, the rate of return from investment in research is rising. Simultaneously, the signs of crisis and stress are everywhere: eroded public trust and confidence in the work of the academy, rapidly escalating costs of research, and attitudes of researchers themselves about public understanding and the needs of public officials toward being able to discern and advocate for research. Pressures for success and for recognition and the system of rewards and governance drive research toward fierce competition and intractable work schedules and contributes to a loss of shared purpose and collegiality. It drives research investigators to shift their commitments away from their institutions. The curiosity-driven search for new knowledge and the publication of results in scholarly journals has become a one-dimensional criterion for academic performance and prestige.

Duderstadt understood that the reality of research, both basic and applied, is a messy process. It involves the integration of knowledge and the fusion of ideas and activities across many disciplines. Yet it is this integration of knowledge across many disciplines that is the greater benefit to society (Duderstadt, 2000). In fact, the WMD Center experience could well point to a move toward and not away from the several simultaneous paradigm shifts that Duderstadt sought to address, in several important ways. Paradoxical to the normal academic requirement for recognition as a criterion for

tenure, the WMD Center takes special care toward non-attribution as a means toward compelling evidence and producing well-informed policy. While needing to mature a finessed approach to documentation in balance with non-attribution, the WMD Center does not require a *Center perspective* for publishing or writing. Orthodoxy of culture or thought is not required to publish or be heard. Competition is valued and encouraged in the process of idea generation, but collaboration is more valued in the process of product and outcomes generation. A culture of pride and purpose above self characterizes the ethos of the WMD Center. There is an energy and commitment toward the purpose of the research and collective pride in individual and group achievements within the Center. The WMD Center personnel fully recognize and take into consideration the need to be multidisciplinary in their collective research approach, taking into consideration hard science and data, alongside political science, medical science, physics, social science, public psychology, logistics, resources, national will, international relations, international law, and myriad other disciplines that touch, influence and inform effective policy development addressing WMD. Through collaboration, specialists aggregate and integrate their work toward holistic approaches in developing solutions to problems. Through the quality of their production, their political sensibilities, willingness to bring outsiders and their knowledge into the Center's work, their collaborative approaches and their timely response to need, the relevance of the Center's research enjoys voice and credibility.

Conclusions

At the dawn of the 20th century, Francis E. Leupp wrote an article for the December 8, 1900, edition of *Harper's Weekly* on the subject of the Army War College, noting that it would not be a "mere service school." Rather, it would become a "central seat of expert authority" and that "it became plain that Washington was its natural home." Its chief features would be the collection of information and the solution of problems in strategy. Interestingly, he further noted that "it is not so far out of the question…as it might appear at first glance, to set and solve the main problems of war on paper." He opined with more expansive renderings, stating that the War College was not only an institution of learning, but also a "consulting body to which the Secretary of War can turn in emergencies for information or advice" (p. 1156).

Now, a decade into the 21st century, we find a constancy of theme. The prescience of Leupp regarding the intellectual aspects of national security is not unique. His thoughts were and have been echoed in those of the founders and commentators with regard to work being done at the Naval War College (which Leupp also cited) and throughout the life of argument about the place and value of professional military education and its concomitant partner, government-hosted research. It is not a far stretch to state that it logically follows that the applied research within these educational institutions has brought with it a rich legacy of both strategy development and policy development that have addressed the most urgent existentialist questions as it regards national viability and survival. Indeed, educational and research arms can provide simultaneous benefit as a common source for both reflection and responsiveness, for

knowledge and for relevance. The institutional barriers that often exist between educational and research entities and within the intellectual circles of the federal government can be lowered, if not completely torn down. The questions need to be urgent, and the intent to gather and examine all relevant data and knowledge need to be conscientious.

Reflective of this acknowledgement, the Center for the Study of Weapons of Mass Destruction provides a lens through which to view and leverage high-quality research toward the benefit of society. This study is instructive at a number of levels, not the least of which is the way that institutional barriers can be torn down in service to a more integrated and holistic approach to applied research that can lead to informed and progressive outcomes. Although considerably more questions are begged by this study, the understanding derived from the work illustrates the larger question about research in the modern world: its timing, relevance, applicability, affordability, predispositions, singularity, resourcing, life-cycle, integration, partnerships, methods, means, biases, cultures, ethos, currency, application, depth, breadth, multidisciplinary nature, discipline, focus, conceit, aspirations – the veritable life and lifeblood of research. Importantly, the consistency and steadfastness of the Center's work provides its own strategic advantage.

Again, in 1900 Leupp identified the value in such work: "Presidents might come and Secretaries go at comparatively brief intervals, subject to the whims of popular politics; but the college could continue its work without interruption as the brains of the military establishment…." (Leupp, 1900, p. 1156). Indeed, in the absence of political

consensus about important and enduring issues, there is value in the consistency of evidence and constancy of view supported by an objectively oriented and critically minded group of dedicated experts.

Using the single case study method of analysis has provided a means to incisively examine the particular instance of how the Center for the Study of Weapons of Mass Destruction is a possible prototype for research centers on the cutting edge of applied research. The case study method provided the tools for paring away much activity and seeing more clearly the activity that best characterizes and defines the unique nature of the Center relative to other research entities. The work is seminal and it tantalizes toward further exploration and understanding of the extraordinary benefits and relevance of the researcher to the benefit and good of the polity served.

BIBLIOGRAPHY

Almond, G., & Coleman, J. S. (1960). *The politics of developing areas*. Princeton, NJ: Princeton University Press.

Anderson, J. E. (1975). *Public policy-making*. New York, NY: Praeger.

Anderson, J. E. (1990). *Public policymaking: An introduction*. Boston, MA: Houghton Mifflin.

Are we prepared? Four WMD crises that could transform U.S. security (2009). In Reichart J. F. (Ed.) Washington, DC: National Defense University Press.

Ary, A., Cheser, J., Ashgar, R., & Sorensen, C. (2006). *Introduction to research in education* (7th ed.). Belmont, CA: Thomas Wadsworth.

Balian, E. S. (1988). *How to design, analyze, and write doctoral or master's research*. Lanham, MD: University Press of America.

Bardach, E. (1977). *The implementation game: What happens after a bill becomes a law*. Cambridge, MA: MIT Press.

Bardach, E. (2005). *A practical guide for policy analysis: The eightfold path to more effective problem-solving*. Washington, DC: CQ Press.

Barzun, J., & Graff, H. F. (1977). *The modern researchers* (3rd ed.). New York, NY: Harcourt, Brace and Jovanovich.

Bernstein, P. I., Caves, J. P., & Carus, W. S. (2009). *Countering weapons of mass destruction: Looking back, looking ahead* (Occasional Paper 7 ed.). Washington, DC: National Defense University Press.

Biden, J. (2010). The path to nuclear security: Implementing the President's Prague Agenda. Speech at National Defense University (February 18, 2010). Retrieved from: http://www.whitehouse.gov/the-press-office/remarks-vice-president-biden-national-defense-university. Copy held at the National Defense University Library, Special Collections.

Binnedijk, H. (2010). *Personal communication*, June 26, 2010. Washington, DC: Copy held at the National Defense University Library, Special Collections.

Birkland, T. A. (2001). *An introduction to the policy process, theories, concepts and models of public policy making*. Armonk, NY: M.E. Sharpe.

Bloch, E. (1990, August 2). The views of the director, National Science Foundation, on national science and technology issues: Committee on Commerce, Science, and Transportation, 101 Congress, *Testimony before the U.S. Senate committee on commerce, science, and transportation*. Washington, DC: Government Printing Office.

Boruch, R., & Foley, E. (2000). The honestly experimental society. In L. Bickman (Ed.), *Validity & social experimentation: Donald Campbell's legacy* (pp. 193-238). Thousand Oaks, CA: Sage.

Boyer, E. L. (1990). *Scholarship reconsidered: Priorities of the professoriate*. Princeton, NJ: Carnegie Foundation for the Advancement of Teaching.

Braxton, J. M., Luckey, W., & Helland, P. (2002). Institutionalizing a broader view of scholarship through Boyer's four domains. *ERIC Digest, ERIC Clearinghouse on Higher Education, Washington, DC.*

Braybrooke, D., & Lindblom, C. (2001). *A strategy of decision*. New York, NY: Free Press.

Brisson, D. (30 October 2002). *NBC/M elimination policy, planning, and organizational concepts (28 PowerPoint slides briefed at NDU workshop, "NBC/M elimination: Issues for DoD" on 30 October 2002)*. Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Browne, M. N., & Keeley, S. (2001). *Asking the right questions: A guide to critical thinking* (6th ed.). Upper Saddle River, NJ: Prentice Hall.

Bush outlines proposals to stem proliferation. (March 2004). *Arms Control Today*. Published on Arms Control Association (http://www.armscontrol.org). Source URL: http://www.armscontrol.org/act/2004_03/Bush

Bush, G. W. (2001). Speech at National Defense University (May 1, 2001) Copy held at the National Defense University Library, Special Collections.

Bush, G. W. (2004). Speech at National Defense University (February 11, 2004) Copy held at the National Defense University Library, Special Collections.

Carnevale, J. (1988). *Fort Lesley J. McNair: A history*. Washington, DC: National Defense University.

Cartwright, J. E. (2005 August 6). *Memorandum: Subj., establishment of United States Strategic Command (USSTRATCOM) center for combating weapons of mass destruction (SCC).* Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Carus, W. S. (2006). *Defining "weapons of mass destruction"*. Washington, DC: National Defense University Press.

Carus, W. S. (2010). Interview by A. E. Rondeau on March 17, 2010, edited May 22, 2010. Copy held at the National Defense University Library, Special Collections.

Case studies and organizational innovation: Strengthening the connection (1983). Bethesda, MD: COSMOS Corporation.

Chilcoat, R. A. (1997-1998). *Annual report of the National Defense University*. Washington, DC: Copy held at the National Defense University Library, Special Collections.

Cioffi-Revilla, C. (1998). *Politics and uncertainty, theory, models and applications*. New York, NY: Cambridge University Press.

Cleminson, F. R. (September 2003). What happened to Saddam's weapons of mass destruction? *Arms Control Today*, 2-3.

The clock is ticking, A progress report on America's preparedness to prevent weapons of mass destruction proliferation and terrorism (2009). Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism.

Cole, J. R. (2010). Can American research universities remain the best in the world? *Chronicle of Higher Education, 56*(17), 24-25.

Cooling, B. F. (1989). *To preserve the peace*. Washington, DC: The Historical Society of Washington, DC.

Counter-proliferation research proposal: Post-war operations against WMD. (Draft: August 6, 2001). Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Creswell, J. W. (1994). *Research design: Qualitative and quantitative approaches*. Thousand Oaks, CA: Sage.

Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks, CA: Sage.

Dahl, R. A. (1956). *A preface to democratic theory*. Chicago: University of Chicago.

Dahl, R. A. (1967). *Pluralist democracy in the United States*. Chicago, IL: Rand McNally.

Daniels, M. (2004). The science of policy analysis in a political and ethical perspective. *Public Organization Review, 4*(2), 10-12.

Debray, E. H. (2006). *Politics, ideology, & education, federal policy during the Clinton and Bush administrations*. New York and London: Teachers College, Columbia University.

Defense Counter-proliferation Initiative (1993). Presidential Decision Directive (PDD/NSC 18). Copy held at National Defense University Library, Special Collections. Retrieved from http://www.fas.org/irp/offdocs/pdd18.htm

Denizen, N. K. (1984). On interpreting and interpretation. *The American Journal of Sociology, 89*, 1426-1433.

Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education*. New York, NY: The Free Press.

Dewey, J. (1927). *The public and its problems*. New York, NY: Holt and Company.

Dewey, J. (1938). *Experience and education*. New York, NY: Holt and Company.

Donaldson, T., & Preston, L. (1995). Stakeholder theory of the corporation: Concepts, evidence and implications. *Academy of Management Review, 20*(1), 10-12.

Douglass, J. A. (2007). The entrepreneurial state and research universities in the United States: Policy and new state-based initiatives. *Higher Education Management and Policy, 19*(1), 95-132.

Dryzek, J. S. (1993). Policy analysis and planning: From science to argument. In F. Fischer, & J. Forester (Eds.), *The argumentative turn in policy analysis and planning* (pp. 213-232). Durham, NC: Duke University Press.

Duderstadt, J. J. (2000). *A university for the 21st century*. Ann Arbor, MI: University of Michigan Press.

Dunn, L. A. (2010). *Speech to Program for Emerging Leaders*, June 21, 2010. Washington, DC: National Defense University. Copy held at National Defense University Library, Special Collections.

Dunn, M. M. (2003). *Annual report of the National Defense University*. Washington, DC: Copy held at the National Defense University Library, Special Collections.

Dunn, M. M. (2004). *Annual report of the National Defense University*. Washington, DC: Copy held at National Defense University Library, Special Collections.

Dunn, M. M. (2005). *Annual report of the National Defense University*. Washington, DC: Copy held at National Defense University Library, Special Collections.

Dunn, W. N. (1981). *Public policy analysis*. Englewood Cliffs, NJ: Prentice Hall.

Dunn, W. N. (1993). Policy reforms as arguments. In F. Fischer, & J. Forester (Eds.), *The argumentative turn in policy analysis and planning* (pp. 254-290). Durham, NC: Duke University Press.

Durkheim, E. (1893). *The division of labor in society* (1997 ed.). New York, NY: The Free Press.

Durkheim, E. (1895). *Rules of sociological method* (1982 ed.). New York, NY: The Free Press.

Dye, T. R. (1973). *Understanding public policy* (2002 ed.). Upper Saddle River, NJ: Prentice Hall.

Dye, T. R. (1986). *Who's running America: The conservative years*. Englewood Cliffs, NJ: Prentice Hall.

Easton, D. (1953). *The political system*. New York, NY: Alfred A. Knopf.

Easton, D. (1965). *A systems analysis of political life*. New York, NY: John Wiley & Sons.

Edelman, M. (1964). *The symbolic uses of politics*. Urbana, IL: University of Illinois Press.

Education and training: Joint colleges (1949). Washington, DC: Department of the Army.

Fischer, F., & Forester, J. (2007). *The argumentative turn in policy analysis and planning*. Durham, NC: Duke University Press.

Fischer, F., Miller, G. J., & Sidney, M. S. (1982). *Handbook of public policy analysis*. New York, NY: CRC Press.

Fraenkel, J. R., & Wallen, N. E. (2000). *How to design and evaluate research in education*. Boston, MA: McGraw-Hill.

Gaffney II, P. G. (2000). Challenge and response. *Journal of Research Administration, 1*(1), 5-10.

Gaffney II, P. G. (2001). *Annual report of the National Defense University*. Washington, DC: Copy held at the National Defense University Library, Special Collections.

Geiger, R. L. (1990). Organized research units -- their role in the development of university research. *The Journal of Higher Education, 61*(1), 1-19.

Geva-May, I. (1997). *An operational approach to policy analysis: The craft*. Boston, MA: Kluwer Academic.

Goldwater-Nichols Department of Defense Reorganization Act of 1986, October 1 (1986). Retrieved from http://www.ndu.edu/library/goldnich/goldnich.html

Goodin, R. E. (1982). *Political theory and public policy*. Chicago, IL: University of Chicago Press.

Gubrium, Jaber F. and James A. Holstein (eds.). 2002. Handbook of interview research. Thousand Oaks, CA: Sage.

Hall, P. A., & Taylor, R. C. R. (1996). Political science and the three new institutionalisms. *Political Studies, 44*(5), 10-12.

Hannah, S. (1996). The higher education act of 1992: Skills, constraints and the politics of higher education. *Journal of Higher Education, 67*.

Heath, J., & Norman, W. (2004). Stakeholder theory: Corporate governance and public management: What can history of state-run enterprises teach us in the post-Enron era? *Journal of Business Ethics, 53*(3), 10-12.

Heineman, R. A., Bluhm, W. T., Peterson, S. A., & Kearny, E. N. (2002). *The world of the policy analyst: Rationality, values and politics*. New York, NY: Seven Bridges Press.

Hersman, R. K. (2004). *Eliminating adversary weapons of mass destruction: What's at stake?*. Washington, DC: National Defense University Press.

Hersman, R. K. (2010). Interview by A. E. Rondeau on April 7, 2010, edited May 22, 2010. Copy held at the National Defense University Library, Special Collections.

Holsti, O. R. (1969). *Content analysis for the social sciences and humanities*. Reading, MA: Addison-Wesley.

Hoppe, R. (undated). *Policy analysis, science, and politics: From 'speaking truth to power' to 'making sense together.* http://www.cddc.vt.edu/tps/e-print/s&pparticle.htm

Horsch, K., & Anderson, C. (1997). Interview with Robert K. Yin. *The Evaluation Exchange: A Periodical on Emerging Strategies in Evaluation, Harvard Family Research Project, III* (1), 1-3.

Hyland III, J. J. (September 4, 2002). *NDU Iraq lessons learned workshop.* Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Implementation of the plan for establishment of the National Defense University (1976). Washington, DC: National Defense University.

ITT Industries, Advanced Engineering & Science Division. (2000). *Proposed study of UNSCOM lessons learned (9 PowerPoint slides).* Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Jenkins-Smith, H. (1990). *Democratic politics and policy analysis*. Pacific Grove, CA: Brooks/Cole.

Johnston, R. (1998). The university of the future: Boyer revisited. *Higher Education, 36*, 253-272.

Joint Staff (2001). *Post conflict nuclear, biological, chemical, missile (NBC/M) elimination project, dated July 2001.* Unclassified message. Copy held at the National Defense University Library, Special Collections.

Jones, C. (1970). *An introduction to the study of public policy*. Belmont, CA: Wadsworth.

Joseph, R. G. (2010). Interview by A. E. Rondeau on March 17, 2010, edited May 22, 2010. Copy held at the National Defense University Library, Special Collections.

Judson, K. C. (1995). Where is the research university headed? *Chemtech, 25*(11), 14-19.

Justiz, M., & Delco, W. (1993). Factions, human diversity, education: What constitutes the public good? *Community College Journal, 63*(3), 18-21.

Keith, K. M. (1998). The responsive university in the twenty-first century. In W. G. Tierney (Ed.), *The responsive university: Restructuring for high performance* (1999 ed., pp. 162-172). Baltimore: The Johns Hopkins University Press.

Keller, G. (1983). *Academic strategy, the management revolution in American higher education*. Baltimore, MD: The Johns Hopkins University Press.

Kerr, C. (1994). Expanding access and changing mission: The federal role in U.S. higher education. *Educational Record, 75*(4), 27-31.

Knowledge: Freedom's shield. (1967). Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Krippendorff, K. (1980). *Content analysis: An introduction to its methodology*. Newbury Park, CA: Sage.

Kugler, R. L. (2006). *Policy analysis in national security affairs, new methods for a new era*. Washington, DC: National Defense University Press.

Kuhn, T. S. (1962). *The structure of scientific revolutions*. Chicago, IL: University of Chicago Press.

Lamb, C. (2010). *Personal communication,* June 25, 2010. Washington, DC: Copy held at the National Defense University Library, Special Collections.

Landsbergen, D. (1987). *Truth and credibility in sincere policy analysis*. Syracuse University, NY: Sage.

Landsbergen, D., Bozeman, B., & Bretschneider, S. (1992). Internal rationality and the effects of perceived decision difficulty: Results of a public management decisionmaking experiment. *Journal of Public Administration Research and Theory,* 10-12.

Lasswell, H. (1936). *Who gets what, when and how* (1988 ed.). New York, NY: St. Martin's.

Lasswell, H. (1956). *The decision process*. College Park, MD: University of Maryland Press.

Lasswell, H., & Kaplan, A. (1950). *Power and society: A framework for political inquiry*. New Haven, CT: Yale University Press.

Lavato, T. L., & Lemke, S. K. (1990). *Bibliography of selected documents, reports, books, periodicals, and manuscripts relating to the establishment of the National Defense University*. Washington, DC: National Defense University.

Leupp, F. E. (1900). The Army War College. *Harper's Weekly* (December 8, 1900) 1156.

Lindblom, C. E. (1959). The 'science' of muddling through. *Public Administration Review, 19.*

Lindblom, C. E., & Woodhouse, E. J. (1968). *The policy-making process* (1993 ed.). Englewood Cliffs, NJ: Prentice Hall.

Lowi, T. J. (1964). American business, public policy case studies and political theory. *World Politics, xvi* (July)

Lowi, T. J. (1969). *The end of liberalism*. New York, NY: W. W. Norton.

Lukes, S. (1985). *Emile Durkheim: His life and work, A historical and critical study*. Stanford, CT: Stanford University Press.

Lyons, G. M. (1963). The growth of national security research. *The Journal of Politics, 25*(3), 489-508.

Majone, G. (1975). The notion of political feasibility. *European Journal of Political Research, 3.*

Majone, G. (1989). *Evidence, argument, and persuasion in the policy process*. CT: Yale University Press.

McBeth, M. K., Shanahan, E. A., Arnell, R. J., & Hathaway, P. L. (2007). The intersection of narrative policy analysis and policy change theory. *Policy Studies Journal.*

McCarthy, C. (1912). *The Wisconsin idea*. New York, NY: MacMillan.

McColl, A. (Spring 1997). Is counterproliferation compatible with nonproliferation? rethinking the defense counterproliferation initiative. *Airpower Journal.*

McCool, D. C. (1995). *Public policy theories, models, and concepts: An anthology*. Englewood, NJ: Prentice Hall.

McDermott, J. J. (1981). *The philosophy of John Dewey*. Chicago: University of Chicago Press.

McDowell, W. H. (2002). *Historical research: A guide*. New York, NY: Pearson Education.

Mearsheimer, J. J. (2001). *The tragedy of great power politics*. New York: W.W. Norton.

Merriam, S. B. (1988). *Case study research in education: A qualitative approach*. San Francisco: Jossey-Bass Publishers.

Merriam, S. B., & Simpson, E. L. (2000). *A guide to research for educators and trainers of adults* (2nd edition, updated ed.). Malabar, FL: Krieger.

Merriman, C. E. (2001). *New aspects of politics*. Chicago: University of Chicago Press.

Miliband, R. (1983). *Class power and state power*. London: Verso.

Mills, C. W. (1956). *The power elite.* Oxford University Press.

Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a stakeholder identification and salience: Defining the principle of who and what really counts. *Academy of Management Review, 22*(4).

Mitroff, I. I. (1983). *Stakeholders of the organizational mind*. London: Jossey-Bass.

Morison, S. E. (1935). *The founding of Harvard College*, Cambridge, MA: Harvard University Press.

Mueller, J. E. (1989). *Retreat from doomsday: The obsolescence of major war*. New York: Basic Books.

National military strategy to combat WMD (2006). Retrieved from http://www.defense.gov/pdf/NMS-CWMD2006.pdf

National defense strategy (2005). Retrieved from http://www.globalsecurity.org/military/library/policy/dod/nds-usa_mar2005.htm

National security in the post-cold war era: A report on the bottom up review (1993). http://www.fas.org/man/docs/bur/part01.htm

National security strategy (2002). Retrieved from http://www.globalsecurity.org/military/library/policy/national/nss-020920.htm

National security strategy (2006). Retrieved from http://www.globalsecurity.org/military/library/policy/national/nss-060316.htm

National security strategy (2010). Retrieved from http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf

NBC/M elimination. (22 PowerPoint slides, briefed by Younger at National Defense University and list of attendees with contact information). (16 December 2002). Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

NBC/M elimination: Issues for DoD (workshop agenda). (October 30, 2002). Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Neave, G., & Goedegebuure, L. (Center for Higher Education Policy Studies). *Higher education and the stakeholder society*, 2001. Retrieved from www.utwente.nl/cheps/documenten/Research/Programme2001/pdf

Nerhaugen, D. (2003, April 20). Van Hise helped make Wisconsin idea a reality. *The Sheboygan Press,* pp. 1.

Newman, M. (2002). *Ralph Miliband and the politics of the new left*. London: Merlin.

Nye, J. (2009, April 13). Scholars on the sidelines: Bridging the gap between theory and policy. *The Washington Post,* http://washingtonpost.com/wp-

Omenn, G. S. (1982). Re-energizing the research university. *Environment, 24*(6), 49-51.

Orton, J. (2010). *Personal communication*, June 28, 2010. Washington, DC: Copy held at the National Defense University Library, Special Collections.

Outline for the objective report: "lessons learned -- disarmament of Iraq -- a critical appraisal of UNSCOM". (2000). Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Page, B. I., & Shapiro, R. Y. (1992). *The rational public, fifty years of trends in America's policy preferences*. Chicago: University of Chicago Press.

Parsons, T. (1956). *Structure and process in modern societies* (1960 ed.). Glencoe, IL: Free Press.

Persian Gulf War. (2008). Retrieved from http://www.infoplease.com/ce6/history/A0838511.html#axzz0xCVyQr84

Peters, R. J. (2010). Interview by A. E. Rondeau on March 17, 2010, edited May 22, 2010. Copy held at the National Defense University Library, Special Collections.

Popper, K. R. (1945). *The open society and its enemies, Vol. I: The spell of Plato*. London: George Routledge & Sons.

Post-war NBC/M elimination operations (32 PowerPoint slides). (2002). Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Pressman, J. L., & Wildavsky, A. (1973). *Implementation* (1984 ed.). Berkeley, CA: University of California Press.

Quadrennial defense review report (2001). Retrieved from http://www.comw.org/qdr/qdr2001.pdf

Quadrennial defense review report (2006). Retrieved from http://www.dod.gov/pubs/pdfs/QDR20060203.pdf

Randazzese, L. P. (1996). Profit and the academic ethos: The activity and performance of university-industry research centers in the United States. (PhD, Carnegie Mellon University). *0041*(0505), 1-361.

Rawls, J. (1971). *A theory of justice* (1999 ed.) Oxford University Press.

Reichart, J. F. (2010). Interview by A. E. Rondeau on March 17, 2010, edited May 22, 2010. Copy held at the National Defense University Library, Special Collections.

Right Web, Institute for Policy Studies. (2010). *Robert Joseph.* Retrieved July 31, 2010, from http://www.rightweb.irc-online.org/profile/Joseph_Robert

Romero, F. S. (2001). The policy analysis course: Toward a discipline of consensus. *Journal of Policy Analysis and Management, 20*(4), 771-779.

Rothaermel, F. T., & Ku, D. N. (2008). Intercluster innovation differentials: The role of research universities. *IEEE Transactions on Engineering Management, 55*(1), 9-22.

Rumsfeld, D. (2005). *Memorandum: Subj., designation of responsibilities for combating weapons of mass destruction (WMD) to commander, US strategic command (CDRUSSTRATCOM), dated 6 January 2005*. Unclassified message. Copy held at the National Defense University Library, Special Collections.

Sabatier, P. A. (1988). An advocacy coalition framework of policy change and the role of policy-oriented learning therein. *Policy Sciences, 21*(Fall)

Sabatier, P. A. (2007). *Theories of the policy process*. Boulder, CO: Westview.

Sabatier, P. A., & Jenkins-Smith, H. C. (1991). *Policy change and learning: An advocacy coalition approach (theoretical lenses on public policy*. Boston, MA: MIT Press.

Sabatier, P. A., & Mazmanian, D. (1980). The implementation of public policy: A framework for analysis. *Policy Studies Journal, 8*

Salisbury, R. H. (1968). The analysis of public policy: A search for theories and roles. In A. Ranny (Ed.), *Political science and public policy* (pp. 10-12). Chicago, IL: Markham.

Sandel, M. J. (1996). *Democracy's discontent, America in search of a public philosophy*. Cambridge, MA: Harvard University Press.

Sanders, R., & Bauer, T. W. (1990). *In quest of excellence: The Industrial College of the Armed Forces*. Washington, DC: National Defense University Press.

Schmeer, K. (1998). *Stateholder analysis guidelines.* Retrieved November 3, 2009, from www.worldbank.org/publicsector/politicaleconomy/November3Seminar/Stakholder%20Readings/SAGGuidelines.pdf

The scholarship of teaching and learning in higher education: Contributions of research universities (2004). In Becker, W.E. and Moya, L.A. (Ed.).

Schramm, W. L., & Roberts, D. F. (Eds.). (1971). *The process and effects of mass communication*. Urbana, IL: University of Illinois Press.

Scott, W. R. (2004). Institutional theory: Contributing to a theoretical research program. In K. G. Smith, & M. A. Hitt (Eds.), *Great minds in management: The process of theory development*. Oxford: Oxford University Press.

Scott, W. R., & Meyer, J. W. (1994). *Institutional environments and organizations, structural complexity and individualism*. Thousand Oaks, CA: Sage.

Selznick, P. (1991). The social theories of Talcott Parsons. *American Sociological Review, 26*(5).

Shafer, R. J. (1980). *A guide to historical method* (3rd. ed). Homewood, IL: Dorsey Press.

Skelton, I. *Panel on military education of the one hundredth congress*, House, 100th Congress, second Sess. 206 (1989).

Speier, R. (2001). *Counterproliferation research proposal: Post-war operations against WMD.* Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Speier, R. (June 20, 2002). *Draft statement of work: Post-war elimination of Iraqi WMD.* Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Steffens, H. J., & Dickerson, M. J. (1987). *Writer's guide: History*. Lexington, MA: D. C. Heath.

Stemler, S. (2001). *Practical assessment, research & evaluation.*, 2009, from http://PAREonline.net/getvn.asp

Stemler, S., & Bebell, D. (1998). An empirical approach to understanding and analyzing the mission statements of selected educational institutions. Paper presented at the *New England Research Organization,* Portsmouth, NH.

Stinchcomb, A. (1968). *Constructing social theories*. Chicago: University of Chicago Press.

Stuart, F. J. (2005). Even universities change. *Issues in Science & Technology, 22*(1), 63-67.

Swaren, J. W. (1948). *Chronology of war college post*. Washington, DC: National War College. Copy held at the National Defense University Library, Special Collections.

Swimming upstream, collaborative approaches to watershed management (2005). In Sabatier P. A., Focht W., Lubell M., Trachntenbert Z., Vedlitz A. and Matlock M. (Eds.). Boston, MA: MIT Press.

Tellis, W. (1997a). Application of a case study methodology. *The Qualitative Report, 3*(3).

Tellis, W. (1997b). Introduction to case study methodology. *The Qualitative Report, 3*(2).

Terwilliger, T. H. (1992). *The National War College: A history*. Washington, DC: National Defense University Press. Copy held at the National Defense University Library, Special Collections.

Theodoulou, S. Z., & Cahn, M. A. (1995). *Public policy, the essential readings*. Saddle River, NJ: Prentice Hall.

Tierney, W. G. (2008). *The impact of culture on organizational decision-making: Theory and practice in higher education*. Sterling, VA: Stylus Publishing LLC.

Trachtenburg, S. J. (2002). *Reflections on higher education.* Washington, DC: ORYX Press.

Trends towards corporatist intermediation (1979). In Schmitter P., Lehmbruch G. (Eds.), Newbury Park, CA: Sage.

Trow, M. (1973). *Problems in the transition from elite to mass higher education*. Berkeley, CA: Carnegie Commission on Higher Education.

UNSCOM/IAEA - Iraq "lessons learned" workshop. (September 5, 2002). Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Valida, A. C. (2009). Becoming world-class universities Singapore style: Are organized research units the answer? (PhD, University of Arizona). 1-199. (AAT 3386894).

Vickers, G. (1965). *The art of judgment, A study of policy making*. New York: Basic Books.

Waller, F. E., & Henderson, C. R. (15 October 2002). *NBC/M elimination operations: Mission scoping study, stages of conflict and strategic, operational and tactical issues (working draft, FOUO)*. Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Weimer, D. L., & Vining, A. R. (2005). *Policy analysis concepts and practice*. Upper Saddle River, NJ: Prentice Hall.

Welcome to Fort Lesley J. McNair (1971). Washington, DC: National War College. Copy held at the National Defense University Library, Special Collections.

Wildavsky, A. (1966). The political economy of efficiency: Cost-benefit analysis, systems analysis and program budgeting. *Public Administration Review, 26* (December), 10-12.

Wildavsky, A. (1980a). *The art and craft of policy analysis*. London: Macmillan.

Wildavsky, A. (1980b). *Speaking truth to power*. Boston, MA: Little Brown.

Williams, C. E. (1953). *The contribution of universities and research institutes to technological processes.* Unpublished manuscript. Copy held at the National Defense University Library, Special Collections.

Wilson, F. C. (2006). *Annual report of the National Defense University*. Washington, DC: Copy held at the National Defense University Library, Special Collections.

Wolfowitz, P. (2003). *Counterproliferation and the new national security strategy*. Speech on May 13, 2003 at National Defense University, Washington, DC. Copy held at the National Defense University Library, Special Collections.

World bank paper. (n.d.), 2009. Retrieved from www1.worldbank.org/publicsector/anticorrupt

Yaeger, J. W. (2005). Congressional influence on National Defense University. (Dissertation for Graduate School of Education and Human Development, The George Washington University, Washington, DC).

Yanow, D. (1996). *How does a policy mean? interpreting policy and organizational action*. Washington, DC: Georgetown University Press.

Yanow, D. (2000). *Conducting interpretive policy analysis*. Thousand Oaks, CA: Sage.

Yin, R. K. (1980). *Studying the implementation of public programs*. Golden, CO: Solar Energy Research Institute.

Yin, R. K. (1981). The case study crisis: Some answers. *Administrative Science Quarterly, 26*(1), 58-65.

Yin, R. K. (1984). *Case study research: Design and methods*. Newbury Park, CA: Sage.

Yin, R. K. (1993). Applications of case study research. *Applied Social Research Methods Series,* Thousand Oaks, CA: Sage.

Yin, R. K. (2009). *Case study research, design and methods* (4th ed.). Thousand Oaks, CA: Sage.

Yin, R. K., Bingham, E., & Heald, K. A. (1976). The difference that quality makes: The case of literature reviews. *Sociological Methods and Research, 5*, 139-156.

Yin, R. K., & Heald, K. A. (1975). Using the case survey method to analyze policy studies. *Administrative Science Quarterly, 20*(3), 371-381.

Yin, R. K., & Heinsohn, I. (1980). *Case studies in research utilization*. Washington, DC: American Institutes for Research.

APPENDIX A

THE RESEARCHER'S PROFESSIONAL EXPERIENCES

APPENDIX A

THE RESEARCHER'S PROFESSIONAL EXPERIENCES

1974 – 1976 Commander, Pacific Fleet, Fleet Communications

1976 – 1980 Patrol Squadron Fifty, Air Intelligence Officer and Operations Officer

1980 – 1982 Georgetown University

1982 – 1983 Navy Staff (Strategy and Policy/NATO-Europe Branch)

1983 – 1984 Office of Secretary of Defense (Policy Analysis)

1984 – 1985 Office of Secretary of Defense (African Affairs)

1985 – 1986 White House Fellow (Department of Justice)

1985 – 1987 Special Assistant for National Security Affairs to the United States Attorney General

1987 – 1989 Executive Officer, Fast Sealift Squadron One and Officer in Charge, Military Sealift Command Unit, New Orleans

1989 – 1990 CNO Executive Panel

1990 – 1992 Battalion Officer, United States Naval Academy

1992 – 1994 Commanding Officer, Naval Support Activity La Maddalena, Italy

1994 – 1995 CNO Fellow, Strategic Studies Group (Naval War College) 1995 – 1996 Military Assistant to Principal Under Secretary of Defense (Policy)

1996 – 1997 Quadrennial Defense Review

1997 – 1999 Commanding Officer, Naval Support Activity, Millington, TN

1999 – 2001 ACOS for Shore Installations (Commander, Pacific Fleet Staff)

2001 – 2004 Commander, Naval Training Command and Naval Service Training Command

2004 – 2005 Commander, Naval Personnel Development Command

2005 – 2006 Director, Navy Staff

2006 – 2009 Deputy Commander, United States Transportation Command

2009 – President, National Defense University

APPENDIX B

BIOGRAPHIES OF PARTICIPANTS

APPENDIX B

BIOGRAPHIES OF PARTICIPANTS

John F. Reichart is director, Center for the Study of Weapons of Mass Destruction, National Defense University, Washington, D.C. Dr. Reichart, a Senior Research Professor, also teaches courses in counter-proliferation and national security policy at NDU.

Prior to assuming his duties at NDU in 1995, Dr. Reichart served for six years as a member of the Policy Planning Staff, Department of State. While at State, he was responsible for providing advice and analysis to four secretaries of state on European security policy and a wide range of global political/military issues.

From 1987-88 he was a senior fellow at the Center for Strategic and International Studies, Washington, D.C. He served at the U.S. Mission to NATO, Brussels, with responsibility for theater nuclear issues, from 1982-1987. Earlier, he taught international relations and defense studies as associate professor of political science, USAF Academy. Dr. Reichart began his career as a technical analyst at the Foreign Technology Division, Wright-Patterson AFB.

Dr. Reichart, a retired USAF colonel, is the co-author of *American Defense Policy* and a variety of articles on defense and proliferation issues, including "The Case for Nuclear Deterrence Today," Orbis, Winter 1998, and "The Threat From Nuclear, Biological and Chemical Weapons," World Defense Systems 2000. He holds a Ph.D. and MA in political science from The Ohio State University and a BA in government from Manhattan College.

Dr. W. Seth Carus is the Deputy Director of the Center for the Study of Weapons of Mass Destruction and a Distinguished Research Fellow at the National Defense University. His research focuses on biological warfare threat assessment, biodefense, homeland security, and the role of the Department of Defense in responding to chemical and biological terrorism. He also is researching allegations of biological agent use by terrorists and criminals, and has written a working paper, *Bioterrorism and Biocrimes: The Illicit Use of Biological Agents in the 20th Century*, and several articles on that subject. He has been at NDU since 1997.

From 2001 to 2003, Dr. Carus was detailed to the Office of the Vice President, where he was the Senior Advisor to the Vice President for Biodefense. Before assuming that position, he was on the staff of the National Preparedness Review commissioned to recommend changes in homeland security organization and supported the Office of Homeland Security while it was being established.

Prior to joining NDU, Dr. Carus was a research analyst at the Center for Naval Analyses. He worked on studies for NAVCENT on naval forward presence and for the Office of the Secretary of Defense on the impact of nuclear, biological, and chemical weapons on the conduct of a major regional contingency in Korea. From 1991 to 1994, Dr. Carus was a member of the Policy Planning staff in the Undersecretary of Defense for Policy, Office of the Secretary of Defense. Before joining the government, he was a research fellow at the Washington Institute for Near East Policy. Dr. Carus has a Ph.D. from the Johns Hopkins University in Baltimore, Maryland.

Robert Joseph holds the position of Senior Scholar at the National Institute for Public Policy.

Until March 2007, Ambassador Joseph was Under Secretary of State for Arms Control and International Security. In this capacity, he reported directly to the Secretary of State as the principal State Department officer for non-and counter-proliferation matters, arms control, arms transfers, regional security and defense relations, and security assistance. His management responsibilities included oversight of three major bureaus headed by Assistant Secretaries of State: International Security and Nonproliferation; Political and Military Affairs; and Verification, Compliance and Implementation.

Previously, from January 2001 through November 2004, Dr. Joseph served in the National Security Council as Special Assistant to the President and Senior Director for Proliferation Strategy, Counter-proliferation and Homeland Defense. In this capacity, he was responsible, under the supervision of the National Security Advisor, for developing and coordinating U.S. policies and strategies for preventing, deterring and defending against threats to the United States from weapons of mass destruction.

Ambassador Joseph's major areas of responsibility at the White House and in the State Department included:

- Formulation and implementation of national security strategies to counter proliferation threats (U.S. National Strategy to Combat Weapons of Mass Destruction and U.S. National Strategy for Bio Defense)

- Formulation of U.S. policy on strategic missile defense (principal staffing role in the U.S. withdrawal from 1972 ABM Treaty)

- Design and promotion of international initiatives on counter-proliferation (including launching the Proliferation Security Initiative and the Global Initiative to Combat Nuclear Terrorism)

- Development and deployment of counter-proliferation capabilities, both biological defenses (detection and medical counter-measures) and ballistic missile defenses, and

- Expansion of U.S. nonproliferation assistance programs and establishment of the Global Partnership increasing total resources for this purpose to over $15 billion.

From 1992 until 2001, Dr. Joseph was Professor of National Security Studies and Director/Founder of the Center for Counter-proliferation Research at the National Defense University. Earlier, he was U.S. Commissioner to the Standing Consultative Commission and Ambassador to the U.S.-Russian Commission on Nuclear Testing, Principal Deputy Assistant Secretary of Defense for International Security Policy, Deputy Assistant Secretary of Defense for Nuclear Forces and Arms Control Policy, Nuclear Policy/Planning Officer at U.S. Mission to NATO, and Assistant Professor of International Relations/Strategic Studies at the Fletcher School of Law and Diplomacy, Tulane University, and Carleton College.

Dr. Joseph received his BA from Saint Louis University and his MA from the University of Chicago. He received his PhD from Columbia University. His awards include the National Defense University President's Award for Individual Achievement and the National Nuclear Security Administration Gold Medal for Distinguished Service. He also received the Department of Defense Medal for Distinguished Civilian Service (and Bronze Palm), and multiple Senior Executive Service Meritorious Achievements citations. In 2006, he was the recipient of the annual Ronald Reagan award for his contributions to U.S. missile defense.

Robert Peters joined the Center for the Study of Weapons of Mass Destruction as a Research Associate in August 2005. Mr. Peters' research focuses on WMD rollback policies, WMD elimination, and nuclear attribution. From March-November 2009, Mr. Peters was detailed to the Office of the Secretary of Defense-Policy as Special Assistant to the DASD for Countering Weapons of Mass Destruction, where he led the counter-WMD analysis for the 2010 Quadrennial Defense Review. Prior to joining National Defense University, Mr. Peters worked as a Technical Analyst for the Northrop Grumman Corp., and as a Research Associate for the Potomac Institute for Policy Studies, focusing on WMD detection capabilities and nonproliferation policy.

Currently pursuing a Ph.D. in International Security at the University of Maryland, Mr. Peters received an MA from Georgetown University in National Security Studies in

2001, and a BA in Political Science and History from Miami University in 1999. Publications include "China, Democracy, and the Internet" in Information Technology and World Politics; "Promoting Science and Technology to Serve National Security" in Science and Technology Policies for the Anti-Terrorism Era; and "Nuclear U-Turns: Learning from South Korean and Taiwanese Rollback" in Nonproliferation Review.

Ms. Rebecca K. C. Hersman was named Deputy Assistant Secretary of Defense for Countering Weapons of Mass Destruction for the Office of the Under Secretary of Defense in March 2009. In this role she is responsible for establishing policies and guidance to protect US and Allied war fighters against a chemical, biological, radiological, or nuclear (CBRN) attack from a state actor or terrorist. Ms. Hersman also represents the Department's interests on counter proliferation and non-proliferation policy issues, including the Biological Weapons Convention, Chemical Weapons Convention, and Nuclear Non-Proliferation Treaty, as well as the Cooperative Threat Reduction Program.

Ms. Hersman was a Senior Research Fellow with the Center for the Study of Weapons of Mass Destruction at the National Defense University from 1998-2009. Her primary projects have been the role of the Department of Defense in mitigating the effects of chemical and biological weapons attack both in the United States and against US interests abroad, concepts and strategies for eliminating an adversary's WMD programs, as well as proliferation issues facing the Department of Defense and US government more generally. Ms. Hersman also directed the WMD Center's Program for Emerging Leaders, an initiative designed to shape and support the next generation of leaders from across the US government with interest in countering weapons of mass destruction. Prior to her service at National Defense University, Ms. Hersman held positions as an International Affairs Fellow with the Council on Foreign Relations, Special Assistant to the Under Secretary of Defense for Policy, and a member of the professional staff of the House Armed Services Committee.

She completed her undergraduate study at Duke University, received her Master's Degree from Georgetown University and is a member of the Council on Foreign Relations. She is the author of Friends and Foes: How Congress and the President Really Make Foreign Policy (Brookings Institution Press, 2000), as well as several other publications on consequence management, WMD elimination and other proliferation topics.

APPENDIX C

A CHRONOLOGICAL SYNOPSIS OF NDU'S ROLE

IN ESTABLISHING THE WMD ELIMINATION MISSION

APPENDIX C

A CHRONOLOGICAL SYNOPSIS OF NDU'S ROLE IN ESTABLISHING THE WMD ELIMINATION MISSION

Viewed in the context in which it was developed the WMD-Elimination Mission reveals an iterative process and discrete series of events. Seen more broadly, a chronological synopsis of NDU's role in establishing the WMD-E mission and the Joint Task Force Elimination (JTF-E) reveals the concept-to-policy development.

Summer 2001:

- The WMD Center begins self-initiated exploration of a concept to develop doctrine and associated force structure to eliminate WMD capabilities and programs in the context of military operations. This early work is shared informally with OSD (key persons: John Reichart and Rebecca Hersman, NDU; Paul Wolfowitz, and Jim Thomas, OSD).
- A directive from the Joint Staff tasks NDU to conduct a research project on post-conflict NBC/M elimination. The tasking order states: "At the direction of the Deputy Secretary of Defense, OSD Policy is sponsoring a project on post conflict NBC/M elimination. OSD Policy has tasked the National Defense University's Center for Research [the WMD Center's initial name] to conduct the project and directed its

completion by mid-October. The Joint Staff fully supports the project purposes and timelines. As part of the early planning process, the NDU Research Team, together with OSD Policy and JCS J-5 representatives, request a meeting at CENTCOM HQ with appropriate CENTCOM and SOCOM staff…Purpose: The post-conflict NBC/M elimination project seeks to help both command planners and the broader policy community to understand the unique political, technical, information and operational challenges affecting the plan to eliminate an adversary's nuclear, biological and chemical weapons together with their attendant missile-related delivery systems….With the support of the Deputy Secretary of Defense the project is designed to establish professional contact between military planners and individuals and organizations whose expertise they may need as they form or modify their wartime and post-war NBC/M elimination plans….

October 2002:

- At the request of OSD-Policy, in the face of impending military action against an anticipated WMD-armed state, NDU begins examining and developing CONOPS for conducting WMD-E operations. Center members consult with CENTCOM planners (key persons: John Reichart and Rebecca Hersman, NDU; Jim Thomas, Lisa Bronson, and David Stephens, OSD).

March 2003: *Operation Iraqi Freedom* (OIF) begins; only ad hoc forces can be deployed to find and secure Iraqi WMD programs and weapons. Draws upon analysis conducted at NDU.

May 2003: DepSecDef Paul Wolfowitz addresses the WMD Center's annual symposium, praises NDU's work on WMD-E, and argues for a standing WMD-E capability (key persons: Jim Thomas, David Stephens, Paul Wolfowitz, OSD; and John Caves, NDU).

Summer/Fall 2003: The WMD Center hosts a series of Interagency brown bag workshops interviewing returning OIF leaders engaged in the WMD-E mission to develop lessons learned. NDU's analysis is the most extensive and well-respected within the U.S.G (key persons: John Reichart and Rebecca Hersman).

February 2004: NDU hosts a workshop to examine the operational, doctrinal, organizational, and capability challenges experienced during WMD-E operations in *OIF*. Political sensitivities restrict participation to government employees only (key persons: John Reichart and Rebecca Hersman).

December 2004: The WMD Center publishes *Eliminating Adversary Weapons of Mass Destruction: What's at Stake?* Paper is widely read within the community as the standard primer on WMD-E (key person: Rebecca Hersman).

Fall 2005/Winter 2006: The WMD Center provides WMD-E subject matter expertise to the 2006 Quadrennial Defense Review. The 2006 Quadrennial Defense Review establishes a deployable Joint Task Force headquarters (JTF-E); identifies the 20th

SUPCOM as primary component of the JTF-E (key persons: Rebecca Hersman, NDU; Jim Thomas, OSD).

July 2006: With the Department at a standstill, DoD asks NDU to host a GO/FO-level workshop to help resolve disputes over command and control relationships. This move enables issue to be sent to the Joint Chiefs for a final decision on C2 relationships (key persons: Rebecca Hersman and Robert Peters, NDU; Major General Howard B. Bromberg, Joint Staff; Dr. James Tegnelia, DTRA Director, Cathy Montie, DTRA; RDML Bill Loeffler, STRATCOM-SCC).

April –July 2008: NDU develops and hosts two table top exercises dealing with challenges associated with the WMD-E mission. Players include GO/FOs from Combatant Commands, as well as future Under Secretary Michele Flournoy (key persons: Rebecca Hersman, John Caves, John Reichart, and Robert Peters, NDU; John Howlett, STRATCOM-SCC).

January 2009: *Are We Prepared?* is published by NDU's WMD Center. It is used extensively by Quadrennial Defense Review participants to inform WMD-E discussions (key persons: John Reichart, Rebecca Hersman, Seth Carus, John Caves, Forrest Waller, Richard Love, and Robert Peters).

February 2010: VPOTUS Speech at NDU.

APPENDIX D

SELECTED INTERVIEW QUESTIONS

APPENDIX D

SELECTED INTERVIEW QUESTIONS

1. Just so we have a reference point, what was your actual title, and what was your actual role in this?

2. Give me a sense about what was in the minds of the creators and the charter members of the WMD Center. What they wanted to do and what you thought you could be doing. Just the raison d'être of the Center.

3. At a level of substance, was there some consistency of intent?

4. Is the definitional problem [of the meaning of elimination] a delimiting factor for success? Or is it really quite useful toward incrementally sound policy?

5. Is your definitional framing about elimination, which is the oracle upon which you have based a lot of your work, relevant any more?

6. Was there a sub-theme to this, as it shifted in terms of access [to DoD and the State Department]? Who on the Hill was compelled?

7. Do you have any notion anything is happening in any other part of the government or the nation, for instance, the scientific community? Is there anything else going on that other agencies or other entities might have anything to do with this? Was there anybody else doing some intellectual threading in a linked sustained way?

8. Just for the sake of understanding and coherence, was there activity during the late Clinton Administration? Was there any work going on? Where else is this thinking going on? Where else is thinking like this, similar to what is happening at the Center, going on?

9. What is it when that kind of dilemma [disinterest or lack of engagement of leadership] comes up, what is it that the Center found worked with regard to compelling interests, or compelling action? What is it that the Center thought would be useful to be doing?

10. Since there was no integrative consensus, what would lead toward coherence, sustained action, or reorganization?

11. How do you intellectually influence? How do intellectuals influence? How do you get the public constructively engaged?

12. How does the Center, how do the intellectual thinkers affect it so that it comes to a point of national will? Is it a lack of money to WMD that characterizes this town's [Washington, DC] attention, or lack of attention to it?

13. So how do you believe the Center then affects the intellectual conversation to a point of having outcomes, results, and change?

14. At what point did the research become very real, very oriented toward the hard facts that were very profound? When did the policy people become engaged in abstracts and the researchers engaged in real things? Isn't that the paradox?

15. What was it that allowed you to establish criteria? What was the tipping point?

16. How do you educate the Hill on these issues? How does a research center do that effectively in a different way?

17. At what level do you think people were guided in their behavior by a real nonconceptual, or genuine fear that they were going to have people killed in WMD? Where did it go from concept to reality?

18. What do you think are the structural differences or advantages or disadvantages of a place like the Center here in DC? What do you think in terms of

organizations, effects, influences, intellectual impact that you do and do not have in that kind of environment?

19. What, in the context of this work, would you say would be useful and valuable in moving the ball forward about what we know of this timeframe?

20. In a perfect world, what would you like to have seen, either retrospectively or now prospectively, about how this whole issue was handled?

21. What else would be useful to know?