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CLIMATE (IN)JUSTICE IN AFGHANISTAN

THE STRAW THAT WILL BREAK THE CAMEL'S BACK?



Impact of drought on wetland in Afghanistan; Source: UNEP (2009)

Final Paper | Dean Chahim

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Introduction

Climate change is producing a creeping crisis as it slowly melts away the “water towers” of Asia – the Himalayan¹ glaciers.² That this melting could threaten the water security of at least a billion people across Asia is well documented and a growing cause for public alarm.³ Yet while Afghanistan is extremely vulnerable, the primacy of short term needs have generally pushed climate change off the agenda and list of concerns of both local ministers⁴ and donors⁵ in the country. While understandable in the short-term, the long-term effects of climate change on local populations in terms of human security are cause for alarm: health will deteriorate, water – and thus food - will become scarcer, unemployment will rise, and local conflict will increase. All of these effects are likely to be distributed unequally across the country, whose existing inequality is high and whose geography is varied. The consequences for national and regional security are similarly severe. This paper will explore these effects in detail, with particular emphasis on the distribution of those effects from an equity perspective and their implications for justice amid a weak institutional infrastructure.

¹ Unless otherwise noted, I will use the term “Himalayas” in its broadest geographical sense, thus including the Pamir and Hindu Kush sub-ranges.

² Schneider, Keith. 2010. “70 Percent of Himalayan Glaciers Gone by Next Century, Studies Say.” *Circle of Blue*. <http://www.circleofblue.org/waternews/2010/world/70-percent-of-himalayan-glaciers-gone-by-next-century-studies-say/> (Accessed December 16, 2010).

³ See, e.g. Amy Goodman. 2010. “Himalayan Glaciers Melting Faster Than Anywhere Else in World; Impact Could Devastate Over 1 Billion People.” *Democracy Now*. http://www.democracynow.org/2010/7/15/himalayan_glaciers_melting_faster_than_anywhere (Accessed November 13, 2010).

⁴ See, e.g., the comments of the Director General of Hydrology and Water Management Ministry of Energy and Water for Afghanistan, Sultan Mahmood Mahmoodi, which mention many other water challenges but none to do with climate change: Mahmoodi, S. M. 2008. “Integrated Water Resources Management for Rural Development and Environmental Protection in Afghanistan.” *Journal of Developments in Sustainable Agriculture* 3(1): 9–19.

⁵ The plans of an official from the Rural Engineering Coordinator Swedish Committee for Afghanistan (SCA), which do not mention the future impacts of climate change even once: Aini, Abdullah. 2007. “Water Conservation in Afghanistan.” *Journal of Developments in Sustainable Agriculture* 2(1): 51–58; The most recent World Bank report is the same: Ahmad, Masood, and Mahwash Wasiq. 2004. *Water Resource Development in Northern Afghanistan and Its Implications for Amu Darya Basin*. World Bank. Working Paper.

At a regional level in the Amu Darya Basin,⁶ downstream riparians – all of whom are economically, politically, and militarily more powerful than Afghanistan – will have even less incentive to include Afghanistan in regional water-sharing agreements, thereby inequitably limiting Afghanistan’s long-term development. Despite this grim analysis, the status quo is not immutable. However, a key obstacle is *recognition* of the problem. Only by recognizing the importance of climate change – and taking the necessary actions to prevent emissions in the industrialized world and plan adaptation infrastructure in Afghanistan for climate-impacted scenarios can future peace and development be ensured.

Water: Hydrologic Vulnerabilities

While data on Afghanistan is generally missing or inadequate due to decades of war,⁷ trends in Central Asia⁸ indicate that climate change will have a devastating long-term effect on water availability. Glaciers in the Himalayas have already been in recession since the 1950s, and are “certain to impact the long-term freshwater availability of the region for agricultural food production.”⁹ Central Asia is particularly vulnerable because glacial and snow melt supply over

⁶ Afghanistan actually shares three transboundary river basins – the Sistan Basin with the Helmand River flowing into Iran, the Indus Basin with the Kabul River flowing into Pakistan, in addition to the Amu Darya Basin with the Amu Darya River flowing into Central Asia – Tajikistan, Uzbekistan, and Turkmenistan (Ahmad, Masood, and Mahwash Wasiq. 2004. p.2.) A map is available in the appendix. However, due to the lack of significant literature on transboundary conflict with Iran and Pakistan, this paper will focus primarily on regional issues in the Amu Darya only.

⁷ Aini, Abdullah. 2007. p. 54.

⁸ This term is used hereafter in its broadest sense, encompassing the former Soviet states of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan, and Uzbekistan, in addition to Afghanistan, Mongolia, and the western Chinese provinces of Inner Mongolia, Xinjiang, Qinghai, and the contested Tibetan region.

⁹ Qi, Jianguo, and Rashid Kulmatov. 2008. “An Overview of Environmental Issues in Central Asia.” In *Environmental problems of Central Asia and their economic, social and security impacts*, NATO science for peace and security series, eds. Jianguo Qi and Kyle T. Evered. Dordrecht, The Netherlands: Springer; Published in cooperation with NATO Public Diplomacy Division, p. 6.

90% of regional water demand.¹⁰ Afghanistan is similar; the World Bank estimates that over 80% of the potential water resources in Afghanistan originate from snowmelt¹¹ in the Hindu Kush.¹²

In the short-term, the effects of increasing rates of glacial melting are not necessarily apparent to water users. Indeed, climate change leads to surplus of water runoff in the short-term due to meltwater.¹³ However, in the long-term, higher temperatures lead to decreased runoff and increased evapotranspiration.¹⁴ Projections based on the Intergovernmental Panel on Climate Change (IPCC) show that increased evapotranspiration will increase crop water demands by nearly 12% by 2085.¹⁵ Flow reductions in tributaries across the Amu Darya basin will be on the order of 10-30% in a similar period.¹⁶ Despite these grim long-term consequences, the short-term positive effect of meltwater may help explain the current lack of recognition of climate change in donor and government literature.

However, some of the long-term impacts of climate change on water availability *are* materializing already in Afghanistan. Between 1957 and 1980, the glaciers in the Pamir-Alai Mountains, which feed the crucial Amu Darya River, lost 19% of their ice reserves (a change of

¹⁰ Olsson, Oliver et al. 2008. "The Role of the Amu Darya Dams and Reservoirs in Future Water Supply in the Amu Darya Basin." In *Environmental problems of Central Asia and their economic, social and security impacts*, NATO science for peace and security series, eds. Jiaguo Qi and Kyle T. Evered. Dordrecht, The Netherlands: Springer; Published in cooperation with NATO Public Diplomacy Division, p. 277-292.

¹¹ It is assumed that the authors also included glacial melt under the blanket term "snow melt."

¹² Ahmad, Masood, and Mahwash Wasiq. 2004. p. 2.

¹³ Olsson, Oliver et al. 2008. p. 278.

¹⁴ Olsson, Oliver et al. 2008. p. 278.

¹⁵ Rycroft, D. W, and K. Wegerich. 2009. "The Three Blind Spots of Afghanistan: Water Flow, Irrigation Development, and the Impact of Climate Change." In *The China and Eurasia Forum Quarterly*. p. 126.

¹⁶ Rycroft, D. W, and K. Wegerich. 2009. p. 127.

113 km³ of water).¹⁷ Climate change has also increased the “frequency and intensity of droughts” such as the devastating water deficit in the lower Amu Darya during 2000-2002,¹⁸ which was the “worst drought on record”¹⁹ for the already impoverished country. In-depth interviews with Afghans in the Badakhshan region show that they are acutely aware of these changes, even if the causes are less clear to them.²⁰

Given the fact that irrigated agriculture has declined by nearly 50% from the pre-war period,²¹ rainfed agriculture is widespread, especially in the Amu Darya basin.²² Of the 3.9 million hectares of land cultivated in Afghanistan, an estimated 1.3 million are rainfed. Rainfed agriculture is affected by drought first,²³ as it is highly dependent on regional climate variability.

Thus, Afghanistan’s water security is doubly impacted by climate change: First, increasing temperatures induce glacial melting which decrease and alter the timing of runoff in the long-term. Second, increasing variability in precipitation increases the chance of drought. Both lead to declines in agricultural production – with catastrophic social, political, and economic costs.

¹⁷ Olsson, Oliver et al. 2008. p. 281. While data is unavailable, it is likely that this trend has continued or even increased in speed, given similar observations around the Himalayan region (see, e.g., Qi, Jianguo, and Rashid Kulmatov. 2008.)

¹⁸ Olsson, Oliver et al. 2008. p. 278.

¹⁹ Gerstle, D. J. 2004. “The Pamir Paradox: Water Insecurity and Hunger at the Source of Central Asia's Rivers.” *Journal of International Affairs* 57(2). p. 173.

²⁰ Kassam, Karim-Aly. 2009. “Viewing Change Through the Prism of Indigenous Human Ecology: Findings from the Afghan and Tajik Pamirs.” *Human Ecology* 37(6): 677-690.

²¹ Presumably due to destruction, disrepair, etc.; Rycroft, D. W, and K. Wegerich. 2009. p. 119.

²² Ahmad, Masood, and Mahwash Wasiq. 2004. p. 2.

²³ Qureshi, A. S, and M. Akhtar. 2004. *A survey of drought impacts and coping measures in Helmand and Kandahar provinces of Afghanistan*. International Water Management Institute. p. 18.

Equity and Security Nexus

It is difficult to separate the equity and security impacts of climate change in Afghanistan because inequity already *drives* insecurity on both the local, national, and regional scales. This focus on relative inequity between actors (persons, villages, and countries) which would largely be classified simply as “poor” and vulnerable to climate change on an absolute scale follows O’Brien and Leichenko. They cogently argue that the homogenizing focus on the impacts of climate change on the North versus the South masks and ignores the very important inequities between countries in the South and even between citizens of the same countries, all of which can threaten human security.²⁴

At the local and national scales, this analysis is clearly a gross oversimplification of a conflict whose fault lines are often ethnic. However, it is quite clear that inequity exacerbates these pre-existing tensions, and may fracture even ethnic groups along economic lines. At the regional scale, inequity – as water becomes scarcer overall but more scarce in certain regions over others – is likely to only worsen the current hydropolitical tensions of the countries that border Afghanistan. This has stark implications for development and security in Afghanistan.

Local Inequalities

Increasing water scarcity induced by climate change has the potential to decrease local cohesion at the village-level and increase poverty and instability at a national level in Afghanistan. Given the degree of existing polarization between ethnic and (the widely varying degrees of) religious groups in Afghanistan, creating new intra- and inter-community tensions is

²⁴ O'Brien, Karen L., and Robin M. Leichenko. 2010. “Global Environmental Change, Equity, and Human Security.” In *Global Environmental Change and Human Security*, eds. Richard A. Matthew et al. Cambridge, MA: The MIT Press, p. 167-9.

undesirable from a security standpoint. Already, Oxfam estimates that 43% of local conflicts in Afghanistan occur over water.²⁵ Similarly, increasing poverty and unemployment provide incentives to join the lucrative drug trade or the Taliban, directly undermining the possibilities for a stable central government.

The idea of equity is ingrained in the local and ancient irrigation management practices of Afghanistan, typically referred to as the *mirab* system.²⁶ Indeed, during moderate shortages, losses are distributed equally over both the upstream and downstream fields through the *hashar-e-ab* system.²⁷ Yet during times of extreme drought, inherent inequities surface and upstream users tend to be unaffected while downstream users receive little to no water.²⁸ Srinivas Chokkakula notes that inequitable irrigation distribution “exacerbates social and economic inequalities” and that these “increasing inequalities can lead to conflict and social unrest” in Afghanistan.²⁹ While his study focuses on finding ways to avoid exacerbating irrigation inequities through development aid, his conclusions are equally a concern for irrigation inequities produced by climate change.

Since major droughts are likely to occur with increasing frequency under conditions of climate change, there is cause for concern that the added stressor of water scarcity will inflame inter-and intra-community tensions. Such tensions, in the absence of a stable central government, are liable to exploitation by local warlords or other factions, many of whom

²⁵ Vidal, John. 2010. “Kabul faces severe water crisis.” *The Guardian*. <http://www.guardian.co.uk/world/2010/jul/19/kabul-faces-severe-water-crisis> (Accessed December 17, 2010).

²⁶ Chokkakula, Srinivas. 2009. *Interrogating Irrigation Inequities: Canal Irrigation Systems in Injil District, Herat*. Afghanistan Research and Evaluation Unit. p. 26.

²⁷ Chokkakula, Srinivas. 2009. p. 31.; In *hashar-e-ab*, upstream canal diversions are closed to allow sufficient water to flow to the downstream diversions.

²⁸ Wegerich, Kai. 2009. *Water Strategy Meets Local Reality*. Afghanistan Research and Evaluation Unit. p. 32.

²⁹ Chokkakula, Srinivas. 2009. p. 5.

already tend to abuse the *mirab* systems.³⁰ The customary local water managers – the *mirab* and *wakil* – already can get very little assistance from underfunded local water ministry staff to help prosecute abuses of local upstream riparians, especially when the abusers have connections with powerful groups.³¹ This inequality, combined with the impotence of the central government, may thus not only reduce local cohesion, but actively drive marginalized riparians towards rival alternative governments who can help – warlords, drug traffickers, or the Taliban.

At a national scale, unprecedented water scarcity due to climate change may have a devastating effect on the agrarian economies of the country, with major social repercussions. These include mass unemployment, migration, and declining health. Rainfed farmers – often already the poorest – are hardest hit. In the Kandahar and Helmand provinces, the 2001 drought caused a major reduction in farmer incomes, triggering rural-urban migration.³² Such migrations are likely to become more commonplace, especially among youth,³³ many of whom may be disenfranchised as water scarcity renders family lands infertile. Qi and Kulmatov fear that these social consequences have security ramifications. They contend that growing environmental problems in the Central Asian region could strengthen religious extremists (e.g. the Taliban), which “use unemployment and substandard living conditions as tools to enlarge their community.”³⁴

Thus, climate change may actually induce both conflict over scarce water at the local level and overall depressions in income and employment. Combined, these effects threaten to

³⁰ Chokkakula, Srinivas. 2009.

³¹ Chokkakula, Srinivas. 2009.

³² Qureshi, A. S, and M. Akhtar. 2004. p. 4.

³³ Qi, Jiaguo, and Rashid Kulmatov. 2008. p. 11.

³⁴ Qi, Jiaguo, and Rashid Kulmatov. 2008. p. 11.

only exacerbate the current civil strife – pushing communities apart, and pushing youth and the disenfranchised towards extremist groups like the Taliban.

Regional Security-Equity Nexus

Glacial melt induced by climate change also threatens regional stability of the wider Amu Darya Basin, which includes Tajikistan, Uzbekistan, and Turkmenistan primarily.³⁵ While Afghanistan lies at the headwaters, it is also the weakest riparian in every dimension. Concerns over water scarcity may stunt future water-sharing agreements essential to economic development – and thus peace – in Afghanistan.

While two treaties have been signed for the Amu Darya basin, Afghanistan has been party to neither,³⁶ even though future long-term growth and development in Afghanistan requires confirmed water allocations.³⁷ A widely-cited study commissioned by the World Bank argues that even the maximum possible irrigation development in the Amu Darya Basin in Afghanistan would barely use more than two percent of the annual water resources of the basin.³⁸ However, the authors fail to account for climate change. As mentioned above, climate change would decrease overall flows and increase crop water demands in Afghanistan – thus decreasing the total supply and increasing Afghanistan’s demand. This would increase the significance of even two percent of the flow to the much more industrialized downstream riparians which already have much higher water demands than Afghanistan. This increased

³⁵ For extents of the basin, see Figure 1 in the Appendix.

³⁶ Tsukatani, Tsuneo. 2008. “Irrigation of the Amu Darya Banks and Its Role as a Potential Solution for the Poppy Problem.” In *Environmental problems of Central Asia and their economic, social and security impacts*, NATO science for peace and security series, eds. Jianguo Qi and Kyle T. Evered. Dordrecht, The Netherlands: Springer; Published in cooperation with NATO Public Diplomacy Division, p. 353.

³⁷ Tsukatani, Tsuneo. 2008.

³⁸ Ahmad, Masood, and Mahwash Wasiq. 2004.

water stress induced by climate change would decrease the likelihood that the more powerful downstream riparians would be willing to allocate Afghanistan the water it will need for long-term development. Although Afghanistan is at the headwaters, unilateral action is unfeasible for a government without stable revenue or even physical control – self-admittedly in a “total state of disarray.”³⁹

Similarly, the World Bank study’s⁴⁰ water demand calculation rests on the pessimistic assumption that Afghanistan will remain a largely unindustrialized, agrarian society with correspondingly low (if inefficient) water demands. This may be a realistic outlook given current conditions, but it may be a self-fulfilling prophecy if climate change is not accounted for in future development plans and policy. Increased industrial, thermoelectric, and domestic water demands may more than compensate for irrigation efficiency savings if Afghanistan’s economy does experience significant economic growth in the long-term.⁴¹ This increased demand, combined with decreasing supply due to climate change, make regional conflict a very real concern that may stunt peace and development in Afghanistan – a concern recognized by scholars⁴² and Afghan officials⁴³ alike.

³⁹ WSS. 2007. Islamic Republic of Afghanistan, Afghanistan National Development Strategy (ANDS) Draft Water Sector Strategy 2008 – 2013, October 2007, p. 9., cited in Rycroft, D. W, and K. Wegerich. 2009. “The Three Blind Spots of Afghanistan: Water Flow, Irrigation Development, and the Impact of Climate Change.” In *The China and Eurasia Forum Quarterly*. p. 120.

⁴⁰ Ahmad, Masood, and Mahwash Wasiq. 2004.

⁴¹ One only needs to look to the extraordinarily high per-capita water demand of high-income countries of the West to see this phenomenon occur, in spite of advanced technology.

⁴² Tsukatani, Tsuneo. 2008.

⁴³ WSS. 2007, cited in Rycroft, D. W, and K. Wegerich. 2009. p. 120-1.

Health

Climate change threatens to impose an enormous burden of disease on a country scarcely able to cope with basic healthcare. The typical challenges faced by warming climates – namely the expansion of the ranges for tropical diseases like malaria (and perhaps heat stress) – are huge in Afghanistan. Malaria is expected to rise at least modestly, with a high burden of disease, in areas already vulnerable globally.⁴⁴ Afghanistan is already very vulnerable due to its sub-tropical climate, rice paddy production, and lack of infrastructure.⁴⁵ While no exact predictions are available, malaria is a problem for health in Afghanistan likely only to worsen with climate change.

However, the most potentially debilitating health burden from climate change will be mental. The post-traumatic stress that three decades of war has imposed on Afghans is enormous. Afghans in the author's family have watched Stinger missiles kill dozens at a time, yet speak of the incidents nonchalantly. Yet surprisingly, these acute stressors pale in comparison to the chronic mental stress of food and water insecurity – which we have shown are both poised to increase (unevenly) with climate change. Indeed, in a national study of mental health conducted in 2004,⁴⁶ 67.7% of respondents had symptoms of depression, 72.2% had symptoms of anxiety. 62% had experienced at least four major trauma events in the last 10 years, and the most common of these traumas was a lack of food and water (56.1%) among nondisabled, and lack of shelter (69.7%) among the disabled. The key point is that these are

⁴⁴ Patz, Jonathan A. et al. 2005. "Impact of regional climate change on human health." *Nature* 438(7066): 310-317.

⁴⁵ Kolaczinski, J. et al. 2005. "Malaria control in Afghanistan: progress and challenges." *The Lancet* 365(9469): 1506–1512.

⁴⁶ Cardozo, Barbara Lopes et al. 2004. "Mental Health, Social Functioning, and Disability in Postwar Afghanistan." *JAMA: The Journal of the American Medical Association* 292(5). Mental health conditions have likely only worsened since 2004 due to the deepening conflict.

fundamentally *environmental* stressors. These are the second-order effects of war and instability rather than the visceral first-order effects of experiencing death and destruction described above. This means that climate change's largest health effect may well be to plunge an entire country into mental despair.

This has grave implications for climate adaptation measures, which require, above all, mental resilience. All is not lost, however, as Kassam observes in Badakhshan: villagers who have already experienced climate change's effects have shown remarkable capacities to overcome these challenges.⁴⁷ Yet Kassam also observes a massive rise in substance abuse (mainly opium) among rural villagers that corresponds likely to the increasing stress they already experience with the lack of access to healthcare, unemployment.⁴⁸ Given that climate change is likely to damage the economy and endanger political stability, both healthcare systems (which require stability) and employment (which requires a strong economy) are likely to be jeopardized. This leaves more room for substance abuse, which causes a downward spiral into persistent poverty.⁴⁹

Kassam also hypothesizes that "non-stationarity" – the rendering of past data or experience less useful to predict future conditions - which worries climate scientists and hydrologists⁵⁰ is also a source of significant anxiety on communities.⁵¹ Given the already

⁴⁷ Kassam, Karim-Aly. 2009.

⁴⁸ Kassam also notes, importantly, that this substance abuse is facilitated by the lack of security in the country, which allows narcotraffickers to enter the region.

⁴⁹ Kassam, Karim-Aly. 2009. p. 686.

⁵⁰ Milly, P. C. D. et al. "Stationarity is dead: whither water management?." *Earth* 4: 20.

⁵¹ Kassam, Karim-Aly. 2009.

enormous aforementioned anxiety levels, non-stationarity due to climate change is one burden too many for mental health in Afghanistan.

A final health effect of climate change that deserves attention is air and water pollution in urban areas. While pollution is not a direct result of climate change (rather a cause!), climate change threatens to induce mass rural displacement to urban centers, as discussed above. Yet the effects of the current flood of migrants to Kabul due to war provides a key window into climate migration of the future. Unchecked, unmanaged growth in the capital and largest city of Kabul has left the city with air pollution seven times safe levels – the worst in the region.⁵² Water pollution is also a major concern around Kabul due to increasing volumes of untreated sewage.⁵³ The pollution of both air and water in Kabul is due to a lack of government capacity and finances to create the massive infrastructure needed to control pollution. It is difficult to blame the government in this regard – the city has been the focal point of years of war and houses ten times the number of residents it was designed for in the 1970s.⁵⁴ However, one can only imagine that climate-induced migration will make the ratio of capacity to actual inhabitants more staggering if either rural adaptation or urban infrastructure investments are not made.

Justice

In this section, “justice” is intentionally understood broadly, encompassing the broader spectrum of government that gives the justice system in Afghanistan the legitimacy and

⁵² Nelson, Soraya Sarhaddi. 2009. “Afghans Feel Ill Effects Of Rising Air Pollution.” *National Public Radio (NPR)*. <http://www.npr.org/templates/story/story.php?storyId=99127084> (Accessed March 17, 2011).

⁵³ Mack, Thomas, and United States Geological Survey (U.S.). 2010. *Conceptual model of water resources in the Kabul Basin, Afghanistan*. Reston, Va. U.S. Dept. of the Interior, U.S. Geological Survey.

⁵⁴ Nelson, Soraya Sarhaddi. 2009.

organizational support in requires. Climate change, due to all the aforementioned inequities it will induce, will likely cause an immense strain on the Afghan government, whose institutional infrastructure is already wholly overburdened and weak. Yet the exact form of these effects is unknown, and there has been largely a dearth of literature assessing this impact. Thus, instead I turn my attention here to assessing first the demands on and vulnerabilities of the existing institutional infrastructure. Following this, I will highlight current and future efforts to strengthen these systems to prepare for climate change and insecurity.

Despite some promising signs, such as the Environmental Law of 2005 and the establishment of a National Environmental Protection Agency (NEPA), environmental governance in Afghanistan is still incredibly weak. As discussed above, local governments are understaffed with weak technical capacity.⁵⁵ This makes it difficult for them to even implement the laws passed down from the NEPA,⁵⁶ assist citizens with technical water infrastructure and efficiency improvements, or help resolve disputes over water. Furthermore, institutions are generally weak and unable to coordinate.⁵⁷ These weaknesses, combined with weak judicial systems, make Afghanistan's institutions highly vulnerable to climate change.

Yet improving the Afghan government's justice system is essential for both overcoming current conflicts and resolving the future conflicts induced by climate change – especially local conflicts over water. Over 80% of Afghans surveyed reported feelings of hatred.⁵⁸ An effective

⁵⁵ United Nations Environmental Program (UNEP). 2009. *Afghanistan: National Capacity Needs Self-Assessment for Global Environmental Management (NCSA) and National Adaptation Programme of Action for Climate Change (NAPA)*.

⁵⁶ United Nations Environmental Program (UNEP). 2009.

⁵⁷ United Nations Environmental Program (UNEP). 2009.

⁵⁸ Cardozo, Barbara Lopes et al. 2004.

justice system may help reduce these feelings, which “may partially explain continued cycles of violence”, as observed in Kosovo.⁵⁹

However, any adaptation measures focused on improving abstract ideas of “governance” and “justice” at a local level outside of urban centers must recognize and work with the essential importance of local, traditional *shuras* (elder councils) and other justice systems or lose legitimacy. Surkhe emphasizes that, in state-building more broadly, care must be taken to avoid the mistakes of the governments of the 1920s and 1970s, whose top-down “modernization” programs met fierce resistance and eventually, civil war.⁶⁰

There are growing calls for decentralization⁶¹ to help legitimize government in the eyes of Afghans who may otherwise see government as impotent, kleptocratic, and focused on Kabul. One of the key programs with the potential to give the national government a local reach and legitimacy is the National Solidarity Program (NSP). The NSP offers small grants to communities with very few conditions on the use of the funds. The most important stipulation is that the project must be chosen and managed democratically. The project has been a resounding success, at least in terms of implementing projects in nearly 20,000 communities.⁶² The NSP has been generally very well received by communities, despite its foreign secret ballot democratic processes.⁶³ Its actual impact on legitimizing and government – and thus laying the

⁵⁹ Cardozo, Barbara Lopes et al. 2004. p. 583.

⁶⁰ Suhrke, A. 2006. The limits of statebuilding: the role of international assistance in Afghanistan. Presented at the International Studies Association Annual Convention.

⁶¹ Biddle, Stephen, Fotini Christia, and J Alexander Thier. 2010. “Defining Success in Afghanistan.” *Foreign Affairs*. <http://www.foreignaffairs.com/articles/66450/stephen-biddle-fotini-christia-and-j-alexander-thier/defining-success-in-afghanistan> (Accessed March 18, 2011).

⁶² Biddle, Stephen, Fotini Christia, and J Alexander Thier. 2010.

⁶³ Boesen, Ingrid. W. 2004. *From Subjects to Citizens: Local Participation in the National Solidarity Program*. Working Paper Series. Afghanistan Research and Evaluation Unit.

groundwork for broader institutions of justice - remains to be seen. However, if expanded, it has the potential to *simultaneously* distribute adaptation finance while building confidence in the government systems needed to manage and curb local conflict. This is a unique possibility that deserves further investigation, and perhaps replication in other fragile state contexts.

Conclusions & Recommendations: Recognition and Action

“These communities have not adopted a vocabulary of victimhood. Instead, they seek meaningful solutions in order to live.”⁶⁴

Afghans are a resilient people, yet climate change may well be the straw that breaks the resilient camel’s back. Afghanistan – already facing crises from within – is at the heart of an even greater crisis from without: climate change. As glaciers in the Himalayas melt and water supplies dwindle in the region, Afghanistan faces the double challenge of increasing internal tensions over water and external challenges to water rights and allocations. The former will exacerbate the already dire civil strife via increased inequalities and overall economic marginalization, while the latter threaten to prevent long-term economic development and prospects for peace. Agricultural production will be threatened, increasing food scarcity and unemployment. Water and food scarcity, combined with overall conditions of destitution and the increasing prevalence of malaria will threaten overall health, but mental health in particular.

To alleviate these issues, donors currently active in the country as well as the government itself must immediately – at a minimum – *recognize* the challenge climate change poses for Afghanistan’s water security, and the repercussions these will have for Afghanistan’s

⁶⁴ Kassam, Karim-Aly. 2009. p. 688.

national security. As mentioned above, much of the donor and government literature, with the key exception of the National Adaptation Programme of Action (NAPA),⁶⁵ scarcely mentions – let alone plans for – the impacts of water scarcity induced by climate change. This may be a rational approach given the overall lack of resources provided to humanitarian aid in general and the water sector in particular,⁶⁶ but the status quo of under-funding is under the direct control of donors. The overall deteriorating security situation is arguably much more difficult to control. However, while recognition is a first step, a full resolution of the issue requires a simultaneous local adaptation using complementary local knowledge⁶⁷ and institutions along with, of course, a global mitigation strategy.

In Afghanistan, donors can provide assistance with data collection since current data is a key weak point in all analyses.⁶⁸ Furthermore, donors can provide more funding for water infrastructure improvements and adaptation measures since current expenditures in the water sector are woefully inadequate.⁶⁹ This can help prevent some of the local tensions by making maximum use of existing – and declining – water resources. Another key adaptation measure suggested by Kantor is a crop insurance mechanism to reduce anxiety around food insecurity.⁷⁰

Donors can also use their political and economic clout to assist in the negotiation of water rights and allocations for Afghanistan to secure future development potential. Without donor assistance and bargaining power, Afghanistan is likely to be left out of future

⁶⁵ United Nations Environmental Program (UNEP). 2009.

⁶⁶ Gerstle, D. J. 2004. "The Pamir Paradox: Water Insecurity and Hunger at the Source of Central Asia's Rivers." *Journal of International Affairs* 57(2): 169–179.

⁶⁷ Kassam, Karim-Aly. 2009.

⁶⁸ Aini, Abdullah. 2007.; see also Ahmad, Masood, and Mahwash Wasiq. 2004.

⁶⁹ Gerstle, D. J. 2004. "The Pamir Paradox: Water Insecurity and Hunger at the Source of Central Asia's Rivers." *Journal of International Affairs* 57(2): 169–179.

⁷⁰ Kantor, Paula. 2010. *Decline and Stagnation: Why Rural Afghans are Staying Poor*. Afghanistan Research and Evaluation Unit. Press Release.

negotiations as the downstream riparians in the Amu Darya Basin fight over a dwindling resource.

This local adaptation, nevertheless, is near useless in the long-term without *simultaneous* mitigation. Globally, industrialized countries – most of whom are donors involved in Afghanistan⁷¹ - have the monumental challenge of addressing the root cause of Afghanistan's water dilemma: anthropogenic climate change. While a discussion of specific recommendations to curb climate change is beyond the scope of this paper, Afghanistan represents only one of many impoverished causalities of climate change in the 21st century. Its current conflicts stand to be only exacerbated – and its poorest populations will be the most affected.

⁷¹ While the involvement of emerging economies like India and China in Afghanistan may be more investment and less direct aid, they would also clearly need to be involved in any mitigation effort.

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