



NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

SUSTAINABLE CONSTRUCTION IN AFGHANISTAN

by

Legena M. Malan

September 2010

Thesis Advisor:

Robert M. McNab

Second Reader:

Thomas Bruneau

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REPORT DOCUMENTATION PAGE			<i>Form Approved OMB No. 0704-0188</i>	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE September 2010	3. REPORT TYPE AND DATES COVERED Master's Thesis	
4. TITLE AND SUBTITLE Sustainable Construction in Afghanistan			5. FUNDING NUMBERS	
6. AUTHOR Legena M. Malan				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government. IRB Protocol number NPS20100070-IR-EP7-A.				
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (maximum 200 words) This thesis examines whether current reconstruction methods in Afghanistan are economically efficient and effective with respect to the counterinsurgency mission. My argument is that they are not, due to the absence of culturally correct, indigenous construction materials and techniques. This research explores the impact of construction as a part of a counterinsurgency mission, drawing on local cultural factors and building techniques in constructing new facilities in Afghanistan. If current methods are not sustainable either culturally or economically, then the reconstruction efforts are likely to fail, incentivize corruption, and weaken the legitimacy of the Afghan government. If, on the other hand, they are sustainable and sensitive to local cultural norms and economic capacity, the likelihood of these projects increasing the quality of life, building positive relationships, and decreasing violence, increases significantly. If reconstruction fails to increase the ability of the Afghan government to develop the capacity at the local level, the International Security Assistance Force (ISAF) will not have anyone to which it can transfer responsibility for local government services. This would seriously inhibit the ability of ISAF to transition to Afghan control and, given the current political environment in the United States, potentially lead to the failure of the Afghan campaign.				
14. SUBJECT TERMS Afghanistan, Construction, Contracting, NGOs, Sustainability, Sustainable Construction, Reconstruction, Afghan Architecture, Afghan Cultural Norms, Indigenous Materials and Techniques, Indigenous, PRT, Provincial Reconstruction Teams, Counterinsurgency, Stability Operations			15. NUMBER OF PAGES 147	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UU	

NSN 7540-01-280-5500

Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. Z39-18

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SUSTAINABLE CONSTRUCTION IN AFGHANISTAN

Legena M. Malan
Lieutenant Commander, United States Navy
B.S., New Mexico Institute of Mining and Technology, 1999

Submitted in partial fulfillment of the
requirements for the degree of

**MASTER OF ARTS IN SECURITY STUDIES
(STABILIZATION AND RECONSTRUCTION)**

from the

**NAVAL POSTGRADUATE SCHOOL
September 2010**

Author: Legena Malan

Approved by: Robert M. McNab
Thesis Advisor

Thomas Bruneau
Second Reader

Harold A. Trinkunas, PhD
Chairman, Department of National Security Affairs

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ABSTRACT

This thesis examines whether current reconstruction methods in Afghanistan are economically efficient and effective with respect to the counterinsurgency mission. My argument is that they are not, due to the absence of culturally correct, indigenous construction materials and techniques.

This research explores the impact of construction as a part of a counterinsurgency mission, drawing on local cultural factors and building techniques in constructing new facilities in Afghanistan. If current methods are not sustainable either culturally or economically, then the reconstruction efforts are likely to fail, incentivize corruption, and weaken the legitimacy of the Afghan government. If, on the other hand, they are sustainable and sensitive to local cultural norms and economic capacity, the likelihood of these projects increasing the quality of life, building positive relationships, and decreasing violence, increases significantly.

If reconstruction fails to increase the ability of the Afghan government to develop the capacity at the local level, the International Security Assistance Force (ISAF) will not have anyone to which it can transfer responsibility for local government services. This would seriously inhibit the ability of ISAF to transition to Afghan control and, given the current political environment in the United States, potentially lead to the failure of the Afghan campaign.

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TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	RESEARCH QUESTION	1
B.	IMPORTANCE.....	1
C.	BACKGROUND	3
D.	HYPOTHESIS.....	6
E.	METHODOLOGY	6
II.	SUSTAINABLE CONSTRUCTION IN AFGHANISTAN.....	9
A.	WHAT IS SUSTAINABLE CONSTRUCTION?	9
B.	HOW INDIGENOUS BUILDING TECHNIQUES HAVE CHANGED OVER TIME	13
	1. Research of Sustainable Construction Techniques.....	15
C.	INDIGENOUS AFGHAN ARCHITECTURE.....	18
	1. Nonsedentary Tent Dwellings in Afghanistan.....	19
	2. Nonsedentary Yurt Dwellings in Afghanistan.....	21
	3. Nonsedentary Hut Dwellings in Afghanistan	22
	4. Sedentary Dwellings in Afghanistan	24
	5. Sedentary Cave Dwellings in Afghanistan.....	25
	6. Sedentary Curved-Roof Dwellings in Afghanistan.....	25
	7. Sedentary Flat-Roof Dwellings in Afghanistan.....	27
D.	CULTURE AND ITS RELATIONSHIP WITH DWELLINGS	28
E.	CONCLUSION	33
III.	NGOS, AFGHAN GOVERNMENT, AND THE COALITION MILITARY	35
A.	INTRODUCTION.....	35
B.	BACKGROUND	36
C.	THE AFGHAN GOVERNMENT	39
D.	THE ROLE OF AFGHAN NGOS.....	43
E.	THE ROLE OF THE MILITARY AND THE PRT	45
F.	THE CHANGING ROLE OF THE MILITARY	48
G.	OTHER AID ORGANIZATIONS	49
	1. Interagency Organizations.....	49
	2. Intergovernmental Organizations	50
H.	CONCLUSION	50
IV.	THE CHALLENGES OF CONSTRUCTION CONTRACTING AND COUNTERINSURGENCY IN AFGHANISTAN.....	53
A.	COIN AND STABILITY OPERATIONS	54
	1. Stability Operations Tasks.....	56
	a. Establish Civil Security.....	57
	b. Establish Civil Control.....	57
	c. Restore Essential Services	57
	d. Support Governance	57
	e. Support to Economic and Infrastructure Development	58

B.	HISTORY OF CHALLENGES FOR CONTRACTING AGENCIES	58
1.	GAO	60
2.	SIGAR.....	61
a.	Coordination.....	62
b.	Capacity.....	63
c.	Corruption.....	64
d.	Oversight.....	65
3.	Culture	69
C.	CONCLUSION	76
V.	RECOMMENDATIONS AND CONCLUSIONS.....	79
A.	RECOMMENDATIONS.....	79
1.	Educate.....	79
2.	Feedback	79
3.	Re-Evaluate and Incorporate Feedback	79
B.	CONCLUSIONS	80
APPENDIX A.		81
A.	SECTION 1: PHYSICAL MAPS	81
B.	SECTION 2: POLITICAL/POPULATION MAPS.....	87
APPENDIX B.		91
A.	SECTION 1: NONSEDENTARY DWELLING SKETCHES.....	91
B.	SECTION 2: SEDENTARY DWELLING SKETCHES.....	99
APPENDIX C.		105
A.	SECTION 1: NONSEDENTARY DWELLING DATABASE	105
B.	SECTION 2: SEDENTARY DWELLING DATABASE	106
APPENDIX D.		107
A.	SECTION 1: CASE STUDY #1	107
B.	SECTION 2: CASE STUDY #2	112
LIST OF REFERENCES		113
INITIAL DISTRIBUTION LIST		125

LIST OF FIGURES

Figure 1.	Physical Terrain Map of Afghanistan.	81
Figure 2.	Elevation Map of Afghanistan.	82
Figure 3.	Geographic Zone Map of Afghanistan.	83
Figure 4.	Vegetation Map of Afghanistan.	84
Figure 5.	Wind Map of Afghanistan.	85
Figure 6.	Seismic Risk Map of Afghanistan.	86
Figure 7.	Political (Administrative Divisions) Map of Afghanistan.	87
Figure 8.	Nomadic Route Map of Afghanistan.	88
Figure 9.	Ethnolinguistic Group Distribution Map of Afghanistan.	89

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LIST OF PLATES

Plate 1.	Sketch of a Durrani Vaulted Black Tent.....	91
Plate 2.	Sketch of a Baluch Vaulted Black Tent.....	92
Plate 3.	Sketch of a Ghilzai Peaked Black Tent.....	92
Plate 4.	Sketch of a Brahui Peaked Black Tent	93
Plate 5.	Sketch of a Taimani Black Tent.....	93
Plate 6.	Sketch of a Jugi Cotton Tent.....	94
Plate 7.	Sketch of a Jat Cotton Tent.....	94
Plate 8.	Cutaway Sketch of a Domical Yurt	95
Plate 9.	Sketch of a Conical Yurt.....	96
Plate 10.	Sketch of a Circular Hut	96
Plate 11.	Sketch of a Circular Hut with Center Pole.....	97
Plate 12.	Sketch of a Polygonal Hut	97
Plate 13.	Sketch of an Ovate-Oblong Hut.....	98
Plate 14.	Sketch of an Ovate-Oblong Hut.....	98
Plate 15.	Sketch of Curved-Roof Buildings.....	99
Plate 16.	Sketch of Curved-Roof Construction (Single Vault).....	99
Plate 17.	Sketch of Curved-Roof Construction (Multiple Vaults).....	100
Plate 18.	Sketch of Flat-Roof Buildings	100
Plate 19.	Sketch of a Fortified Compound.....	102
Plate 20.	Sketch of Nuristani Flat-Roof Construction	103

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LIST OF DATABASES

Database 1.	Nonsedentary Afghan Dwellings.....	105
Database 2.	Sedentary Afghan Dwellings	106

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LIST OF PHOTOS

Photo 1.	Jat Cotton Tents outside Kabul	95
Photo 2.	Interior Look at Roof Structure Showing Brick Wall Structure	101
Photo 3.	Flat Roof Construction in Khost	101
Photo 4.	Erosion of Mud/Clay Mixture on a Clay Structure.....	102
Photo 5.	Truss Structures	107
Photo 6.	Rusting Truss Spot Welded	107
Photo 7.	Truss Structures	107
Photo 8.	Insulation Installation.....	107
Photo 9.	Typical Nuristani Construction.....	108
Photo 10.	Interior Room Construction, Notice the Tongue and Groove Ceiling.....	108
Photo 11.	Close Up of Wall and Window Construction	109
Photo 12.	Chalet Type Dwellings in Nuristan.....	109
Photo 13.	Hillside Dwellings in Nuristan.....	110
Photo 14.	Hillside Dwelling in Nuristan	110
Photo 15.	Nuristani Carpenters at Work	111
Photo 16.	Mixing the Traditional Clay and Hay Wall and Roof Coverings	111
Photo 17.	Typical Wooden Structure Built throughout the Country.....	112

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LIST OF ACRONYMS AND ABBREVIATIONS

ACBAR	Agency Coordinating Body for Afghan Relief
AED	Afghanistan Engineering District (U.S. Army Corps of Engineers')
ANDS	Afghanistan National Development Strategy
ANP	Afghan National Police
ANS	Afghan National Security
BAAG	British Agencies Afghan Group
BPHS	Basic Package of Health Services
BRI	Building Research Institute
CERP	Commanders Emergency Response Program
COIN	Counterinsurgency
COR	Contracting Officer Representative
CSTC-A	Combined Security Transition Command – Afghanistan
DoD IG	Department of Defense Inspector General
DoD	Department of Defense
DoS	Department of State
ET	Engineering Technician
EU	European Union
FAIR	Federal Activities Inventory Reform
GAO	Government Accountability Office
GIRoA	Government of the Islamic Republic of Afghanistan
HOO	High Office of Oversight (Afghan Government's)
ICOS	International Council on Security and Development
IGO	Intergovernmental Organization
ISAF	International Security Assistance Force
LEED	Leadership in Energy and Environmental Design
LOE	Line of Effort
MOI	Minister of Interior
NGO	Non-Governmental Organization
NSP	National Solidarity Program

OCHA	United Nations Office for the Coordination of Humanitarian Affairs
OEC	Organization for Economic Cooperation
OMB	Office of Management and Budget
OSHA	Occupational Safety and Health Administration
PRT	Provincial Reconstruction Team
S/CRS	State Department Office of the Coordinator for Reconstruction and Stabilization
SIGAR	Special Inspector General for Afghanistan Reconstruction
UN	United Nations
UNDP	United Nations Development Programme
UNHCR	United Nations High Commissioner for Refugees
USAID	United States Agency for International Development
USFOR-A	U. S. Forces Command - Afghanistan

ACKNOWLEDGMENTS

I am forever grateful for the guidance, patience, and understanding that I received from my advisors, Professors Robert McNab and Thomas Bruneau. I am indebted to Prof. McNab for his faith in my work and funding travel to workshops that allowed me to not only gather information and clarify on my thoughts and ideas, but to share my work with others. The contacts from these workshops has enabled me to spread the word of sustainable construction to many military organizations, who are now taking steps to make the ideas presented in this thesis a reality. Without his help, this would not have been possible. Thank you to Prof. Bruneau, for listening to me talk through my ideas and for telling me to stop researching and reading and to start writing. This advice was invaluable and needed at the time.

To my two beautiful daughters, Madison and Kaitlyn, thank you for your patience and understanding. There were too many nights I could not listen to the many tales from your school day and too many times, you had to put up with my horrible cooking or fast food. I love you both. To the babysitters that made my study time possible, Elle Dunlap, Sylvia and Sandra Gattas, thank you for loving my children and helping them to enjoy their time here. And finally, thank you to my mother, who helped for two crucial quarters; thank you for the support, patience, and wisdom.

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I. INTRODUCTION

Do not try to do too much with your own hands. Better the Arabs do it tolerably than that you do it perfectly. It is their war, and you are to help them, not to win it for them. Actually, also, under the very odd conditions of Arabia, your practical work will not be as good as, perhaps, you think it is.¹

T. E. Lawrence

A. RESEARCH QUESTION

This thesis examines whether current reconstruction methods in Afghanistan are economically efficient and effective with respect to the counterinsurgency mission. My argument is that they are not, due to the absence of culturally correct, indigenous construction materials and techniques.

B. IMPORTANCE

This thesis is timely and pertinent given the efforts of the United States to develop the capacity of the Afghan government and the stated strategic importance of Afghanistan in U.S. national security policy. The United States has allocated approximately \$51 billion for reconstruction in Afghanistan.² This money has been used to build hospitals, clinics, schools, police and army facilities in an effort to provide basic health, education, and security for the Afghan people.

¹ T. E. Lawrence, "Twenty-Seven Articles," *Arab Bulletin* (August 20, 1917), http://telawrence.net/telawrencenet/works/articles_essays/1917_twenty-seven_articles.htm.

² Special Inspector General for Afghanistan Reconstruction (SIGAR), *Quarterly Report to the United States Congress*, Arlington, VA, January 30, 2010, <http://www.sigar.mil/reports/quarterlyreports/Default.aspx>, 4.

The Government Accountability Office (GAO)³ and the Special Inspector General for Afghanistan Reconstruction (SIGAR)⁴ have published numerous first-hand accounts of problems with the current construction processes.⁵ Inspections and audits have also illuminated deficiencies in the planning and construction of facilities in Afghanistan. These deficiencies cast serious doubt on the purported effectiveness of current methods of reconstruction in Afghanistan. Both the GAO and SIGAR have identified the design and construction process as a key area that needs improvement.⁶

Understanding the current problems of reconstruction in Afghanistan can lead to alternatives that increase the economic efficiency of reconstruction and support the counterinsurgency mission. Identifying potential alternatives is of increasing importance in the short-term given the stated intent of the International Security Assistance Force (ISAF) commander, General David Petraeus, in his counterinsurgency guidance, to develop local government capacity.⁷ If reconstruction fails to develop the ability of the Afghan government to develop the capacity at the local level, ISAF will not have a partner to which it can transfer responsibility for local government services. This would seriously inhibit the ability of ISAF to transition to Afghan control over time and, given the current political environment in the United States, potentially lead to the failure of the Afghan campaign.

³ Government Accountability Office (GAO), *Afghanistan Reconstruction: Deteriorating Security and limited Resources Have Impeded Progress; Improvements in U.S. Strategy Needed* (Washington, D.C., June 2, 2004), <http://www.gao.gov/new.items/d04403.pdf>.

⁴ SIGAR, *Contract Oversight Capabilities of the Defense Department's Combined Security Transition Command—Afghanistan (CSTC-A) Need Strengthening* (Arlington, VA, May 19, 2009), <http://www.sigar.mil/reports/pdf/audits/Audit-09-1.pdf>.

⁵ Author's experience while in Afghanistan April–October 2007 and fellow officers', accounts from 2005 through 2009.

⁶ GAO, *Afghanistan Reconstruction: Deteriorating Security and limited Resources Have Impeded Progress; Improvements in U.S. Strategy Needed*; SIGAR, *Contract Oversight Capabilities of the Defense Department's Combined Security Transition Command—Afghanistan (CSTC-A) Need Strengthening*.

⁷ General David H. Petraeus, "COMISAF's Counterinsurgency Guidance," *Headquarters, International Security Assistance Force, United States Forces-Afghanistan, Kabul, Afghanistan* (August 1, 2010), <http://usacac.army.mil/blog/blogs/coin/archive/2010/08/02/general-petraeus-issues-new-comisaf-coin-guidance.aspx>.

This thesis will explore the impact of drawing on local cultural factors and building techniques in constructing new facilities in Afghanistan. The information obtained could be used by the United States and its coalition partners to appropriately utilize their vast expertise in engineering, construction, and technology to help rebuild villages and dwellings to cultural norms and improve the sustainability of the facilities. The improved sustainability will positively influence the Afghan trust and confidence in Afghanistan's formal and official institutions.

My argument is, if current methods are not sustainable culturally or economically, then the reconstruction efforts are likely to fail, incentivize corruption, and weaken the legitimacy of the Afghan government. On the other hand, if they are sustainable and sensitive to local cultural norms and economic capacity, the likelihood of these projects increasing the quality of life, building positive relationships, and decreasing violence, increases significantly.

C. BACKGROUND

For the last three decades, Afghanistan has endured the scourge of war. From the Soviet invasion and occupation in 1979, to the Civil War from 1989 to 2001, culminating in the American invasion following the terrorist attacks of September 11, 2001, peace, stability, and progress have been elusive for most Afghans. The current war continues to ravage the majority of the country with a peaceful resolution unlikely in the near future.

The United States and its partners in Afghanistan find themselves entangled with an increasingly sophisticated Taliban-led insurgency. Both sides compete for the trust and confidence of the Afghan people, yet the ordinary Afghan and his or her interests are often lost amidst the fighting and posturing. The coalition is often left fighting an enemy that is indigenous in most areas of the country, possesses a superior understanding of local cultural customs and mores, and has ties with the population.

The coalition members, not being from the local area, must learn about local customs and culture quickly. They make mistakes. For example, something as simple as a female soldier putting her hand out for a local male to shake is unacceptable in most rural areas in Afghanistan. Men are not to touch females, and can be dishonored by doing so.

Another example, dealing with construction, was with the sight locations of police stations.⁸ A new police station was supposed to be built on a hilltop, a strategic decision. Yet, this would have allowed all of the police and foreign visitors to see into the compounds of the local houses, where the women worked during the day. High walls surround houses in this part of Afghanistan. The housing compound is an area where women can move freely and work without covering. If outsiders could see inside, and they were not covered, they would be dishonored. They would have to cover themselves at all times after the building was built. The women were very upset about this. What little freedom they had was being taken away. The U.S. military did not consider this when choosing a site for the facility. Eventually another site was identified that satisfied all parties. The delay caused by the local population slowed the construction of this facility by a full year. Understanding the local culture and the types of actions that can impact honor is important in gaining respect from our Afghan partners. Dishonor can negatively affect Afghans and their families for generations. Simple mistakes create long-lasting divides. These mistakes can impact the ability of the coalition to effectively respond to the needs of the Afghan population.

Failing to incorporate cultural norms into the planning process of reconstruction projects is likely to increase the possibility that the facility will promote social unrest. For example, with the police station discussed above, if the station had been built, the local population would have been angry at the coalition for building the facility, the government of Afghanistan for supporting it, and the local police for looking into the courtyards every day. Instead of making the people feel safer, it would have made them feel insecure and angry. Unrest may also arise from a variety of other factors; to include construction in sensitive areas, the use of unacceptable materials and techniques, hiring the wrong workforce, bringing in workers from a rival ethnolinguistic group, or the prevalence of corruption.

⁸ Author's personnel experience, Afghanistan, 2007.

The United States and its partners have recently emphasized a more population-centric strategy to battle the insurgency.⁹ This strategy can be used in the construction arena to address the factors that cause unrest, as discussed above. The Coalition must effectively protect, support, and respond to the local Afghan population. Until then, progress will be limited. After all, as Thomas Johnson and Chris Mason correctly explain, “all counterinsurgency is local.”¹⁰

Currently, American and Coalition practices involving reconstruction rarely take traditional building methods and cultural norms into account. The quality of construction by ISAF is inconsistent. This is due to numerous factors: poor contractor oversight, poorly written scopes of work, corruption, and inadequate coordination between all parties involved in the reconstruction process. All of these factors have been identified in reports from government oversight organization, as will be discussed in Chapter IV. This thesis argues that the missing piece in these reports is culture. Even if there were perfect oversight, coordination, capacity, and not corruption, there would still be problems if the cultural piece were ignored. In Nuristan, for example, metal buildings were designed and built in areas where local builders excel in traditional woodwork designs, and wood is locally available (Appendix D, Section 1, Case Study 1, Photos 5–15). Local builders are unfamiliar with the metal structures, therefore quality suffered and frustrations mounted on all sides. Not only was the quality poor and the metal material difficult and expensive to transport, but also the buildings were colder in the winter and warmer in the summer than the ones built using traditional materials and architectural methods. Even if the local workers were capable of building the metal structure, the building would not have been culturally acceptable, as it would have been too cold in the winter, too hot in the summer, and it does not fit in with any other structures in the area. They are all made from wood and rock. Another example is that wood buildings are being built in areas traditionally

⁹ General Stanley A. McChrystal, “Commander’s Initial Assessment,” *Commander NATO International Security Assistance Force*, Kabul, Afghanistan (August 30, 2009), http://media.washingtonpost.com/wp-srv/politics/documents/Assessment_Redacted_092109.pdf; Petraues, “COMISAF’s Counterinsurgency Guidance.”

¹⁰ Thomas H. Johnson and Chris M. Mason, “All Counterinsurgency is Local,” *The Atlantic Magazine*, October 2008, <http://www.theatlantic.com/doc/200810/afghan>.

known for termite infestations (Appendix D, Section 2, Case Study 2, Photo 17) resulting in a lower than normal building life expectancy. These buildings are not sustainable culturally or economically.

This thesis argues that the cultural dimension is ignored in the planning and construction of reconstruction projects in Afghanistan. This understanding is critical if the United States and its allies are to effectively shift support and popular Afghan opinion against the Taliban. As stated in the classic book *Afghanistan: An Atlas of Indigenous Domestic Architecture*, “It is a mistake to assume that the Afghans will be grateful for, or benefit from, reconstruction aid that is not consistent with their environmental experience or cultural heritage.”¹¹

D. HYPOTHESIS

This thesis examines whether current design and construction techniques in Afghanistan lead to the construction of facilities that are culturally and economically unsustainable. The use of indigenous materials and construction techniques is likely to reduce the cost and time to build a facility and to increase the likelihood that the facility will be sustainable over time.

E. METHODOLOGY

Using reports from GAO, SIGAR, and other sources, this thesis explores the design, building and maintenance problems of Afghan construction and how this impacts the structures’ sustainability. This thesis explicitly links the effectiveness of construction with the strategic goals of the counterinsurgency mission. Increased clarification was obtained through interviews with SIGAR members, Army Corps of Engineer Contracting Officers, Canadian Corps of Engineers members, and military members who have been involved with the construction process in Afghanistan.

¹¹ Albert Szabo, Thomas J. Barfield and Edward F. Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture* (Austin: University of Texas Press, 1991), 5.

This thesis is divided into four chapters. The first chapter will cover the definition of sustainable construction, how the use of indigenous materials, and techniques has changed over time and an overview of Afghan architecture. The next chapter is an overview of the groups the military is working with, their histories, and the challenges of those relationships. A chapter that discusses the current contractual processes used to build in Afghanistan, its history and challenges, is next. The thesis will conclude with recommendations and conclusions.

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II. SUSTAINABLE CONSTRUCTION IN AFGHANISTAN

Given the ingredients of the non-literate, peasant-tribal, inward-looking society... the human problems appear as monumental as the magnificent engineering edifices left on the landscape: but without consideration of the human factor, great dams simply make great ruins.¹²

- Louis Dupree in reference to the 1946 Helmand Valley Project

Sustainable construction and sustainability are defined in many ways. Fowke and Prasad, for example, identify over 80 definitions of sustainability.¹³ This first part of this chapter will discuss the various definitions of sustainability and their evolution. A history of the construction process will follow, with an emphasis on how the use of indigenous materials and techniques has changed over time. The chapter will end with a discussion of the indigenous Afghan architecture, the materials and techniques currently used in Afghanistan.

A. WHAT IS SUSTAINABLE CONSTRUCTION?

The Department of Defense's (DoD) definition of sustainability deals with the final product, the building, and how it will be maintained. The Office of the Deputy under Secretary of Defense Installations and Environment defines facility sustainment as:

Facility sustainment provides resources for maintenance and repair activities necessary to keep a typical inventory of facilities in good working order over a 50-year service life. It includes regularly scheduled adjustments and inspections, preventive maintenance tasks and emergency response and service calls for minor repairs. It also includes major repairs or replacement of facility components that are expected to occur periodically throughout the facility life cycle.¹⁴

¹² Louis Dupree, *Afghanistan* (Oxford: Oxford University Press, 1973), 483.

¹³ Raymond Fowke and DK Prasad, "Sustainable Development, Cities and Local Government: Delimmas and Definitions," *Australian Planner* 33, no. 2 (1996): 61–66. Cited in Colin C. Williams and Andrew C. Millington, "The Diverse and Contested Meanings of Sustainable Development," *The Geographical Journal* (Blackwell Publishing) 170, no. 2 (June 2004): 99.

¹⁴ Office of the Deputy under Secretary of Defense Installations and Environment, "Facilities Sustainment/Modernization/Operation Models (FSM/FMM/FOM)," http://www.acq.osd.mil/ie/fim/programanalysis_budget/tool_metrics/FPRS/FSMDescription.

The focus of this definition is on the maintenance and repair of the facility. This definition does not mention indigenous materials or techniques, nor does it mention environmental considerations for the initial construction. After, a new facility is requested; several groups within DoD review the project. The environmental department is responsible for pre-construction environmental assessments. The project is then handed to the contracting department, who works with the customer to write the scope of work, then design, and build the project. The focus is on the quality, cost and time to build the structure. After the building is completed, the facilities maintenance department is responsible for the post-construction maintenance and repair. Several groups are involved during the life cycle of the facility. The environmental department, the only group that comes close to promoting the use of sustainable materials for construction, spends its time on a project's overall impact on the environment.¹⁵ The designers hired by the contracting office are encouraged to design buildings with the goal of Leadership in Energy and Environmental Design (LEED)¹⁶ certification in mind, however this certification has tradeoffs (the use of more energy efficient windows will lower energy consumption later, but are more expensive to purchase) and the cost of the facility is the final determining factor in the incorporation of any environmental factors.¹⁷ Indigenous techniques are not typically the most sustainable alternative in the U.S., therefore, even green building designers do not consider it as a priority, when designing buildings. At least this has been my experience. Even after attending LEED training, which is the foundation for the Green Building Certification, I found that designers were encouraged to focus on energy savings, which can be obtained using less traditional materials in the U.S.. Newer, more energy efficient materials and techniques are readily available, and while they may not be cheaper than the indigenous materials, they last longer and can be maintained more easily by the users. The use of these materials and techniques is the best choice in the U.S., but is not the best choice for areas that cannot easily access the new materials and where the cultural norms preclude their use. The process used by DoD

¹⁵ Author's experience during the last 10 years while working for different facilities departments in the DoD.

¹⁶ More information on LEED certification can be found at <http://www.usgbc.org>.

¹⁷ Author's personal experience April–October 2007.

described above is similar to the process in Afghanistan; however the contracting office is responsible for the work performed by all three groups. They work with the military point of contact for that project to develop the scope of work. The project is then designed in house or via contract, and built. The maintenance of the facility is normally left to the Government of Afghanistan (GIROA).

Non-DoD organizations, like United States Agency for International Development (USAID) and aid Non-Governmental Organizations (NGOs), that normally work in areas where the newer technologically advanced materials are not readily accessible or are not culturally accepted use a definition of sustainability different from the DoD. These organizations are mostly concerned with up-front environmental and cultural considerations and rarely discuss future facility maintenance, as seen below in the Holcim Foundation example. This may be because they normally require the occupants of the facilities they build to perform the maintenance of the facilities. For example, the Holcim Foundation, an organization that promotes innovative building practices by funding competitions, symposiums and grants for innovative building initiatives,¹⁸ encourages “sustainable responses to the technological, environmental, socioeconomic, and cultural issues affecting building and construction.”¹⁹ They define a sustainable project as one that “embraces the preservation of the environment, as well as critical development-related issues, such as the efficient use of resources, continual social progress, stable economic growth and social viability.”²⁰ Unlike the DoD, these groups take the local culture and materials into consideration when defining sustainability.

The United Nations defines sustainable development in the 1987 United Nations (UN) Brundtland Report as the, “development that meets the needs of the present without compromising the ability of the future generations to meet their own needs.”²¹ A more recent report funded by the UN starts off with the premise that the goal of construction is

¹⁸ Holcim Foundation, “Holcim Foundation Origins,” http://www.holcimfoundation.org/T700/Holcim_Foundation_origins.htm.

¹⁹ Ibid.

²⁰ Ibid.

²¹ World Commission on Environment and Development (WCED), *Our Common Future* (Oxford: Oxford University Press, 1987), 43.

to “balance the needs of humans with the carrying capacity of the planet.”²² Du Plessis, the author of the more recent UN report, cites a “lack of interest in the issues of sustainability”²³ as one of the barriers to sustainable construction. The transition from traditional cultural techniques to the modern techniques is discussed as the point in history where the colonial powers insists that “their technologies and criteria for development are far superior to anything found in the colonies,” and the local techniques and traditions were “actively discouraged.”²⁴ When building in their parent countries, where the technologically advanced materials are readily available and are accepted culturally, it makes sense for designers to ignore a more indigenous approach to building. Most designers only design in and for their parent country. This thesis argues that when these designers are asked to design for foreign nations, they often forget to consider that indigenous materials may be the most viable alternative due to availability and if they do not know the culture for the area, may design a facility that is culturally unacceptable.

The DoD is now building in Afghanistan, Iraq, and Indonesia and many other areas traditionally left to non-DoD actors. The non-DoD actors have been building on the international stage for decades; they have a well thought out process and are better suited for the task in permissive, more economically sound environments. The DoD is the only choice for building in non-permissive environments like Afghanistan. This thesis and the new counterinsurgency guidance argue that this new role requires the DoD to change their processes to fit the cultural environment they are now in, as many non-DoD actors did long ago.²⁵ The non-DoD organizations continue to decrease their involvement in insecure areas, leaving the humanitarian and reconstruction mission increasingly to the DoD.

The definition of sustainability used in this thesis combines the DoD definition that focuses on the life-cycle costs of the facility and the concept of sustainable

²² Chrisna du Plessis, *Agenda 21 for Sustainable Construction in Developing Countries* (Pretoria: CSIR Building and Construction Technology, 2002), 5.

²³ Du Plessis, *Agenda 21 for Sustainable Construction in Developing Countries*, 37.

²⁴ Ibid.

²⁵ McCrystal, “Commander’s Initial Assessment”; Petraues, “COMISAF’s Counterinsurgency Guidance.”

construction that focuses on the use of local materials and techniques. Sustainable construction examines the social and economic impact of the construction on the local community and ensures that the facility is built so the community can maintain the facility over a fifty-year service life.

B. HOW INDIGENOUS BUILDING TECHNIQUES HAVE CHANGED OVER TIME

Before the Industrial Revolution, “families and whole communities would pool the labor necessary for large building projects, passing knowledge from one generation to the next in the process.”²⁶ The Industrial Revolution led to more complex building materials and that required specialist for installation, improper installation led to safety problems, which led to building regulations.²⁷ Architectural and engineering professions existed prior to the Industrial revolution, however during the Industrial Revolution more and more emphasis was placed on college educated architects and engineers.²⁸ Small towns and villages still relied on architecture handed down through the generations. The bridging and bonding that occurred during the building process were also lost. The building codes evolved to prohibit the use of indigenous techniques and materials.

According to Klinker, many developing countries model their building codes after those used in industrialized countries.²⁹ These codes “often favor high-tech, import-based materials that can be scarce and expensive in developing countries.”³⁰ The U.S. military and USAID both use the International Building Code as a requirement in their

²⁶ Susan Klinker, “Shelter and Sustainable Development,” in *Building without Borders: Sustainable Construciton For The Global Village*, ed. Joseph F. Kennedy (Gabriola, B.C.: New Society Publishers, 2004), 7.

²⁷ Ibid.

²⁸ Donald E. Mulligan and Kraig Knutson, *Construction and Culture* (Champaign, Stipes Publishing L.L.C., 2004), 143.

²⁹ Klinker, “Shelter and Sustainable Development,” 14.

³⁰ Ibid.

contracts.³¹ This limits the use of indigenous materials in most cases. Klinker states that “What is still lacking in most building codes are adequate guidelines for artisans and professionals regarding the safe use of indigenous materials.”³² It is difficult to change codes and research on traditional indigenous construction,³³ argues it is as earthquake resistant as newer technologies, either by itself or with minor modifications. Western architects and engineers, who are not familiar with this research may be resistant to using the old techniques.

Most designers are educated in the West, where indigenous techniques are sometimes criticized as symbols of primitivism. Chrisna du Plessis states that “unquestioning application of building codes and planning concepts from western countries introduced during the colonial period” have created a barrier to using traditional materials and techniques.³⁴ She then says, “So insistent have the colonial powers been that their technologies and criteria for development are far superior to anything found in the colonies, that there is a general lack of confidence in home-grown solutions and traditions, and these are actively discouraged.”³⁵

Colonies no longer exist, so why do authors still discuss them? It is because the ideas of the past influence who we are and how we act today. Colonies are a part of the

³¹ USAID, “Cities, Poverty and Development: Urbanization in the Third World,” USAID, August 30, 2009, <http://afghanistan.usaid.gov/en/Article.784.aspx>; U.S. Army Corps of Engineers: Afghanistan Engineer District, “ANP UP District HQs—2 Story: Ghazni, Ghazni Province, Afghanistan: PN PDHE010701DH: Site Adapt Design/Build Project Specifications and Drawings: Proposal Requirements, Contract Forms, Conditions of Contract,” *U.S. Army Corps of Engineers* (July 2009): 56; Author’s personal experience.

³² Klinker, “Shelter and Sustainable Development,” 14.

³³ Gernot Minke, “Low-Cost Housing Projects Using Earth, Sand, and Bamboo,” in *Building without Borders: Sustainable Construction for the Global Village*, ed. Joseph F. Kennedy (Gabriola, B.C.: New Society Publishers, 2004), 199–202; David Bainbridge, “Sustainable Building as Appropriate Technology,” in *Building without Borders: Sustainable Construction for the Global Village*, ed. Joseph F. Kennedy (Gabriola, B.C.: New Society Publishers, 2004), 57; Kelly Lerner, “Seismic Solutions for Straw Bale Construction,” *Building without Borders: Sustainable Construction for the Global Village*, ed. Joseph F. Kennedy (Gabriola, B.C.: New Society Publishers, 2004), 101–103; Kathryn Rhyner-Pozak, “Grupo Sofonias: Knowledge in the Hands of the People,” in *Building without Borders: Sustainable Construction for the Global Village*, ed. Joseph F. Kennedy (Gabriola, B.C.: New Society Publishers, 2004), 158; Alex Salazar, “Case Study: Normal Life after Disasters? Eight Years of Housing Lessons from Marathwada to Gujarat,” in *Building without Borders: Sustainable Construction for the Global Village*, ed. Joseph F. Kennedy (Gabriola, B.C.: New Society Publishers, 2004), 168–174.

³⁴ du Plessis, *Agenda 21 for Sustainable Construction in Developing Countries*, 39.

³⁵ *Ibid.*

past for many countries, Great Britain, France, and even the United States as the colonizers; and most of South America, the African continent, Pacific Islands, and Afghanistan as the colonies. Historically Colonial powers tried to change local culture encouraging them to adapt to the social norms of their homelands, to include the science of building. Colonization, by the Western nations, is in the distant past. However, the idea that some countries are superior in knowledge and ideas still prevails. According to William Easterly, ““Uncivilized” became “underdeveloped.” “Savage peoples” became “third world.”³⁶ He goes on to state that “there was a genuine change of heart away from racism and toward respect for equality, but a paternalistic and coercive strain survived.”³⁷ These developments suggest that, in some environments, local traditional methods should be considered as an alternative to outside methods and materials. In Afghanistan, the pace of deployments means that a measure of performance is to complete as much construction as possible, as quickly as possible. This practice means that engineers may not have sufficient time to learn about local materials, techniques, or traditions. Building with materials that are familiar, using known techniques is easier. One of the reasons using traditional materials and techniques makes sustainable construction more of a challenge is because it takes time. Gregg Mortenson argues that you must drink three cups of tea and respect the local population’s ideas and priorities to build lasting relationships.³⁸ Construction in Pakistan and Afghanistan is more about the relationships you build, than the dollars you spend. This is not a new concept; several people throughout the last century have advocated an indigenous approach to construction, as discussed below.

1. Research of Sustainable Construction Techniques

Two advocates for sustainable construction that deserve recognition are Sri Laurie Baker and Hassan Fathy. Sri Laurie Baker, an English Architect who lived and worked in India for over half a century, developed eighteen guiding principles. Two of these

³⁶ William Easterly, *The White Man’s Burden* (New York: Penguin Group, 2007), 24.

³⁷ Ibid.

³⁸ Greg Mortenson, *Three Cups of Tea* (New York: Penguin Group, 2006); Gregg Mortenson, *Stones into Schools* (New York: Penguin Group, 2009).

principles are “study and know local materials, cost, building techniques, and construction” and “look closely at your prejudices and question them.”³⁹ These lessons are still pertinent today. Another well-known architect was Hassan Fathy. He learned traditional techniques from indigenous workers and incorporated them into his designs. Fathy used adobe and incorporated *claustra*’s, pierce walls, *malqaf*’s (like the Afghan *bad-gir*), or wind catcher, and other traditional features.⁴⁰ He wrote a book in 1972 that described the lessons he learned and how to build using traditional techniques.⁴¹ This book is used throughout the world by architects and engineers who are trying to emulate the work he began. These two individuals could be considered the fathers of the post Industrial Revolution sustainable construction movement. Anyone assigned the task of designing in Afghanistan should be required to read the books and writings of these two individuals. It may allow them to look closely at their prejudices and question them.

Much research has been done on traditional structures over the last few years as well, with most of it focusing on seismic stability. There are five different designs that incorporate appropriate seismic stability in the *Building without Borders* book alone.⁴² Some of these discuss retrofitting existing buildings and others are designed for new structures.

Retrofitting buildings to ensure that they are more earthquake resistant should be considered in the more seismically active areas of Afghanistan. After the 1993 earthquake in Marathwada, India, several Indian engineers worked to design “simple strategies for retrofitting traditional architecture” for seismic resistance.⁴³ The techniques they discovered during their research are applicable in some areas of Afghanistan.

³⁹ Ayub Malik, “Profile: Sri Laurie Baker, Architect,” in *Building Without Borders: Sustainable Construction for the Global Village*, ed. Joseph F. Kennedy (Gabriola, B.C.: New Society Publishers, 2004), 32.

⁴⁰ Simone Swan, “Profile: Elegant Solutions: The Work of Hassan Fathy,” in *Building Without Borders: Sustainable Construcion for the Global Village*, ed. Joseph F. Kennedy (Gabriola, B.C.: New Society Publishers, 2004), 51.

⁴¹ Hassan Fathy, *Architecture for the Poor* (Chicago: University of Chicago Press, 1972).

⁴² Joseph F. Kennedy, *Building without Borders: Sustainable Construction for the Global Village* (Gabriola, B.C.: New Society Publishers, 2004).

⁴³ Salazar, “Case Study: Normal Life after Disasters? Eight Years of Housing Lessons from Marathwada to Gujarat,” 172.

Another example that would be appropriate for retrofitting existing buildings is to add “wire mesh or fabric and plaster skins” to traditional stone and earth structures will make them more resistant to seismic forces.⁴⁴ This technique is also applicable to new designs.

There are several other designs that are appropriate for new construction. First the design used for adobe construction in Baja Verapaz, Guatemala after the 1976 earthquake. These adobe structures, built by applying techniques recommended by a UN study on earthquake-resistant adobe construction,⁴⁵ are still standing today, even after subsequent earthquakes have damaged buildings in neighboring villages.⁴⁶ Next, the Building Research Institute (BRI) of the University of Kassel, Germany has shown that “it is possible to build earthquake-resistant walls from rammed earth, sand-filled cotton bags and bamboo” structures, “without using reinforced concrete elements.”⁴⁷ Finally, Kelly Lerner introduces “seismic solutions for straw bale construction”⁴⁸ and talks about the importance of monitoring and evaluating projects by going back and asking questions of both the occupants and the builders of sustainable projects and then taking this feedback to improve the design.⁴⁹ The concept of the necessity for a feedback loop is also discussed by William Easterly in his book *The White Man’s Burden*, where he discusses how planners disregard for feedback loops creates a critical flaw in existing aid formulas.⁵⁰

⁴⁴ Bainbridge “Sustainable Building as Appropriate Technology,” 57.

⁴⁵ In 1970, the UN sent in a relief group of engineers from Sweden, the Swedish Technical Cadre Unit (STCU). These engineers designed earthquake resistant building techniques that are still used today; United Nations, “UN Agreement No. 10608,” September 10, 1970, http://untreaty.un.org/unts/1_60000/21/35/00041746.pdf.

⁴⁶ Kathryn „, “Case Study: Grupo Sofonias: Knowledge in the Hands of the People” in *Building without Borders: Sustainable Construction for the Global Village*, ed. Joseph F. Kennedy (Gabriola, B.C.: New Society Publishers, 2004), 158–159.

⁴⁷ Gernot Minke, “Case Study: Low-Cost Housing Projects Using Earth, Sand, and Bamboo,” in *Building without Borders: Sustainable Construction for the Global Village*, ed. Joseph F. Kennedy (Gabriola, B.C.: New Society Publishers, 2004), 199.

⁴⁸ Lerner, “Seismic Solutions for Straw Bale Construction,” 100.

⁴⁹ Kelly Lerner, “Down-to-Earth Technology Transfer,” in *Building Without Borders: Sustainable Construction for the Global Village*, ed. Joseph F. Kennedy (Gabriola, B.C.: New Society Publishers, 2004), 93–97.

⁵⁰ Easterly, *The White Man’s Burden*.

David Bainbridge also recognizes the importance of feedback and includes it in his “Seven-Step Program for Addressing Problems with Housing, Resources, Health, Sustainable Food Production, or Environmental Restoration.”⁵¹ This process can be applied to all construction projects in the developing world, and is applicable to Afghanistan as well.

Other organizations that are working on traditional construction techniques are Architecture for Humanity, “a charitable organization that seeks architectural solution to humanitarian crises”⁵² and RedR,⁵³ the engineers’ equivalent to Architecture for humanity. Although few of the organizations listed above have concentrated their sustainable design techniques in Afghanistan, all of their work can be easily adapted to the Afghan architecture and environment.

There are also organizations and individuals researching Afghan architecture and its indigenous traditions, to include seismic studies on the resulting structures. Turquoise Mountain and Afghan Earthworks are two of the more prominent organizations. They have been working to not only ensure that these traditions stay alive in Afghanistan, but are researching ways to incorporate western techniques to make the structures stronger to resist both blast and earthquakes.

So, what are the indigenous architectural traditions of Afghanistan? We need to understand what is in place before we can learn how to design structures that protect these traditions. The existing structures are discussed in detail in the next section.

C. INDIGENOUS AFGHAN ARCHITECTURE

This section will cover the types of dwellings found in Afghanistan. The majority of material in this part of the chapter is taken from the book *Afghanistan: An Atlas of Indigenous Domestic Architecture*.⁵⁴ The book, published in 1991, thoroughly examines

⁵¹ Bainbridge, “Sustainable Building as Appropriate Technology,” 65–67.

⁵² Diane Murphy, *Design Like you Give a Damn: Architectural Responses to Humanitarian Crises* (New York: Metropolis Books, 2006), 11.

⁵³ RedR, <http://www.redr.org>.

⁵⁴ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*.

the plethora of diversity in Afghan architecture and how it is related to the culture of the different regions. To aid the reader several maps of Afghanistan are available in Appendix A. A map of the different provinces shows how the Afghan government sees the country. (Appendix A, Section 2, Figure 7). The physical terrain map shows the overall country (Appendix A, Section 1, Figure 1). The varying degrees of elevation and geographic zones are identified in the next two maps (Appendix A, Section 1, Figures 2 and 3). The nomadic route map (Appendix A, Section 2, Figure 8) shows the normal migration routes for each region. The nonsedentary structures discussed in this section will be found in the regions identified in the text below in the winter. During the rest of the year, these dwellings can be found spread out along the route to and from the summer grazing areas. These maps are important when discussing the nonsedentary dwellings, as they are not usually found in the higher elevations during the colder months, they are mostly found in the plains, lowlands and foothills.⁵⁵ The vegetation map (Appendix A, Section 1, Figure 4) shows the vegetation available in the different regions. This is important as the traditional dwellings have been designed and built with the material available in the region in mind. Some dwellings have similar structural designs, but are built from different materials, depending on the region in which they are found.

There are two main types of dwellings in Afghanistan: sedentary and nonsedentary dwellings. The nonsedentary dwellings come in the forms of black tents, cotton tents, yurts and huts.⁵⁶ While nonsedentary dwellings are important to include in this thesis for the cultural knowledge they provide on the nomadic populations of Afghanistan, the emphasis for this thesis is on sedentary structures and dwellings.

1. Nonsedentary Tent Dwellings in Afghanistan

There are several types of nonsedentary dwellings throughout Afghanistan. Black tents are by far the most prevalent form of tents in Afghanistan. These are used by the Durrani and Ghilzai Pashtuns and by the Baluch.⁵⁷ They consist of varying hoops, poles,

⁵⁵ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 18–21.

⁵⁶ *Ibid.*, 27.

⁵⁷ *Ibid.*, 29.

T-bars and ropes as the frame. Black woven goat haircloth panels are used to cover the frame. This cover “absorbs the heat of the summer sun and provides considerable shade.”⁵⁸ “The result is an air temperature ten to fifteen degrees Centigrade cooler than the outside air.”⁵⁹ The black tents are traditionally found in southern Afghanistan. The resettlement of Pashtuns forced by Amir Abdur Rahman (1880–1901) brought the tents to the north. These tents have begun to replace the yurts in the northern part of the country.

There are two types of black tents. Vaulted used by the Duranni Pashtun (See Appendix B, Section 1, Plate 1) and Baluch (See Appendix B, Section 1, Plate 2) and peaked used by the Ghilzai Pashtuns (See Appendix B, Section 1, Plate 3).⁶⁰ The vaulted tents “employs hoops with T-bars, or a T-bar alone, to produce a vaulted frame over which the pinned panels are stretched taut.”⁶¹ Baluch and Durrani tents differ in that the Baluch tent does not use the T-bar. This style of tent is common in the southwest, from Herat to Kandahar. It is also found in the north from Kunduz to Maimana.⁶²

The peaked black tents used by the Ghilzai Pashtuns are common in western Afghanistan along the Pakistani border. Their structure consists of poles and ropes that hold the black covering in place. When the residents remain in one area for a while, they may build a small mud or stonewall at the base of the tent. The nomadic Ghilzai Pashtun’s who live in these tents travel annually from the Pakistani border region to central Afghanistan.⁶³

There are two smaller tribal populations that use the peaked black tents. They are the Brahui (See Appendix B, Section 1, Plate 4) and the Taimanis (See Appendix B, Section 1, Plate 5). The Brahui live along the southern part of the Helmand River, by the Iranian border. Their tents resemble half of a Ghilzai tent as they only have two rows of

⁵⁸ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 29.

⁵⁹ Louis Dupree, *Afghanistan* (Princeton: Princeton University Press, 1980).

⁶⁰ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 33–50.

⁶¹ *Ibid.*, 33.

⁶² *Ibid.*, 33–41.

⁶³ *Ibid.*, 43–45.

poles.⁶⁴ The Taimanis live in the Tulak area by the Farahrud River. Their tents are like a rectangular yurt. A rectangular frame made from willow poles reinforced by a transverse bar for lateral stability. A ridgepole runs the full length of the middle of the tent. Woven reed mats enclose the walls of the tent. Wooden pens attach the black panels. This tribe is sedentary.⁶⁵

The traditional association of the structures of these tents may be skewed in the northern regions. Uzbeks, Tajiks and other ethnicities, who traditionally use yurts, have transitioned to the black tent, due to its ease of use, construction and movement. The black tents are by far the most prevalent tent structure in Afghanistan.⁶⁶

The cotton tents are used less frequently in smaller areas. The Jugi and Jat tribes use 'store bought' white cotton tents with colored patches sewn on for decoration.⁶⁷ The Jugi reside around the Samangan area and the Jat live around Kabul. The Jugi tent uses four poles (See Appendix B, Section 1, Plate 6). The covering only covers one wall, which is slanted at a 45-degree angle. The Jugi move from one place to another and are known for begging and telling fortunes.⁶⁸ The Jat structures are similar to traditional U.S. Army tents. Bamboo poles support the structure (See Appendix B, Section 1, Plate 7, Photo 1). If the Jat are in an area for a while they will build a small mud wall around the tent. This wall will grow in time creating a small permanent looking structure with a cloth roof. The Jats are not well liked and are known to be peddlers, entertainers, and artisans.⁶⁹

2. Nonsedentary Yurt Dwellings in Afghanistan

Yurts are the most complex type of nomadic structure. They are used in two distinct regions of Afghanistan.⁷⁰ The Turkmen, Uzbek and Central Asian Arabs in the northern part of the country use the domical yurts (See Appendix B, Section 1, Plate 8).

⁶⁴ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 47.

⁶⁵ Ibid., 49–50.

⁶⁶ Ibid., 29–31.

⁶⁷ Ibid., 53–58.

⁶⁸ Ibid., 53.

⁶⁹ Ibid., 57.

⁷⁰ Ibid., 59.

These yurts have walls of linked lattice, roof poles held together at the top with a roof ring, felt for a roof.⁷¹ Like other structures, if they are in place for any amount of time, a low mud wall is built around the structure. The Firozkohi of the Sufak region uses conical yurts (See Appendix B, Section 1, Plate 9). The basic structure of this yurt is the same as the domical yurts, with the exception of the pointed roof.⁷² Only the rich families have yurts. The poorer families use chaparis.⁷³

These structures are disappearing from Afghanistan. The lack of skilled artisans required to build the structure; the cost, weight and the movement of nomadic groups into villages and more permanent and cheaper chapari huts have reduced the need for these structures.

3. Nonsedentary Hut Dwellings in Afghanistan

There are several types of huts with circular, polygonal, rectangular and ovate-oblong shapes (See Appendix B, Section 1, Plates 10-14). All of these huts are described in the Szabo and Barfield book.⁷⁴ These descriptions are summarized in the chart in Appendix C, Section 1.

With the exception of Bamiyan, who is known for three different types of huts, two circular and one polygonal, huts are found in small geographical areas, with the huts in those areas distinct in their design. There are four types of circular huts, one polygonal, two rectangular and three ovate-oblong.⁷⁵

The Uzbeks, Arabs, Tajiks, and Turkmen all use the Lacheq circular hut, in the Samangon area. This structure is made from flexible wooden poles that are bent over to form the roof. It looks like an inverted basket. The wall covering is made of woven reed matting and the roof is made from plaited grass or flattened reed matting.⁷⁶

⁷¹ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 63–67.

⁷² Ibid., 69–71.

⁷³ Ibid., 71.

⁷⁴ Ibid., 72–110.

⁷⁵ Ibid.

⁷⁶ Ibid., 75–77.

Northeast of Kunduz are the Central Asian Arab rectangular, kapa-i-arab huts made from wooden poles tied together to make a roof. They are covered with Felt or white canvas.⁷⁷ The Tajiks and their ovate-oblong, kapa huts are also found in this region. They are made with poles that are bent over to make a roof. They have reed mat walls and plaited grass or flattened reed mat roofs.⁷⁸

North of Kunduz is the home of the Arabs Circular, kappa-i-chamshi hut, constructed entirely of reeds. Smoke must filter out the top, as there is no smoke hole. Walls are covered with reed mats or plaited grass. The Central Asian Arabs with their rectangular, chubdara hut is also found in this area. It is also constructed of reeds, but has a wooden frame for roof support.⁷⁹

Bamiyan is the home to the Hazara. They build three types of huts. The chapari with and without a center pole is built with twenty-four poles that are bent to form a roof. The wall is made from reed mats and the roof is covered with felt.⁸⁰ The polygonal chapari is built like the circular chapari, but with only twelve poles, giving it a distinctive polygonal shape.⁸¹

Ovate-oblong huts are built by both the Durrani, along the Helmand River, and the Ghilzai, west of Jalalabad. The Durrani huts called Kodai are constructed by building a clay wall with embedded poles. The poles are bent to form the roof and the roof and walls are covered with bundles of straw.⁸² The Ghilzai Pashtun huts are also built by the Baluch and Brahuis. They are constructed of scrub tamarisk boughs, which are bent to form the roof. These structures are covered with loosely woven tamarisk mats. They are mudded in the winter. The mud is removed during the summer months.⁸³

⁷⁷ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 91–93.

⁷⁸ *Ibid.*, 109–110.

⁷⁹ *Ibid.*, 79–81.

⁸⁰ *Ibid.*, 83–85.

⁸¹ *Ibid.*, 87–89.

⁸² *Ibid.*, 99–101

⁸³ *Ibid.*, 103–107.

4. Sedentary Dwellings in Afghanistan

The sedentary dwellings can take the form of caves, curved-roof construction and flat-roof construction (See Appendix B, Section 2, Plates 15-20 and Photos 2-4).⁸⁴ A database for these structures is located in Appendix C, Section 2.

The local structures designs are the result of thousands of years of ‘research’ by local architects. The bad-gir is a good example of an addition that is widely used locally but rarely incorporated in foreign designs. These additions are found in both flat and curved-roof constructions. In areas with constant prevailing winds bad-gir’s or wind catchers are built onto the roofs (See Appendix A, Figure 5). These structures “face into prevailing winds and provide air circulation” into the structure.⁸⁵ This design feature is mostly found in the Harat area, but can be seen in other regions as well.

Some traditional structures are designed to withstand seismic tremors (See Appendix A, Figure 6). “The earthquake-resistant properties of *senj* construction were undoubtedly learned in part by observing which buildings, or parts of buildings, remained standing after severe tremors.”⁸⁶ There are many local traditions that can be considered when building in Afghanistan.

Another tradition is how the local builders orient structures. Review of the orientation of local structures show that they normally face the south and southeast. This orientation allows the maximum amount of solar energy during the winter and minimum in the summer.⁸⁷ A short interview with a local builder, or research into the regional norms, can be incorporated into the architect’s time when designing structures in Afghanistan. This will ensure that local techniques are considered and possibly incorporated into the designs. Review of the different structures is the basic level of knowledge required. A short sedentary structure review can be found below.

⁸⁴ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 111–155.

⁸⁵ Ibid., 121.

⁸⁶ Ibid., 4.

⁸⁷ Ibid., 139.

5. Sedentary Cave Dwellings in Afghanistan

The first type of sedentary structure is the cave. One region in Afghanistan currently uses caves for domestic housing, Bamiyan. It was common in the past in many regions; however, the practice has slowly disappeared as construction materials become more prevalent and cost effective.⁸⁸ Other types of structures are also used in Bamiyan, and Coalition forces should use these freestanding structures for reconstruction. Therefore, there will be no further discussion of caves. Curved-roof and flat-roofed dwellings will be covered in detail.

6. Sedentary Curved-Roof Dwellings in Afghanistan

The next type of sedentary structure is the curved-roof structures. These structures are normally found where wood is not readily available or where wood boring insects are prevalent. They are found throughout the Western portion of the country and in Kandahar.⁸⁹

Curved roofs have some advantages over flat roofs. In warmer climates the living area stays cooler because the heat rises into the roof area. The layer of heat at the ceiling level keeps heat from entering the house from the roof. The walls must be thick to “compensate for the lateral thrust generated by the dome or vault.”⁹⁰ The thicker walls provide better insulation than the thinner flat-roof structures. The curved-roof structures are broken down into four forms.⁹¹

The first type of curved roof construction uses sun-dried brick domes and vaults. Sun-dried bricks are not as strong as fired bricks. However, this is the most common material used because it is available and cheap. These structures are found throughout the

⁸⁸ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 115–117.

⁸⁹ Ibid., 119.

⁹⁰ Ibid.

⁹¹ Ibid., 119–133.

Northwestern and Western part of the country, from Samangon in the North to Girishk in the South. “The bricks are held in place with quick-drying, highly viscous mortar.”⁹² The top is covered with traditional mixture of mud and straw.⁹³

The next two types use fired bricks.⁹⁴ They are found in and around Kandahar. Because the flat roof architecture is preferred, but wood boring insects preclude their use, a domed roof is built with a flat roof on top of the domed structure, giving a flat-roof appearance. This type of roof is very heavy. Stronger fired bricks are required to ensure structural integrity. There are two types of fired brick curved roofs. One has one large dome and the other; more recently introduced has multiple domes.⁹⁵

The large domed structure uses a “rib-vault system.”⁹⁶ This along with the fired bricks and thick walls ensures structural integrity. The small or multiple vault and beam roofs are a more recent addition to the Kandahar architecture. These structures incorporate the use wood beams to support a series of small vaults. The recent introduction of treated wood products has allowed the introduction of this type of structure. “Ribs are not needed since the span is shorter resulting in thinner walls.”⁹⁷ This reduces the cooling advantages of the curved roof structures.

The final type of curved-roof structure is found in the South West along the Helmand River and is used by the Durrani Pashtun and Baluchi.⁹⁸ It is the winter dwellings for agricultural villages. These dwellings are sometimes abandoned in the summer for vaulted black tents. The walls are constructed of rough oversized sun dried brick and mudded tamarisk boughs or reeds are used to create the roof.⁹⁹ This type of construction is confined to a small region because of the availability of the materials.

⁹² Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 119.

⁹³ *Ibid.*, 119–121.

⁹⁴ *Ibid.*, 123–129.

⁹⁵ *Ibid.*

⁹⁶ *Ibid.*, 123.

⁹⁷ *Ibid.*, 127.

⁹⁸ *Ibid.*, 131.

⁹⁹ *Ibid.*

Tamarisk and reeds are prevalent along the Iranian border, Helmand river region.¹⁰⁰ It is not widely used and should not be considered for reconstruction building due to the semi-permanent nature of the buildings. Sun dried brick structures are also found in this region and their construction would be a better use of reconstruction dollars.

7. Sedentary Flat-Roof Dwellings in Afghanistan

The last types of sedentary dwellings are the flat-roof structures. These structures are prevalent where wood is readily available. There are five types of flat-roof structures.¹⁰¹ The brick and mud walls are found throughout central and eastern Afghanistan, with the exception of Nuristan. Massive mud wall construction is found from Kabul to Kandahar, to include Bamiyan. Timber and stonewalls are found in Nuristan. These will all be discussed in detail. The last two types are the massive stonewalls and brick and wood frame construction. These types of construction are only found in the isolated mountainous regions of Salang and Istalif. They should be researched further if structures are to be built in this region, but will not be covered by this paper.¹⁰²

The first two types of structures are similar. The techniques used to build the brick and mud wall structures are similar to those used to build the structures inside the massive mud wall structures or qala's. The walls are made from pressed mud or sun dried brick. The roof is made with poplar joists. Split poplar is then laid at right angles to the joists. A layer of reeds and clay finish the roof structure. The walls are covered with a mixture of mud and straw.¹⁰³ This technique is similar to the adobe construction of the southwestern United States. Thick walls and flat roofs provide a constant temperature

¹⁰⁰ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 131.

¹⁰¹ Ibid., 135–155.

¹⁰² Ibid.

¹⁰³ Ibid., 135–143.

gradient within the structure. Additionally, these structures are preferred to domed roof structures in cooler climates as the heat is kept within the living areas, instead of rising into the roof structure.¹⁰⁴

The massive mud wall compounds are found in the regions that have traditionally experienced a lack of security. The enormous walls and defensive towers built onto the corners are resonant of this fact. The walls require constant maintenance due to erosion. Stonewalls also traditionally found in this region can be built to an acceptable height for protection and require little or no maintenance. Stonewalls provide a better use of reconstruction dollars.

The final type of sedentary structure covered by this paper is the timber and stone walled structures found in Nuristan. They are “elaborate post and beam construction employing no nails.”¹⁰⁵ They are usually two stories and are traditionally built on steep mountainsides, to ensure the fertile land in the valleys are reserved for farmland. “The walls of these structures are constructed of alternating layers of squared timber and stone. The space between the timbers are filled with stone and then packed with clay.”¹⁰⁶ The timbers interlock at the corners, like square Lincoln Logs. The roof is a post and beam construction with four elaborately carved center posts. It has a square opening in the center. Layers of wood shavings, crushed stone and pressed clay are used to finish the roof. They are held in place by wooden fascia planks, secured by vertical struts mortised into protruding roof beams and joists.¹⁰⁷ These buildings are some of the most beautiful structures in Afghanistan.

D. CULTURE AND ITS RELATIONSHIP WITH DWELLINGS

As the previous section explains, dwellings and other structures in Afghan villages are products of their environment but also their culture. Resources available are modified to fit cultural needs but the environment itself can determine the layout of a

¹⁰⁴ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 137.

¹⁰⁵ Ibid., 149.

¹⁰⁶ Ibid.

¹⁰⁷ Ibid., 149–151.

building or village, regardless of cultural elements, however the differences between ethnolinguistic groups must also be taken into account (Appendix A, Section 2, Figure 9). In many cases, the competition of these two forces creates structures and villages, which may seem at odds with each other when, in reality, they are the result of a compromise between what is desired, what is required and what is available.

Beginning with the Pashtuns in the south and the east, one finds relatively similar village and dwelling structures despite the differences in the multitude of Pashtun tribes, mainly the Durrani and Ghilzais. The variance in terrain, vegetation, and raw materials encompassed in the Afghan state can be more critical than culture when building in specified regions (See Appendix A, Section 1, Figures 1–4). From the deserts in the south to towering mountains in the north, this region is inhospitable for all but the heartiest of people who have chosen to live there.¹⁰⁸ This resulting geographic divide created division among the Durrani, who reside in the south, and the Ghilzais, who live to the east and the north. As Johnson points out, “This division between highland Pashtuns and those living in the better lands at lower elevations is another major fault line running through Pashtun society...this...divide (being) between *nang* and *qalang* cultures: *nang* referring to the honor code of the hill men, and *qalang* referring to the superior, irrigated farmlands of the valley historically susceptible to taxation.”¹⁰⁹ Consequently, societal structure has evolved differently, with the Ghilzais, historically lacking the resources for sustained sedentary living and thus adhering to the more fundamental egalitarian concepts of Pashtun tradition and *Pashtunwali*, while the Durrani have taken advantage of the more cultivatable lands, therefore establishing a robust sedentary society with a more hierarchical nature.¹¹⁰

Despite these differences, architecturally, dwellings and villages are remarkably similar, mainly because of environmental causes. A key element found in most Pashtun

¹⁰⁸ Thomas H. Johnson and M. Chris Mason, “No Sign until the Burst of Fire: Understanding the Pakistan-Afghanistan Frontier,” *International Security* 32, no. 4 (Spring 2008): 44–45.

¹⁰⁹ *Ibid.*, 60.

¹¹⁰ Thomas J. Barfield, “Weapons of the Not So Weak in Afghanistan: Pashtun Agrarian Structure and Tribal Organization for Times of War and Peace,” *Agrarian Studies Colloquium Series*, Yale University (February 23, 2007): 12–15.

villages in the eastern region is the Pakhsa wall, a massive pressed mud structure, which serves as a barrier to the elements, as well as adversaries. These walls surround what is known as a qala, or fortified compound, often filled with wood-based flat roofed dwellings, its size depending on the amount of resources available, in this case mainly clay.¹¹¹ While these fortified settlements make sense in relation to the Durrani's hierarchical nature and desire to protect wealth and power, they seem at odds with the Ghilzai's more egalitarian lifestyle. However, when one looks at the environment, as well as the *Pashtunwali* ethic, privacy and security one can see how strong villages and dwellings are necessary for protection against the elements but also against rival clans in a lifestyle predicated on the maintenance of honor. Generally, as Szabo points out, "The thick walls enclose...individual dwellings, and protect inhabitants from bandits and the occasional violence resulting from tribal hostilities or rivalries...The housing...reflects a more solitary and isolated mood" where "privacy is valued."¹¹² Other differences seen in nonsedentary dwellings and sedentary structures in the east and west are due mainly to geographic and environmental variances, with a reliance on reed-based construction or brick arches where wood is lacking.¹¹³

In the northern and central regions, one finds the Tajiks and Hazaras, ethnic groups with different backgrounds and culture but occupy dwellings that are more in tune with the environment and resource limitations than culture (See Appendix A, Section 1, Figure 3). The Tajiks, like the majority of ethnic groups in Afghanistan, have found themselves continually on the receiving end of Pashtun dominance of the government in particular and Afghanistan in general. Consequently, rivalries have erupted between the two groups, each vying for its share of the Afghan state. As an ethnic group, the Tajiks, according to Conrad Schetter, have often "face(d) a difficulty in developing an idea of their own spatial and historical origins. In defining themselves...Tajiks...preferred a regional rather than an ethnic identity and still refer to themselves as Panjshiris, Kabulis,

¹¹¹ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 141.

¹¹² Hafizullah Emadi, *Culture and Customs of Afghanistan* (Westport: Greenwood Press, 2005), 127.

¹¹³ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 119.

Shomalis, Heratis...”¹¹⁴ The Hazaras, on the other hand, have been much maligned throughout Afghan history, and often occupied the lowest rung on the Afghan tribal ladder.¹¹⁵ While academic views have changed as to the origin of the Hazaras, the poor perception of the tribe ingrained in Afghanistan, mostly because of Pashtun ideology, has limited their growth in society.¹¹⁶

How these ethnic backgrounds relate to the architecture of the Tajiks and the Hazaras is unclear since most of the structures of these two ethnic groups do not have a strong cultural context. Instead, while culture does play a role in the use of traditional huts instead of black tents found in the south, the environment dominates the structure and location of the Tajik and Hazara villages and dwellings. Since the western and northern regions lack sufficient wood, the Tajiks rely on brick vaulted structures, as described earlier.¹¹⁷ These vaults have the advantage of superior temperature regulation in both summer and winter periods. Tajiks also use stone in their construction, again a factor of location and materials available and the harsh winter environment.¹¹⁸ The Hazaras are able to utilize the wood found in their region to construct the typical flat roofed style dwellings found in the eastern areas of Afghanistan.¹¹⁹ Both ethnic groups do use similar nonsedentary housing, in this case, the hut. While not as mobile as the black tents in the south, the Tajiks and the Hazaras choice of the hut reflects their cultural ties to the past. This is the same reason why huts have not made their way south in abundance, as the tribes in the south prefer the black tent. In the end, while the environment plays a large role in the dwelling choices of the Hazaras and the Tajiks, which is understandable because of their locations, culture still has an impact in their nonsedentary structures.

¹¹⁴ Conrad Schetter, “Ethnoscapes, National Territorialisation, and the Afghan War,” *Geopolitics* 10, no. 1 (2005): 64.

¹¹⁵ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 24.

¹¹⁶ Schetter, “Ethnoscapes, National Territorialisation, and the Afghan War,” 63.

¹¹⁷ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 119.

¹¹⁸ *Ibid.*, 145–147.

¹¹⁹ *Ibid.*, 135.

Lastly, in this section, I will examine the unique interplay of culture and environment in the case of Nuristani architecture. While many subgroups and sub tribes exist, which will not be discussed in detail because of time and space constraints, noticeable difference between these groups are minimal and can be attributed mainly to a variance in building materials or geography. The Nuristanis, on the other hand, show how geography, and resources can work in concert with culture to create a unique dwelling structure. The Nuristanis are located primarily in the northeastern region of Afghanistan, between Kabul and the border with Pakistan.¹²⁰ As an ethnic group, the Nuristanis have a distinctively open culture, which can be traced to their history of polytheism and terraced living.¹²¹ Only recently converted to Islam, the Nuristanis retain an egalitarian-based society, which is reflected in their dwellings.¹²²

Since they reside in a mountainous region with abundant forest as a resource, the Nuristanis have utilized wood to a great degree. The availability of timber has allowed them to build terraced structures up the sides of the neighboring mountains.¹²³ While this construction efficiently uses the space allotted by the environment, it affords little privacy for the inhabitants. However, as a culture, the notion of privacy is not as critical to Nuristanis as it is to a fellow egalitarian ethnic group, the Pashtuns. As Emadi explains, “In contrast to the high, thick outer walls and segregated interior rooms of a traditional village settlement, there is little privacy in a Nooristani community. Houses hold tight against the mountainside and to each other and all significant movements, recreation, work, and socializing takes place on the open roofs.”¹²⁴ In other words, the Nuristani culture and the environment have complemented each other with the result being a truly distinct ethnic habitation.

¹²⁰ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 148.

¹²¹ *Ibid.*, 25.

¹²² Barnett R. Rubin, *The Fragmentation of Afghanistan: State Formation and Collapse in the International System*, 2nd ed. (New Haven: Yale University Press, 2002), 31.

¹²³ Emadi, *Culture and Customs of Afghanistan*, 126.

¹²⁴ *Ibid.*

In the end, as the analysis above shows, both the culture and the environment play large roles in shaping the dwelling of the Afghan people. Without taking this into account fully, the United States and its allies will continue to lack the leverage with the average Afghan to counteract the influence of the Taliban insurgency.

E. CONCLUSION

The first part of this chapter gave some insight into why the U.S. government has been resistant to using indigenous traditions in its designs. It is not a part of the U.S. military's culture to consider this during the design process because their processes come from within the U.S., where construction using traditional methods is not the norm. This is part of the reason that the DoD's definition of sustainable construction focuses on the 50-year service life. Also, sustainable construction in the U.S. does not include indigenous materials and traditions, because these are not more sustainable than modern materials and techniques. The newer materials are readily available everywhere in the U.S. including at the local Home Depot. This is not always the case in other countries. The non-DoD organizations that build in areas where traditional construction is the norm, and newer materials are not readily available, have a definition for sustainable construction that reflects the acceptance of these traditions. Their culture does not focus on the long-term service life as much as the military does, because they turn the buildings over to the local populations, who performs the maintenance. A combination of these two definitions and cultures, and an understanding of the vast differences in the indigenous traditions throughout Afghanistan are needed to bring about sustainable construction in Afghanistan.

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III. NGOS, AFGHAN GOVERNMENT, AND THE COALITION MILITARY

A. INTRODUCTION

The new focus of the U.S. military on counterinsurgency and reconstruction has created a new battle space, where the cooperation and coordination with aid agencies is critical.¹²⁵ Aid agencies can come in many forms, for example, NGOs, such as CARE, Catholic Relief Services, the Red Cross, and Mercy Corps, Intergovernmental Organizations (IGOs), like the UN aid agencies, and interagency organizations¹²⁶ like the Department of State (DoS) and the USAID. The aid agencies historically have a long history in the areas they operate. They normally know the local culture and norms of the area. This is true in Afghanistan as well. Understanding the background of these organizations and their relationships with the Afghan government will help the military to build a partnership with these culturally imbedded organizations, resulting in smarter, more productive, culturally correct counterinsurgent mission designs. It will also allow for an understanding of the proper materials and techniques to use when building.

Some NGOs have been working in Afghanistan since the end of World War II. They have helped the people of Afghanistan when no one else seemed interested. Their numbers grew when helping the Afghan refugees during the Soviet occupation and due to the increase in funding since 9/11, is again on the rise. They have become a critical part of the Afghan landscape. The relationships that these NGOs have built over the last 30 years can be an advantage for the Coalition forces in their quest to build a strong central government. These same relationships can also be used to delegitimize the new Afghan government. Understanding the history of the NGOs in Afghanistan will offer decision-makers and the military insight into their world. The inability of the Coalition and the new Afghan government to effectively respond to the needs of the Afghan population has had an enormously negative impact on its mission in Afghanistan. The Coalition and the

¹²⁵ McCrystal, "Commander's Initial Assessment," 1-1; Petraues, "COMISAF's Counterinsurgency Guidance"; Department of Defense Directive 3000.05, November 28, 2005.

¹²⁶ The DoD defines interagency organizations as U.S. government organizations, like the DoS and DoD. See Headquarters Department of the Army, "FM 3-07 Stability Operations," A-1.

Karzai government are battling for the trust and confidence of the Afghan people. The NGOs can be a critical piece in this battle. They have built relationships that allow them to respond to the needs of the population. Understanding how to work with them and learning from them can provide a powerful tool for the Coalition's toolbox. So, why are NGOs important to the reconstruction of Afghanistan, apart from the cultural knowledge and relationships they bring?

In the past NGOs built their own facilities and structures, apart from the Afghan government, the military and other interagency organizations. The Afghan government outlawed this practice in 2005, as will be discussed further in the Afghan government section of this chapter.¹²⁷ NGOs now work with the other agencies, like the U.S. Military and USAID, to build these facilities. They either build them as a contractor to these agencies, or they wait until the structures are built and then use the facilities. For example, a medical NGO would either build a clinic as a contractor or move into a finished clinic to access the population. The military/NGO partnership has strengthened because of this law, both organizations work closely together to ensure that Afghans receive the services and aid in even the most remote areas of the country.

This chapter is broken down into four sections. First, a discussion of the history of the NGOs in Afghanistan, how and why their numbers have ebbed and flowed over the years. Next will be an introduction to the Afghan government and their involvement and impact on NGOs. Then there is a discussion of the Provincial Reconstruction Team (PRT) concept, the military, and how their mission impacts NGOs. A short section on the other players in the reconstruction game, the IGOs and interagency aid organizations is next. Finally, the conclusion will discuss possible suggestions on how to build better relationships.

B. BACKGROUND

NGOs are non-profit organizations that perform a multitude of service and humanitarian functions. They can be both local and international organizations. During

¹²⁷ Islamic Republic of Afghanistan: Ministry of Economy: NGO Department, "Law on Non-Governmental Organizations, http://www.ngo-dept.gov.af/PDF/NGO_LAW/Afghan_NGO_Law%20ENG.pdf.

the Soviet occupation, they provided relief to over 3 million Afghan refugees in Pakistan. By the end of 2001, the number of Afghan refugees had swelled to over 5 million.¹²⁸ After the Soviet invasion, NGOs were banned from Afghanistan. The UN and the Red Cross could no longer operate in Afghanistan, due to formally recognized organizational mandates. The UN can only work with formally recognized governments. The Red Cross could not gain consent of all the parties involved in the conflict.¹²⁹ NGOs, working illegally, were the only organizations providing cross boarder help into Afghanistan.

The Pakistani authorities, the United Nations High Commissioner for Refugees (UNHCR), and the U.S. government funded NGOs in Pakistan and Afghanistan area. These three organizations directly funded the refugee camps and programs until the early 1980s. This changed when the U.S. Congress approved a shift, to fund NGOs, who would then fund the refugee programs.¹³⁰ After the U.S. changed policy, all other donors followed. “All three actors changed their strategies and began channeling assistance to Afghan refugees and displaced persons through NGOs.”¹³¹ This created more funding for NGOs.

In the early 1980s, there were 17 NGOs. By 1992, the number of NGOs had grown to around 160.¹³² The funding for these organizations had also grown from under \$10 million per year in the early 1980s to around \$300 million.¹³³ The growth in NGOs began to decline a few years after the Soviets pulled out of Afghanistan in 1989.

¹²⁸ Hope—A Future for Afghan Refugees (AFAR), “Facts—Afghan Refugees,” <http://www.hope-afar.org/?q=facts>.

¹²⁹ Jonathan Goodhand and Peter Chamberlain, “Dancing with the Prince’ NGOs’ Survival Strategies in the Afghan Conflict,” *Development in Practice* (Taylor & Francis, Ltd.) 6, no. 3 (August 1996): 206.

¹³⁰ Sarka Waisova, “Post-War Reconstruction in Afghanistan and the Changing NGO-Government Relationship,” *China and Eurasia Forum Quarterly* 6, no. 3 (2008): 68.

¹³¹ *Ibid.*, 68.

¹³² Nigel Nicholds and John Borton, “The Changing Role of NGOs in the Provision of Relief and Rehailitation Assistance: Case Study 1—Afghanistan/Pakistan,” Working Paper 74 (London: Overseas Development Institute, 1994), <http://www.odi.org.uk/resources/details.asp?id=2561&title=changing-role-ngos-provision-relief-rehabilitation-assistance-a-afghanistn-pakistan>, 65.

¹³³ Nicholds and Borton, “The Changing Role of NGOs in the Provision of Relief and Rehailitation Assistance: Case Study 1—Afghanistan/Pakistan,” 40.

In 1988, NGOs were able to enter Afghanistan legally for the first time in many years. Ongoing struggles for power continued to plague the country. The main mujahedeen leaders went to their regions and began to fight each other for power. To survive NGOs had to work with the warlord commanders in the some areas, the commanders in turn required a share of the donors' funding (up to 40% of the total was considered tolerable by most donors).¹³⁴ The NGOs were able to operate in remote areas by financing the commanders; however, they impacted the natural balance of the area. This practice affected the Afghan government, as the funding provided by the NGOs was used to fuel the warlords' insurgency.

New NGOs were set up after the Soviets left, with the encouragement of the UN.¹³⁵ They were then sub-contracted for the specific area of need. Mine-clearance NGOs are an example of this.¹³⁶ The increase in the amount of NGOs continued to grow until the Taliban takeover, in 1996. Similar to the Soviet era, the UN left along with most international organizations. Humanitarian assistance from NGOs was sparse at best. Humanitarian organizations were allowed to operate in the country until July 1998, when the Taliban essentially closed "all NGO offices."¹³⁷ The UN left a month later, leaving the poor Afghans with no assistance.¹³⁸

With the U.S. invasion in 2001 and subsequent collapse of the Taliban government, security increased and NGOs began to operate in Afghanistan once again. The role of NGOs is increasing, along with the numbers. The original emergency relief

¹³⁴ Nicholds and Borton, "The Changing Role of NGOs in the Provision of Relief and Rehailitation Assistance: Case Study 1—Afghanistan/Pakistan," 55.

¹³⁵ Goodhand and Chamberlain, "Dancing with the Prince' NGOs' Survival Strategies in the Afghan Conflict," 198.

¹³⁶ Nicholds and Borton, "The Changing Role of NGOs in the Provision of Relief and Rehailitation Assistance: Case Study 1—Afghanistan/Pakistan," 95.

¹³⁷ Kamran Abbasi, "Aid Agencies Pull Out of Kabul," *British Medical Journal (BMJ), News*, August 8, 1998, <http://www.bmj.com/cgi/content/extract/317/7155/369/a>; The Ministry of Foreign Affairs of Denmark, "A Joint Evaluation. Humanitarian and Reconstruction Assistance to Afghanistan, 2001–2005 from Denmark, Ireland, the Netherlands, Sweden and the United Kingdom," 2005, http://www.um.dk/NR/rdonlyres/F48036CB-D540-41D0-8AC3-AED57D551194/0/Afghanistan_summaryReport.pdf, 12.

¹³⁸ Ahmed Rashid, *Taliban* (New Haven, Yale University Press, 2000), 71–72.

agencies, who have operated in Afghanistan for decades are now partners in reducing violence and post-war reconstruction. NGOs are becoming a larger and larger part of the overall aid process.

NGOs receive almost fifty percent of the total development/humanitarian funding provided by the Organization for Economic Cooperation (OEC) and European Union (EU) member states.¹³⁹ These organizations are increasingly using NGOs instead of their own people to dispense aid. Funding has come from new sources as well. Large corporations concerned about their images began to partner with NGOs to show that they did their part to help the needy of the world. The Red Cross signed agreements with IBM and CNN for example.¹⁴⁰

There seemed to be no limit to the amount of money that NGOs could obtain. From 2002-2008 \$14,744 Million Dollars were disbursed by donor nations, with the U.S. leading the way with \$5 Billion.¹⁴¹ This led to what today is called the “NGO Warlord.” This term came from Afghans who saw NGOs, who make significantly more money than the average Afghan job, driving nice new SUVs and living in gated, fenced compounds.¹⁴² The NGOs were seen as living like the old warlords, while the Afghans they assisted live a very different life. The local Afghans were not the only ones who noticed the new lifestyle of the NGOs, the new government officials, who were not paid very well, noticed too.

C. THE AFGHAN GOVERNMENT

The Afghan governments of past and present have looked at NGOs with suspicion. The funding the NGOs were required to pay the Afghan commanders to

¹³⁹ Waisova, “Post-War Reconstruction in Afghanistan and the Changing NGO-Government Relationship,” 66.

¹⁴⁰ Ibid.

¹⁴¹ Afghan Ministry of Finance data, quoted in Matt Waldman, “Falling Short: Aid Effectiveness in Afghanistan,” *ACBAR Advocacy Series* (ACBAR, March 2008), [http://www.acbar.org/ACBAR%20Publications/ACBAR%20Aid%20Effectiveness%20\(25%20Mar%2008\).pdf](http://www.acbar.org/ACBAR%20Publications/ACBAR%20Aid%20Effectiveness%20(25%20Mar%2008).pdf), 24.

¹⁴² Lara Olson, “Fighting for Humanitarian Space: NGOs in Afghanistan,” *Journal of Military and Strategic Studies* 9, no. 1 (Fall 2006), www.jmss.org/jmss/index.php/jmss/article/download/121/133, 18.

operate (up to 40% of the aid in some regions, as discussed previously) during the civil war and the Taliban rule, which helped to fuel the insurgency, provides a good reason for this belief. The government understands that NGOs are needed to provide the social services that the government cannot provide, however that service can come at a high price for the already weak Afghan government, by effectively replacing it. Some NGO organizations have openly criticized the Afghan government, for its inefficiency and corruption.¹⁴³ This along with the perception that NGOs are attracting qualified workers away from the government's own reconstruction efforts, because they pay higher wages has caused much dissention between the NGOs and government. Once the qualified workers are hired by the NGO, the government is forced to hire the NGO to do the work, at a higher cost, because the government no longer has the ability to do it.¹⁴⁴ When the NGOs openly criticize the Afghan government, it affects the governments' legitimacy, especially in areas where the NGOs have been working for decades and are more respected than the government.

Research, by Emilie Jelinek,¹⁴⁵ has shown that relations between NGOs and government officials were good when the government personnel were involved in the planning and implementation of projects. This relationship was further fostered by NGOs who invited government personnel to trainings and inaugurations.¹⁴⁶ When government agencies were unfamiliar with NGO capabilities, they were prone to request more than the NGO was able to provide. The result of this has been frustration from both parties. Communication seems to be the key to good NGO/government relationships. When the

¹⁴³ Oxfam, "Afghanistan: Development and Humanitarian Priorities," (Oxfam, January 2008) http://www.oxfam.org.uk/resources/policy/conflict_disasters/downloads/afghanistan_priorities.pdf (accessed August 3, 2010); Matt Waldman, "Falling Short: Aid Effectiveness in Afghanistan," *ACBAR Advocacy Series* (ACBAR, March 2008) [http://www.acbar.org/ACBAR%20Publications/ACBAR%20Aid%20Effectiveness%20\(25%20Mar%2008\).pdf](http://www.acbar.org/ACBAR%20Publications/ACBAR%20Aid%20Effectiveness%20(25%20Mar%2008).pdf), 16.

¹⁴⁴ Emilie Jelinek, "A Study of NGO Relations with Government and Communities in Afghanistan," *Agency Coordinating Body for Afghan Relief (ACBAR)* (November 2006): 15.

¹⁴⁵ Ibid.

¹⁴⁶ Ibid., 7.

government feels it has no control over the funding or influence in the selection of projects, its trust of the NGOs decreases. In 2005, the government began to make changes to ensure its participation and ability to influence the project selection process.

The government implemented a new NGO law in June of 2005.¹⁴⁷ This law created a legal framework for NGOs in Afghanistan. It was good and bad news for NGOs. The bad news was that it required the NGOs to register with the Ministry of Economy and made “participation in construction projects and contracts”¹⁴⁸ illegal, unless permission was obtained through the Minister of Economy. The Minister of Economy can issue special permission if the Chief of the Diplomatic Agency, or Ambassador, of the donor country requests the NGO perform the construction. This clause has made it extremely difficult to get permission to build in Afghanistan. Instead of building themselves, NGOs now partner with organizations like the USAID to supply the facilities, while they provide the services. The NGOs either build the facilities as a contractor to USAID or the military, or they wait until someone else builds the facility and then provide the services that the building supports. Another requirement of the new law requires the NGOs to consult with the government before they implement projects. This part of the law has been difficult for the government to implement and enforce. Significant delays, with the approval process, have caused NGOs to either give up on projects or start them without government authorization.¹⁴⁹ These restrictions changed the way NGOs operated, but allowed the government the oversight it lacked. So, why did most NGOs, who were being restricted by the government like the new law? The major reason was that it distinguished between NGOs and the private sector. This change stripped the NGO title from profit making businesses, increasing the credibility and impartiality of the remaining NGOs. Prior to this law private for profit businesses were

¹⁴⁷ Islamic Republic of Afghanistan: Ministry of Economy: NGO Department, “Law on Non-Governmental Organizations, http://www.ngo-dept.gov.af/PDF/NGO_LAW/Afghan_NGO_Law%20_ENG.pdf.

¹⁴⁸ Ibid.

¹⁴⁹ Jelinek, “A Study of NGO Relations with Government and Communities in Afghanistan,” 6 .

allowed to claim NGO status, allowing them to use the NGO name throughout the local communities while giving them tax-exempt status. The new law took that option away from them.

Another change for the Afghan government was approved at the donors' conference in London in January 2006. The *Afghanistan Compact*¹⁵⁰ project created at the conference represents one attempt to better coordinate assistance.¹⁵¹ This plan directs funding through the Afghan government, allowing for more direct control of NGOs and project selection. The problem is that the document has no "teeth." There are no restrictions for donors or NGOs who refuse to follow the plan. After the conference the Afghan government wrote the Afghanistan National Development Strategy (ANDS)¹⁵² This document is an overarching framework that discusses the importance of coordination among the many actors involved in the reconstruction of Afghanistan. In a strong, clean government, the use of the framework identified in this document would allow for a well-functioning reconstruction and peace-building process. The government of Afghanistan is unfortunately weak and corrupt. Even so, part of the framework is working well. The coordination between the Coalition and the Afghan government's reconstruction efforts is functional. The military coordinates and mentors Afghans in several different Ministries, like the Ministry of Defense and the Ministry of Interior. At the District level, PRTs have ensured that the Director of Economy has input into the selection of projects and the selection of the contractors hired to perform the work.¹⁵³ The coordination between the Coalition, Afghan government and NGOs is another story.

¹⁵⁰ The Afghanistan Compact, www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&c=Page&cid=113465070519.

¹⁵¹ Waisova, "Post-War Reconstruction in Afghanistan and the Changing NGO-Government Relationship," 73.

¹⁵² ANDS located at www.ands.gov.af.

¹⁵³ LTCol Daniel Moy, e-mail message to author, July 17, 2010.

D. THE ROLE OF AFGHAN NGOS

As of May 2009, there are 1,297 local and 313 international registered NGOs in Afghanistan, according to the Afghan Ministry of Economy.¹⁵⁴ They are involved in a multitude of services, though most NGOs focus on health and education related issues. NGOs have also been involved in demining, restoration of infrastructure, and human rights issues.

NGOs employees who choose to work in Afghanistan are normally dedicated aid workers. As Emilie Jelinek said in a 2006 Agency Coordinating Body for Afghan Relief (ACBAR) report,

Afghanistan is undoubtedly one of the most difficult countries for NGOs to work in. From the poor security environment, to having to share an operational space with military actors and working with a weak and, at times, hostile government, NGOs must find a space in which they can work effectively in order to assist the country's poorest and most vulnerable people.¹⁵⁵

Some NGOs did not like the changes made in 2005 and decided that they could not work within the constraints placed on them by the government, so they left. Several dozen stayed.¹⁵⁶ They “changed their communication strategy towards the government and international community.”¹⁵⁷ They joined together in groups and into new coordinating agencies in an attempt to better communicate with the Afghan government. The idea is to create one voice for the Afghan government to communicate with. There is

¹⁵⁴ *Ministry of Economy NGO Department*, <http://www.ngo-dept.gov.af/> (accessed November 5, 2009).

¹⁵⁵ Jelinek, “A Study of NGO Relations with Government and Communities in Afghanistan.”

¹⁵⁶ Waisova, “Post-War Reconstruction in Afghanistan and the Changing NGO-Government Relationship,” 81.

¹⁵⁷ *Ibid.*

substantial information available on these bodies and their members on their websites.¹⁵⁸ In an attempt to add legitimacy to the NGO profession in Afghanistan, they created a Code of Conduct that “professionalized” the NGO community.¹⁵⁹

The ACBAR, the largest coordinating organization, was the first organization to implement the NGO Code of Conduct. It was formed in 1988 and represents 100 international and Afghan NGOs.¹⁶⁰ Several other NGO coordinating bodies work in Afghanistan. Two of the larger ones are the British Agencies Afghan Group (BAAG) and the American Council for Voluntary International Action (Interaction). BAAG has 23 members operating in Afghanistan.¹⁶¹ Interaction has 180 members, of which 44 are active in Afghanistan.¹⁶² These organizations have been successful in communicating the challenges of its members to the Afghan government and the outside world. One of the main challenges to the NGOs of Afghanistan is security.

Poor security is a problem throughout Afghanistan. Anti-government and anti-coalition forces make it difficult for NGOs to provide services to those most in need. In the past, as discussed above, the NGOs could pay off the commanders in the areas and continue to bring aid to the local populations. This has been changing. Since 2001, the government and coalition forces have been providing humanitarian aid. This practice is confusing the population; they are having a difficult time distinguishing between the NGO workers and the government and military.¹⁶³ The insurgents are having the same problem. The Taliban described three female aid workers they killed in 2008, as “foreign spies.” For example in 2008, a Taliban spokesman, Zabiullah Muhahid, said, that they had attacked “foreign invader forces” that “were not working for the interests of Afghanistan and they belonged to those countries whose forces... took Afghanistan's

¹⁵⁸ ACBAR, “ACBAR Mission and Vision,” <http://www.acbar.org>; British Agencies Afghanistan Group (BAAG), “Introduction to BAAG,” <http://www.baag.org.uk/about-us/introduction-to-baag>; Interaction, “Interaction Where Our Members Work,” <http://interaction.org/member-directory>.

¹⁵⁹ “ACBAR Mission and Vision,” <http://www.acbar.org>.

¹⁶⁰ Ibid.

¹⁶¹ *Introduction to BAAG*, <http://www.baag.org.uk/about-us/introduction-to-baag>.

¹⁶² *Interaction Where our Members Work*, <http://interaction.org/member-directory>.

¹⁶³ ACBAR, “The Situation in Afghanistan” (Brief to the United Nations Security Council, New York, NY, November 13, 2006).

freedom.”¹⁶⁴ This resulted in the aid organization that the women worked for closing their Afghan office.¹⁶⁵ NGOs are leaving insecure areas, leaving the population without the aid they so desperately need. Another problem impacting NGO security is that they are working directly for the government. Some government led programs like the Basic Package of Health Services (BPHS), and development under the National Solidarity Program (NSP) are contracting NGOs to carry out their mission.¹⁶⁶ If the insurgents attack these NGOs, then they are attacking the government, by decreasing the availability of the government run program. The impartiality of the NGO has been compromised in these situations.

The security issue is not as prevalent in the major cities. NGOs more easily operate in the secure regions of Afghanistan, Kabul, Kandahar and the northern part of the country. They are also able to operate in areas close to most of the Provincial PRTs, as security is better in these areas as well. Few operate in the insecure areas of the country. “Many aid agencies have been forced to restrict their movements to insecure provinces.”¹⁶⁷ Humanitarian operations in the insecure areas are left to the military. This is not the best solution as it leads to the confusion issue discussed above when the NGOs do return to the areas, making the NGOs more likely to be a target than before the military efforts. The main military humanitarian organization is the PRT.

E. THE ROLE OF THE MILITARY AND THE PRT

PRTs were created under the Bonn donors’ conference agreement in 2001.¹⁶⁸ PRTs were introduced to expand the influence of the Afghan government’s reconstruction efforts and provide security outside the Kabul area of influence. It is a team of military, diplomatic and reconstruction subject matter experts. The group is led by a military officer and has a staff of around 100 people, both military and civilian. The

¹⁶⁴ BBC News, “Aid Women killed in Afghanistan,” August 13, 2008, http://news.bbc.co.uk/2/hi/south_asia/7558076.stm.

¹⁶⁵ Ibid.

¹⁶⁶ ACBAR, “The Situation in Afghanistan,” 4.

¹⁶⁷ Ibid., 3.

¹⁶⁸ The Bonn Agreement, <http://www.afghangovernment.com/AfghanAgreementBonn.htm>.

funding for PRT projects comes from many sources, most from the government running the PRT (USAID and State Department in the U.S.-run PRTs). The Commanders Emergency Response Fund (CERP) funds are used by many of the U.S. PRTs due to their ease of use. The CO of the PRT can use his discretion on where to spend the money, this seems to be working to reduce violence. O’Connell demonstrated in his quantitative study, that “agriculture development, rural development, and natural resources development aid, which directly targeted the livelihood of most Afghans, namely rural farming produced the greatest results in decreasing the localized risk from the Taliban.”¹⁶⁹ A separate study on Iraq resulted in the conclusion that the use of CERP funds was connected to the reduction of violent incidents.¹⁷⁰ PRTs work independently so there are significant differences from one PRT to another. This is to aid the regionalization of the PRT. Each region of the country is different hence each PRT should be different, to be able to better communicate with the plethora of ethnolinguistic groups. As discussed in Chapter II, one size does not fit all in Afghanistan. Some PRTs distinguish the military security missions from the civilian missions by using different uniforms or otherwise visibly distinguishing themselves.¹⁷¹ NGOs appreciate these efforts, because they believe that the populations’ inability to distinguish between the militaries security and humanitarian missions, and their further blurring of the NGO and military missions has led to the deterioration of their security.¹⁷²

The PRT focus has been more short term, to win the hearts and minds. This does not always take into account the long-term consequences of the projects. NGOs work on mid to long-term focused projects with ensured sustainability. Initially, PRTs provided infrastructure and services to communities without requiring participation or ensuring

¹⁶⁹ Thomas J. O’Connell, Jr., *Afghanistan Reconstruction—A Quantitative Analysis of the International Effort* (Naval Postgraduate School, Monterey, CA, March 2008), 108.

¹⁷⁰ Eli Berman, Jacob N. Shapiro and Joseph H. Felter, “Can Hearts and Minds Be Bought?: The Economics of Counterinsurgency in Iraq,” Draft Document (December 2009): 36.

¹⁷¹ Michael J. Dziedzic and Michael K. Seidl, *Provincial Reconstruction Teams and Military Relations with International and Nongovernmental Organizations in Afghanistan* (Washington, D.C.: United States Institute of Peace (USIP), September 2005), <http://origin.usip.org/pubs/specialreports/sr147.pdf>, 4.

¹⁷² Matt Waldman, *Aid Effectiveness in Afghanistan* (Kabul: Agency Coordinating Body for Afghan Relief (ACBAR), 3.

that the community had a true understanding of the future maintenance cost of the new infrastructure. This undermined the NGO projects that normally required the local community to support the project in some way. For example, the NGOs require the local population to provide the chairs for new school projects and a percentage buy-in on microloans. PRTs have learned from the NGOs and now require the local population to sign a 'Terms of Use' contract. This contract states that the PRT is providing a self-sufficient resource and will not be responsible for its upkeep. This is a step in the right direction. The PRTs are learning from the NGOs.

The PRT/NGO relationship is a complicated one. They have similar goals. NGOs want to bring humanitarian aid and education to the local population, because it is the right thing to do, regardless of who is the president of the country. PRTs want to do the same thing, but for a different reason. Their goal is to bring humanitarian aid and education to the communities, with the motive of bringing legitimacy to the Afghan government. The problem lies in that when the military provides aid and personnel, it blurs the line between the NGOs and military. There has been a marked increase in NGO deaths since the start of this practice.¹⁷³ The NGO workers are no longer viewed as impartial actors, but as an arm of the government. A clear distinction between the military/PRT and NGOs will help the NGOs accomplish their mission. Something as little as ensuring that the military are in uniform when they provide assistance will help to ensure that the local population can distinguish between the two. If the area is insecure, the PRT will need to protect the NGO by using clandestine meetings at local government or United Nations offices. This will allow the NGO to meet without putting them at risk. The association with the military alone is reason for the insurgents to target NGOs in some areas. If the area has significant security issues, the NGO may only want a phone or electronic relationship with the military. The military should not take offense to this and should understand the risk the NGO is taking by communicating with the military at all.

¹⁷³ Paul Barker, "Why PRTs Arent the Answer," November 3, 2004, <http://www.globalpolicy.org/component/content/article/176-general/31285.html>.

F. THE CHANGING ROLE OF THE MILITARY

The military codified its place in the humanitarian and reconstruction domain when it published the U.S. Department of Defense's Directive 3000.05.¹⁷⁴ This directive makes stability operations a core U.S. military mission that the DoD shall be prepared to conduct and support. They [are] given priority comparable to combat operations and [are] explicitly addressed and integrated across all DoD activities including doctrine, organizations, training, education, exercises, material, leadership, personnel, facilities, and planning.¹⁷⁵

This was an unpleasant surprise for most NGOs. This document places the military squarely in traditional NGO territory. Concerns range from the issues discussed above, mistaken identity and blurred identity, to competition for funding. Where the U.S. government may have paid an NGO in the past, they now perform some of the traditional NGO activities themselves. According to directive 3000.05, this mission will continue to grow. As Nancy Roberts says in her article, "The military sees NGOs and IOs as "force multipliers" (a reality they resent), NGOs and IOs see the military as trying to "politicize humanitarianism" (a reality they resent)."¹⁷⁶ The military needs to learn to work with NGOs and they will now need to learn to work with the military. Roberts states this nicely, when she says, "Civilians need the military to provide information about the terrain, operations, and affected populations, and in high-threat conditions, they often rely on military transportation and logistics. The military needs civilians for humanitarian assistance and for their knowledge and expertise in the reconstruction and development of devastated areas."¹⁷⁷ A partnership has been formed.

In areas where the security situation precludes NGO operations, the NGOs and military agree that the military should provide aid when possible. The NGOs would just

¹⁷⁴ DoD 3000.05.

¹⁷⁵ DoD 3000.05, 2.

¹⁷⁶ Nancy Roberts, "Spanning "Bleeding" Boundaries: Humanitarianism, NGOs, and the Civilian-Military Nexus in the Post-Cold War Era," *Public Administration Review* 70, no. 2 (March/April 2010), 217, http://www.aspanet.org/scriptcontent/index_par_t2p_article.cfm.

¹⁷⁷ Roberts, "Spanning "Bleeding" Boundaries: Humanitarianism, NGOs, and the Civilian-Military Nexus in the Post-Cold War Era," 213.

like for the military to do it in a way that distinguishes them from the NGOs, so that when the security situation improves and they return to the area, they are not at an increased risk of attack.

G. OTHER AID ORGANIZATIONS

There are several other types of aid agencies with which the military must coordinate. A short description of these groups will create a complete picture of the complex aid environment that is Afghanistan.

1. Interagency Organizations

The U.S. military falls into the interagency category, according to Army's Stability Operations Manual.¹⁷⁸ This group includes all U.S. government organizations.

The Department of State was identified as the lead U.S. agency for reconstruction and stabilization operations in 2005.¹⁷⁹ It is their job to coordinate all of the U.S. Government's efforts. The State Department's Office of the Coordinator for Reconstruction & Stabilization (S/CRS) is tasked with management of stabilization and reconstruction operations.¹⁸⁰ The CRS department has had a difficult time implementing the coordination of the reconstruction effort due to a combination of several factors. For example, interagency organizations use different databases to manage their reconstruction efforts. While the issue of interagency coordination has received attention in congressional reports, as discussed in the first part of this chapter, and may change in the future, there is not much hope for changes in the way NGOs track their projects and the databases they use.

The next organization in this category is USAID. They are "an independent U.S. government agency that answers to the President through the Secretary of State."¹⁸¹

¹⁷⁸ Headquarters Department of the Army, "FM 3-07 Stability Operations," A-1.

¹⁷⁹ President George Bush, "National Security Presidential Directive/NSPD-44," Washington, D.C., December 7, 2005.

¹⁸⁰ U.S. Department of State, Office of the Coordinator for Reconstruction and Stabilization, <http://www.state.gov/s/crs/index.htm>.

¹⁸¹ Headquarters Department of the Army, "FM 3-07 Stability Operations" Headquarters Department of the Army, Washington, D.C., October 2008, A-6.

Therefore, they work for the DoS. USAID provides assistance in multiple sectors, like “economic development, agriculture, health, democracy and governance, environment, humanitarian response, and conflict management and mitigations.”¹⁸² They provide significant stability operations type assistance. There is normally a USAID representative at each PRT, and have their own contracting organizations, separate from the military, to achieve their reconstruction objectives. Just like the military, USAID hires NGOs to complete their reconstruction objectives.¹⁸³

2. Intergovernmental Organizations

The United Nations is the main Intergovernmental Organization operating in Afghanistan. They have several different groups working with Afghanistan. The United Nations Office for the Coordination of Humanitarian Affairs (OCHA), is the UN organization trying to coordinate all humanitarian activities. They have had a difficult time due to the security situation. A safe house their people were housed in was attacked last year resulting in several casualties. This prompted the organization to evacuate their people and assess the security situation.

The United Nations Development Programme (UNDP) has been working in Afghanistan for over 50 years.¹⁸⁴ They also work with NGOs to provide services to the local communities.

H. CONCLUSION

Understanding the history of the NGOs in Afghanistan will allow decision makers insight into their world. The inability of the Coalition and the new Afghan government to effectively respond to the needs of the Afghan population has had an enormously negative impact on its mission in Afghanistan. The Coalition and the Karzai government are battling for the “trust and confidence” of the Afghan people. The NGOs are a critical

¹⁸² FM 3-07, A-6.

¹⁸³ NGOs currently working for USAID in Afghanistan, e-mail message from, August 15, 2010.

¹⁸⁴ United Nations Development Programme (UNDP), Overview of UNDP in Afghanistan, <http://www.undp.org.af/WhoWeAre/UNDPinAfghanistan/index.htm>.

piece in this battle. They have built relationships that allow them to respond to the needs of the population. Understanding how to work with them and learning from them will provide a powerful tool for the Coalitions toolbox.

This chapter reviewed the history of Afghanistan's relationship with the NGOs. It showed how there is a background of contention and mistrust. This will never be totally overcome because the legitimacy of the government is not the mission of the NGOs; indeed their very existence delegitimizes the government. The government's new NGO law in 2005 allowed the Afghan government more control over the NGOs and their projects. While this has been a difficult change for the NGOs, it has increased the level of trust between the organizations. The formation of umbrella organizations that negotiate on behalf of the NGOs has also improved the Afghan government/NGO relationship. The relationship can get better. Communication seems to be the key to a better relationship in this case. The more the NGOs communicate their plans and projects to the government the more the government will trust the NGOs.

Increased communication between the NGOs and the military may not always be the answer in the NGO/PRT relationship. The risk of the NGOs increases with the increased cooperation and coordination with the PRT's. This is not a problem in secure areas; however, it is a significant problem in insecure areas. The level of communication and coordination will depend on the level of security. The NGOs cannot put their people at risk to provide information to the PRTs. The PRT must recognize this constraint and allow for alternate communications methods. The PRT must also recognize that the humanitarian and reconstruction aid delivered by the military PRT must be distinguishable from the NGO delivery. This will increase the security situation for the NGOs.

This chapter has covered the Afghan NGO history and the relationships between the Afghan government, the PRTs and the NGOs. Several suggestions are outlined above. The NGOs are made up of reasonable, hard working, well meaning people, who want to help. The Afghan government and the military PRTs should continue to try to work with these organizations to ensure that the people of Afghanistan receive the aid they deserve.

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IV. THE CHALLENGES OF CONSTRUCTION CONTRACTING AND COUNTERINSURGENCY IN AFGHANISTAN

Money is ammunition; don't put it in the wrong hands. Institute "COIN Contracting." Pay close attention to the impact of our spending and understand who benefits from it. And remember, we are who we fund. How we spend is often more important than how much we spend.¹⁸⁵

General David Petraeus – *COMISAF's Counterinsurgency Guidance*

"The primary objective of any counterinsurgency operation is to foster development of effective governance by a legitimate government," according to the U.S. Army Counterinsurgency Field Manual.¹⁸⁶ It also states that the local population will decide who will win the conflict.¹⁸⁷ If this is the case, then winning the trust and confidence of the local population is critical. Reconstruction plays a major part of this strategy if it employs large amounts of local workers with minimal training and provides valuable infrastructure. One way to accomplish this construction is to contract it out to local construction companies. This means that construction contracting is critical to winning the trust and confidence and to achieving our goals in this conflict.

According to the Congressional Research Service, local nationals account for 70% of the workforce in Afghanistan.¹⁸⁸ Construction is one of the major employers in Afghanistan, with billions of dollars spent since 2001. Yet, quality remains of concern, suggesting that resources have also been wasted since 2001.

¹⁸⁵ Petraeus, "COMISAF's Counterinsurgency Guidance."

¹⁸⁶ Department of Defense, *The U.S. Army Marine Corps Counterinsurgency Field Manual U.S. Army Field Manual No. 3-24 Marine Corps Warfighting Publication No. 3-33.5* (Chicago, IL: The University of Chicago Press, 2007), 37.

¹⁸⁷ Ibid., 38.

¹⁸⁸ Moshe Schwartz, *Department of Defense Contractors in Iraq and Afghanistan: Background and Analysis* (Congressional Research Service, Washington, D.C., July 2, 2010), <http://www.fas.org/sgp/crs/natsec/R40764.pdf>, 12.

The U.S. Congress has shown significant interest in this topic and recently passed legislation¹⁸⁹ in an attempt to rectify several of the factors that have led to the lack of construction quality. This legislation provides the funding necessary to improve contract oversight and provide necessary training for contracting officer representatives (CORs).

This chapter will explore reconstruction, its role in the overall Afghan mission, and how it is tied to the counterinsurgency (COIN) and Stability Operations doctrine. The U.S. uses contracting to achieve its reconstruction goals, so a historical overview of the challenges facing contract administration in general will follow. Then, a discussion of two different oversight organizations and their findings, followed by a discussion of four key findings and lastly a discussion on why culture is important.

A. COIN AND STABILITY OPERATIONS

The first part of this section will focus on how the military defines COIN and stability operations. This is important so that full understandings of how these two types of operations are tied. First, the U.S. Army defines Counterinsurgency as “those military, paramilitary, political, economic, psychological, and civic actions taken by a government to defeat insurgency.”¹⁹⁰ They define stability operations as “operations that promote and protect U.S. national interests by influencing the threat, political, and information dimensions of the operational environment through a combination of peacetime developmental, cooperative activities and coercive actions in response to crisis.”¹⁹¹ The definition of stability operations is similar to COIN, but can also be in response to a crisis, which could also be a natural disaster or other events. It is not limited to the insurgency environment; therefore, stability operations can be used in a wider range of operations. This thesis will focus only on the insurgency aspect. According to the Stability Operations Manual,

During an insurgency, stability operations are executed simultaneously with offensive and defensive operations. They compliment and reinforce

¹⁸⁹ P.L. 109–364, Sec. 854; P.L. 110–181 Sec. 849.

¹⁹⁰ Headquarters Department of the Army, “FM 1-02 Operational Terms and Graphics,” *Headquarters Department of the Army*, Washington, D.C. (September 2004): 1–47.

¹⁹¹ FM 1–02, 1–175.

offensive and defensive operations. Because they begin to address the root causes that lead to the insurgency, stability operations are often the most critical for defeating an insurgency.¹⁹²

The Counterinsurgency Field Manual goes on to break stability operations down into five primary tasks. These tasks make up five of the seven COIN lines of effort (LOE). Therefore, stability operations make up over seventy percent of the COIN effort. This is important because as will be seen later in this chapter construction plays a part in all five of the stability operations tasks.

The Department of Defense (DoD) Directive 3000.05 prioritized stability operations as “comparable to combat operations.”¹⁹³ General Stanley McCrystal’s initial assessment in Afghanistan stated that, “Success demands a comprehensive counterinsurgency (COIN) campaign.”¹⁹⁴ In addition, General David Petraeus recently provided detailed counterinsurgency guidance to the “Soldiers, Sailors, Airmen, Marines, and Civilians of NATO ISAF and U.S. Forces-Afghanistan.”¹⁹⁵ COIN has been identified as a critical part of the Afghan war. Stability Operations is a critical part of COIN, and construction is a critical part of stability operations.

COIN and stability operations are not new in the U.S.. The Stability Operations Manual outlines several examples of these missions, throughout our history.¹⁹⁶ The U.S. has codified its COIN doctrine in Field Manuals since the early 1950’s.¹⁹⁷

Since the beginning of the Afghan and Iraq wars, the Army’s establishment has taken a new look at COIN and its effectiveness. FM 3-24.2, *Tactics in Counterinsurgency* (2009), was written as an update and compilation of several prior COIN publications.¹⁹⁸

¹⁹² Headquarters Department of the Army, “FM 3-24.2 Tactics in Counterinsurgency,” *Headquarters Department of the Army*, Washington, D.C., (April 2009): 7–1.

¹⁹³ Department of Defense Directive 3000.05.

¹⁹⁴ McCrystal, “Commander’s Initial Assessment,” 1–1.

¹⁹⁵ Petraeus, “COMISAF’s Counterinsurgency Guidance.”

¹⁹⁶ Headquarters Department of the Army, “FM 3-07 Stability Operations,” *Headquarters Department of the Army*, Washington, D.C. (October 2008): 1–1 to 1–3.

¹⁹⁷ FM 3–24.2, ix.

¹⁹⁸ Ibid.

FM 3-24.2 is not the only recent COIN doctrine. The wars in Iraq and Afghanistan have resulted in a plethora of COIN manuals, directives, research papers and books.¹⁹⁹ The trend towards civil/insurgent conflict versus state-to-state conflict began after the end of the cold war and continues to date, therefore this lessons that are learned today will likely be pertinent for the foreseeable future.

1. Stability Operations Tasks

The Tactics in Counterinsurgency Manual breaks COIN down into seven different LOEs; establish civil security, establish civil control, support governance, restore essential services, support to economic and infrastructure development, support host nation security forces and conduct information engagement. The seven LOEs “are a means for tactical units to manage a stability operations numerous tasks, achieve unity of effort, and restore the legitimacy of a host nation government.”²⁰⁰ The first five of the LOEs are the five tasks of stability operations.²⁰¹ The manual states that the tasks must operate simultaneously and be evaluated frequently. The Stability Operations Manual breaks the first five LOEs in more detail.²⁰² I will use both of these manuals to evaluate how construction fits into the Counterinsurgency doctrine. Each LOE will be evaluated separately.

¹⁹⁹ For example: FM 3-07; FM 3-24.2; McCrystal, “Commander’s Initial Assessment;” Patraeus, “COMISAF’s Counterinsurgency Guidance;” Sean P. McKenna and Russell J. Hampsey, “Counterinsurgency Advisory Assistance Team (CAAT): “The COIN Warrior” Waging Influence: Hints for the Counterinsurgency (COIN) Strategy in Afghanistan,” *Small Wars Journal*, June 2, 2010, <http://smallwarsjournal.com/blog/2010/06/the-coin-warrior-waging-influe/>; Edwina Thompson, “Report on Wilton Park Conference 1022,” held on March 14, 2010, Wilton Park, United Kingdom, [http://usacac.army.mil/cac2/coin/repository/Assesing_Effectiveness_of_Development_Aid_in_COIN_\(1_Apr_10\).pdf](http://usacac.army.mil/cac2/coin/repository/Assesing_Effectiveness_of_Development_Aid_in_COIN_(1_Apr_10).pdf); David Kilcullen, *Counterinsurgency* (Oxford University Press, Inc., New York, 2010); David C. Gompert, Terrance K. Kelly, Brooke Stearns Lawson, Michelle Parker, and Kimberly Colloton. “Reconstruction under Fire: Unifying Civil and Military Counterinsurgency,” *RAND* (2009); Lawson, Kelly, Parker, Colloton and Watkins, “Reconstruction Under Fire: Case Studies and Further Analysis of Civil Requirements: A Companion Volume of Reconstruction Under Fire: Unifying Civil and Military Counterinsurgency,” 2.

²⁰⁰ FM 3-24.2, 7-1.

²⁰¹ Ibid.

²⁰² FM 3v07.

a. *Establish Civil Security*

This LOE is all about bringing security to the people. This includes protecting people and key infrastructure, and bringing peace to an area. Construction of demobilization camps, and repairing and building checkpoints are required as a part of this LOE.²⁰³

b. *Establish Civil Control*

This LOE covers establishing law and order to a region. The host nation military and police will need training and work sites. The judicial system will need to have places to hold court and finally the courts will need places to hold and then send people who break the laws. Repair and construction of police and Army training sites, bases and stations, courthouses, and jails are needed under this task.²⁰⁴

c. *Restore Essential Services*

This is one of the first tasks. It encompasses the humanitarian mission of providing food, water, shelter, medical and educational assistance. As a part of this LOE, temporary housing for refugees, permanent housing for villages, health clinics, hospitals, and schools should be built.²⁰⁵

d. *Support Governance*

Support for governance is a main way that an outside organization can help to provide legitimacy to the host nation government. Transitional Administrations are normally weak and will need the outside support. Anticorruption initiatives and elections are a part of this LOE as well. Repair and construction of federal, state and local government facilities may be needed. This may include everything from a capital building to a local small town city hall. These types of facilities can be co-located with

²⁰³ FM 3-07, 3-2 to 3-5; FM 3-24.2, 7-2 to 7-5.

²⁰⁴ FM 3-07, 3-5 to 3-9; FM 3-24.2, 7-5 to 7-15.

²⁰⁵ FM 3-07, 3-9 to 3-13; FM 3-24.2, 7-20 to 7-22.

some of the other facilities, for example, a town hall that has a health clinic, courthouse and police station. This shared arrangement would be cheaper to build and more easily secured.²⁰⁶

e. Support to Economic and Infrastructure Development

This task is important at the national and local levels. According to the Operations Manual “Infrastructure comprises the basic facilities, services, and installations needed for society’s functioning. Degrading infrastructure affects the entire population.”²⁰⁷ It covers a lot of different areas, everything from building roads to facilitate transportation and trade, to public works projects, which encourage businesses to bring in new factories, to telecommunications. The schools, medical clinics, municipal buildings, all discussed in other tasks above also fall under this area. Damns and irrigation projects are another good example of infrastructure. This task is also important because it plays a big part at the local level. The majority of this work is contracted out, and therefore can strengthen the local economy, and increasing both capability, and capacity. Care must be taken however to ensure that local rivalries and hierarchies are known and local governments and shura’s are used to increase transparency and decrease corruption. Knowing the culture and customs of the area are critical to the success of the mission. As shown in the quote at the beginning of this chapter, COIN and contracting are tied. We must incorporate COIN into our contractual processes. This has been a challenge over the last nine years. I will explore why next.

B. HISTORY OF CHALLENGES FOR CONTRACTING AGENCIES

The U.S. military has relied upon contractors since the revolutionary war, when they provided many of the same things that they are providing to the military in today’s conflict; clothing, weapons, goods and services, etc.²⁰⁸ After the Cold War, the DoD

²⁰⁶ FM 3–07, 3v13, 3–14; FM 3–24.2, 7–15 to 7–20.

²⁰⁷ FM 3–0, 1–8.

²⁰⁸ Deborah C. Kidwell, “Public War, Private Fight? The United States and Private Military Companies,” *Global War on Terrorism Occasional Paper 12* (Fort Leavenworth: Combat Studies Institute Press, 2005), 9; James F. Nagle, *History of Government Contracting*, 2nd ed. (Washington, D.C.: The George Washington University Law School, 1999), 16–19.

began some new initiatives. First, the Federal Activities Inventory Reform (FAIR) Act²⁰⁹ in 1998, and then the Office of Management and Budget (OMB) Circular A-76²¹⁰ study processes.²¹¹ The FAIR act required the government agencies to provide an annual report on inherently governmental functions and to contract out all non-inherently governmental functions when it was cost effective to do so. The OMB Circular provided guidance on how to implement these changes. This significantly increased the amount of contractors working for the government. Everything from cooks, janitors, to security personnel are now under contract. The loss of military and civilian DoD personnel, who performed these jobs in the past, has impacted the missions in Afghanistan and Iraq. Contractors must now perform this work.

Currently contractors make up 50% of the total force in the CENTCOM AOR.²¹² The use of contractors has some advantages, as contractors can be hired more quickly than the military or DoD workforce. Contractors can, in theory, be fired more quickly if they are not working out or if there is no longer a need for the services they provide. Contracting, however, poses significant issues for the DoD.

The main problem with the use of contractors is that the DoD does not have the acquisition workforce to provide oversight for all of the contracts. The reduction in the workforce began in the 1980s and will be discussed in greater detail in the oversight portion of this chapter. This reduction has impacted the ability to oversee contractors in the U.S. and overseas. Afghanistan is no exception.

Poor oversight and lack of coordination between agencies has resulted in redundant projects and wasteful spending. Another problem from lack of coordination is when too much infrastructure is built in a particular region, and the local government is unable to sustain the new facilities. Many organizations have researched and written reports about the issues discussed above. GAO and SIGAR are the two main

²⁰⁹ P.L. No. 105–270.

²¹⁰ Office of Management and Budget Circular A-076 (revised) (May 29, 2003).

²¹¹ “Acquisition Workforce Department of Defense’s Plans to Address Workforce Size and Structure Challenges,” *GAO Government Accountability Office* (April 2002): 2.

²¹² “Contractor Support of U.S. Operations in USCENTCOM AOR, Iraq, and Afghanistan,” *Program Support*, Office of the Deputy Under Secretary of Defense (Logistics & Material Readiness, 2009).

organizations working on these issues. Their findings are discussed below. These organizations and their findings are not unique, several other organizations reports have reached the same or similar conclusions, USAID, DoD Inspector General (IG), the State Department, and the Congressional Research Division (CRS) to name a few.

1. GAO

The GAO is known as “the investigative arm of congress,”²¹³ they are tasked to “investigate how the federal government spends taxpayer dollars.” The GAO was one of the first organizations to investigate contractor issues in Afghanistan. One of their first reports on Afghanistan²¹⁴ stated that USAID, who provided the majority of U.S. reconstruction aid, did not have funding allocated for reconstruction assistance until 17 months after the Bonn Agreement was signed. This means that the funding did not arrive until May of 2002. The report basically says that there were no tracking mechanisms in place to ensure proper allocation of the funds, and it recommended that USAID set up a way to track their projects and the associated funding. Another GAO report, written in July 2004, discussed the lack of “trained personnel to provide effective oversight of its logistics support contractors.”²¹⁵ The lack of qualified personnel on the ground to monitor contracts, whether they are logistics, services or construction contracts remains a critical problem even today. The wording in this document is almost exactly the same as reports by both the Department of Defense (DoD) Inspector General in 2008²¹⁶ and the SIGAR report dated 19 May 2009.²¹⁷ While the problems are the same for both Iraq and Afghanistan, the volume of reports produced by the GAO from 2004 until present is significantly swayed toward Iraq with approximately 40 reports dealing with Iraqi rebuilding and three reports on Afghanistan. For this paper, I will discuss Afghanistan,

²¹³ GAO, U.S. Government Accountability Office, www.GAO.gov.

²¹⁴ “Afghanistan Reconstruction Deteriorating Security and limited Resources Have Impeded Progress; Improvements in U.S. Strategy Needed,” *GAO Government Accountability Office* (June 2004).

²¹⁵ “Military Operations DoD's Extensive Use of Logistics Support Contracts Requires Strengthened Oversight,” *GAO Government Accountability Office* (July 2004): intro.

²¹⁶ “Construction Contracting Procedures Implemented by the Joint Contracting Command - Iraq/Afghanistan,” *Inspector General Department of Defense* (September 29, 2008).

²¹⁷ SIGAR, *Contract Oversight Capabilities of the Defense Department's Combined Security Transition Command—Afghanistan (CSTC-A) Need Strengthening*.

however the contractual issues discussed in the Iraq reports seemed to also apply to Afghanistan. It was the focus of the majority of the reports and hence garners the same level of scrutiny as the Iraqi conflict. This trend seems to be changing with the creation of SIGAR.

2. SIGAR

SIGAR was created by the 2008 National Defense Authorization Act,²¹⁸ its mission is:

to enhance oversight of programs for the reconstruction of Afghanistan by conducting independent and objective audits, inspections, and investigations on the use of taxpayer dollars and related funds and by keeping the congress, as well as the Secretaries of State and Defense, currently informed of reconstruction progress and weaknesses.²¹⁹

SIGAR travels to construction sites to check the construction quality and after the facility is built they ensure the facility is maintained and used for its intended use. According to the law,²²⁰ they are required to submit quarterly reports. The 30 October 2009²²¹ report is the most recent of five. They have also completed five audits and five inspections to date.²²² Their audits and investigations are thorough and their investigators are knowledgeable about construction and contracting.

The October 2009 quarterly report identified several items that need improvement. Four aspects that are pertinent to this chapter are the lack of coordination of all organizations funding construction to ensure there is no duplication of effort, building the capacity for Afghans so that they can sustain the infrastructure built for them and working to defeat corruption.²²³ This report does not discuss the need for oversight

²¹⁸ The National Defense Authorization Act (P.L. 110-181), January 28, 2008, <http://asafm.army.mil/Documents/OtherDocuments/CongInfo/BLDL/PL/08AUTHpl.pdf>.

²¹⁹ SIGAR, *Special Inspector General for Afghanistan*, www.sigar.mil.

²²⁰ "P.L. 110-181 Section 1229."

²²¹ "Quarterly Report to the United States Congress," *SIGAR Special Inspector General for Afghanistan Reconstruction* (October 30, 2009).

²²² *Ibid.*, 134.

²²³ "Quarterly Report to the United States Congress,"

of contracts, but prior SIGAR reports and papers do address this need.²²⁴ The July quarterly report states that “as the funding to rebuild Afghanistan increases, so will the demand for oversight, which is critical, not only to prevent fraud, waste, and abuse, but also to ensure the reconstruction program is as successful and cost-efficient as possible.”²²⁵ These four items: coordination, capacity, corruption, and oversight are essential to the reconstruction effort. They will now be reviewed in detail.

a. Coordination

It is critical that organizations building in Afghanistan work together to ensure that there is no duplication of effort with their reconstruction projects. “SIGAR has recommended that U.S. civilian agencies and military commands work together to develop integrated management information systems that would provide a common operating picture of reconstruction programs and projects.”²²⁶ This is a very good idea. In the early days after the invasion, USAID, the Department of State, Non-Governmental Organizations (NGO’s) and the U.S. Military (U.S. Forces Command- Afghanistan (USFOR-A), Combined Security Transition Command—Afghanistan (CSTC-A) and the U.S. Army Corps of Engineers’ Afghanistan Engineer District (AED)) were all working on reconstruction for Afghanistan. They rarely communicated with each other. Their database systems were incompatible, so the information that was shared was either word of mouth or briefing slides. The NGO part of the equation changed a little in 2005, when the Afghan government passed the new NGO law,²²⁷ requiring NGO’s to register their organizations and banning them from construction work unless they had permission from the Afghan government. This has reduced the NGO construction work significantly. USAID, the State Department and the military still do not have an integrated management information system. The importance of sharing information to help planning

²²⁴ SIGAR, *Contract Oversight Capabilities of the Defense Department's Combined Security Transition Command—Afghanistan (CSTC-A) Need Strengthening*; “Quarterly Report to the United States Congress,” *SIGAR Special Inspector General for Afghanistan Reconstruction* (July 30, 2009).

²²⁵ *Ibid.*

²²⁶ “A Better Management Information System is Needed to Promote Information Sharing, Effective Planning, and Coordination of Afghanistan Reconstruction Activities,” *SIGAR Special Inspection General Afghanistan Reconstruction* (July 30, 2009): iii.

²²⁷ The Afghan NGO Law, <http://icnl.org/knowledge/library>.

and coordination activities is thoroughly discussed in a SIGAR audit report dated Jul 2009.²²⁸ This report concluded that an integrated management information system would “provide essential information for decision-makers and stakeholders to better plan, coordinate, monitor, and report on U.S. activities.”²²⁹ This would greatly enhance the ability for all of the U.S. funded organizations to share information with one another and with outside organizations to ensure that they are not duplicating work that the other has already accomplished or has planned for the future. Once the facilities are built, who will maintain them? That leads to the next item, capacity.

b. Capacity

Building capacity to ensure that the facilities built can be maintained is a major challenge in Afghanistan. All types of facilities have been built by a multitude of organizations both Afghan and international. Roads, hospitals, health clinics, power plants, police stations, army bases are just a few examples of the facilities put in place. Once they are built, they must be maintained, if they are not, the lifespan of the facility will be greatly compromised. It is easier to repair a small leak in a roof than to replace the entire roof, after the leak has grown. The CERP program is trying to address this issue by requiring the local Afghan government to sign an agreement to provide sustainment for the project as a part of the approval process for their projects.²³⁰ This is a step in the right direction, however, according to USFOR-A, “the evidence is overwhelming that Afghanistan cannot sustain the projects that we complete.”²³¹

When I was building Afghan National Police (ANP) stations in Afghanistan in 2007, several buildings were built and turned over to the Afghan police and police trainers. After a few months of use, we would go back to check the condition of the facilities. For the most part, the facilities were not well cared for. Sinks would be

²²⁸ “A Better Management Information System is Needed to Promote Information Sharing, Effective Planning and Coordination of Afghanistan Reconstruction Activities.”

²²⁹ *Ibid.*, 7.

²³⁰ “Quarterly Report to the United States Congress,” 7.

²³¹ USFOR—Comments to the Draft SIGAR Report, “Inspection of Mahmood Raqi to Nijrab Road Project in Kapisa Province: Contract Requirements Met; But Sustainability Concerns Exist,” (October 2, 2009).

broken off of the walls, windows would be broken, to exhaust homemade heaters, heating and cooling units were removed or in disrepair. The Afghan police said that they were not concerned, because the U.S. would build them a new facility if this one were destroyed. This attitude seemed pervasive throughout my tour in Afghanistan. The problem was that there was no money to repair the damage and the Afghan's did not understand that they needed to maintain the facilities. The Minister of the Interior (MOI), who was in charge of the police mission, did not seem to have the funding to repair the facilities and the U.S. military had not funded it either. After several years, the U.S. decided to fund the maintenance for the Afghan National Security (ANS) facilities, just as the Afghans expected, we paid for the repairs. They were no longer responsible to care for the facilities. A contract for the maintenance of the Afghan National Army facilities was completed in 2007. The Afghan National Police facility maintenance contract was released in August 2008. The U.S. government has not contracted for the maintenance of all of the facilities that have been built. The Afghans will have to find a way to maintain the infrastructure that is built in their country. Part of the problem with the police stations is that the police are not paid well, so they sometimes remove items from the newly built facilities and sell it to make some money. If we can reduce this practice, the maintenance cost will decrease. This leads into the next item: Corruption.

*c. **Corruption***

Lack of pay for the police is a challenge, each level of supervision keeps a little of the local policeman's pay. By the time it reaches the lowest levels, there was little or no money left. This results in many local police taking money from the local population to ensure their families were fed. Paying the police through direct deposit is helping to curb this issue. This corruption was commonplace in the police stations I visited. This also added to why generators and air conditioners disappeared shortly after the facilities were turned over. The police forces were hungry, so they would sell anything that they could remove from the facilities. Even the best built buildings, seemed to "fall apart" due to the pilfering. The lack of police pay and the resulting destruction of newly built facilities is just a small example of the overall impact of corruption in Afghanistan. The drug trade and existence of warlords are some other examples that exist

in Afghanistan. SIGAR is working with the Afghan government's High Office of Oversight (HOO), an entity implementing the country's anti-corruption efforts to help Afghanistan "meet its anti-corruption mission."²³² Corruption can also impact the contracts when contractors bill for services that they did not provide or charge for construction that is not built to the specifications of the contract for example. Contract oversight is critical to insure that contractors provide the quality and amount of services in the time required by the contract. This leads to the next, and final item, oversight.

d. Oversight

Contract oversight issues are as old as contracting itself. Without oversight contractors can charge what they want and provide subpar services or material, to include construction. Contracting oversight issues have plagued the United States since the late 1990s. Several GAO reports over the last eight years address the importance of contract oversight, or lack thereof.

Contract oversight manning concerns was identified as a problem in the U.S. in 2002, when the GAO released a report titled "Acquisition Workforce Department of Defense's Plans to Address Workforce Size and Structure Challenges."²³³ This report discussed the dwindling acquisition workforce. There was a 50% reduction in acquisition personnel from 1989 to 1999. This was the culmination of DoD downsizing caused by acquisition reforms, base realignment and closures, and congressional direction.²³⁴ The shortage was exacerbated by the fact that 50% of the remaining personnel were eligible for retirement by 2005.²³⁵ The shortage of acquisition personnel was impacted further by the continued increase in contracts. This increase was due in part by the FAIR Act, as

²³² "Quarterly Report to the United States Congress," 6.

²³³ "Acquisition Workforce Department of Defense's Plans to Address Workforce Size and Structure Challenges."

²³⁴ *Ibid.*, 2.

²³⁵ *Ibid.*

discussed earlier in the chapter.²³⁶ Increasing the amount of contracts and decreasing the contracting workforce has had a detrimental impact on the oversight of projects that has continued to date.

Another GAO report in December 2006 stated its concerns that the Secretary of Defense had not taken action on several items that the GAO had addressed since the mid 1990s. One of these items was the lack of “adequate contractor oversight.”²³⁷ The lack of oversight has been identified over and over, yet nothing significant was changed until 2008, with the formation of SIGAR. They provide quarterly reports to congress that combine data from all other audit agencies. The Congress seems to be listening. Another recent change is that the A76 process was temporarily suspended until the Office of the Secretary of Defense completes a formal study of the process.²³⁸ This is a significant change and a step in the right direction.

Why did this take so long? I have not been able to find an answer. SIGAR was created by congress in January 2008; this is several months before the presidential election held in November 2008. Was the new focus due to the upcoming elections? There is no proof one way or another. Will the SIGAR reports be ignored like reports of the past? Only time will tell. The GAO has reported concerns about the quality of oversight of the construction in Afghanistan since early 2004,²³⁹ when it reviewed the expenditure of reconstruction funds from 2002 and 2003. It identified additional problems with a follow-on report in July of 2004.²⁴⁰ Both the Department of Defense Inspector General (DoD IG)²⁴¹ and the SIGAR²⁴² expressed similar concerns in their

²³⁶ P.L. No. 105–270, 2(a) (1998).

²³⁷ “Military Operations High-Level DoD Action Needed to Address Long-standing Problems with Management and Oversight of Contractors Supporting Deployed Forces,” *GAO Government Accountability Office* (December 2006): intro.

²³⁸ P.L. No. 111–84, Section 325.

²³⁹ GAO, *Afghanistan Reconstruction Deteriorating Security and limited Resources Have Impeded Progress; Improvements in U.S. Strategy Needed*.

²⁴⁰ GAO, *Military Operations DoD's Extensive Use of Logistics Support Contracts Requires Strengthened Oversight* (Washington, D.C., July 19, 2004), <http://www.gao.gov/new.items/d04854.pdf>.

²⁴¹ Department of Defense Inspector General (DoDIG), *Construction Contracting Procedures Implemented by the Joint Contracting Command—Iraq/Afghanistan* (Washington, D.C., September 29, 2008), <http://www.dodig.mil/Audit/reports/fy08/08-119.pdf>.

reports in 2008 and 2009 respectfully. Oversight continues to be a problem and many audit agencies have addressed the problem with little or no results to show for their work. DoD IG and GAO audit reports along with the most recent SIGAR report all detail instances where contract oversight problems have resulted in reduced quality and increased cost of projects. How can the government ensure the quality of a project or service? Oversight.

Quality management is an important part of ensuring that buildings are built to the specifications given in the contract. This is true in the U.S. and in Afghanistan. Construction and Service contracts both lack trained contracting officers representatives. The 19 May 2009 SIGAR report on CSTC-A, found that “CSTC-A lacks effective contract oversight capabilities.”²⁴³ CSTC-A was found to have inadequately trained staff that did not visit the sites where the work was ongoing.²⁴⁴ CSTC-A agreed with the findings and is now using the SIGAR report to obtain the manning, training and transportation necessary to put new processes for project management in place.²⁴⁵ Even though this report was for a service contract, I experienced similar problems on CSTC-A’s construction contracts while stationed with the command in 2007. The work in Kabul was well covered and monitored, but the projects outside of Kabul were difficult to get to due to the lack of transportation options for the Contracting Officer Representative (COR’s). In 2007, there were two people to manage all of the Afghan National Police Construction. One stayed in Kabul and the other traveled to project sites throughout the country. It took on average one week to “bum” rides from other commands to reach all of the project sites in a particular province. With projects spread throughout the country, it was impossible to visit project sites frequently. PRT’s and ISAF forces were used to look in on projects, to ensure construction was indeed taking place. They were not trained to do more than take pictures and make initial assessments. They told me the concrete block that was being used for a building crumbled in their hands for example. CSTC-A paid an

²⁴² SIGAR, *Contract Oversight Capabilities of the Defense Department's Combined Security Transition Command—Afghanistan (CSTC-A) Need Strengthening*.

²⁴³ Ibid., ii.

²⁴⁴ Ibid.

²⁴⁵ Ibid.

Afghan contractor to provide bi-weekly reports on all of the construction projects. The most the CSTC-A staff could do was to check up on those projects when transportation allowed, this was on average every other month, in comparison, Engineering Technicians (ET's), who have extensive construction backgrounds, visit projects daily in the U.S.. So, why has it taken so long to change the way we oversee contracts? It could be because the Afghan conflict was ignored by most audit agencies. This is partly true and can be seen in the difference in the abundance of GAO reports on Iraqi reconstruction (40) and the Afghan reconstruction reports during the same time period (3). The audit agencies may have just been focusing on the conflict where the majority of resources were used as well. The recent SIGAR report and CSTC-A response has lead to an increase in manning allowing for increased contract oversight,²⁴⁶ a step in the right direction. More research is needed to further explore this topic. A soon to be released book, by Thomas Bruneau, delves more deeply into the military contractor relationships and how they impact National Security.²⁴⁷

The Army Corps of Engineers is another contracting agency in Afghanistan. They have tried to implement a quality management/oversight program exactly like the one they use in the U.S. A recent Contract Solicitation released by the U.S. Army Corps of Engineers Afghanistan Engineer District for an Afghan National Police District Headquarters was written as if it were a solicitation for work in the U.S. While I agree with this in principle, I do not agree that Afghan contractors are able to follow all of the requirements of the solicitation. For example, the Safety portion of the contract requires a site safety officer with 30 hour Occupational Safety and Health Administration (OSHA) training. Most of the Afghans do not know what OSHA is and most are illiterate (28% literacy rate²⁴⁸), so how will they meet this requirement? OSHA

²⁴⁶ SIGAR, *Contract Oversight Capabilities of the Defense Department's Combined Security Transition Command—Afghanistan (CSTC-A) Need Strengthening*; "Report on Progress Toward Security Stability in Afghanistan and United States Plan for Sustaining the Afghanistan National Security Forces," *Special Inspector General Afghanistan Reconstruction (SIGAR)* (April 2010), http://www.defense.gov/pubs/pdfs/Report_Final_SecDef_04_26_10.pdf, 96.

²⁴⁷ Thomas Bruneau, *Contractors and the Military in U.S. National Security* (Stanford, CA: Stanford University Press, 2011), soon to be released.

²⁴⁸ index mundi, <http://www.indexmundi.com/afghanistan/literacy.html>.

does not provide classes in the middle of Afghanistan. Also, the requirement to wear Personal Protective Gear will not be followed in most regions because it causes safety concerns in some areas. Many Afghans told me that if they were seen wearing safety equipment (hardhats, steel-toed shoes and reflective vests) the Taliban would know they were working for the Americans and kill them. The quality control section of these contracts should also be reviewed. One of the requirements is for the contractor to use specific software to provide quality control data to the contracting office. While this may be possible in areas like Kabul and Kandahar, this is not possible in the rural areas, which accounts for the majority of Afghanistan. Quality control and safety plans should be required with every contract, the requirement to have them developed and kept on a specific type of software will reduce competition and result in only major companies bidding on projects and then subcontracting them to the rural companies to perform the work, which can increase cost and bureaucracy. The quality management system used in the U.S. will not work in Afghanistan. We need to take a hard look at the solicitations we are sending out and ensure that they are consistent with local practices, instead of with what we perceive is the right thing. Taking a more cultural approach to contracts and construction may go a long way to developing better relationships a better quality product.

3. Culture

The United States and its Coalition forces, despite a shift toward a more population centric strategy, still need a better understanding of the culture, as well as the necessities, which the average Afghan requires to make marked progress against the Taliban insurgency.

The International Council on Security and Development (ICOS), an international policy think tank, recently published a study based on interviews of Afghan men from Kandahar and Helmand provinces.²⁴⁹ They found that 75% of Afghans interviewed believe that foreigners are disrespecting their religion and traditions, and violate local

²⁴⁹ The International Council on Security and Development (ICOS): Afghanistan: The Relationship Gap, ICOS, July 2010.

customs.²⁵⁰ Afghans cited the cultural insensitivity of foreign forces as one of the main causes of their resentment and mistrust.²⁵¹ These findings show that changes are needed in the way we conduct COIN missions in Afghanistan. The need for change is addressed in other documents as well, as seen below.

According to Sean McKenna and Russell Hampsey, the discovery of previously mismanaged projects and funding is negatively impacting the stabilization and development personnel currently in Afghanistan.²⁵² The mismanagement and lack of cultural understanding impacts everyone, the military and civilians trying to provide viable projects, and the local communities. I was frustrated myself when I was there in 2007. On several occasions, I went to grid coordinates where a building was supposed to exist, only to find a slab, if that. The government had already paid the contractor, and either the grid coordinates for the projects were wrong, or nothing was built. In other cases, I saw buildings where the quality was poor and others where the lack of cultural sensitivity during design and construction resulted in poor maintenance. For example when sinks were fastened to the wall, with no abolution area to wash. The sinks quickly fall off the walls from the pressure put on them from the abolution process. McKenna and Hampsey recommend that personnel ensure that there is a system of sustainability and quality, and try to using local contractors.²⁵³ A conference held in Great Britain came to similar conclusions.

The Wilton Park Conference 1022, held in March 2010, had members from several sectors of the nation-building effort, to include military, Afghan government, UN and NGOs.²⁵⁴ Some of the recommendations found in the report from this conference are

²⁵⁰ ICOS, 14.

²⁵¹ Ibid., 57.

²⁵² McKenna and Hampsey, "Counterinsurgency Advisory Assistance Team (CAAT): "The COIN Warrior," Waging Influence: Hints for the Counterinsurgency (COIN) Strategy in Afghanistan," 14.

²⁵³ Ibid.

²⁵⁴ Thompson, "Report on Wilton Park Conference 1022." This conference was titled "Winning 'Hearts And Minds' In Afghanistan: Assessing the Effectiveness of Development Aid in Coin Operations," and was organized in partnership with the Feinstein International Center, Tufts University, with support from the Australian Agency for International Development (AusAid), the Asia Pacific Civil-Military Centre of Excellence, the Royal Norwegian Ministry of Foreign Affairs, the Swedish International Development Cooperation Agency (SIDA), and the British Foreign and Commonwealth Office (FCO).

pertinent to this thesis. The first is to ensure good quality for all projects, which is discussed in most documents on COIN and Afghanistan. The quality of projects has been traditionally poor for reasons discussed earlier in Chapter IV. The next recommendation is to “avoiding cultural faux pas,” which requires the people providing the service or projects to be familiar with the culture. Finally, they recommend that “genuine consultation, which requires appreciation for local context and culture” be used for all projects.²⁵⁵ It is difficult to achieve genuine consultation when the designers of the projects never meet the local populations, and sometimes are not even in the country. The report states, “from an aid effectiveness perspective, process (over product) will continue to be central to how much legitimacy the international community can win for both itself and the GIRoA.”²⁵⁶ The way we build, communicating with the local populations, understanding their cultural techniques and materials and incorporating them into our designs will support the Wilton Park reports argument. A recent RAND report discusses similar findings.

A 2009-RAND report, “It is widely agreed that effective civilian relief, reconstruction, and development work can help convince people to support their government against insurgency. Knowing this insurgents will target such work.”²⁵⁷ A later report by RAND states, “the frequency with which insurgents attack schools, government offices, courthouses, pipelines, electrical grids and the like is evidence that civil COIN threatens them.”²⁵⁸ So, insurgents are targeting development projects because they are effective tools. The 2010-Rand report also states that “If the community is

²⁵⁵ Thompson, “Report on Wilton Park Conference 1022,” 16–17.

²⁵⁶ *Ibid.*, 21.

²⁵⁷ Gompert, Kelly, Lawson, Parker, and Colloton, “Reconstruction under Fire: Unifying Civil and Military Counterinsurgency.”

²⁵⁸ Lawson, Kelly, Parker, Colloton, and Watkins, “Reconstruction under Fire: Case Studies and Further Analysis of Civil Requirements: A Companion Volume of Reconstruction under Fire: Unifying Civil and Military Counterinsurgency,” 2.

involved with a node's construction or refurbishment, it is widely believed that the public will be more likely to protect the node if external threats develop."²⁵⁹ This was evident in Greg Mortenson's most recent book.²⁶⁰

Mortenson tells a story of how a mob approached one of the Central Asia Institutes Schools, in Afghanistan, after destroying every foreign aid office in the town. The mob was upset by a recent Newsweek story about the desecration of the Koran. When the mob approached the school, "they were met by a group of elders, who had donated the land for the school, organized the laborers who built it, and participated in the laying of the corner-stone." These elders told them that the school "was their school, they were proud of it, and they demanded that it be left alone."²⁶¹ They were successful, the crowd left. This is one example, where the involvement of the local people in the construction process created a strong sense of ownership. This sense of ownership was so powerful that they are willing to risk their personal safety to ensure that the building is secure. Mortenson takes his time, involves the communities in the process, uses local materials and techniques, and in the end the schools his organization builds are sustained. While the U.S. is on a shorter time line, Mortenson's example could be used to encourage changes in the current construction processes. Mortenson is not the only one who understands the need to engage the community. Natsios, a former administrator for USAID, includes this in their "Principles for Reconstruction and Development."²⁶² Under ownership section he states,

When ownership exists and a community invests itself in a project, the citizens will defend, maintain, and expand the project well after donors have departed. If what is left behind makes no sense to them, does not meet their needs, or does not belong to them, they will abandon it as soon as aid agencies leave.²⁶³

²⁵⁹ Gompert, Kelly, Lawson, Parker, and Colloton, "Reconstruction under Fire: Unifying Civil and Military Counterinsurgency," 33.

²⁶⁰ Mortenson, *Stones into Schools*.

²⁶¹ Ibid., 135–139.

²⁶² Andrew S. Natsios, "USAID Principles for Reconstruction and Development," *Parameters*, U.S. Army War College, Carlisle, PA (Autumn 2005), <http://www.carlisle.army.mil/usawc/Parameters/Articles/05autumn/natsios.pdf>.

²⁶³ Natsios, "USAID Principles for Reconstruction and Development," 7.

David Kilcullen also talks about how, “Actions that help build trusted networks serve your cause.”²⁶⁴ The networks built by using culturally correct processes are powerful as seen above.

There is proof that people take better care of things that they play a part in creating, as seen in Mortenson’s example above. People with different backgrounds agree, and the Taliban is actively trying to discourage these types of projects.

Studying the local structures and construction techniques will aid in designing culturally acceptable facilities.

By studying these structures, identified in Chapter I, the reconstruction effort can be improved by using the materials and techniques appropriate for that region. In the past local techniques have been all but ignored, for reasons discussed in Chapter I. Coalition and NGO organizations have required Afghan contractors to build structures from plans drawn by architects in the United States, who are not aware of local building techniques and cultural norms of the region. Another concern is that these building plans are used for the entire country. One set of plans, building materials, building techniques, is used for all of Afghanistan. This does not take into account the availability of building materials, local population’s ability to build with those materials, or the possibility that the traditional materials and techniques may be superior to the ones specified. If we require the local construction force to build structures using materials and techniques unfamiliar to them, we must understand that the learning curve associated with the production of a quality structure will be long and even when built well, the structure may not be appropriate for the environment where it is built. “It is a mistake to assume that the Afghans will be grateful for, or benefit from, reconstruction aid that is not consistent with their environmental experience or cultural heritage.”²⁶⁵ The study of the types of dwellings common to each area of the country is required to ensure that local culture and techniques are considered when designing and building structures throughout Afghanistan.

²⁶⁴ David Kilcullen, *Counterinsurgency* (New York: Oxford University Press, Inc., 2010).

²⁶⁵ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 5.

The local structures designs are the result of thousands of years of ‘research’ by local architects. Foreign aid organizations should explore these techniques before they disregard them entirely. The bad-gir is a good example of an addition that is widely used locally but rarely incorporated in foreign designs.

Foreign designers should also consider seismic risk. Some traditional structures are designed to withstand seismic tremors. “The earthquake-resistant properties of *senj* construction were undoubtedly learned in part by observing which buildings, or parts of buildings, remained standing after severe tremors.”²⁶⁶ There are many local traditions that should be considered when building in Afghanistan.

Another tradition is how the local builders orient structures. Review of the orientation of local structures show that they normally face the south and southeast. This orientation allows the maximum amount of solar energy during the winter and minimum in the summer. These techniques should be taken into consideration when building new facilities as well. A short interview with a local builder, or research into the regional norms, should be incorporated into the architect’s time when designing structures in Afghanistan. This will ensure that local techniques are considered and possibly incorporated into the designs. Review of the different structures is the basic level of knowledge required.

An example of the U.S. forcing foreign construction techniques on Afghan contractors can be found in a project that took place in Nuristan in 2007. The foreign designers specified a metal building, with rolled insulation, for a town in Nuristan. The prime contractor out of Kabul hired workers local to the region for the construction of the facility. The foreign contracting agency did not take local construction techniques into consideration when designing this facility. The local builders, tried to follow the design on the drawings. Due to the lack of experience with the materials and techniques needed to build this structure, they failed miserably.

The metal trusses were spot welded and did not overlap as required to provide a structurally sound facility. The addition of a snow load in the region made the buildings

²⁶⁶ Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 4.

structural integrity more precarious. Also, the metal beams were not painted with rust resistant paint. Rust and corrosion was already evident. Finally, the local builders had never worked with rolled insulation. Their buildings are insulated with the thick rock and wood walls. They installed the insulation from the inside out, leaving the insulation exposed to the environment while attaching the exterior metal panels. This resulted in wet insulation that was already showing signs of mold. After a sight visit by the foreign agency, a decision was made to allow the use of the traditional construction techniques. These techniques and materials were better suited for this region of Afghanistan. The materials were locally available, unlike the material used in the foreign structure. The cost of transporting the metal materials was significant as the roads in this region are precarious at best, with frequent avalanches and floods blocking roads for days or months. This is a case where a little cultural knowledge could have saved the foreign agency time and money and the local builders the embarrassment of failure.

Another example is construction of some facilities in the Mazar-I-Sharif region. This facility called for a series of wooden huts. Approximately three years after the huts were built, significant deterioration was found due to wood boring insects. After a short consultation with a local builder, the foreign organization, which provided the initial funding for the construction were informed the local tradition called for buildings built without wood. This was due to the lack of availability of wood and the insect problem. The entire facility would need to be replaced. If the local builders would have been consulted from the beginning, the foreign agency could have saved time and money. Again, the designer was designing the facility far away from the local area. An assumption was made that the same design could be used throughout Afghanistan. Had the designer traveled to the region, they might have noticed the domed roofs and asked why it was so prevalent in the region. Even if they did not have time for the trip, a short phone consultation with a local builder would have resulted in a design more appropriate for the region. The local population looks at the facilities being built and wonders what the foreign countries are thinking.

Another recent development that will further increase the cost in both lives and dollars for using non-indigenous materials is the ban of security contractors in

Afghanistan. President Hamid Karzai announced on 17 August 2010, “ordering the disbanding of private security forces in Afghanistan by the end of the year.”²⁶⁷ This is a significant development, as the transportation of materials throughout Afghanistan currently requires security to ensure their delivery. The use of locally supplied materials is now a critical piece to the reconstruction effort.

C. CONCLUSION

This first part of this chapter defined COIN, Insurgency, and Stability Operations and discussed how they were related to each other and to the reconstruction effort. Construction was shown to be a critical piece of all of the five tasks of stability operations and since the construction mission is contracted out in Afghanistan, a discussion of the challenges of contracting is necessary to understand the challenges to construction and COIN.

Several challenges to construction contracting in Afghanistan were identified and discussed. Coordination, capacity building, and corruption are critical to ensuring that quality structures are built. Solving these challenges alone will not result in winning the hearts and minds of many Afghans. Even if all of these challenges were resolved, there would still be quality problems. Why?

I contend that the most critical piece is missing. Culture. We can build the best buildings in the world, but if they are not what the Afghans want then it was a waste of our time and money. If winning the trust and confidence of the Afghans is tied to developing an effective Afghan government, and construction is a part of that, then we will fail until we put all of the pieces of the puzzle together. If the contracts require the use of locally acquired materials, the local economy will benefit and the cost of transportation, both in lives and money, will be reduced. The requirement for techniques familiar to the Afghans, will increase the quality, which will reduce the amount of oversight, reduce their maintenance cost, which reduces the capacity needed to maintain the facility and increases the pride in the facility, reducing the pilfering.

²⁶⁷ Dexter Filkins, Scott Shane and Alissa J. Rubin, “Karzai Orders Guard Firms to Disband,” *The New York Times*, August 17, 2010.

This chapter shows how COIN is tied to Stability Operations, which is tied to construction, which is tied to contracting, and when construction is performed in a culturally correct manner, can inspire passion strong enough for local leaders to put their safety at risk for the security of the building. This is powerful. We need to get this right.

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V. RECOMMENDATIONS AND CONCLUSIONS

A. RECOMMENDATIONS

SIGAR, GAO, DOD IG and other inspection organizations have a plethora of recommendations when it comes to construction contracting in Afghanistan. As discussed before, all of these organizations miss the cultural aspect of construction. The key to understanding the culture in Afghanistan, is taking the time to learn about it. Drink tea. Talk to people. Allow them time to interact, instead of telling them what to do. My recommendations are broken down into three simple areas: educate, feedback, and re-evaluate and incorporate feedback. These are described in greater detail below.

1. Educate

Designers, engineers, acquisition personnel, and military leaders must be educated about culturally correct construction. They should also learn the importance of using indigenous materials and techniques and how their use can support the COIN mission, reduce time and transportation cost and possibly save lives.

2. Feedback

The local communities and governments should be involved in all steps of the construction process, from project inception to construction completion and finally sustainment. They should be given the opportunity to comment at all times, so that these comments can be incorporated into the construction process. How much we build is not as important as how we build and the communities' acceptance of these facilities.

3. Re-Evaluate and Incorporate Feedback

Use the feedback from the local populations and allow changes to processes. We traditionally attempt to force our culture and techniques on local populations without a desire to understand and respect theirs. Instead of ignoring the depth of knowledge that the local population brings, we should embrace it and use it as a catalyst for research into more sustainable techniques. Processes should be continually evaluated for improvement.

B. CONCLUSIONS

Given the reported weakness in the design and construction of U.S.-sponsored facilities in Afghanistan, culturally sensitive construction will improve outcomes. The use of indigenous materials and techniques also has the potential to save time, money and lives, through the reduced need for material transportation. If culturally and environmental sensitive construction techniques are of higher sustainability, then the benefits of change of philosophy are quite clear. Projects would be driven by local demands and built in accordance with local conditions and standards. Thus would foster ownership and likely reduce corruption.

An appreciation of the aid and reconstruction history of Afghanistan can be used to ensure cohesive interaction between all parties involved in today's reconstruction mission. The amount of players involved in the reconstruction effort has created a complicate web for the military to navigate. Cooperate and coordinate is a must to ensure mission accomplishment.

Coordination is not the only issue plaguing the reconstruction efforts in Afghanistan. Capacity building, corruption, and quality control have all been identified by inspection agencies as issues that need to be corrected. All of these agencies have missed what I believe is the most important piece. Culture. Without a cultural understanding of the Afghan landscape, a true connection to the Afghan people will not be possible. This connection is critical to the COIN mission. As shown in Chapter IV, construction is an integral part of the COIN mission.

The DoDs contracting processes must allow for culturally correct materials and techniques that support the COIN mission. Time money and possibly lives are at stake.

APPENDIX A.

A. SECTION 1: PHYSICAL MAPS



Figure 1. Physical Terrain Map of Afghanistan.²⁶⁸

²⁶⁸ Produced by the Central Intelligence Agency, Reprinted from the University of Texas Perry-Castaneda Library Map Collection, 2008, http://www.lib.utexas.edu/maps/middle_east_and_asia/txu-oclc-310605662-afghanistan_rel_2008.jpg.

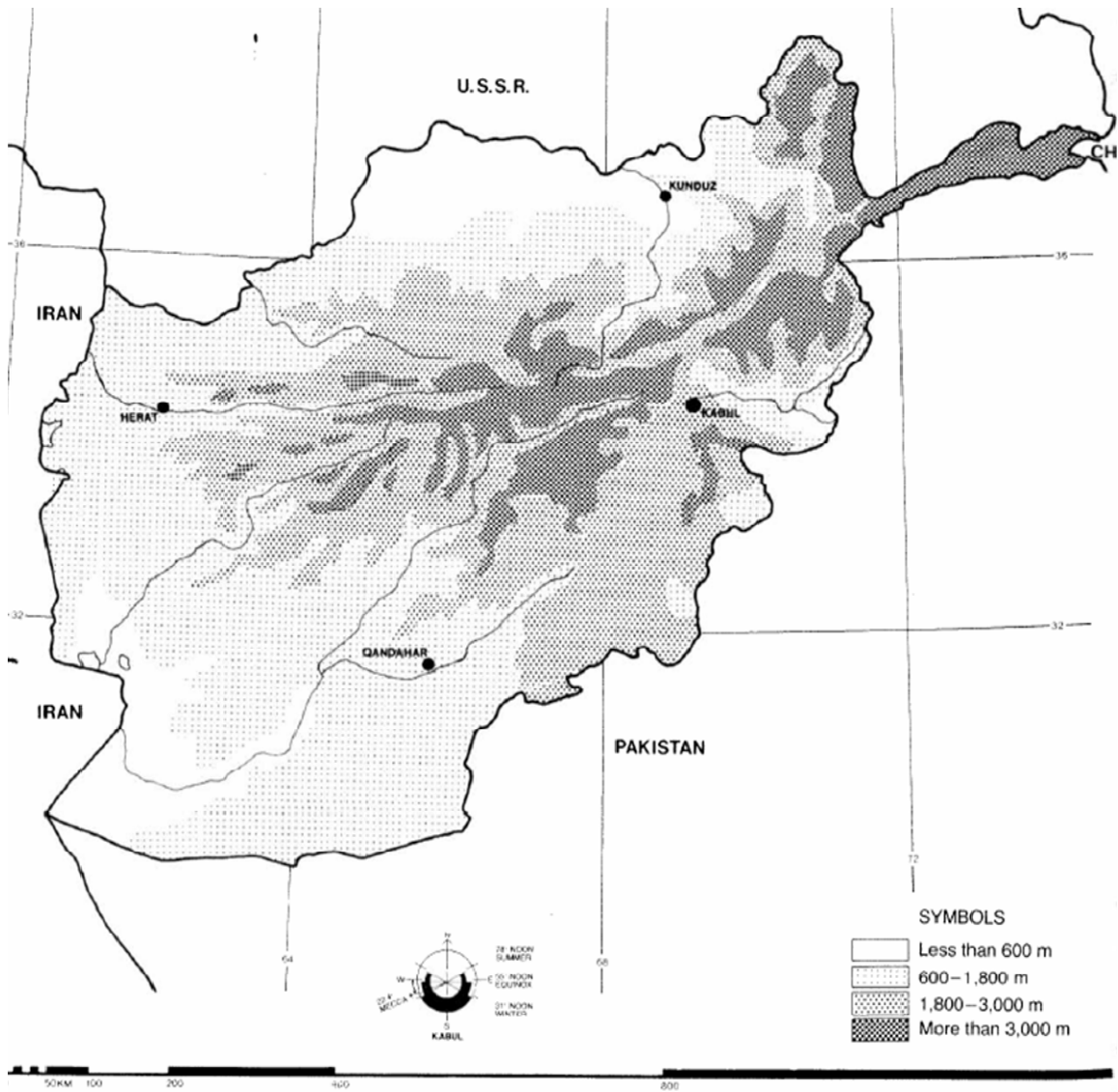


Figure 2. Elevation Map of Afghanistan.²⁶⁹

²⁶⁹ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 248.

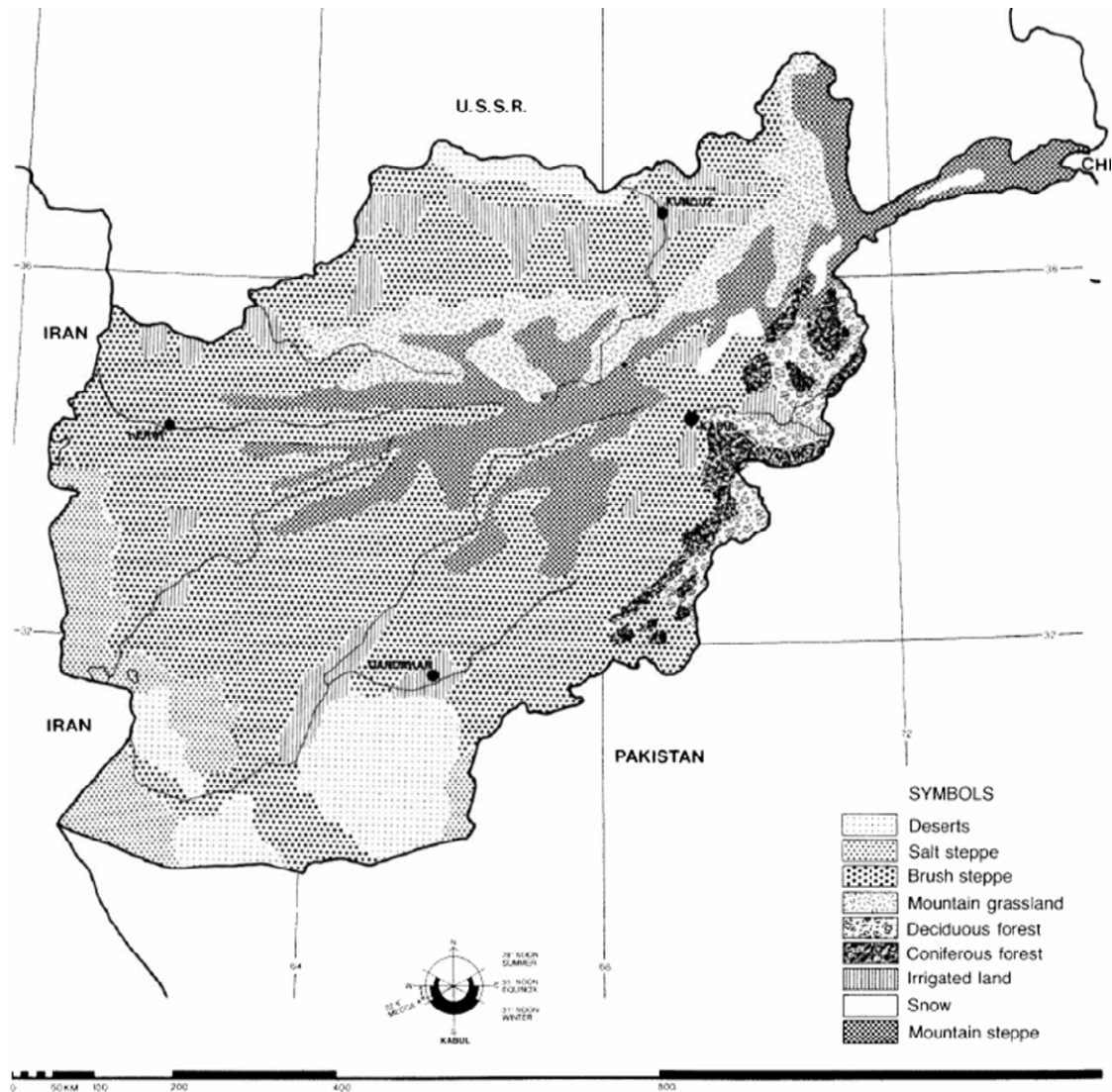


Figure 4. Vegetation Map of Afghanistan.²⁷¹

²⁷¹ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 249.

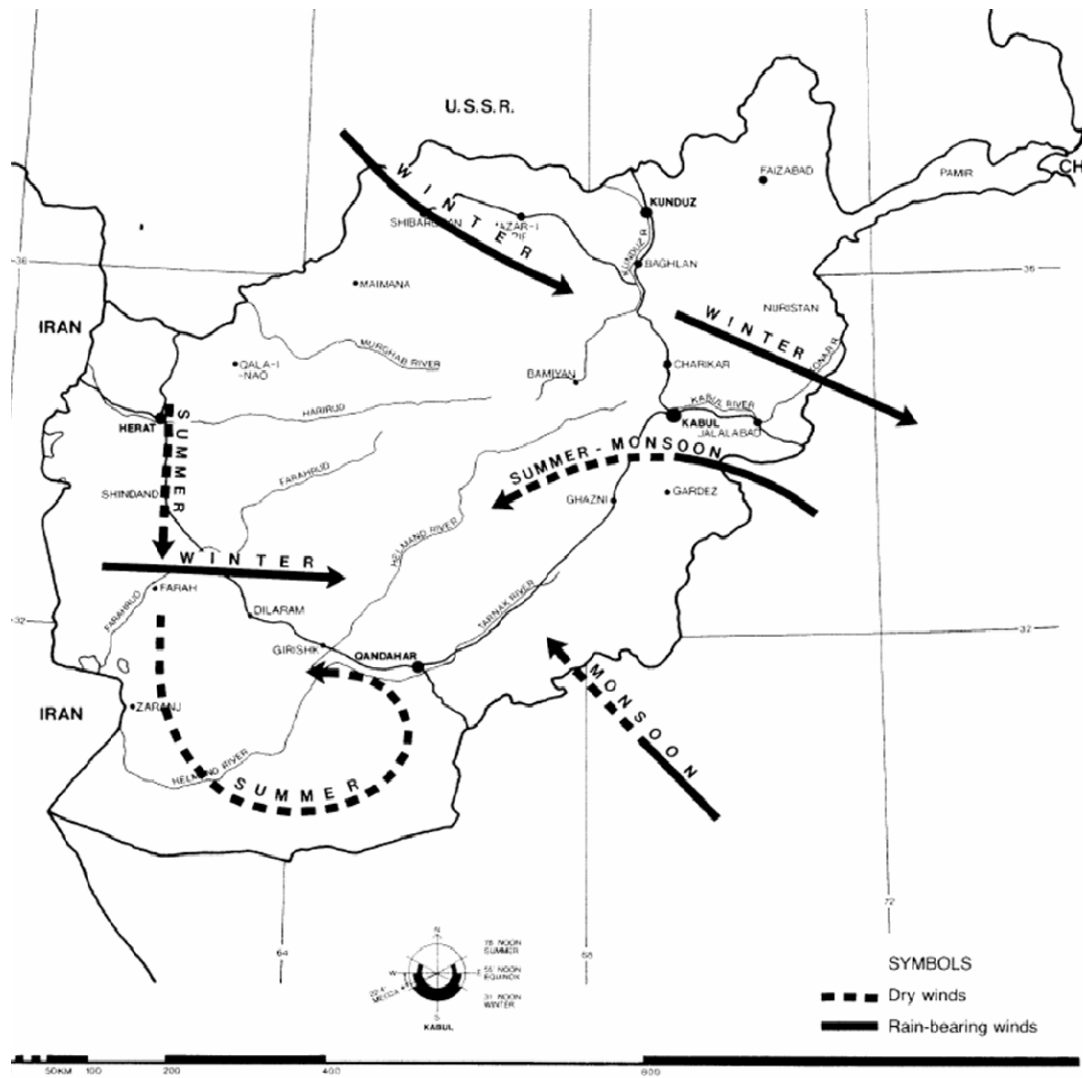


Figure 5. Wind Map of Afghanistan.²⁷²

²⁷² Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 253.

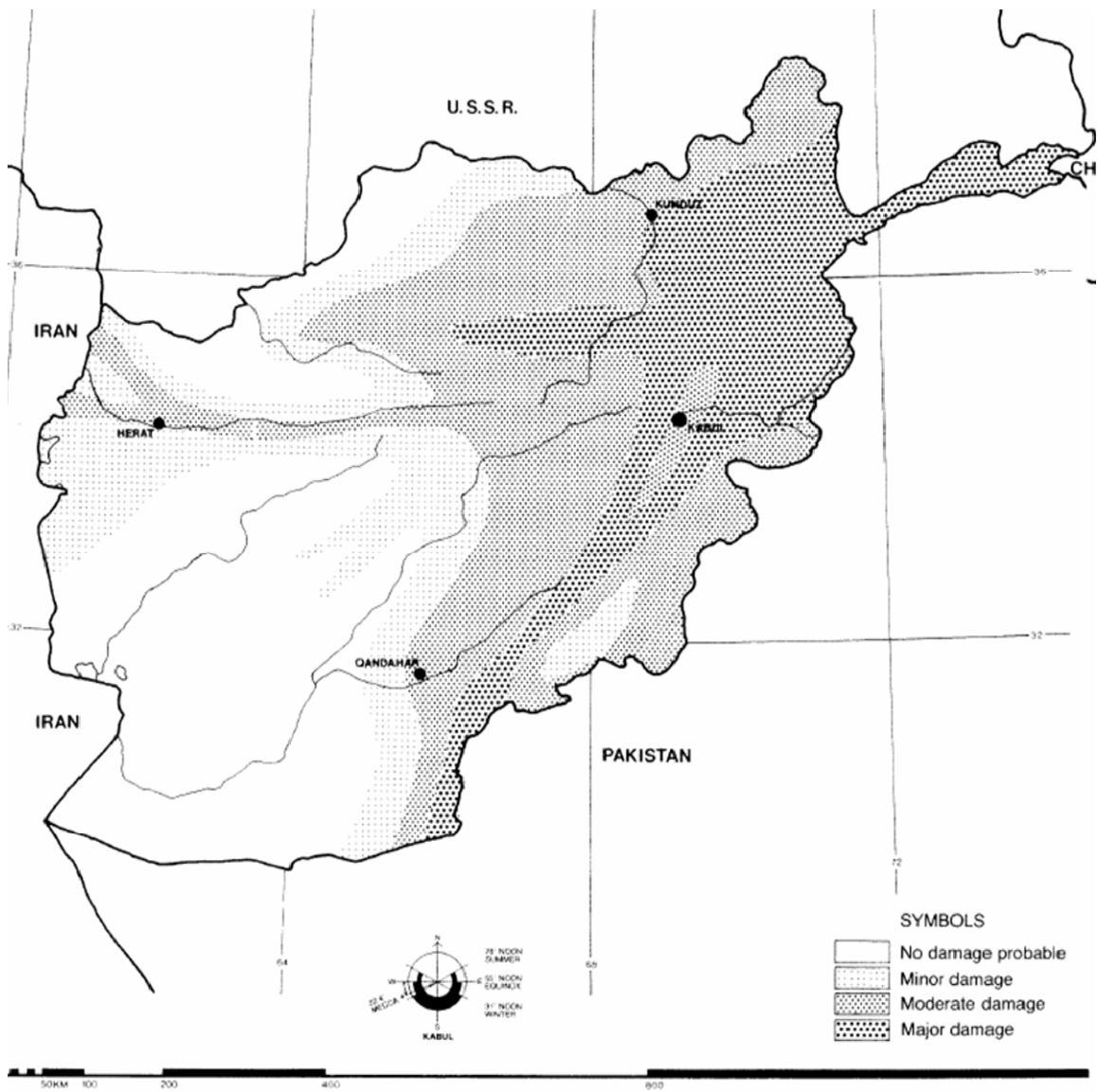


Figure 6. Seismic Risk Map of Afghanistan.²⁷³

²⁷³ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 255.

B. SECTION 2: POLITICAL/POPULATION MAPS



Figure 7. Political (Administrative Divisions) Map of Afghanistan.²⁷⁴

²⁷⁴ Produced by the Central Intelligence Agency, 2008.

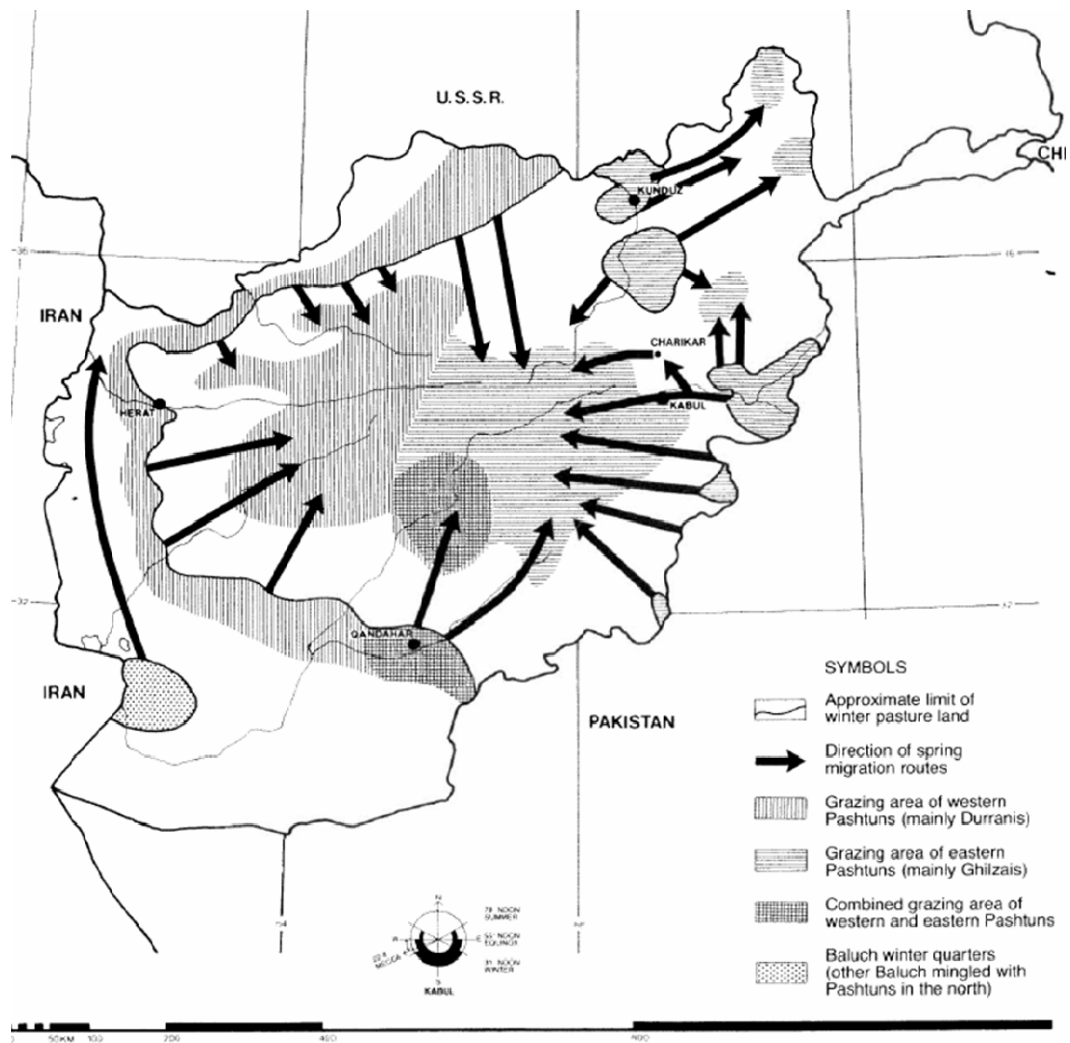


Figure 8. Nomadic Route Map of Afghanistan.²⁷⁵

²⁷⁵ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 257.

Ethnolinguistic Groups in Afghanistan



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Figure 9. Ethnolinguistic Group Distribution Map of Afghanistan.²⁷⁶

²⁷⁶ Produced by the Central Intelligence Agency, Reprinted from the University of Texas Perry-Castaneda Library Map Collection, 1997,
http://www.lib.utexas.edu/maps/middle_east_and_asia/afghanistan_ethnoling_97.jpg.

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APPENDIX B.

A. SECTION 1: NONSEDENTARY DWELLING SKETCHES

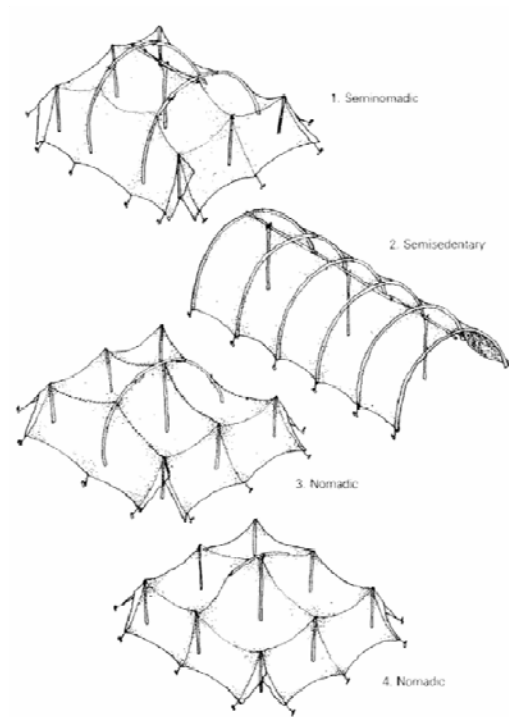


Plate 1. Sketch of a Durrani Vaulted Black Tent²⁷⁷

²⁷⁷ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 33.

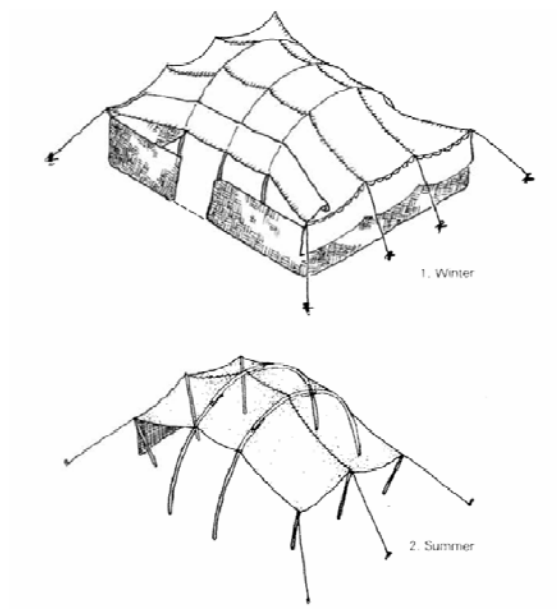


Plate 2. Sketch of a Baluch Vaulted Black Tent²⁷⁸



Plate 3. Sketch of a Ghilzai Peaked Black Tent²⁷⁹

²⁷⁸ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 39.

²⁷⁹ *Ibid.*, 43.

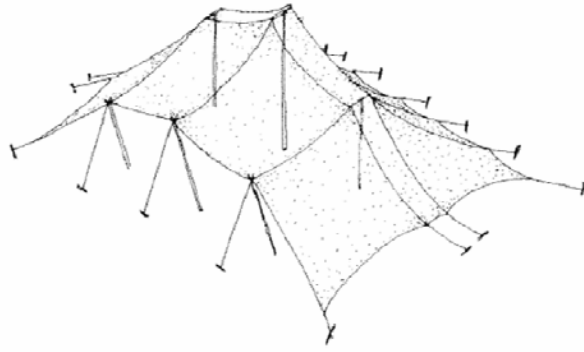


Plate 4. Sketch of a Brahui Peaked Black Tent²⁸⁰

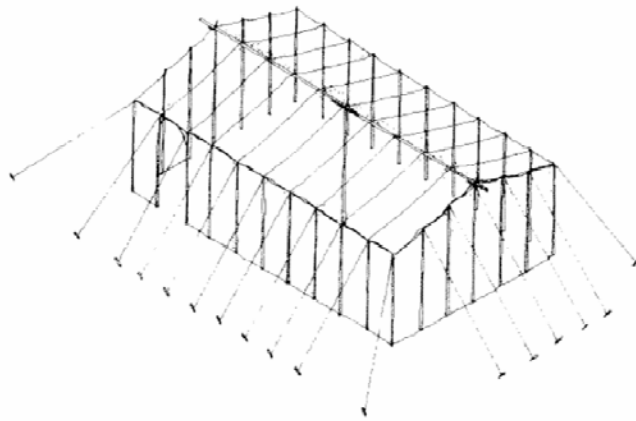


Plate 5. Sketch of a Taimani Black Tent²⁸¹

²⁸⁰ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 47.

²⁸¹ *Ibid.*, 49.

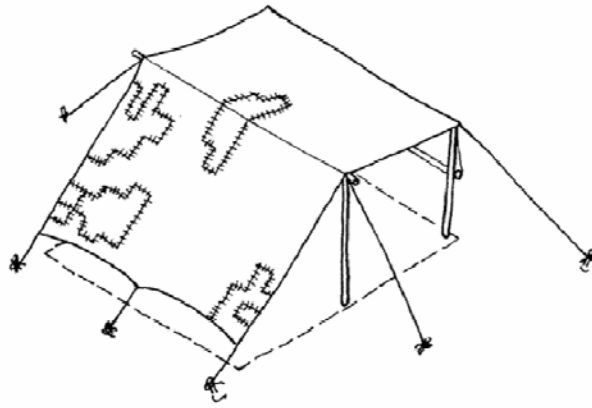


Plate 6. Sketch of a Jugi Cotton Tent²⁸²

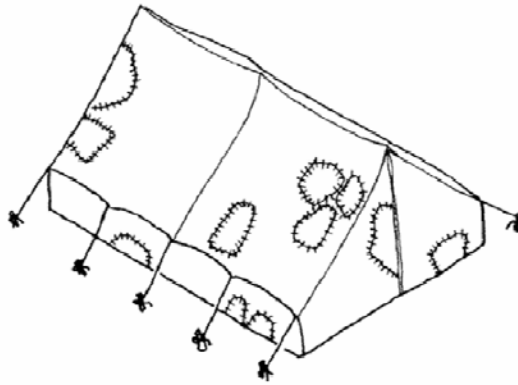


Plate 7. Sketch of a Jat Cotton Tent²⁸³

²⁸² Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 53.

²⁸³ *Ibid.*, 57.



Photo 1. Jat Cotton Tents outside Kabul²⁸⁴

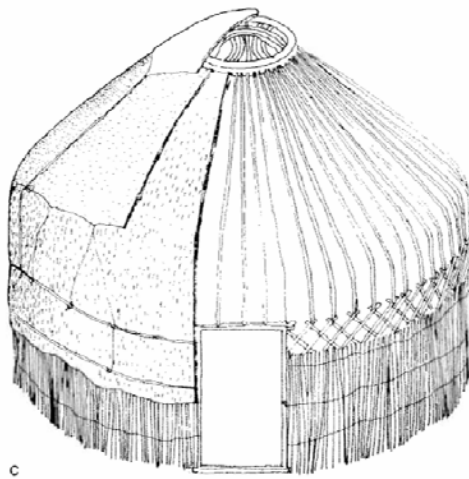


Plate 8. Cutaway Sketch of a Domical Yurt²⁸⁵

²⁸⁴ Taken by the author.

²⁸⁵ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 64.

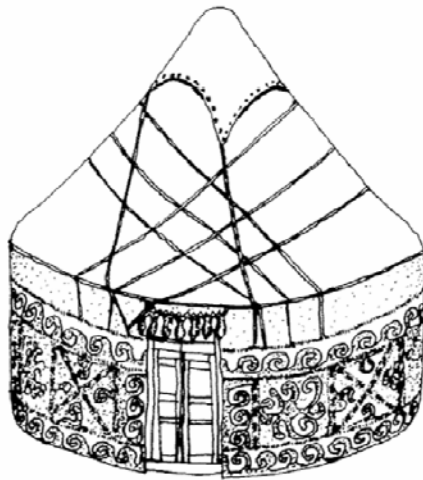


Plate 9. Sketch of a Conical Yurt²⁸⁶

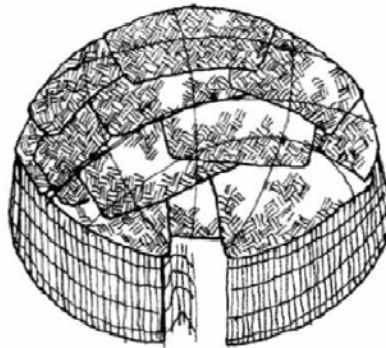


Plate 10. Sketch of a Circular Hut²⁸⁷

²⁸⁶ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 69.

²⁸⁷ *Ibid.*, 75.

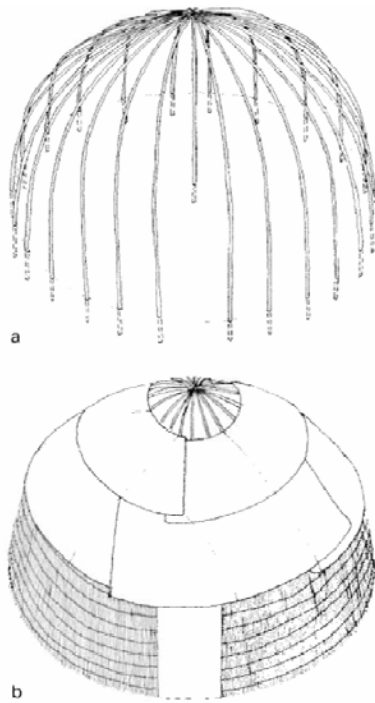


Plate 11. Sketch of a Circular Hut with Center Pole²⁸⁸

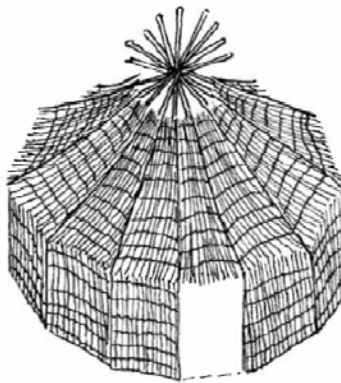


Plate 12. Sketch of a Polygonal Hut²⁸⁹

²⁸⁸ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 83.

²⁸⁹ *Ibid.*, 87.



Plate 13. Sketch of an Ovate-Oblong Hut²⁹⁰

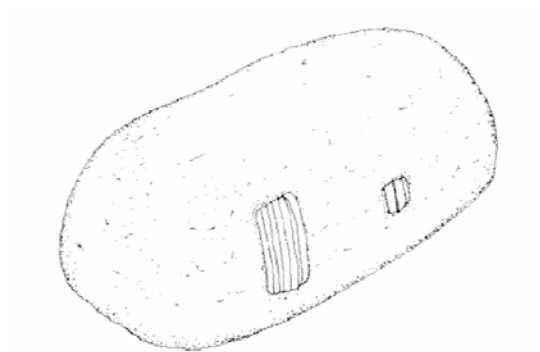


Plate 14. Sketch of an Ovate-Oblong Hut²⁹¹

²⁹⁰ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 99.

²⁹¹ *Ibid.*, 103.

B. SECTION 2: SEDENTARY DWELLING SKETCHES

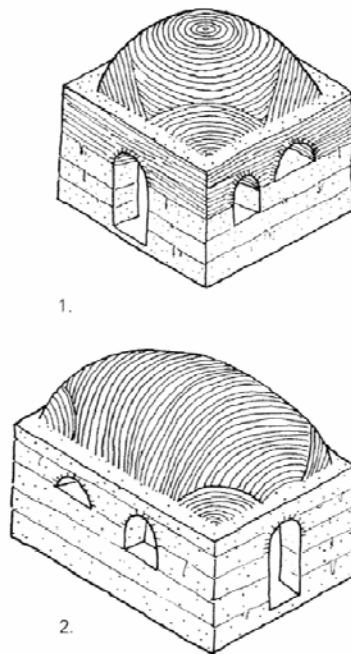


Plate 15. Sketch of Curved-Roof Buildings²⁹²

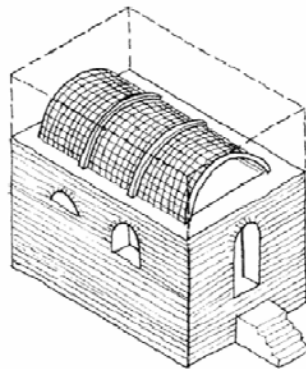


Plate 16. Sketch of Curved-Roof Construction (Single Vault)²⁹³

²⁹² Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 119.

²⁹³ Ibid., 123.

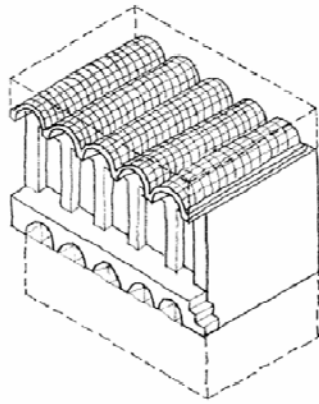


Plate 17. Sketch of Curved-Roof Construction (Multiple Vaults)²⁹⁴

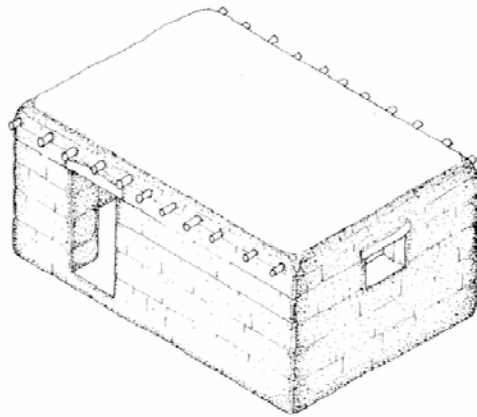


Plate 18. Sketch of Flat-Roof Buildings²⁹⁵

²⁹⁴ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 127.

²⁹⁵ *Ibid.*, 135.



Photo 2. Interior Look at Roof Structure Showing Brick Wall Structure²⁹⁶



Photo 3. Flat Roof Construction in Khost²⁹⁷

²⁹⁶ Taken by the author.

²⁹⁷ Ibid.



Photo 4. Erosion of Mud/Clay Mixture on a Clay Structure²⁹⁸

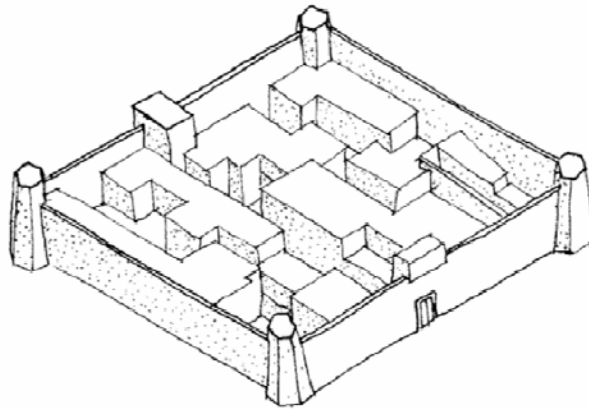


Plate 19. Sketch of a Fortified Compound²⁹⁹

²⁹⁸ Taken by the author.

²⁹⁹ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 141.

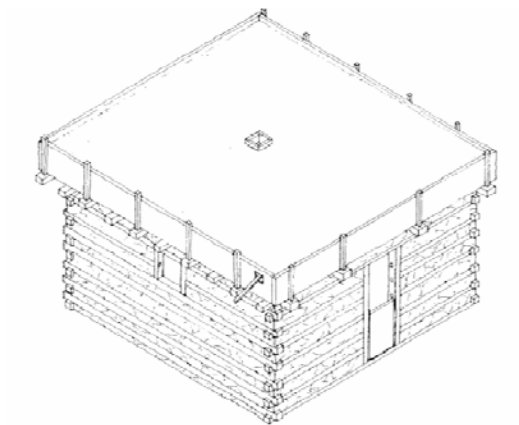


Plate 20. Sketch of Nuristani Flat-Roof Construction³⁰⁰

³⁰⁰ Reprinted from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 149.

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APPENDIX C.

A. SECTION 1: NONSEDENTARY DWELLING DATABASE

Nonsedentary Afghan Dwellings

	Tribes	Dwelling Type	Local Name	Location (Regions)	Time of Use	Resident Occupation	Identifying Characteristics
1	Pashtun (Durani)	Vaulted Black Tent	Ghazdi (Pashto)	Far North, South, Southwest, Central	Year-round (Specific types vary with season)	Nomadic and Semi-nomadic Herders	Hoops and/or "laars" Hoops which give barrel-vault appearance*
2	Baluch	Vaulted Black Tent		South, Southwest, West	Summer and Winter	Nomadic Herders	3 sets of peak ridges*
3	Pashtun (Ghilzai)	Peaked Black Tent	Ghazdi (Pashto)	Central, East	Year-round	Nomadic Herders	3 center peaks with highest peak in the center
4	Brakhi	Peaked Black Tent		South	Spring, Summer	Farmers and Herders	Rectangular shape with central ridge (varying number of poles)
5	Taimani	Rectangular Black Tent	Palasi-siyani (Dari)	Central	Summer	Farmers and Herders	Flat top with sloping side cloth
6	Jugi	Cotton Tent	Khaima (Dari)	North (near Samangan)	Summer	Fotune-tellers, peddlers, beggars	Long centerline peak
7	Jat	Cotton Tent	Khaima (Dari)	East (near Kabul)	Spring, Summer, Fall	Fotune-tellers, peddlers, beggars	Circular base, lattice framing, dome shaped roof
8	Turkmen, Uzbekis, C. Asian Arabs, Kirgiz	Domical Yurt	Khayga (Dari, Oboe Turkic)	North, Panir	Spring, Summer, Year-round	Semi-sedentary/Semi-nomadic Herders	Conical, bell shaped roof
9	Ferozshahi	Conical Yurt	Khayga (Dari)	Central/Noth	Summer	Farmers and Herders	Circular base, hemispherical roof (overlapped mating)
10	Uzbekis, C. Asian Arabs, Tajiks, Turkmen	Circular Hut	Lacheg (Uzbek)	North (near Samangan)	Summer	Farmers and Herders	Circular reed base, reeded dome
11	C. Asian Arabs	Circular Hut	Kappa-chamsi (Dari)	North (near Kunduz)	Fall, Winter	Herders	Dome shaped, reed wall, roof mating, centripole
12	Day Kohes, Hazaras	Circular Hut	Chapani (Dari)	Central/Noth	Summer and Fall	Farmers and Herders	Dome shaped, reed wall and roof, no centripole
13	Hazaras, N. Taimanis	Circular Hut	Chapani (Dari)	Central/Noth	Summer and Fall	Farmers and Herders	Reed wall and roof, multibanded, polygonal roof, stick cluster at peak
14	Hazaras	Polygonal Hut	Chapani (Dari)	Central/Noth	Summer	Farmers and Herders	Reed wall, felt or canvas semi-vaulted roof
15	C. Asian Arabs	Rectangular Huts	Kappa-ants (Dari)	Northwest (near Ragh)	Spring and Summer	Semi-nomadic	Rectangular angled reed walls, rounded corners, minimally curved thatch roof
16	C. Asian Arabs	Rectangular Huts	Chudara (Dari)	Northeast (near Kunduz)	Year-round, stooge	Semi-nomadic	Rectangular, rounded end walls, muddled totally (Winter), muddled with roof mating exposed (Summer), small windows
17	Pashuns	Oval-Oblong Huts	Kodai (Pashto)	East (near Jalalabad)	Fall, Winter	Herders and traders	Oval shaped floppan, walled walls, reed-matt rounded roof
18	Baluch, Pashtuns, Brakhs	Oval-Oblong Huts	Kook (Baluch)	South (near Sahyal and along Helmand River)	Year-round	Farmers and Herders	*Number of peaks depends on size of season = fewer) and nomadic tendency of specific group (more mobile = fewer)
19	Tajiks	Oval-Oblong Huts	Kupa (Dari)	Northeast (near Farezabad)	Summer	Farmers and Herders	

Database 1. Nonsedentary Afghan Dwellings³⁰¹

³⁰¹ Compiled from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 32–37, 38–41, 42–45, 46–47, 48–49, 52–55, 56–58, 62–67, 68–71, 74–77, 78–81, 82v83, 84–85, 86–89, 90–93, 84–97, 98–101, 102–107, 108–110.

B. SECTION 2: SEDENTARY DWELLING DATABASE

Sedentary Afghan Dwellings

	Tribe	Dwelling Type	Local Name	Location (Regions)	Resident Occupation	Identifying Characteristics
1	Hazaras, mountain Tajiks	Cave	Magara (Dan)	Bamiyan	Subsistence farmers	Added: wood/mud roof extensions at front, masonry/day walls
2	Pashtuns, Turkmen, Uzbeks, Tajiks	Curved-Roof (sun-dried brick domes and vaults)	Gurbad (Dan), Zerb (Dan)	Southwest, West, Northwest, North	Sedentary	Sun-dried brick (no wood) domes (square base) or vaults (rectangular base), thick walls
3	Pashtuns	Curved-Roof (fired brick vaults and ribs)	Khanche-pooch (Dan)	Kandahar	Sedentary	Ribbed, single vaulted interior, flat roof exterior, fired brick materials (no wood)
4	Pashtuns	Curved-Roof (fired brick vaults and timber beams)		Kandahar	Sedentary	Multi-vaulted interior, flat roof exterior, wood beams, fired brick
5	Pashtuns, Baluch	Curved-Roof (reed vaults)		Southwest	Semisettentary	Long, single vault on thick walls, raised, recessed door, mud exterior
6	Pashtuns, Tajiks, Hazaras	Flat-Roof (brick or pakhsa walls)	Khana (Dan), Kota (Dan)	Central, East, North, Northeast	Sedentary	Pressed mud walls (rural), dried brick walls (urban), flat clay roof supported by poplar poles which extend from the walls (where wood is scarce, domes), single or multi-unit
7	Pashtuns, Hazaras	Flat-Roof (massive pakhsa walls)	Qala	East, Southeast	Sedentary	Square/rectangular plan, large, thick walls surrounding interior compound, corner defensive towers
8	Tajiks	Flat-Roof (massive stone walls)		East/Northeast near Charikar	Sedentary	Thick stone walls, horizontal stone work, flat clay/wood roof with poplar supports, few windows
9	Nuristanis, Pashtuns	Flat-Roof (timber and stone walls)	Ano (Kamen)	East (surrounding Nuristan)	Sedentary	Alternating wood and stone layers in walls, two stories tall, flat roofs tend to extend beyond walls, center roof smoke hole
10	Tajiks	Flat-Roof (brick and wood-frame walls)	Senj (Dan)	Istaf	Sedentary	Mud-covered walls usually on upper stories but can be on first floor (Kabul), exterior diagonal bracing, flat mud and reed roof supported by poplar beams

Database 2. Sedentary Afghan Dwellings³⁰²

³⁰² Compiled from Szabo, Barfield, and Sekler, *Afghanistan: An Atlas of Indigenous Domestic Architecture*, 114–117, 118–121, 122–125, 126–129, 130–133, 134–139, 140–143, 144–147, 148–151, 152–155.

APPENDIX D.

A. SECTION 1: CASE STUDY #1

All photos in this section taken by Combined Security Transition Command—Afghanistan (CSTC-A) Combined Joint Engineering (CJEng) Staff in 2007.

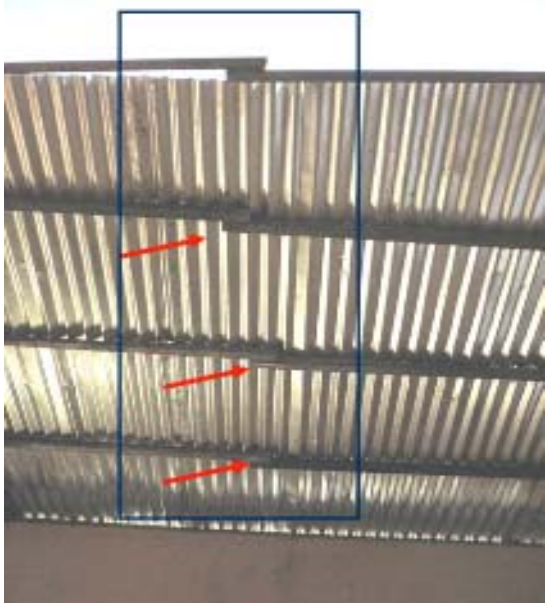
 A photograph showing a close-up of a corrugated metal roof structure. A blue rectangular box highlights a section of the roof. Three red arrows point to specific areas within this box, likely indicating points of interest or damage.	 A close-up photograph of a metal truss joint. A red arrow points to a spot where the metal appears to be welded or joined, showing signs of rust and corrosion.
Photo 5. Truss Structures	Photo 6. Rusting Truss Spot Welded
 A photograph of a large metal truss structure against a clear blue sky. Several red arrows point to different parts of the truss, highlighting specific structural elements or joints.	 A photograph showing a person in traditional Afghan clothing (a white shawl and cap) standing next to a wall. The wall is covered with yellow insulation material, which is being installed or inspected.
Photo 7. Truss Structures	Photo 8. Insulation Installation



Photo 9. Typical Nuristani Construction



Photo 10. Interior Room Construction, Notice the Tongue and Groove Ceiling



Photo 11. Close Up of Wall and Window Construction

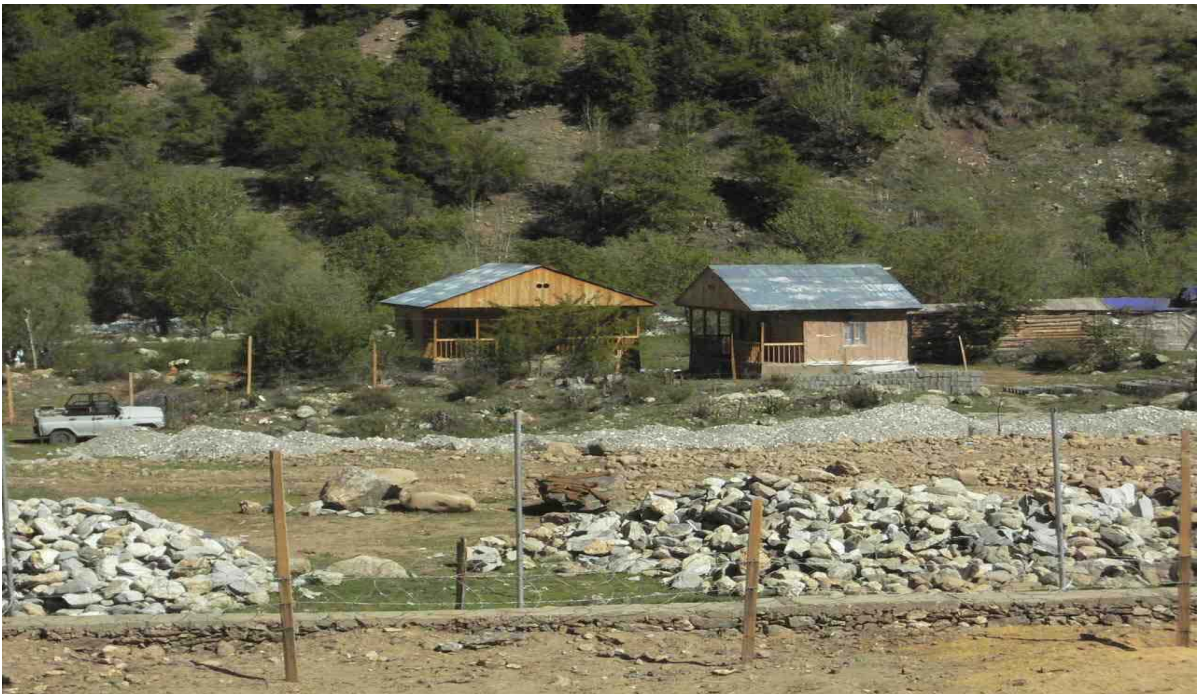


Photo 12. Chalet Type Dwellings in Nuristan



Photo 13. Hillside Dwellings in Nuristan



Photo 14. Hillside Dwelling in Nuristan

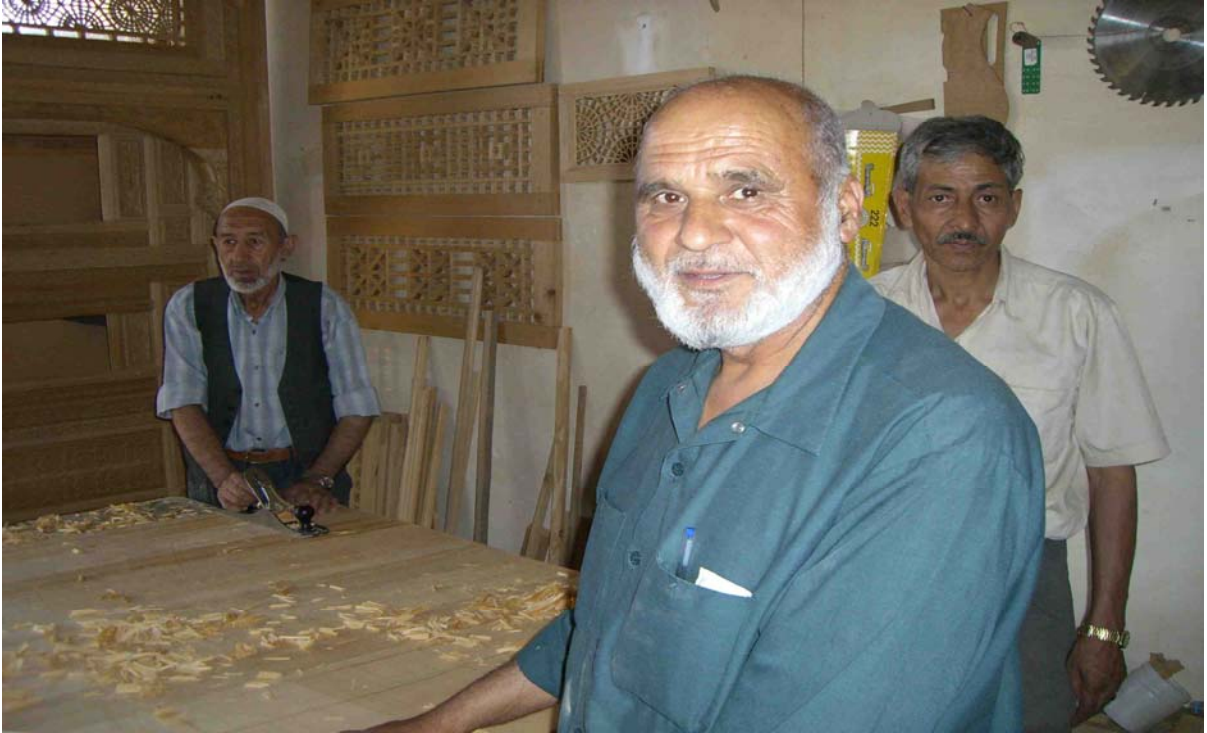


Photo 15. Nuristani Carpenters at Work



Photo 16. Mixing the Traditional Clay and Hay Wall and Roof Coverings

B. SECTION 2: CASE STUDY #2



Photo 17. Typical Wooden Structure Built throughout the Country

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