

BACKGROUND ESSAY

Prepared by the National Strategy Forum

The Environment as an Emerging National Security Concern

The environment has become a major national security issue. Although there is academic and scientific debate regarding the cause of environmental change (global warming and climate change), natural disasters have become commonplace. The most recent consequences are monsoon flooding in Pakistan (which has affected 13.8 million people), spoliation of the Gulf Coast, severe water shortages, wildfires and droughts cause famines and shift power politics, and mass migration of people from areas with depleted land. In many ways, oil is no longer the primary natural resource of geopolitical conflict. Today, water, land, air, energy, and food are becoming vital issues of concern for national security strategists.

The *Quadrennial Defense Review Report 2010*, the chief document for defense planning and resourcing guidance in the United States, devoted a section to the environmental challenges of climate change for the first time. The document directly charges that, "DoD must incorporate geostrategic and operational considerations into force planning, requirements development, and acquisition processes." *QDR 2010* reflects an attempt to understand how natural resources and climate change impact American security interests and highlights the need to conceive a comprehensive environmental security strategy. These factors not only shape the operating environment for troops on the ground and the logistics of a force dependent on fossil fuel energy, but also the assigned missions themselves.

Environmental changes and natural resources affect geopolitics in diverse ways. Russia is a prime example of the interplay between the environment, national security, geopolitics, and the global economy. Russia is currently experiencing three environmental challenges: the highest recorded temperatures in over 130 years; the most widespread drought in over thirty years; and wildfires raging across seven regions. These three factors have created a shortage of Russian wheat for export, which is one of the largest exporters in the world. In response to the fires and drought, Moscow is using the wheat shortage to increase its political clout with neighboring Belarus and Kazakhstan, also large regional wheat exporters. Moscow has been able to filter pro-Russian foreign policy goals through environmental circumstances, thus affecting broader geopolitical trends.

Frequent droughts and unsustainable land use have opened Afghanistan to a high risk of deforestation and desertification, with devastating effects on the economy and population. Forest loss contributes to land erosion and desertification, as well as increases the risk factors for floods, landslides and other natural disasters. The security threat is critical. Land degradation hampers GDP growth and contributes to migration flows. With only 31% of the population having access to suitable drinking water, this internal migration is also pushing water demand to unsustainable levels. 50% of Afghanistan's GDP is derived from agriculture and ranching, yet 75%

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of Afghanistan's land area is at risk to desertification and its remaining forests could be depleted inside of the next 30 years.

Pakistan suffers a similar risk of deforestation and is one of the most water-stressed countries in the world. The inconsistency in water availability has led to a vicious cycle. Farmers over-water crops when water is available, contributing to poor land productivity, soil degradation and further water scarcity. The agricultural industry, representing 25% of GDP and employing 80% of the labor force, faces a serious crisis of sustainability. Pakistan's energy shortages are similarly profound. Most towns and villages are without power for 20-22hrs out of the day. Moreover, major population centers like Karachi, Lahore and Hyderabad go without power for more than half the day. The shortfall in power output, estimated at approximately 4,480 MW is the result of a system plagued by failing infrastructure, a \$4 billion circular "debt fiasco," as well as the under production in government run plants. If the insurgency were to end tomorrow, this crippling energy and economic crisis would still provide ample ground for grievance and upheaval.

These environmental challenges also bring threats close to home, such as at the southern border of the United States. Water scarcity, deforestation, soil loss, and oil depletion—compounded by natural disasters—have greatly handicapped the Mexican economy to the order of 9% of GDP annually. These shocks and points of economic stress exacerbate an already tenuous politics of Mexican émigrés to the United States.

The U.S. is grappling with critical domestic environmental and energy security issues. Proposals for Cap and Trade, the energy efficiency of vehicles, nuclear power development, green energy, biodiesel and ethanol are all issues being debated around the country. Moreover, the U.S. military is studying the effects of energy efficiency and its impacts on deployment logistics in various theatres of war. More efficient military vehicles, transportation routes, and food and water supplies dramatically affect the financial costs and tactical speed of warfare. The outcome of these debates will spell the future of America's economic security, foreign policy, and international standing.

On September 13, Michael Greenberger will discuss the important interplay between the environment and emerging national security trends. Mr. Greenberger is the Director of the Center for Health and Homeland Security (CHHS) at the University of Maryland—which works on a broad range of homeland security and emergency response issues for federal, state and local governmental agencies, as well as medical researchers—and a professor at the School of Law. Professor Greenberger currently serves as the Vice Chair of the Maryland Governor's Emergency Management Advisory Council (GEMAC). He was recently appointed by the President of the American Bar Association to the Advisory Committee of the Standing Committee on Law and National Security.

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