

CLIMATE CHANGE, GENDER, AND RETHINKING MILITARY OPERATIONS

*Jody M. Prescott**

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* Senior Fellow, West Point Center for the Rule of Law; Adjunct Professor, Department of Political Science, University of Vermont. This article does not reflect the opinion of any U.S. government organization.

INTRODUCTION

The nature of armed conflict has changed dramatically since the end of the Cold War in the late 1980's. General Sir Rupert Smith has coined the phrase "war amongst the people" to describe an evolving aspect of armed conflict in which the will of the civilian population has become both the end object of military operations and the environment within which these operations are conducted.¹ Traditionally, industrial wars between blocs of people, such as the two World Wars, were fought and decided primarily during the course of set-piece battles pitting the armed forces of technologically advanced nation-states against each other.² In contrast, modern war is often characterized by efforts of the contending parties to achieve success through influencing the attitudes of the people, and by a lack of finality to the conflict because military operations often tend to not be decisive of the larger confrontation between warring parties.³ Iraq is an example of this. In the second Gulf War, the U.S. and its allies quickly defeated Saddam Hussein's military forces in a series of sharp, force-on-force battles.⁴ Once Hussein's regime collapsed, however, the resulting chaos spawned a sectarian conflict that caught U.S.-led forces in the middle of armed conflict both against the occupation and between different religious and ethnic groups—a sectarian conflict that continues to smolder a decade after the U.S. invasion.⁵

Importantly, in many areas around the world the living conditions for the populace appear to be changing as well. In terms of habitation, the continuing increase in population in lesser-developed nations is often accompanied by a rapid increase in urbanization, and the growth of the mega-city.⁶ Further, the explosive growth of the Internet and the leverage afforded through use of social media have significantly impacted the manner in which people exchange information and organize their activities vis-à-vis conflict, as demonstrated recently by the uprisings in many Arab

1. Toni Pfanner, *Interview with General Sir Rupert Smith*, 88 INT'L REV. RED CROSS 719, 719–22 (2006).

2. *Id.* at 720–22.

3. *Id.* at 722–23.

4. *See, e.g.*, EVAN WRIGHT, *GENERATION KILL: DEVIL DOGS, ICEMAN, CAPTAIN AMERICA, AND THE NEW FACE OF AMERICAN WAR* (2004) (documenting the initial invasion of Iraq from the perspective of U.S. Marines).

5. Quentin Somerville, *Iraq Sectarian Conflict Creates Misery*, BBC (Dec. 22, 2013 7:53 GMT), <http://www.bbc.co.uk/news/world-middle-east-25483436>.

6. THE WORLD BANK, *PLANNING, CONNECTING, & FINANCING CITIES—NOW: PRIORITIES FOR CITY LEADERS* 1 (2013), *available at* <http://siteresources.worldbank.org/EXTSDNET/Resources/Urbanization-Planning-Connecting-Financing-2013.pdf>.

countries during the Arab Spring.⁷ Finally, and most importantly for this article, the actual environments in many areas appear to be changing as the prevailing climates change.

The U.S. military has recognized the operational significance of climate change upon its activities and operations, and has concluded that it has the potential to “spark or exacerbate future conflicts.”⁸ The U.S. Department of Defense (“DoD”) has noted that in particular, “climate change could have significant geopolitical impacts around the world, contributing to poverty, environmental degradation, and the further weakening of fragile governments,” as well as to the scarcity of food and water, the spread of disease, and mass migration.⁹ Accordingly, DoD has decided upon a two-pronged approach to deal with these new realities: first, by adapting military installations and capabilities to withstand the physical effects of climate change; and second, by “[w]orking closely with relevant U.S. departments and agencies” to undertake “environmental security cooperative initiatives with foreign militaries that represent a non-threatening way of building trust, sharing best practices on installations management and operations, and developing response capacity.”¹⁰ This approach, while positive in general, is incomplete because it does not explicitly address the importance of the environment and gender in the U.S. military’s interface with local civilian populations in foreign countries as a cost-effective and efficient means to address climate change and promote stability.

The linkages between climate change, gender, and military operations are not necessarily immediately obvious. This article argues, however, that a particular type of unit, the Agricultural Development Team (“ADT”), developed and deployed to Afghanistan since 2007, has not only demonstrated the capability to address the gender-differentiated, climate change-related sources of insecurity at the tactical level, but that it could

7. Natana J. DeLong-Bas, *The New Social Media and the Arab Spring*, OXFORD ISLAMIC STUDIES ONLINE, http://www.oxfordislamicstudies.com/Public/focus/essay0611_social_media.html (last visited May 12, 2014).

8. DEP’T OF DEFENSE, QUADRENNIAL DEFENSE REVIEW REPORT iv (Feb. 2010) [hereinafter 2010 QDR]. One study asserts that at least forty percent of intrastate conflicts since 1950 have been linked to natural resource disputes, and that at least eighteen “violent conflicts” have been exacerbated by natural resource exploitation issues since 1990. U.N. ENV’T PROGRAMME, FROM CONFLICT TO PEACEBUILDING: THE ROLE OF NATURAL RESOURCES AND THE ENVIRONMENT 5 (2009), available at http://www.unep.org/pdf/pcdmb_policy_01.pdf.

9. 2010 QDR, *supra* note 8, at 85.

10. *Id.* This is perhaps a complement to the current U.S. Army effort to create regionally aligned brigades that will link units to specific areas around the world and help train host nation military forces. Eric Schmitt, *U.S. Army Hones Antiterror Strategy for Africa, in Kansas*, N.Y. TIMES (Oct. 18, 2013), http://www.nytimes.com/2013/10/19/world/africa/us-prepares-to-train-african-forces-to-fight-terror.html?_r=0.

also serve as a model to effectively factor the gender-differentiated impacts of climate change across the broad spectrum of U.S. military operations.¹¹ To support this argument, this article will first explore the gender- and sex-differentiated impacts of climate change upon populations, and why women, particularly in developing countries, tend to be more vulnerable to these impacts. Mindful of this operational reality for U.S. forces deployed to these areas, this article reviews current U.S. military doctrine setting out the means and methods by which the U.S. military interacts with local civilian populations in foreign nations. In particular, this article further assesses the significance of DoD's failure to meaningfully address the environment and gender in military-civilian operations. The third section of this article explains the role of the ADT in the context of other types of military-civilian interface units that the U.S. military has developed and used in Afghanistan. In the fourth section, this article briefly describes various ADT projects to highlight ways in which wartime missions can mitigate climate change's effects and enable vulnerable population cohorts such as women to adapt to its effects. These descriptions are based in part upon interviews with National Guard officers that recently led different ADTs in Afghanistan. In conclusion, more fully factoring the process of climate change and the importance of its gender-differentiated impacts into modern military operations would help create the conditions which could lead to sustainable social and economic stability in countries challenged by the effects of armed conflict and climate change. Such stability is crucial for the reestablishment and growth of the rule of law, a cornerstone of U.S. stability and reconstruction policy.

I. GENDER-DIFFERENTIATED IMPACTS OF CLIMATE CHANGE

A. *Gender vs. Sex*

Before launching on an examination of the gender-differentiated impacts of climate change, it is important to first consider certain definitions that are relevant to this task. First, particularly as the international community has become more engaged in seeking to eliminate

11. Although the acronym has not changed, these teams were originally called Agribusiness Development Teams. See *U.S. Army Posture Statement, Information Papers: Agribusiness Development Team (ADT)*, U.S. ARMY (2008), http://www.army.mil/aps/08/information_papers/other/ARNG_Agribusiness_Development_Team.html; Alexander K. Stewart, *U.S. Army Agriculture Development Teams*, SCI. & DIPL., (Mar. 3, 2014), available at <http://www.sciencediplomacy.org/article/2014/us-army-agriculture-development-teams>.

discrimination against women and girls, an academic and institutional understanding has developed that sex and gender are two different, albeit often closely related, concepts. “Sex” “refers to the biological and physiological characteristics that define men and women.”¹² NATO has defined “gender” in an international military context as:

the social attributes associated with being male and female learned through socialisation and [which determines] a person’s position and value in a given context. This means also the relationships between women and men and girls and boys, as well as the relations between women and those between men. These attributes, opportunities and relationships are socially constructed and are learned through socialisation processes. Notably, gender does not equate to woman.¹³

Consistent with UN Security Council Resolution 1325 on Women, Peace and Security,¹⁴ “gender mainstreaming” is a strategy to achieve gender equality between women and men in an organization by ensuring that activities and operations are planned and conducted recognizing the gender differences between women and men, and how these differences reflect in their different needs and circumstances.¹⁵ Gender mainstreaming, and its resulting incorporation of a gender perspective across the breadth of an organization’s functions, is not a term that appears to have gained any discernible traction in the U.S. military yet, despite the U.S.’s commitment as part of NATO to this process in its operations.¹⁶

Distinguishing between sex and gender is particularly important when discussing data collection and analysis. Data disaggregated on the

12. *What Do We Mean by “Sex” and “Gender”?*, WORLD HEALTH ORG., <http://www.who.int/gender/whatisgender/en/index.html> (last visited May 12, 2014).

13. ALLIED COMMAND TRANSFORMATION & SUPREME HEADQUARTERS ALLIED POWERS EUR., BI-STRATEGIC COMMAND DIRECTIVE 40-1: INTEGRATING UNSCR 1325 AND GENDER PERSPECTIVE INTO THE NATO COMMAND STRUCTURE 5 (2012), *available at* http://www.nato.int/issues/women_nato/2012/20120808_NU_Bi-SCD_40-11.pdf.

14. *See* S. C. Res. 1325, U.N. Doc. S/RES/1325 (Oct. 31, 2000), *available at* <http://www.un.org/womenwatch/osagi/wps/#resolution> (recognizing the important role played by women in the prevention and resolution of armed conflict, and the need for greater protection of women and girls in armed conflict).

15. ALLIED COMMAND TRANSFORMATION & SUPREME HEADQUARTERS ALLIED POWERS EUR., *supra* note 13, at 5.

16. *But see* *Ambassador Verveer Travels to Brussels To Meet With NATO on Women, Peace, and Security*, U.S. DEPT OF STATE (Sept. 15, 2012), <http://www.state.gov/r/pa/prs/ps/2012/09/197788.htm> (announcing that Ambassador Verveer was accompanied by DoD Deputy Assistant Secretary Lietzau, formerly DoD’s lead implementer of the U.S. National Action Plan on Women, Peace, and Security).

basis of sex, for example, will not likely provide a decent basis for understanding the way gender roles play out in a particular population, but can be very important in determining whether food distribution in relief operations, for example, is flowing equally to women and men.¹⁷ This article is mindful of the difference between the two, and seeks to be as precise as possible where the two concepts are clearly distinguishable. For the most part, however, this article will focus on gender rather than sex in discussing both the differentiated impacts of climate change and how military doctrine and operations might be rethought to account for this differentiation in a practical and effective way.

B. Environmental Effects of Climate Change

The effects of climate change upon the environment will vary depending on location. As sea levels rise, and the frequency of more severe storms grows, island nations and those countries with significant low-lying coastal areas face an increasing threat of storm damage and flooding.¹⁸ For inland areas, particularly those already experiencing aridity, extreme weather events may come in the form of more severe droughts aggravated by lessened and more variable precipitation, and increased wildfire risks.¹⁹ These factors could lead to increased desertification and increased stress on natural areas, forests, and the wildlife dependent on these areas for their existence. Changing precipitation patterns and increased average temperatures could also foster the spread of debilitating diseases and pest infestations into areas in which they had not previously been endemic. Moreover, changes in snowmelt patterns in mountains and polar regions could dramatically affect the amount of fresh water available for use in these environments, as could increased intrusion of saltwater into coastal aquifers.²⁰

17. Megan Loney, *Sex and Age Disaggregated Data: Solution to Lack of Gender Mainstreaming in Food Aid Project in Complex Emergencies*, 3 PEACE & STABILITY OPERATIONS J. ONLINE 27, 28–30 (2012), pksoi.army.mil/PKM/publications/journal/download.cfm?; Prisca Benelli et al., *Using Sex and Age Disaggregated Data to Improve Humanitarian Response in Emergencies*, 20 GENDER & DEV. 219, 221 (2012) (“[O]nce [sex and age disaggregated data] are collected, it is important to apply a gender and generational analysis to the data.”).

18. IDA ARABSHAH & CHASE RAINES, ASSOC. OF CLIMATE CHANGE OFFICERS, DEFENSE, NATIONAL SECURITY & CLIMATE CHANGE: BUILDING RESILIENCE AND IDENTIFYING OPPORTUNITIES RELATED TO WATER, ENERGY AND EXTREME EVENTS 9 (2012), *available at* <http://www.accoonline.org/downloads/ACCO-CCLS-June2012-Report.pdf> [hereinafter ACCO].

19. See EXEC. OFFICE OF THE PRESIDENT, PRESIDENT’S CLIMATE ACTION PLAN 15 (2013), <http://www.whitehouse.gov/sites/default/files/image/president27sclimateactionplan.pdf> [hereinafter CLIMATE ACTION PLAN].

20. ACCO, *supra* note 18, at 8–9.

C. Human Consequences of Climate Change

The impact of climate change upon humans could be profound. Certain areas are already experiencing longer growing seasons, which could allow for greater agricultural productivity if water is consistently available.²¹ Certain areas not currently practicable for human settlement or economic activity, such as polar and sub-polar regions, could in fact become milder and more consistently accessible.²² However, the impacts upon the areas that humans currently inhabit, often in high numbers, could be detrimental. Temporary and perhaps even long-term mass migrations of people could occur as a result of flooding of low-lying coastal areas and islands, in order to escape both the immediate effects of severe weather events and the austere conditions that would likely follow in the wake of large-scale infrastructure destruction.²³ Such migrations would likely increase the transmission of diseases such as dysentery and HIV.²⁴ Often, low-lying coastal or marshy areas are already considered marginal for human habitation, and as a result their inhabitants are often poor and less likely to be able to have the resources to find adequate refuge and then return and rebuild.²⁵ Those who make their livings through fishing and aquaculture could experience large reductions in productivity because damaged marine ecosystems repair themselves at a slow rate.²⁶

Precipitation variability, especially prolonged drought, will likely have significant negative effects on both pastoral ways of life and farming. The National Intelligence Council has estimated that by 2025, thirty-six nations, home to perhaps 1.4 billion people, will be either water or cropland stressed.²⁷ Forests will likely decline due to drought and agricultural expansion, and land use may increase the occurrence of wildfires; both of

21. *Climate Change Affecting Growing Seasons*, UPI (Mar. 11, 2013), http://www.upi.com/Science_News/2013/03/11/Climate-change-affecting-growing-seasons/UPI-27241363036142/.

22. *Questions and Answers About Global Warming and Abrupt Climate Change*, WORLDWATCH INST., <http://www.worldwatch.org/node/3949> (last visited May 22, 2014).

23. ACCO, *supra* note 18, at 9 (“[h]igher sea levels will allow storm surges to do more damage by affecting the frequency and duration of flooding, even if sea levels do not completely submerge an area.”).

24. LORENA AGUILAR ET AL., INT’L UNION FOR CONSERVATION OF NATURE & U. N. DEV. PROGRAMME, TRAINING MANUAL ON GENDER AND CLIMATE CHANGE 86 (2009), *available at* http://www.wedo.org/wp-content/uploads/eng_version_web_final_1.pdf [hereinafter *Training Manual*].

25. WORLD HEALTH ORG., GENDER, CLIMATE CHANGE AND HEALTH 18 (2011), *available at* <http://www.who.int/globalchange/GenderClimateChangeHealthfinal.pdf>.

26. *Id.* at 16.

27. NAT’L INTELLIGENCE COUNCIL, GLOBAL TRENDS 2025: A TRANSFORMED WORLD 51 (2008), *available at* http://www.dni.gov/files/documents/Newsroom/Reports%20and%20Pubs/2025_Global_Trends_Final_Report.pdf.

these effects would impact communities that depend on livestock that graze in woodlands and pastures.²⁸ Agriculturalists would face reduced crop yields in the face of water scarcity and face potentially degraded soil conditions as the frequency of severe weather events could bring flooding and erosion.²⁹ People who rely on natural areas for hunting and gathering wild produce and medicinal plants would potentially find fewer and lesser-quality resources over time as these areas too experience water stress.³⁰ Large-scale malnutrition could result, and would decrease these populations' ability to fight off disease. Finally, rural families are often dependent upon gathered wood for their energy needs, and drought will almost certainly impact the growth and availability of this important resource.³¹

Rural populations would not be the only ones to suffer. As previously noted, poor urban populations living in marginal areas are also vulnerable to extreme weather events, and to the destruction of essential and often already-inadequate infrastructure.³² The lack of freshwater would severely impact sanitation for city dwellers and heighten their susceptibility to disease.³³ Urban populations would also be vulnerable to higher inner-city temperatures.³⁴ Further, as more rural people flee deteriorating environments to seek work or assistance in cities, their relative lack of education and marketable skills would likely confine them to menial and potentially dangerous jobs,³⁵ and degrade family and community cohesion.³⁶

28. POTSDAM INST. FOR CLIMATE IMPACT RESEARCH AND CLIMATE ANALYTICS & THE WORLD BANK, *TURN DOWN THE HEAT: WHY A 4° C WARMER WORLD MUST BE AVOIDED* 50 (2012), available at http://climatechange.worldbank.org/sites/default/files/Turn_Down_the_heat_Why_a_4_degree_centigrade_warmer_world_must_be_avoided.pdf [hereinafter *TURN DOWN THE HEAT*].

29. See *Training Manual*, *supra* note 24, at 192–93 (noting slope steepness coupled with high and irregular water flow led to soil acidification, gully erosion, and lack of water infiltration into the soil).

30. *Id.* at 86.

31. *Id.* at 159 (In Mali, for example, firewood and charcoal represent eighty percent of the nation's energy consumption.).

32. *TURN DOWN THE HEAT*, *supra* note 28, at 34.

33. *Id.* at 56.

34. *Id.*

35. Namrata Chindarkar, *Gender and Climate Change-Induced Migration: Proposing a Framework for Analysis*, ENVTL. RES. LETTERS, 1, 5 (2012), available at http://iopscience.iop.org/1748-9326/7/2/025601/pdf/1748-9326_7_2_025601.pdf.

36. *Id.* at 3.

D. Gender Effects of Climate Change

Importantly (and this does not always appear to be appreciated in the discussions of climate change's effects) the impacts of climate change are not uniform across a population in a given area. First, even in developed countries, it is not just the poor who are disproportionately affected, but it is poor *women* who bear the brunt of the impact.³⁷ For example, after Hurricane Katrina in 2005, households headed by poor women were the most likely to not return and rebuild, because they had been unable to afford adequate home or renter's insurance prior to the storm.³⁸ In developing countries, gender and sex-related differences appear to be much more pronounced.³⁹

For rural women, three primary factors of gender-based vulnerability to climate change are: unequal access to resources; unequal opportunities to change or improve their livelihoods; and exclusion from decision-making.⁴⁰ As to unequal access to resources, rural women ordinarily perform time-consuming, "non-mechanized, labor-intensive, non-capital intensive activities," such as the many tasks associated with animal husbandry.⁴¹ Further, women are often responsible for drawing water for their families' household use,⁴² and gathering energy-producing biomass.⁴³ Finally, although these activities are essential for a family's subsistence, women are generally not paid for doing these tasks.⁴⁴ Although women may in fact be the primary users of water and land in generating agricultural production and maintaining their households, their social and economic inequality vis-à-vis men may mean that they have restricted access to these resources, and are dependent upon men in some fashion to secure these resources for them.⁴⁵

37. *Training Manual*, *supra* note 24, at 79.

38. Chindarkar, *supra* note 35, at 5.

39. Fatma Denton, *Climate Change Vulnerability, Impacts, and Adaptation: Why Does Gender Matter?*, 10 GENDER & DEV. 10, 18 (2002).

40. THE WORLD BANK, ADAPTATION TO A CHANGING CLIMATE IN THE ARAB COUNTRIES 279 (Dorte Verner ed. 2012) [hereinafter Verner].

41. *Id.* at 281.

42. *Id.*

43. LYDIA MUCHIRI, PISCES, GENDER AND EQUITY IN BIOENERGY ACCESS AND DELIVERY IN KENYA 5 (2008), available at <http://practicalaction.org/docs/consulting/pisces/gender-and-equity-in-bioenergy-kenya.pdf>.

44. Verner, *supra* note 40, at 282.

45. *Id.* In Bangladesh, for example, gendered norms regarding asset control lead to "an assumption that women in agriculture are concerned with subsistence only," which reinforces institutional and policy biases that "worsen[] women's disadvantages in accessing markets, credit, technology and services, and perpetuates the lack of recognition surrounding women's role in farming." Emily Hillenbrand, *Transforming Gender in Homestead Food Production*, 18 GENDER & DEV. 411, 413 (2010).

These gender-differentiated roles regarding resource access and use are related to the second driver of women's vulnerability to climate change—their unequal opportunities to either improve their current form of livelihood, or to change to another more beneficial form. For example, drawing water is not just laborious; it can require a very significant amount of time particularly when water sources are scarce. It has been estimated that women and children (mostly girls) spend 40 billion hours a year in Africa gathering water.⁴⁶ When water is scarce, women must go farther to draw it, and their many other chores are still waiting for them upon their return. As a result, women have less time to put towards other endeavors, and accordingly girls often find themselves being unable to attend school. In addition, even the opportunities to grow certain crops might be gender-differentiated. In developing Pacific Island states, for example, men and women will often work with different crops on different islands.⁴⁷

In the event that climate change-induced factors lead to male members of the family migrating to cities in search of work, women will likely find themselves picking up additional chores that the men had previously performed; and they may risk greater chances of being expelled from their families or suffering sexual violence.⁴⁸ Further, adaptation measures, such as those related to anti-desertification, are often labor intensive, and may reduce the amount of time women have to perform their ordinary chores.⁴⁹ Finally, as the primary caregivers in rural families, women will often find themselves taking care of family members who may be suffering more frequent bouts of disease because of malnutrition and greater prevalence of diseases in the climate-change impacted environment. Without time to devote to increased agricultural production, especially cash-generating activities, women find it difficult to improve their economic status. Without time to devote to their studies, girls find it difficult to get an education, and the linkages between the lack of education and poverty are all too apparent. Particularly worrisome for purposes of this

46. ANNE MARIE GOETZ ET AL., UNIFEM, PROGRESS OF THE WORLD'S WOMEN 2008/2009: WHO ANSWERS TO WOMEN? GENDER & ACCOUNTABILITY 37 (2008), available at <http://www.unwomen.org/~media/Headquarters/Media/Publications/UNIFEM/POWW08ReportFullText.pdf>.

47. *Training Manual*, *supra* note 24, at 22. In Yemen, crops such as groundnuts, pumpkins, and leafy vegetables are considered "women's crops," and the role women play in selecting seeds for the next growing season has a direct impact on the biodiversity of these food supplies. *Id.* at 58. Research has shown that women in developing countries often rely upon crop biodiversity to deal with climatic variability. *Id.* at 82.

48. Chindarkar, *supra* note 35, at 3.

49. *Training Manual*, *supra* note 24, at 86.

article, a lack of education has a negative impact on teaching women sustainable practices.⁵⁰

With regard to exclusion from decision-making, women who do not or are unable to own land in their own names may face problems in securing credit for seeds and improvements, accessing water, and acquiring full membership in rural organizations, which “often is restricted to heads of households and titled landowners.”⁵¹ For example, in rural parts of Afghanistan, the title to land may include the right to draw a certain number of “nights” of limited irrigation water. The actual distribution of water is often determined at the village level in meetings between male village members and the local water official—meetings at which women are not allowed.⁵² The absence of women participants in this example is not confined to the rural areas of a developing nation like Afghanistan—the worldwide average of women in national legislatures was slightly less than 21 percent in 2013.⁵³

In both rural and urban areas, severe weather events pose different challenges for women than they might for men. For example, in societies in which women’s mobility is constrained and gender norms tend to keep them in their homes, women are less likely to evacuate, and thus more likely to perish when natural disasters strike their homes.⁵⁴ For example, during the 1991 cyclone in Bangladesh, mortality rates for women were 7.1%, but only 1.5% for men.⁵⁵ Those who do evacuate may not have marketable skills they can use to help ameliorate the stresses of even local migration. In addition, inadequate relief shelters may not provide reproductive health services or sanitation capacities,⁵⁶ or security against

50. *Id.* at 59.

51. Verner, *supra* note 40, at 287.

52. Notes by author, Suri sub-district, Zabul Province, Afghanistan, 2009 (on file with author).

53. WOMEN IN NATIONAL PARLIAMENTS, Inter-Parliamentary Union, <http://www.ipu.org/wmn-e/world.htm> (last visited May 22, 2014).

54. Chindarkar, *supra* note 35, at 2.

55. GOTELIND ALBER, GENDER, CITIES AND CLIMATE CHANGE, 33 (2011), available at <http://mirror.unhabitat.org/downloads/docs/GRHS2011/GRHS2011ThematicStudyGender.pdf>. For example, as a result of the 2004 tsunami, there were 3,972 fatalities among women in Amapura, Sri Lanka, but only 2,124 among men.

56. *Id.* (“Reproductive health issues include for instance, the need for sanitation during menstruation and after giving birth, constrained mobility during pregnancy and higher nutritional needs during lactation. During menstruation, women need adequate sanitation in privacy and personal safety which is often not ensured during and after a disaster.”). *Id.* at 16–17. For example, after the 2005 earthquake in Pakistan, relief workers learned that local customs regarding privacy as to latrine use and menstrual sanitation needs required that the latrines be screened so that men and women could not see each other entering them, and that special menstrual units needed to be constructed to allow women to clean themselves and their non-disposable sanitation supplies. Jamila Nawaz et al., *Oxfam Experience of*

sexual abuse or exploitation.⁵⁷ Some studies have indicated that women suffer more than men in general from the psychosocial impacts of natural disasters, perhaps because they are responsible for looking after other family members and dealing with the effects of broken social ties and separated families.⁵⁸ Further, depending on the situation, women may find it difficult to access relief aid directly because they are not heads of households.⁵⁹ Lastly, because of their marginalization within households, their nutrition may suffer as other family members are fed first.⁶⁰

E. Summary

The effects of climate change could be very significant upon different environments over time, and will likely impact populations in different locations in different ways. These impacts, however, will also be socially differentiated within populations depending upon wealth, education, gender, and sex. Perhaps the most vulnerable population cohort of all would be women in developing countries, who tend to be significantly disadvantaged, economically and socially, relative to men in their societies. Because of their often traditional roles in maintaining households and caring for children, differentiated negative impacts upon women might amplify the negative impacts upon populations in developing countries as a whole. To what extent is this evolving operational reality reflected in U.S. military doctrine relevant to military interaction with people in these countries?

II. U.S. MILITARY DOCTRINE AND INTERACTING WITH THE PEOPLE

Certain writers posit “U.S. policymakers and thought leaders seem to be increasingly shifting from a ‘traditional’ national security framework to a ‘human security’ approach, which includes energy, natural resource, and environmental components.”⁶¹ However, the evidence of this shift is not

Providing Screened Toilet, Bathing and Menstruation Units in its Earthquake Response to Pakistan, 18 GENDER & DEV. 81, 83 (2010).

57. Chindarkar, *supra* note 35, at 3, 5.

58. *Id.* at 3.

59. *Id.* Or, because of the way certain skills have been gendered in their societies, women who are the heads of households might find themselves unable to build shelters from provided relief supplies, and might have to exchange sex in return for men assembling their shelters. Benelli et al., *supra* note 17, at 228.

60. Chindarkar, *supra* note 35, at 1–2.

61. ARMY ENVTL. POLICY INST., ENVIRONMENTAL CHANGE AND FRAGILE STATES: EARLY WARNING NEEDS, OPPORTUNITIES, & INTERVENTION 1–5 (2011), available at http://www.aepi.army.mil/docs/whatsnew/MAN0BC2_report_combined_compressed.pdf.

well reflected in the current military doctrine that provides guidance on how to conduct various types of operations. At the moment, U.S. joint military doctrine appears to consider three primary types of operations: “offensive,” “defensive,” and “stability.”⁶² Within each of these categories there are subsets of operations, for example, humanitarian assistance operations in response to natural disasters are considered a type of stability operation.⁶³ Types of operations may cross over from one category to the next depending upon the operational environment. Stability operations can be conducted alone, or simultaneously, or as part of counterinsurgency operations, which themselves may be largely offensive in nature.⁶⁴ Finally, the different services of the U.S. armed forces have often developed their own more-detailed subsidiary doctrine suitable for their particular operations.

This section will briefly review the doctrine covering four types of operations—counterinsurgency, stability, peace, and civil-military—that would appear to logically lend themselves to a human security approach. Unfortunately, this review will show the general absence from U.S. doctrine of any consideration of the process of climate change or gender, to say nothing of the gender-differentiated impact of climate change. There are certain areas of U.S. doctrine, however, that could serve as loci for the development of operationally relevant discussions of gender and climate change.

A. Counterinsurgency Operations

Credited at the time for helping reverse U.S. military misfortune in the violence following the U.S. occupation of Iraq, the U.S. rediscovery of counterinsurgency (“COIN”) operations as a strategy to effectively conduct war amongst the people is now increasingly viewed as having a mixed legacy.⁶⁵ Regardless, it is still accepted U.S. military strategy, and therefore of continuing relevance to the issue of future U.S. military operations abroad in conflict areas. The U.S. defines “insurgency” as “the organized

62. JOINT CHIEFS OF STAFF, JOINT PUBLICATION 3-07, STABILITY OPERATIONS II-14 through 15 (2011), available at http://www.dtic.mil/doctrine/new_pubs/jp3_07.pdf [hereinafter JP 3-07].

63. *Id.* at viii, xv.

64. JOINT CHIEFS OF STAFF, JOINT PUBLICATION 3-24, COUNTERINSURGENCY xii-xiii (2013), available at http://www.dtic.mil/doctrine/new_pubs/jp3_24.pdf [hereinafter JP 3-24].

65. See, e.g., Christopher Sims, Fernando Luján & Bing West, *Response: Both Sides of the COIN: Defining War After Afghanistan*, FOREIGN AFF. 1 (2012), available at <http://www.twc.edu/sites/default/files/assets/academicCourseDocs/25.%20Sims,%20Both%20Sides%20of%20the%20COIN.pdf> (detailing the writings and experiences of COIN proponents and critics, revealing the complexity of conducting successful COIN operations).

use of subversion and violence to seize, nullify, or challenge political control of a region.”⁶⁶ COIN is “a comprehensive civilian and military effort designed to simultaneously defeat and contain insurgency and to address its root causes.”⁶⁷ U.S. COIN doctrine is “population-centric,”⁶⁸ and therefore “the population is typically the critical aspect of successful COIN.”⁶⁹

Despite this focus on the population, gender is only mentioned once in Joint Chiefs of Staff Publication JP 3-24, which notes “members of other societies often have different notions of rationality, appropriate behavior, level of religious devotion, political organization, social order, and norms concerning gender.”⁷⁰ Women are likewise mentioned only once, noting that “the specific needs of women associated with insurgents and other armed groups” need to be addressed in disarmament, demobilization, and reintegration (“DDR”) efforts post conflict.⁷¹ Although the operational environment for COIN operations is described in a holistic fashion, encompassing “the relevant actors and the physical areas and factors of the physical domains and the information environment,”⁷² neither climate change nor gender are dealt with in a meaningful way.

B. Stability Operations

Stability operations are a relative newcomer among the different doctrinal types of operations.⁷³ They are defined as “various military missions, tasks, and activities conducted outside the U.S. in coordination with other instruments of national power to maintain or reestablish a safe and secure environment, provide essential governmental services, emergency infrastructure reconstruction, and humanitarian relief.”⁷⁴ Significantly, stability operations have been assigned equal importance with combat operations.⁷⁵ The Department of State (“DoS”) is the lead agency in this whole-of-government approach; the “primary military contribution to

66. JP 3-24, *supra* note 64, at ix.

67. *Id.*

68. *Id.* at I-2.

69. *Id.* at III-4.

70. *Id.* at III-8.

71. *Id.* at VIII-13.

72. *Id.* at xii.

73. Ann Scott Tyson, *Standard Warfare May Be Eclipsed By Nation-Building*, WASH. POST, (Oct. 5, 2008), <http://www.washingtonpost.com/wp-dyn/content/article/2008/10/04/AR2008100402033.html>.

74. DEP’T OF DEFENSE, DEPARTMENT OF DEFENSE INSTRUCTION 3000.5, STABILITY OPERATIONS 1 (2009), available at <http://www.dtic.mil/whs/directives/corres/pdf/300005p.pdf>.

75. *Id.* at 2.

stabilization is to protect and defend the population, facilitating the personal security of the people and, thus creating a platform for political, economic, and human security.”⁷⁶ Stability operations are planned and conducted with five functions in mind, “security, humanitarian assistance, economic stabilization and infrastructure, rule of law, and governance and participation.”⁷⁷

The listing of these functions appears to reflect to a large degree the relative importance placed by the military upon them. Not surprisingly, JP 3-07 notes that “[s]econd only to providing security as required, the major joint force role in stabilization efforts is to help reform the [host nation] security sector and build partner capacity to make it an enabler of long-term stability.”⁷⁸ As to humanitarian assistance, JP 3-07 separates it into two main categories: “nation assistance” (“NA”) and “foreign humanitarian assistance” (“FHA”). NA entails “[h]umanitarian assistance conducted as part of programs designed to increase the long-term capacity of the [host nation] to provide for the health and well-being of its populace.”⁷⁹ The goal of NA operations is to “support the host nation by promoting sustainable development and growth of responsive institutions”—“thereby promot[ing] long-term regional stability.”⁸⁰ “Joint forces normally conduct NA and other military engagement, security cooperation, and deterrence activities in relatively stable states. As such, activities that foster sustainability will dominate, though transformational activities may also play an important role.”⁸¹ Conceivably, NA operations could be broadly interpreted to include efforts to mitigate or adapt to climate change, but it appears the doctrinal emphasis is on developing the host nation’s governmental agencies to respond to immediate humanitarian crises. Although climate change could trigger such disasters, it is not clear that NA efforts would be geared to addressing the problem of climate change under this doctrine as currently written.⁸²

76. JP 3-07, *supra* note 62, at vii.

77. *Id.* at xv.

78. *Id.* at app. C at C-1.

79. *Id.* at xix–xx.

80. *Id.* at I-8.

81. *Id.*

82. Although UK stability doctrine identifies climate change as a factor that may lead to instability, it provides no meaningful detail on how to factor this into stability operations. MINISTRY OF DEFENCE, JOINT DOCTRINE PUBLICATION 3-40 SECURITY AND STABILISATION: THE MILITARY CONTRIBUTION 8 (2009), *available at* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/49948/jdp3_40a4.pdf.

In the highest tier of subsidiary Army stability operations doctrine, there is no mention of gender, women, or climate change.⁸³ However, in supplemental Army doctrine women and gender are mentioned to a degree. Although these instances are limited, they could provide an appropriate starting point for the further development of these topics. For example, the stability operations doctrine notes that in DDR efforts following a conflict, the specific needs of women who were associated with armed groups must be considered.⁸⁴ It also notes that fostering stability depends in large part upon “advancing equity and equality of opportunity among citizens in terms of gender, social and economic resources, political representation, ethnicity and race,”⁸⁵ and that, in the initial phase of a stability operation, supporting economic development means “[c]reat[ing] employment opportunities for all ages and genders.”⁸⁶ Interestingly, even though it does recognize women as a vulnerable population, and sexual and gender based violence as a likely circumstance in these post-conflict situations, it does not discuss taking a gendered perspective in operations. Rather, the doctrine “look[s] from viewpoints considering the effects of both adults and children.”⁸⁷

Similarly, complementary doctrine dealing with FHA also addresses operational gender issues to a degree, and it likewise might lend itself to further development on this topic.⁸⁸ Planners of the medical care aspects of FHA operations are advised that “[w]omen’s and children’s care is the biggest piece of this primary care and must take special planning to ensure the right mix of providers and medications are available including the gender of both providers and interpreters depending on the mission.”⁸⁹ Importantly, commanders are advised to “incorporate anti-TIP [trafficking in persons] and TIP-protection measures for vulnerable populations, in particular for women and children, into post-conflict and humanitarian

83. HEADQUARTERS OF THE DEP’T OF THE ARMY, ADP 3-07, C1: STABILITY iii (2013), available at http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/adp3_07c1.pdf.

84. HEADQUARTERS OF THE DEP’T OF THE ARMY, ADRP 3-07: STABILITY 3-15 (2013), available at http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/adrp3_07.pdf.

85. *Id.* at 2-10.

86. *Id.* at 2-20.

87. *Id.* at 3-20.

88. Although UK disaster relief doctrine notes that “[o]ver the next 30 years urbanisation, population growth and climate change are all likely to contribute to greater numbers of people inhabiting areas that will be at significant environmental risk,” it is concerned with the environment as it exists at the time of the operation, rather than the process of climate change. MINISTRY OF DEFENCE, JOINT DOCTRINE PUBLICATION 3-52, DISASTER RELIEF OPERATIONS 1-1 (2012), available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/43340/jdp3522nded.pdf. See also *id.* at app. D at D-3, (including a Disaster Relief Planning Checklist assessing the environment of disasters).

89. CHAIRMAN, JOINT CHIEFS OF STAFF, JOINT PUBLICATION 3-29, FOREIGN HUMANITARIAN ASSISTANCE E-4 to E-5 (2014), available at http://www.dtic.mil/doctrine/new_pubs/jp3_29.pdf [hereinafter JP 3-29].

emergency assistance programs.”⁹⁰ “Vulnerable persons” are defined as those “who may not have equal access to [humanitarian assistance] because of physical, cultural, or social barriers (e.g., women, children, elderly, disabled, ethnic minorities, and people living with an incurable virus or disease).”⁹¹ JP 3-29 also recognizes the role of UN agencies in protecting women and children.⁹² It does not, however, deal with the process of climate change as it relates to natural disasters that could in fact be the reason for these humanitarian assistance missions.

Stability operations doctrine recognizes the importance of economic development. It defines “economic stabilization” as consisting “of restoring employment opportunities, initiating market reform,” and it defines infrastructure restoration as including education and environmental control.⁹³ In terms of infrastructure, JP 3-07 somewhat paradoxically notes that although “[r]estoration of agriculture production is an absolutely necessary recovery activity,” the “[i]nfrastructure requirements in support of restoring agriculture production and delivery are generally neither an immediate nor a high priority.”⁹⁴ The basis for this assertion apparently is the assessment that “[a]griculture production is usually not badly affected by conflict, unless there is a major population displacement or a deliberate scorched earth campaign.”⁹⁵ This assessment appears to discount the impacts of climate change as agents of mass migration or environmental degradation. Further, the “environmental control” noted in the doctrine appears to be intended to address environmental regulation by the government, rather than actual control of the environment. Finally, stability operations doctrine prefers projects that are “are relatively short-term, small-scale, low cost, and rapidly implemented stabilization or development initiatives that are designed to deliver an immediate and highly visible impact, generally at the local provincial or community level.”⁹⁶ This preference tends to discount the process of climate change as an operational fact. It is likely that projects intended to mitigate climate change’s impacts or to allow populations to adapt to them, such as watershed rehabilitation, would be deemed too long-term for this sort of investment.

90. *Id.* at IV-21.

91. *Id.*

92. *Id.* at app. D-5 through D-6.

93. JP 3-07, *supra* note 62, at xxii.

94. *Id.* at III-33.

95. *Id.*

96. *Id.* at III-35.

C. Peace Operations

Recognized as doctrinally distinct from “Stability Operations” since at least 1994,⁹⁷ “Peace Operations” are defined as “crisis response and limited contingency operations” which include peacekeeping operations, peace building post-conflict actions, peacemaking processes, conflict prevention, and military peace enforcement operations.⁹⁸ Its placement in the world of doctrine is not precisely clear. Its numbering would suggest that it is subsidiary to stability operations, and in certain respects it might be a bit of a doctrinal outlier. For example, stability operations doctrine notes that stability operations play a “key role” in peace operations, but it does not explicitly say that peace operations are stability operations.⁹⁹ Interestingly, JP 3-07.3 does contain the military’s new doctrine on Mass Atrocity Response Operations (“MARO”), which are defined as “military activities to prevent or halt mass atrocities categorized under an emerging [U.S. government] interagency mass atrocity prevention and response options construct.”¹⁰⁰ JP 3-07.3 describes in detail the challenges of conducting MARO in a confusing multiparty conflict situation, and it analyzes the importance of understanding the social factors. However, the focus of this analysis is on “how tribal, ethnic, religious, and other differences are being manipulated to create the conditions leading to a mass atrocity”¹⁰¹—not on the underlying causes, such as resource scarcity, that might exacerbate this conflict, or how the gender-differentiated effects of such violence disproportionately affect women and girls.¹⁰²

D. Civil-Military Operations

Civil-Military Operations (“CMO”) support the entire spectrum of U.S. military operations, from offensive operations to peace operations. A more thorough analysis of these operations from the perspective of climate

97. JOINT CHIEFS OF STAFF, JOINT PUBLICATION 3-07.3, JOINT TACTICS, TECHNIQUES, AND PROCEDURES FOR PEACEKEEPING OPERATIONS (1994), available at http://www.dod.mil/pubs/foi/joint_staff/jointStaff_jointOperations/853.pdf.

98. JOINT CHIEFS OF STAFF, JOINT PUBLICATION 3-07.3, PEACE OPERATIONS I-1 (2012), available at <http://www.fas.org/irp/doddir/dod/jp3-07-3.pdf> [hereinafter JP 3-07.3].

99. JP 3-07, *supra* note 62, at I-6. However, it does note that as to post-conflict disarmament, demobilization, and reintegration efforts, which sound like part of peace-building post conflict actions, “[g]ender, ethnic, and minority issues must also be addressed in the design of” these programs. *Id.* at app. C-21. No further detail is provided as to what constitutes a “gender issue.”

100. JP 3-07.3, *supra* note 98, at app. B-1.

101. *Id.* at app. B-4.

102. Jody M. Prescott, *NATO Gender Mainstreaming and the Feminist Critique of the Law of Armed Conflict*, 14 GEO. J. GENDER & L. 83, 87–90 (2013).

change and its gender-differentiated impacts is warranted because of the CMO's doctrinal and operational ubiquity, and because the focus of these operations is civilian-centric. Sadly, this most civilian-centric and non-kinetic of doctrines generally does not deal with gender, the process of climate change, or the linkages between the two. The detail in which this doctrine is written, however, suggests that it is a prime doctrinal candidate for the inclusion of material dealing with the operational relevance of gender and climate change. This impression is reinforced when the U.S. doctrine is compared to an unofficial but influential NATO version that deals with gender and climate change in detail.

1. The U.S. Perspective

CMO activities “establish, maintain, influence, or exploit relations” between military forces and the host “governmental and nongovernmental civilian organizations and authorities, and the civilian populace.”¹⁰³ CMOs “facilitate military operations, to consolidate and achieve operational U.S. objectives.”¹⁰⁴ This doctrine rarely mentions gender and sex as planning considerations, and when it does, they are mentioned only in the most general sense. In terms of logistics planning as part of CMOs, joint doctrine (JP 3-57) notes that planning “must include logistic support that normally is outside military logistics, such as support to the civilian populace (e.g., women, children, and the elderly),”¹⁰⁵ and that “medical planners may have to adjust typical personnel and logistics packages to care for women and children effected in operations not originally of a humanitarian nature.”¹⁰⁶ JP 3-57 mentions women once more, noting that in considering how to make arrangements for meetings with local nationals, planners should ask themselves, “[f]or example, what role do women play in the society?”¹⁰⁷ Gender as a concept is not mentioned at all.

Subsidiary doctrine used by the Marine Corps and the Army to implement this higher-level doctrine fares little better. Higher tier Marine Corps doctrine notes only that the Marine liaison officer to the U.S. embassy in the host nation should develop a working relationship with the

103. CHAIRMAN OF THE JOINT CHIEFS OF STAFF, JOINT PUBLICATION 1-02: DEPARTMENT OF DEFENSE DICTIONARY OF MILITARY AND ASSOCIATED TERMS, 37, 168 (2010), available at http://www.dtic.mil/doctrine/new_pubs/jp1_02.pdf (defining “civil-military operations as well as medical civil-military operations”) (amended Feb 15, 2014).

104. *Id.*

105. CHAIRMAN, JOINT CHIEFS OF STAFF, JP 3-57, CIVIL-MILITARY OPERATIONS III-10 (Sep. 11, 2013), http://www.dtic.mil/doctrine/new_pubs/jp3_57.pdf [hereinafter JP 3-57].

106. *Id.* at Annex C, Appendix A, A-C-2.

107. *Id.* at Annex B, B-14.

Minister of Women's Affairs.¹⁰⁸ Army doctrine notes that planning should also assess "the capabilities and effectiveness of public welfare systems regarding the most vulnerable portion of the population (mentally handicapped, aged, infirm, women, and children) and the impact of those systems on [CMO]."¹⁰⁹ The current version of CMO doctrine that addresses FHA missions does not address environmental damage, climate change, or its gender-differentiated impacts at all.¹¹⁰ Its predecessor, by contrast, mentioned gender twice and women seven times, and it is worthwhile to examine these earlier discussions in detail to gain a sense of the absence of any meaningful discussion of these topics. Gender was first noted as a factor when describing key persons in the area of operations,¹¹¹ and second, in using interpreters effectively in Muslim countries.¹¹² The doctrine then mentioned women in the following ways: first, that they should be considered in assessing the social structure of the population the unit is working with;¹¹³ second, what portion of the available labor pool they constitute;¹¹⁴ third, the female mortality rate;¹¹⁵ fourth, how many of the dislocated civilians are female;¹¹⁶ and fifth, to use female soldiers to search female civilians and children if possible.¹¹⁷ Even in this fuller discussion of gender-related operational factors, there was no mention of the physical environment, climate change, or its gender-differentiated impacts.

At the level of geographic combatant commands, (such as U.S. European Command) a Civil Affairs Command provides the support of three civil affairs functional specialty cells to the command, covering each of six designated "functional specialty areas: rule of law, economic stability, infrastructure, governance, public health and welfare, and public

108. MARINE AIR-GROUND TASK FORCE CIVIL-MILITARY OPERATIONS, MARINE CORPS WARFIGHTING PUBLICATION (MCWP) 3-33.1, app. A-4 through A-5 (2011), *available at* <http://www.mccdc.marines.mil/Portals/172/Docs/SWCIWID/STAB/MARINE%20AIR-GROUND%20TASK%20FORCE%20CIVIL-MILITARY%20OPERATIONS.pdf>.

109. DEP'T OF THE ARMY, FM 3-57 (FM 3-05.40), CIVIL AFFAIRS OPERATIONS 2-25 (2011), *available at* http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/fm3_57.pdf [hereinafter FM 3-57].

110. *See generally* DEP'T OF THE ARMY, ATP 3-57.20/MCRP 3-33.1C, MULTI-SERVICE TECHNIQUES FOR CIVIL AFFAIRS SUPPORT TO FOREIGN HUMANITARIAN ASSISTANCE (2013), *available at* http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp3_57x20.pdf (establishing the techniques used by individuals, teams, and units of United States Army and Marine Corps Civil Affairs forces, as well as planners of civil-military operations at the strategic, operational, and tactical levels of war).

111. DEP'T OF THE ARMY, FM 3-05.401/MCRP 3-33.1A, CIVIL AFFAIRS TACTICS, TECHNIQUES, AND PROCEDURES, app. A-24 (2007), *available at* <http://www.tecom.marines.mil/Portals/162/Docs/MCRP%203-33.1a%20CA%20TTPs.pdf>.

112. *Id.* at app. C-2.

113. *Id.* at app. A-3.

114. *Id.* at app. A-5.

115. *Id.* at app. A-24.

116. *Id.* at app. A-28.

117. *Id.* at app. F-23.

education and information.”¹¹⁸ At the tactical level (brigade and battalion) there will be only the rule of law, infrastructure, governance, and public health and welfare. Although the roles and duties of the specialist sections are described in great detail, none of them include dealing with climate change or its gender-differentiated impacts.¹¹⁹ For example, the governance specialty area provides the supported command information on “environmental and pollution control systems” infrastructure and personnel, but not the impacts of climate change on the environment and the people.¹²⁰

Similarly, one of the core tasks of civil affairs units is “[p]opulace and resource control,” which includes conducting operations involving “dislocated civilians.”¹²¹ Military doctrine describes the legal and functional status of dislocated civilians in great detail—such as the difference between a returnee and a resettler—but it does not mention gender.¹²² The civil affairs doctrine emphasizes the importance of collecting information about the movements of dislocated civilians and the leadership of their camps, and “civil vulnerabilities,” but it does not mention gender.¹²³

An important function of civil affairs units is to participate in planning and provide the commander’s staff with pertinent information about the area of operations. One of the products provided by the civil affairs unit is the area study, which “presents a description and analysis of the geography, historical setting, and the social, political, military, economic, health, legal, education, governance, infrastructure, and national security systems and institutions of a country.”¹²⁴ Arguably, these categories are broad enough to include climate change and its gender-differentiated impacts. But when the more specific products that the civil affairs unit generates—based in large part on the country study—are examined, they likewise are silent on these important operational factors. For example, the focused analysis of the population tracks the “[c]urrent social climate in the [area of operations],” “key civilian communicators” such as figureheads, clerics and subject matter experts, and the “[r]ole of

118. JP 3-57, *supra* note 105, at I-20.

119. *Id.* at II-18 through II-26.

120. GLOBAL PUB. POL. ACADEMIC GRP., CIVIL MILITARY OPERATIONS & THE RULE OF LAW: CURRICULUM DEVELOPMENT REPORT, 10 (2011), available at, <http://www.nps.edu/Academics/AcademicGroups/GPPAG/Docs/PDF/general%20docs/ROL%20curriculum%20development%20report%20Feb12%20web.pdf>.

121. JP 3-57, *supra* note 105, at II-20.

122. JP 3-29, *supra* note 89, at IV-20.

123. See generally *id.* (discussing dislocated civilians in the broad foreign humanitarian assistance context).

124. FM 3-57, *supra* note 109, at 4-4.

religion in society and the various religious and fraternal groups”¹²⁵—but not gender or the gender-differentiated impacts of climate change.

Is it possible that DoD is simply unaware of the operational relevance of gender in civil-military operations? In short, the answer is “no.” JP 3-57 references a joint publication of the U.S. Institute of Peace and the U.S. Army Peacekeeping and Stability Operations Institute, *Guiding Principles for Stabilization and Reconstruction*, which goes into great depth on the subjects of gender awareness and the need to ensure gender equity in all facets of stabilization and reconstruction efforts.¹²⁶ Although this document was hailed at its publication as “civilian doctrine,”¹²⁷ it is not accepted military doctrine. It could be fairly argued that merely referencing it shows that DoD considers gender issues to be civilian operational issues in civilian-centric military operations, and not military matters. Does this mean these topics simply do not lend themselves to treatment in military doctrine? Again, the short answer is “no,” and this answer is best illustrated by looking to important doctrine-like material developed in the NATO context.

2. A NATO Perspective

The Civil-Military Cooperation (“CIMIC”) Centre of Excellence (“CCOE”), a NATO accredited training, education, and doctrinal development center located in the Netherlands, has published materials that, although not official NATO doctrine, are influential and incorporate many of the lessons lately learned in Afghanistan. Although CCOE’s general handbook on civil-military cooperation does not mention climate change specifically, it does note the importance of understanding the physical environment and ecosystems.¹²⁸ It also contains a detailed section on the importance of gender awareness in conducting civil-military operations.¹²⁹ Unfortunately, the “rapid assessment templates” it provides for evaluating food processing and consumption, water availability, and agricultural

125. *Id.* at 4-8 (emphasis added).

126. See U.S. INST. OF PEACE & U.S. ARMY PEACEKEEPING AND STABILITY OPERATIONS INST., *GUIDING PRINCIPLES FOR STABILIZATION AND RECONSTRUCTION* (2009), available at http://www.usip.org/sites/default/files/resources/guiding_principles_full.pdf (detailing the suggested approaches to dealing with gender issues).

127. U.S. INST. OF PEACE, USIP, U.S. ARMY UNVEIL FIRST CIVILIAN DOCTRINE FOR PEACE OPERATIONS (2009), available at <http://www.usip.org/publications/usip-us-army-unveil-first-civilian-doctrine-peace-operations>.

128. CIVIL-MILITARY CO-OPERATION CENTRE OF EXCELLENCE, *CIMIC FIELD HANDBOOK*, III-5-3 through III-5-4 (3d ed. 2012), available at <http://www.cimic-coe.org/download/cfh/CIMIC-Handbook.pdf>.

129. *Id.* at III-6-1 through 6-6.

production do not appear designed to collect gender- and sex-differentiated data for these important functions.¹³⁰

Importantly—for the purposes of assessing the utility of U.S. doctrine in dealing with climate change and its gender-differentiated impacts—two documents supplement the handbook and deal with these important operational issues in some detail. The first is a guide on operationalizing gender in the course of civil-military interactions. This guide provides an understanding of gender, what a gender perspective is, and how it might be practicably used in operations.¹³¹ It differentiates between sex and gender,¹³² and explains the importance of mainstreaming a gender perspective in planning and operations as a way to ensure gender impartiality.¹³³ It also describes the use of special gender advisors to assist commanders in bringing a gender perspective into their work and that of their staff at all levels of command.¹³⁴ Finally, it provides fairly detailed guidance and case studies on how to integrate a gender perspective into operations in order to improve operational efficacy.¹³⁵

The second NATO handbook concerns the environment.¹³⁶ It provides examples of how ecosystems are vulnerable to climate change,¹³⁷ a discussion of relevant international conventions on climate,¹³⁸ best practices to be employed by deployed units to avoid compromising local environmental conditions,¹³⁹ and the holistic approach required to implement sustainable resource use and management.¹⁴⁰ Importantly, the handbook explicitly links women's roles in host nation societies to issues of resource use and ecosystem restoration, and notes how women's interests in these matters is often underestimated or overlooked.¹⁴¹ Further, the handbook directs readers to the gender handbook to find useful methods for gathering information regarding the access of women “to resources such as

130. *Id.* at annexes 14, 15, 17 and 21.

131. STEPHANIE GROOTHEDDE, GENDER MAKES SENSE: A WAY TO IMPROVE YOUR MISSION 2 (2013), available at http://www.cimic-coe.org/download/gender_brochure_web.pdf.

132. *Id.* at 15.

133. *Id.* at 17.

134. *Id.* at 24–27.

135. *Id.* at 44–57.

136. N. GALLAGHER & P. WIT, SOCIETY STABILIZATION BY WINNING THE ENVIRONMENT (2012), available at http://www.cimic-coe.org/download/Ecosystems_Assessment.pdf.

137. *Id.* at 27.

138. *Id.* at 52–53.

139. *Id.* at 54–57.

140. *See id.* at 75 (describing an approach that considers “all forms of relevant information”).

141. *Id.* at 35–36.

land, water and wood” so that they are not marginalized by “well intended measures.”¹⁴²

E. Summary

The degree to which current U.S. doctrine neither deals with climate change nor gender, to say nothing of the process of climate change or its gender-differentiated impacts, is troubling. The shortcomings in U.S. doctrine are brought into sharp focus when one compares U.S. civil-military affairs doctrine and the works published by the CCOE. Whereas U.S. civil-military affairs doctrine, tactics, techniques, and procedures could be fairly described as devoid of any meaningful discussion of the environment and the operational significance of gender, the CCOE publications not only address these topics, but the publications explicitly recognize the linkages between climate change and gender in a military operational context.

Review of U.S. doctrine identifies obvious areas in which these concepts could be included, and where their inclusion would promote the completeness and comprehensiveness of the doctrine without major changes in the flow of the chapters or text. For instance, FHA doctrine shows that DoD is cognizant of the need to provide women and children with proper medical care, and of the need to prevent human trafficking. Thus, DoD is completely capable of addressing the operational relevance of gender in doctrine. The *Guiding Principles for Stabilization and Reconstruction*, however, suggest that the U.S. military primarily views gender as an area in which civilian agencies should operate.

Embedding gender and climate content in doctrine would require a holistic reorientation within DoD on the operational relevance of the two. Complicating this task, the current doctrine is not inconsistent with the Obama Administration’s recently published Climate Change Action Plan in this regard. For example, the Climate Change Action Plan proposes international efforts to reduce emissions from deforestation and forest degradation, greater use of cleaner energies and reducing energy waste, free trade agreements in environmental goods and services, strengthened planning and response capacities, innovative financial risk management tools, and the distribution of drought-resistant seeds,¹⁴³ but makes no mention of climate change’s gender-differentiated impacts. Therefore, for U.S. military doctrine to change, there must be a significant investment of political capital to require DoD to take on an additional perspective that is,

142. *Id.* at 36.

143. CLIMATE ACTION PLAN, *supra* note 19, at 17–20.

for DoD at least, quite different from its historical viewpoint on operations.¹⁴⁴

III. MILITARY-CIVILIAN INTERACTION UNITS

As important as doctrine is in terms of resource allocation within the military,¹⁴⁵ to rely solely upon high level doctrine to form a picture of the U.S. military's understanding (or lack thereof) of climate change and gender would be unwise. Albeit authoritative, doctrine is only guidance, and it is therefore necessary to see how the U.S. military actually implements doctrine (or perhaps ignores it) when operating in the field and interacting with local nationals. During the U.S. and international forces' operations in Afghanistan, they have developed different sorts of military-civilian interaction units. Two of these types of units—Provincial Reconstruction Teams and Agriculture Development Teams—provide a rich experiential basis upon which to assess how best the military might address climate change and its gender-differentiated impacts.

A. Provincial Reconstruction Teams

Many International Security Assistance Force (“ISAF”) partners have used Provincial Reconstruction Teams (“PRTs”) in Afghanistan since 2003.¹⁴⁶ Consisting both civilian and military members, the purpose of PRTs is to help rebuild local governance and security capacity. At the height of the ISAF troop uplift in Afghanistan, twenty-seven PRTs from nations including the U.S., Germany, New Zealand, and Lithuania were deployed there.¹⁴⁷ Many PRTs have already discontinued operations as international forces have withdrawn.¹⁴⁸ From a U.S. doctrinal perspective, PRTs are focused on the local level of government and infrastructure in their areas of operations. In situations where the local government does not

144. Jody M. Prescott, *NATO Gender Mainstreaming: A New Approach to War Amongst the People?*, 158 RUSI J. 56, 59 (2013), https://www.rusi.org/publications/journal/ref:A527240CAD9431/#.U115M_IdWik.

145. See John Hazlehurst, *Modern Military Needs New Strategy*, COLO. SPRINGS BUS. J., (Nov. 21, 2013), <http://csbj.com/2013/11/21/modern-military-needs-new-strategy/> (discussing the realities of the relationships between strategy, doctrine, and dollars).

146. Oskari Eronen, CMC FINLAND CIVILIAN CRISIS MANAGEMENT STUDIES, PRT MODELS IN AFGHANISTAN: APPROACHES TO CIVIL-MILITARY INTEGRATION, 1, 5–6 (2008), available at http://www.cmcfinland.fi/download/41858_Studies_5_Eronen.pdf?6d36321354f4d088.

147. *Provincial Reconstruction Teams (PRTs)*, INT’L SECURITY ASSISTANCE FORCE, <http://www.nato.int/isaf/topics/prt> (last visited May 22, 2014).

148. *Military Reconstruction Teams in Afghanistan Closing Up Shop*, STARS & STRIPES (Oct. 12, 2012), <http://www.stripes.com/news/military-reconstruction-teams-in-afghanistan-closing-up-shop-1.192711>.

exist or is seen as corrupt by the people, PRTs might find themselves conducting stability operations initially, until some local government capacity can be built or reformed. In instances where the local government is perceived as legitimate, but ineffective, the PRT focuses on helping the governmental institutions build the necessary capacity to govern. PRTs may be commanded by either a DoS or DoD official.¹⁴⁹ PRTs also have agricultural experts assigned to them from the U.S. Department of Agriculture (“USDA”). Unfortunately, commanders ordinarily have had limited agricultural experience and appeared to favor visible, short-term infrastructure projects that were often dollar-intensive. Thus, many of these experts found themselves unable to secure funding for sustainable, long-term agricultural projects.¹⁵⁰ Ordinarily, the military support provided to a PRT will consist of civil-affairs assets and security, but could also include “mobility, sustainment, administration and communication” support.¹⁵¹ PRTs primarily conduct stability operations.¹⁵² Assessments of PRT performance have been mixed.¹⁵³ Non-governmental organizations engaged in development have criticized PRT efforts as being unsustainable and asynchronous with their goals.¹⁵⁴ Some observers have also questioned what they see as the militarization of the development effort.¹⁵⁵ On the other hand, ISAF partners’ national governments have generally praised the PRTs’ effectiveness.¹⁵⁶

B. Agriculture Development Teams

The concept of the military agriculture development team is not new. This sort of functionality was apparently first used by the U.S. in certain projects in Central America beginning in the 1970’s.¹⁵⁷ In Afghanistan, the

149. JP 3-24, *supra* note 64, at app. B-3.

150. Bernard Carreau, *Lessons from USDA in Iraq and Afghanistan* 1 PRISM 139, 141–43 (2010), available at http://cco.dodlive.mil/files/2014/02/Prism_139-150_Carreau.pdf.

151. JOINT CHIEFS OF STAFF, JOINT PUBLICATION 3-24, COUNTERINSURGENCY B-2 (2009), available at <http://www.scribd.com/doc/21059227/Joint-Publication-3-24> (note that this is the old version of JP 3-24).

152. JP 3-24, *supra* note 64, at A-17.

153. Michael J. McNerney, *Stabilization and Reconstruction in Afghanistan: Are PRTs a Model or a Muddle?*, PARAMETERS, Winter 2005–2006, 32, 39–41.

154. Eronen, *supra* note 146, at 17, 30–32.

155. *Id.* at 31.

156. KENNETH KATZMAN, CONG. RESEARCH SERV., RL30588, AFGHANISTAN: POST-TALIBAN GOVERNANCE, SECURITY, AND U.S. POLICY 1, 36 (2014), <https://www.fas.org/sgp/crs/row/RL30588.pdf>.

157. Rachel Knight, *Missouri’s Agribusiness Development Team Ends Mission in Afghanistan*, MO. NAT’L GUARD, <http://www.moguard.com/07-18-12-missouris-agribusiness-development-team-ends-mission-in-afghanistan.html> (last visited May 22, 2014).

first pilot ADT, composed of Missouri National Guard personnel, was created and deployed in 2007.¹⁵⁸ ADTs are unique to the National Guard—found neither in the active U.S. Army nor in the Army Reserve. Accordingly, their structure is not dictated by doctrine, which allows the respective U.S. state some flexibility in selecting the personnel that compose the teams in terms of number, rank, and expertise. The guidance that does exist is not official doctrine, and it is both general and perhaps slightly dated.¹⁵⁹ Importantly, ADTs are able to collaborate with land grant universities in their home states to receive additional agricultural training, and to use them as reach-back assets once deployed.¹⁶⁰ Because ADTs bring with them their own security detachments and transportation assets, they are able to move more freely around the countryside than the PRTs' agricultural experts, who often depend upon maneuver units in the area for this sort of support.¹⁶¹ In addition, the different state National Guards have committed to sending ADTs to specific locations for a number of years, which has provided a degree of continuity not generally found in other military deployments.¹⁶² Finally (and the significance of this should not be downplayed in military operations, even in development and aid matters), ADTs are generally commanded by colonels that often outrank the local PRT commanders.¹⁶³ Although there has been some criticism that the quality of the ADTs is uneven—largely depending upon the personnel comprising the teams,¹⁶⁴—they have officially been assessed as successful in conducting their missions.¹⁶⁵

The scope of the projects individual ADTs have worked on has depended upon the composition and expertise of the deployed personnel, the security situation in their respective areas, and the evolution of the mission in Afghanistan. Early ADT rotations partly focused on

158. *Id.*

159. CTR. FOR ARMY LESSONS LEARNED, AGRIBUSINESS DEVELOPMENT TEAMS IN AFGHANISTAN: TACTICS, TECHNIQUES, AND PROCEDURES, HANDBOOK NO. 10-10, 3-6 (2009) [hereinafter ADT HANDBOOK], available at <http://usacac.army.mil/cac2/call/docs/10-10/10-10.pdf>. (The ADT HANDBOOK uses “gender” rather than the word “sex” in discussing interaction with women, and does not deal with climate change.)

160. *Id.* at 4.

161. Telephone interview with Colonel Eric Ahlness, commander, Minnesota ADT III (Aug. 2, 2013).

162. *Id.*

163. Carreau, *supra* note 150, at 146.

164. *Id.*

165. Michael D. Fortune, *The Real Key to Success in Afghanistan: Overlooked, Underrated, Forgotten, or Just Too Hard?*, 65 JOINT FORCES Q., 10, 14 (2012), available at [https://www.pksoi.org/document_repository/Lessons/JFQ-65_10-16_Fortune_\(30-Mar-12\)-LMS-797.pdf](https://www.pksoi.org/document_repository/Lessons/JFQ-65_10-16_Fortune_(30-Mar-12)-LMS-797.pdf); Martin A. Leppert, *Agrarian Warriors: The Quiet Success of National Guard Agribusiness Development Teams in Afghanistan*, ARMY MAG., 53, 58 (2010), available at http://www.aco.nato.int/resources/3/documents/News/2010/Leppert_0610.pdf.

technological improvements that appeared to be well suited for Afghanistan's climate, but were in fact not sustainable culturally or economically without continued outside funding and support. Examples of this include solar wells, cold storage facilities, and drip-irrigation projects.¹⁶⁶

As the international community began winding down its involvement in Afghanistan, the focus of ADTs' efforts were on sustainable projects that Afghans could maintain and carry forward with little or no outside support.¹⁶⁷ Examples of these include: demonstration farms and orchards that also serve as training centers for local villagers;¹⁶⁸ complementing existing agricultural practices with inexpensive and non-technology intensive projects;¹⁶⁹ training Afghan government officials on both technical aspects of food safety and leadership;¹⁷⁰ cash-for-work programs that funded the cleaning of karezes¹⁷¹ and irrigation canals;¹⁷² basic animal husbandry and veterinary skills;¹⁷³ supporting greenhouse growers'

166. Mike Fortune, *Commander's Corner: How and Why the ADT Mission Has Evolved*, 4 MULESKINNER REP., 1, 1–2, 13 (Oct. 2010), http://www.nationalguard.mil/Portals/31/Features/ADT/pdf/MO_ADT_IV_Muleskinner_Report5.pdf.

167. Telephone interview with Lieutenant Colonel Jeffrey Farrell, deputy commander, Georgia (GA) ADT II (Aug. 16, 2013).

168. Press Release, Ark. Nat'l Guard, Arkansas Troops Developing Farm as Agriculture Education Center (Nov. 19, 2010), http://www.arguard.org/publicaffairs/index.asp?id=news/2010/11/ADT_Farm.htm; Peter Shinn, *Iowa ADT Helps Youths Get Orchard Training*, DEF. VIDEO & IMAGERY DISTRIB. SYS., <http://www.dvidshub.net/news/69395/iowa-adt-helps-youths-get-orchard-training#.UzUetV4rFXa> (last visited May 14, 2014).

169. *Afghanistan: Kentucky Guard ADT 3 Pulls Out the 'Wood Carpet' for Afghan Farmers*, KY. NAT'L GUARD (Nov. 22, 2011), available at <http://www.arng.army.mil/News/Pages/AfghanistanKentuckyGuardADT3pullsoutthe%E2%80%98woodcarpet%E2%80%99forAfghanfarmers.aspx>.

170. John Paluczak, *Implementing the Agriculture Extension Agent Leadership Academy*, 4 MULESKINNER REP., 1, 7 (Oct. 2010), available at http://www.nationalguard.mil/Portals/31/Features/ADT/pdf/MO_ADT_IV_Muleskinner_Report5.pdf; *Afghanistan—Meat Inspection Afghanistan Style*, MEAT TRADE NEWS DAILY (Dec. 17, 2011), http://www.meatradenewsdaily.co.uk/news/141211/afghanistan___meat_inspection_afghanistan_style_.aspx.

171. Michael M. Phillips, *Learning a Hard History Lesson in 'Talibanistan'*, WALL ST. J. (May 14, 2009), <http://online.wsj.com/article/SB124224652409516525.html> (A *karez* is an ancient form of underground water canal).

172. Raymond Legg, *Agriculture Section at Work*, 4 MULESKINNER REP., 5, 5–6, (Nov. 2010), [https://www.pksoi.org/document_repository/Lessons/MO_ADT_IV_Muleskinner_Report6_\(30-Nov-10\)-LMS-797.pdf](https://www.pksoi.org/document_repository/Lessons/MO_ADT_IV_Muleskinner_Report6_(30-Nov-10)-LMS-797.pdf).

173. Telephone Interview with Major Cheryl Wachenheim, Director of Agriculture, Irrigation and Livestock ("DAIL") liaison, Minnesota ADT III (Aug. 2, 2013); Michelle Grant, *The Georgia Rhythm Section*, 3 COIN COMMON SENSE, 3, 13, (2012), available at <https://ronna.apan.org/CAAT/Shared%20Documents/COIN%20Common%20Sense%20Vol%203%20Issue%202.pdf>.

associations;¹⁷⁴ and supporting local nurseries by purchasing orchard-tree saplings and distributing them to villagers free of charge.¹⁷⁵

Arguably, from a development perspective, these sorts of projects—although worthwhile and perhaps novel in the military context—do not suggest that ADTs represent a significant innovation.¹⁷⁶ What truly sets ADTs apart, in both a development and a military sense, is the recent use of gendered-interaction units specifically focused on promoting sustainable agricultural practices and projects to increase the resilience of local nations and their environments.

IV. ADTs AND A GENDERED APPROACH TO SUSTAINABILITY

A. Female Engagement Teams and Cultural Support Teams

To better understand the ADTs' use of gendered-interaction units, it is helpful to first look briefly at the use of small, all-women units in operational settings. The UN has used all-women units in peacekeeping efforts since 2007 with notable operational success.¹⁷⁷ For example, the UN deployed Indian female police units in Liberia, and female Bangladeshi units in Haiti and the Democratic Republic of the Congo.¹⁷⁸ The use of all-women military units by the U.S. military to engage with host nation women in kinetic operations first developed on an ad hoc basis in Iraq,¹⁷⁹ and appears to have been introduced to the Afghan theater in early 2009 by incoming U.S. Marine Corps units in the form of designated Female Engagement Teams ("FETs").¹⁸⁰ Over time, both the Marine Corps and the

174. Farrell interview, *supra* note 167. Participants in the program were able to promote a degree of agricultural stock and product price stability in their local area by starting seedlings to sell to farmers, growing specialty crops, and by being able to grow crops out of season. *Id.*

175. Leslie Goble, *Afghanistan: Kansas National Guard ADT Gives Arbor Day Gifts to Locals*, NAT'L GUARD (Feb. 8, 2012), <http://www.nationalguard.mil/Features/AgriculturalDevelopmentTeams.aspx>.

176. See, e.g., the weADAPT homepage, which provides access to numerous articles, initiatives, case studies, and training modules from across the world on the entire range of climate change mitigation and adaptation efforts. WEADAPT, <http://weadapt.org/> (last visited May 14, 2014).

177. Bonnie Allen, *Liberia: Female Peacekeepers Smash Stereotypes*, IIP DIGITAL, U.S. DEP'T OF PEACEKEEPING OPERATIONS, UN POLICE MAG. 4 (2d ed. 2007), available at http://www.un.org/en/peacekeeping/publications/unpolmag/unpolmag_02.pdf.

178. *Women in Peacekeeping*, U.N. PEACEKEEPING, <http://www.un.org/en/peacekeeping/issues/women/womeninpk.shtml> (last visited May 14, 2014).

179. Sahana Dharmapuri, *Just Add Women and Stir?*, PARAMETERS, 56, 60 (2011), <http://strategicstudiesinstitute.army.mil/pubs/parameters/articles/2011spring/dharmapuri.pdf>.

180. Matt Pottinger et al., *Half-Hearted: Trying to Win Afghanistan without Afghan Women*, SMALL WARS J., 1, 1 (2010), <http://smallwarsjournal.com/blog/journal/docs-temp/370-pottinger.pdf>. The U.S. Army had for years used Human Terrain Teams ("HTTs") in Afghanistan to gather cultural

Army began to standardize the training and use of FETs, as did the U.K. forces.¹⁸¹

As the title of the unit suggests, the purpose of FETs is to interact with host nation women. Most accounts of FET operations have been favorable, and commanders in the field appear to value the information that the women troops are able to obtain from their interactions with both Afghan women and men.¹⁸² At the height of the U.S. troop surge in Afghanistan, all Army maneuver battalions and PRTs were required to include FET-trained personnel in their ranks.¹⁸³ Their role is not without controversy, however, and some writers have suggested that FETs need to become better integrated with military-civil affairs operations because they do not receive sufficient training on host-nation culture and language.¹⁸⁴ Others have questioned whether “engagement” as a purpose risks becoming an end in itself, consuming resources without making a demonstrable contribution to reducing violence and insurgency.¹⁸⁵ Further, as will be discussed below, it is not clear that FETs have in fact become fully

and operational information about Afghan civilians in its areas of operations, but these were mixed-sex teams composed of civilian researchers and security personnel working together with military personnel. Jody M. Prescott, *The Development of NATO EBAO Doctrine: Clausewitz’s Theories and the Role of Law in an Evolving Approach to Operations*, 27 PENN ST. INT’L L. REV. 125, 137–38 (2008). Although the information provided by these teams was often disaggregated and operationalized on a gender and sex basis; see David Rohde, *Army Enlists Anthropology in War Zones*, N.Y. TIMES (Oct. 5, 2007), <http://www.nytimes.com/2007/10/05/world/asia/05afghan.html?pagewanted=all> (noting that an HTT encountered a village containing a large number of widows dependent on sons of fighting age for support, so local Army unit focused on programs to allow the widows to generate income themselves to help deter sons from joining the insurgency), their use was controversial on ethical and practical grounds.; Jason Motlagh, *Should Anthropologists Help Contain the Taliban?*, TIME (July 1, 2010), available at <http://www.time.com/time/world/article/0,8599,2000169,00.html>.

181. See MINISTRY OF DEFENCE, *Female Team Prepares to Engage with Afghanistan’s Women*, GOV.UK (Apr. 6, 2011), <https://www.gov.uk/government/news/female-team-prepares-to-engage-with-afghanistans-women> (reporting that twenty-two female troops received FET training from the Military Stabilization Support Group and the stabilization unit prior to Afghan deployment). However, concerns still exist that the U.S. Army, for example, has not sufficiently standardized or institutionalized FET training and use in the field, so that it is still not as effective as it could be. Janet R. Holliday, *Female Engagement Teams: The Need to Standardize Training and Employment*, MILITARY REV., 90, 90 (2012), http://www.carlisle.army.mil/dime/documents/MilitaryReview_Female%20Engagement%20Teams.pdf.

182. Elisabeth Bumiller, *In Camouflage or Veil, a Fragile Bond*, N.Y. TIMES (May 29, 2010), <http://www.nytimes.com/2010/05/30/world/asia/30marines.html?pagewanted=all>.

183. Diane R. Walker, *ATN? Announces COIN, Female Engagement Team Training*, FTLEAVENWORTHLAMP.COM (July 14, 2011), <http://www.ftleavenworthlamp.com/article/20110714/NEWS/307149881/0/>.

184. Julia L. Watson, *Female Engagement Teams: The Case for More Female Civil Affairs Marines*, 95 MARINE CORPS GAZ., 20, 23 (July 2011), <http://www.mca-marines.org/gazette/article/female-engagement-teams-case-more-female-civil-affairs-marines>.

185. See Anna C. Coll, *Evaluating Female Engagement Team Effectiveness in Afghanistan* 34 (2012) (Honors Thesis Collection, Wellesley College), available at <http://repository.wellesley.edu/thesiscollection/2> (noting that some observers have suggested that FETs conduct engagement merely for the sake of engagement).

integrated into military doctrine,¹⁸⁶ and their use is apparently being curtailed as U.S. forces continue their withdrawal from Afghanistan.¹⁸⁷

First deployed in 2011, Cultural Support Teams (“CSTs”) are small, all-women detachments similar to FETs, except they are trained and used specifically in support of U.S. Army Special Operations Forces missions to conduct “medical outreach programs, civil-military operations, key leader engagements, and searches and seizures.”¹⁸⁸ Special operations forces include Special Forces, Rangers, Information Operations, and Civil Affairs units.¹⁸⁹ Because of the very austere conditions in which such forces often operate, CST candidates undergo a grueling selection process, and successful candidates receive more in-depth training in different cultures than FETs.¹⁹⁰ Although little information regarding CST operations is available in the public domain, the continuing worldwide mission of Army special operations forces suggests that CSTs might continue to be employed by these forces even if their use in the regular Army is reduced.¹⁹¹ Further, it would be incorrect to assume too high a degree of doctrinal purity on the part of special operations forces in the field; when CSTs were in short supply, these forces would gratefully use available FETs to help conduct their missions.¹⁹²

186. Ellen Haring, *Female Engagement Teams: An Enduring Requirement with a Rocky Start*, 3 PEACE & STABILITY OPERATIONS J. ONLINE 7, 7 (2012), <http://pksoi.army.mil/PKM/publications/journal/pubsreview.cfm?ID=27> (last visited May 14, 2014) (recognizing that some argue that FETs have been an expedient measure necessary for the mission in Afghanistan, but not necessarily elsewhere).

187. Dan Lamothe, *The End of Female Engagement Teams*, MARINE CORPS TIMES, (Dec. 29, 2012), <http://www.marinecorpstimes.com/article/20121229/NEWS/212290307/The-end-female-engagement-teams>.

188. U.S. ARMY SPECIAL OPERATIONS COMMAND, *About the Cultural Support Program*, <http://www.soc.mil/SWCS/organization.html> (last visited May 28, 2014) [hereinafter CST].

189. U.S. ARMY SPECIAL OPERATIONS COMMAND *Headquarters Fact Sheet, About the U.S. Army Special Operations Command*, <http://www.soc.mil/USASOCHQ/USASOCHQFactSheet.html> (last visited May 14, 2014).

190. Kevin Maurer, *In a New Elite Army Unit, Women Serve Alongside Special Forces, but First They Must Make the Cut*, WASH. POST (Oct. 27, 2011), http://www.washingtonpost.com/lifestyle/magazine/in-new-elite-army-unit-women-serve-alongside-special-forces-but-first-they-must-make-the-cut/2011/10/06/gIQAZWOSMM_story.html; CST, *supra* note 188.

191. See Thom Shanker, *Less ‘Rambo’ Seen in New U.S. Military Culture*, N.Y. TIMES (June 18, 2013), http://www.nytimes.com/2013/06/19/us/less-rambo-seen-in-new-us-military-culture.html?_r=0 (quoting an Army General suggesting that CST members “very well may provide a foundation for ultimate integration” of women into combat forces).

192. Ahlness interview, *supra* note 161.

B. ADTs, FETs, and Women's Initiative Training Teams

Importantly for purposes of this article, recent ADT efforts have also included a gender perspective on sustainability, using FETs or an ADT type of unit, the Women's Initiative Training Team ("WITT"). These are well illustrated by the experiences of recently redeployed ADTs from the Minnesota and Georgia National Guards. Minnesota ("MN") National Guard ADT III, working in Zabul Province, in deciding where to focus its efforts to improve the value chain in food production and marketing, took advantage of a DoS study that had identified increased production and marketing of high value crops, such as almonds, raisins, and pomegranates, as being feasible and sustainable.¹⁹³ For example, the ADT supported a project that hired village women to shell almonds to increase the market value of this important crop.¹⁹⁴ Relatedly, a project training Afghans on beekeeping using hardy Asian honeybees proved to be suited to the Afghan environment and to be sustainable over time.¹⁹⁵

The experiences of MN ADT III provide valuable lessons as to the importance of understanding local culture and economy in seeking to help communities in developing countries mitigate and adapt to climate change. For example, because water was only seasonally available, there was a tendency among local farmers to overwater their crops, thereby reducing crop yield and soil fertility. However, efforts to convince the farmers to build retention dams to secure water availability were met with resistance because of fears that downstream users would consider such works as water hoarding by the upstream users.¹⁹⁶ Similarly, grapes in Zabul were ordinarily grown on earthen embankments, rather than the vines being attached to trellises. Farmers were reluctant to switch to trellising because of fears that the wind might knock over the vines and cause the loss of the crop.¹⁹⁷ In addition, the lack of infrastructure impacts long-term sustainability. For example, families often sell high-value orchard crops to brokers on the tree. They do not have sufficient information to know whether they are getting the best price, and their limited resources make it hard to wait for a potentially higher price later, so they take what they can get. If farmers had better transportation infrastructure (including security of

193. *Id.*

194. *Id.*

195. *Id.*

196. *Id.*

197. *Id.*

movement), they could use their talent of growing high-value crops to better effect by accessing markets more easily.¹⁹⁸

MN ADT III also worked closely with the PRT, local officials, and Afghan government agencies like the Ministry of Women's Affairs and Directorates of the Ministry of Agriculture, Irrigation and Livestock ("DAIL"). MN ADT III's commander identified before the unit deployed that one of its primary tasks would be to engage with vulnerable populations, especially women.¹⁹⁹ The women on this ADT were trained and certified as a FET in preparation for this task and to ensure that units in the ADT's area of operation were conducting female engagement.²⁰⁰ Once the ADT deployed, Afghan men were asked whether it was acceptable for the FET to meet with the women of their families, and the answer was positive most of the time.²⁰¹ The FET used its meetings with women in villages as opportunities to talk about health and raising backyard gardens. Similarly, working with the DOWA, the FET also sought to create business opportunities for widows by teaching them poultry husbandry skills, and then providing them with breeding stock and feed.²⁰² Cooperating with the PRT, the FET also supported a program to train women in a village to set up a yogurt business using goats' milk. In addition, the FET sponsored a girls' school where the students were also trained in gardening. This style of education leads to increased literacy, socialization, and receptiveness to new growing methods among the students.²⁰³ The FET was even able to help coordinate sending a local Afghan woman to receive more advanced agricultural training at the Thunderbird School of Global Management in Arizona.²⁰⁴

GA ADT II, operating primarily in Logar and Wardak Provinces, included a WITT that was tasked to coordinate with Afghan government agencies and women's groups to assist Afghan women to improve their ability to raise and market agricultural goods and preserve food, both as individuals and collectively.²⁰⁵ Because the FETs in GA ADT II's area of operations were primarily employed by Army maneuver forces to assist in the conduct of COIN operations, this ADT was careful to maintain space

198. Wachenheim interview, *supra* note 173.

199. Ahlness interview, *supra* note 161.

200. *Id.* When U.S. Special Forces in the area lacked a CST, the MN ADT III FET was able to assist them in their operations.

201. *Id.*

202. See Hillenbrand, *supra* note 45, at 412 (explaining that "[h]omestead gardening has been linked explicitly to development of sustainable livelihoods and resilient to risk, through better year-round nutritional security and diversified income sources . . .").

203. Ahlness interview, *supra* note 161.

204. Wachenheim interview, *supra* note 173.

205. Grant, *supra* note 173, at 13.

between its WITT and maneuver unit FETs in order to downplay the WITT's association with kinetic operations.²⁰⁶ Projects in which the WITT was involved included teaching food preservation techniques and the development of a backyard chicken coop program that would be sustainable through the hard Afghan winter through the husbandry of breeding stock and the sale of eggs and surplus chickens. Other projects that focused on women included business opportunities like “food drying, beekeeping, and poultry production.”²⁰⁷

One project—which trains local women on the tending of local backyard gardens to raise saplings, which could then be sold to contractors reforesting hillsides—stands out because of the way in which GA ADT II integrated it into a larger project geared towards watershed restoration and sustainability. The project began the restoration of seven watersheds using local, low technology, and non-capital-intensive means. Local water officials and village elders were included in the project and received training in water management skills.²⁰⁸ Later, in conjunction with USDA experts, the ADT conducted training for Afghan government officials to increase their appreciation of the need to take a holistic approach across government agencies to integrate water management in their different activities. Contractors were hired to identify areas for their watershed potential, and were required to employ local villagers in the project so they would receive on-the-job training. Once suitable areas had been identified, local villagers were hired to undertake simple construction efforts, such as building stone dams and contour ditches to slow water flow, thereby mitigating soil erosion and enhancing water infiltration.²⁰⁹ In addition to working, the villagers also received two hours of daily training by the DAIL staff; teachers and assistants hired from the local community contributed to this training.²¹⁰ Finally, saplings grown by women in their

206. Farrell interview, *supra* note 167.

207. Janet R. Holliday, *Female Engagement Teams: The Need to Standardize Training and Employment*, MILITARY REV. 90, 91, (2012), available at http://www.carlisle.army.mil/dime/documents/MilitaryReview_Female%20Engagement%20Teams.pdf. See also Randall Gates, *U.S. Army Helps Build Beekeeping In Afghanistan*, AMERICAN BEE JOURNAL 395, 395–96 (2011).

208. Farrell interview, *supra* note 167.

209. *Id.*

210. See Grant, *supra* note 173, at 13 (“One of the watershed projects requires its contractor to coordinate efforts with the Director of Education to ensure ten days of watershed management training is provided for the educational development of students at the Agricultural High School.”)

backyard gardens were sold to the contractors and planted in upland portions of the watershed areas to reforest them.²¹¹

C. Summary

ADTs have the capability not just to work on projects that could mitigate climate change and enhance adaptation, but also to specifically engage women in developing countries in these efforts. Although development and relief organizations have criticized military development efforts as disruptive, poorly-focused, and non-sustainable in many cases, the ADTs with their academic and practical agricultural expertise and their demonstrated ability to work well in an interagency effort hold great promise as a model for the U.S. military to consider in terms of effectively dealing with climate change at the tactical level.²¹² Most importantly, the ADTs have taken a gendered approach in working with Afghan women to develop skills and techniques that result in more food being grown in austere conditions, and possibly generating income as part of an integrated approach to societal adaptation to climate change. This provides a practical example of how to leverage the efforts of a country's entire population in fostering food and water security, and thereby promoting stability in general. When Afghan men saw that women could be successful at small business ventures, they often became more accepting of women being involved in commerce, and sometimes even wanted to participate themselves.²¹³

CONCLUSION

The linkages between rule of law and stability have been recognized as crucial in the redevelopment of war-torn nations.²¹⁴ But in Afghanistan, rule of law efforts often seem to have been focused on creating a legal system and infrastructure that do not appear to have taken root outside

211. Farrell interview, *supra* note 167; *see also id.* ("Some of the watershed projects require[d] their contractors to train and organize women's associations from villages within the project area to create tree nurseries.")

212. *See, e.g., Quick Impact, Quick Collapse: The Dangers of Militarized Aid in Afghanistan*, OXFAM INT'L, <http://www.oxfam.org/sites/www.oxfam.org/files/quick-impact-quick-collapse-jan-2010.pdf> (last visited May 14, 2014) (showing respected non-governmental organizations' critique of U.S. military development efforts in Afghanistan).

213. Holliday, *supra* note 181, at 93–94.

214. *See, e.g., Rule Of Law Crucial for Security and Stability in Kunduz*, GOV'T OF THE NETH. (June 30, 2011), <http://www.government.nl/news/2011/06/30/rule-of-law-crucial-for-security-and-stability-in-kunduz.html> (announcing €6.2 million investment in "legal training for police and prosecutors, improving office facilities and professionalizing administrative systems" in Afghanistan).

major cities, and will not likely be sustainable without significant continued foreign assistance.²¹⁵ In rural Afghanistan, for example, the absence of the formal justice system administered by Kabul has created opportunities for Taliban judges to administer expedited “justice,” and to create obligations and relationships that make Afghan villagers beholden to them, further eroding the rule of law.²¹⁶ The people’s confidence in their government would be enhanced by taking a broader view of the rule of law and fostering predictability and equity in the availability and use of essential national resources, like water and soil.²¹⁷ This would help legitimize the government in the eyes of the people, and perhaps give it an edge over its insurgent competitor in the rule of law marketplace. Giving women a place at the table in making resource allocation decisions, and in the economy with goods and services that can be exchanged for hard cash, are practical ways to tie women’s stakes in their environments to opportunities to mitigate the impact of climate change and adapt to it.

High-level U.S. strategy and doctrine addresses the significance of climate change as a factor in international instability, but it appears to focus on changed environments as an operational fact rather than on climate change as an operational process. Further, even though examination of U.S. doctrine shows that it could easily incorporate a gendered-perspective in terms of assessing operational facts, it largely does not. In this regard, rather than just viewing the ADT as a specific capability provided by the National Guard to assist in stability operations, the active military should instead view its COIN, stability, peace, and CMO operations through the lens of the ADT for a sense the operational relevance of gender and climate change. The ADT, working in conjunction with interagency and host nation partners, is not just a means to grow a bit more food—it is perhaps an important first step for the U.S. military to bolster meaningful participation

215. See LIANA SUN WYLER & KENNETH KATZMAN, CONG. RESEARCH SERV., R41484, AFGHANISTAN: U.S. RULE OF LAW AND JUSTICE SECTOR ASSISTANCE 28–36 (2010), available at http://www.law.umaryland.edu/marshall/crsreports/crsdocuments/R41484_11092010.pdf.

216. Soraya Sarhaddi Nelson, *Taliban Courts Filling Justice Vacuum in Afghanistan*, NPR.ORG (Dec. 16, 2008), <http://www.npr.org/templates/story/story.php?storyId=98261034>; Troy Anderson, *Insurgent Justice*, 1 COIN COMMON SENSE, (July 2010), available at <http://www.isaf.nato.int/article/caat-anaysis-news/coin-common-sense-insurgent-justice.html>.

217. Frances Cleaver & Kristin Hamada, *‘Good’ Water Governance and Gender Equity: A Troubled Relationship*, 18 GENDER & DEV. 27, 27–28 (2010) (explaining that “good water governance is seen as essential for overcoming previous shortcomings in water provision (corruption, failure to meet the needs of poor people, lack of responsiveness and accountability)” but that “[t]here is too little recognition of the ways in which governance systems are adapted at local levels to produce winners and losers . . .”).

of women in the social and economic spheres of host nation societies and increase sustainability in these societies as well.²¹⁸

218. Jules Pretty et al., *Sustainable Intensification in African Agriculture*, 9 INT'L J. OF AGRIC. SUSTAINABILITY 5, 22 (2011). Research suggests the scaling up of sustainable intensification, that is, the sustainable growing of more food on the same land or land that previously could not be cropped, has as a key requirement: "a focus particularly on women's educational, microfinance and agricultural technology needs, and building of their own unique forms of social capital." *Id.*