THE SECURITY IMPLICATIONS OF CLIMATE CHANGE FOR THE UN SYSTEM

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This memo explores the security implications of climate change. Presented below is a summary of the adverse impacts of climate change, an analysis of their security implications, and policy recommendations for strengthening the United Nations' capacity to respond to climate-related security threats.

I. *Adverse Impacts of Climate Change*

While significant uncertainties remain regarding the extent and speed of climate change, the overwhelming global scientific consensus is that the Earth's atmosphere is warming rapidly, perhaps at an unprecedented rate, and that much of this warming is due to human activity. The UN Intergovernmental Panel on Climate Change (IPCC), the multilateral body charged with assessing the implications of climate change, predicts that global warming will trigger enormous physical and social changes. The panel's findings are summarized briefly below.

A. *Physical Effects* - The likely physical effects of climate change include: (1) higher average surface and ocean temperatures; (2) more rainfall globally from increased evaporation; (3) more variability in rainfall and temperature, with more frequent and severe floods and droughts; (4) rising sea levels from warming water, expanded further by run off from melting continental ice fields; (5) increased frequency and intensity of extreme weather events such as hurricanes and tornadoes; and (6) extended ranges and seasons for mosquitoes and other tropical disease carriers.[1] These changes are most likely to happen gradually, but scientists are increasingly concerned about the possibility of abrupt and catastrophic climate change—such as a sudden shift in the Gulf Stream that would leave Western Europe without the warm waters that keep its climate hospitable. The risk of abrupt climate change was serious enough to induce the U.S. Defense Department to commission a 2003 report of its potential consequences for U.S. and international security.[2]

B. *Socioeconomic Effects* - Not all societal effects of climate change will be negative, but a number of adverse socio-economic impacts are anticipated. These effects include: (1) shortfalls in water for drinking and irrigation, with concomitant risks of thirst and famine; (2) changes and possible declines in agricultural productivity stemming from altered temperature, rainfall, or pest patterns; (3) spikes in the rates and extended geographic scope of malaria and other diseases; (4) associated shifts in economic output and trade patterns; (5) changes and possibly large shifts in human migration patterns; and (6) larger economic and human losses attributable to extreme weather events such as hurricanes.

II. *Security Implications*

The security implications of these physical and socioeconomic changes are significant. We must first consider the nature of the threats and then consider where those threats are most likely to occur.

What kinds of threats?

A. *Violence and Armed Conflict* Climate change will alter the distribution and quality of natural resources such as fresh water, arable land, coastal territory, and marine resources. Some researchers have speculated that these changes could cause or prolong armed conflict. Indeed, the general link between the environment and armed conflict is well established: competition for natural resources (such as diamonds, timber, oil, water, and even narcotics) has motivated violence in such disparate places as Kuwait, Colombia, and Afghanistan. Natural resources have also helped finance insurgencies in Angola, Sierra Leone, and elsewhere. The connection between climate change and the outbreak of violence will unlikely be as strong as when natural resources can be exploited for quick financial reward. And because climate change happens gradually, global warming is unlikely to be the primary cause of any particular armed conflict, nor will its contribution to conflict be particularly visible. Nevertheless, regional climate changes, as with other causes of environmental degradation, could make armed conflict more likely.

B. *Natural Disasters and Humanitarian Crises.* As explained above, a warmer world will generate more natural disasters and therefore more humanitarian crises. Indeed, natural disasters are already a major security threat: between 1990 and 1999, an estimated 188 million people per year were affected by natural disasters, six times more than the 31 million annually affected by armed conflict.[3] Many people affected by natural disasters become refugees or internally displaced persons (IDPs). Both refugees and IDPs are vulnerable not only to the physical and socio-economic effects of disease, malnutrition, and loss of income, but they also can become personally insecure and subject to crime, violence, and broader militarized conflict. Natural disasters become wider security challenges when countries lack the capability or willingness to help affected populations, undermining local and/or national government's perceived legitimacy and increasing popular grievances.

C. *Destabilizing Forces*. Conditions of drought, disease, and economic stagnation may reach critical levels or tipping points beyond which state failure becomes more likely**.** The global HIV/AIDS pandemic, for example, has renewed international concern that widespread death from infectious diseases could destabilize vulnerable nations. In countries where one in four people are infected with HIV, failure to provide treatment could easily destroy the effectiveness of government institutions in providing security, education, and health care. The spread of disease from climate change could have a similar effect, albeit perhaps at a slower rate. A recent study from the World Health Organization (WHO) and the London School of Hygiene and Tropical Medicine estimates there may already be upwards of 160,000 deaths annually from ancillary effects of global warming such as malaria and malnutrition. The study's authors estimate those numbers could nearly double by 2020.[4]

Which states are most vulnerable?

Security risks related to climate change will not be evenly distributed globally and will affect some kinds of governments more than others. While local and regional consequences of climate change remain very difficult to predict, three types of nations seem particularly vulnerable to the security risks of climate change: least-developed nations, weak states, and undemocratic states.

A. *Least-Developed Nations.* Poor developing countries are the perhaps the most likely to suffer from climate change. These states lack the economic, governance, or technical

capabilities to adapt to climate change. For example, they lack the capacity to prevent or react to humanitarian disasters such as widespread flooding. Those developing nations in the tropics face the most severe consequences of climate change, including extreme weather events, drought, and disease.

B. *Weak States.* Failed and failing states—those with weak institutions of government, poor control over their borders, repressed populations, or marginal economies—stand a higher risk of being destabilized by climate change. Weak states have almost no capacity to respond to climate change or prevent it from triggering a large-scale humanitarian disaster. Drought, crop failure, and subsequent state failure led to tens of thousands of deaths in Somalia in the 1990s. Vulnerability to drought in the Darfur region of Sudan is now exacerbated by the country's ongoing internal conflict. Whether these droughts are attributable to climate change is impossible to say—but the episodes are indicative of what one would expect with global warming.

C. *Undemocratic States*. Twenty years ago, economist Amartya Sen noted that democracies—in which leaders have to be responsive to people who can vote them out of power—do not produce famines. In contrast, the 20th century is replete with examples of undemocratic regimes failing to protect populations at risk to drought, floods, and other weather-related phenomena. While modern India has never suffered a famine, tens of millions died in China under Mao. North Korea is able to produce nuclear weapons but remains unable to meet its people's basic nutritional needs. Populations in undemocratic states will be therefore be particularly vulnerable to the more numerous and more severe humanitarian crises induced by climate change.

III. *Recommendations for the UN System*

The United Nations' strategy for dealing with climate change is to facilitate agreements among nations to: (a) reduce those nations' greenhouse-gas emissions, thereby stabilizing atmospheric concentrations of these gases at a safe level; and (b) help vulnerable nations adapt to adverse consequences of global warming. While these goals are the right ones, the UN system is not acting with sufficient ambition or effectiveness to deal with the security risks posed by climate change. Several new approaches are discussed below.

A. *Emissions Mitigation*

Global warming will continue until concentrations of greenhouse gases in the atmosphere stabilize, and stabilization will only occur when net global annual emissions of these gases decline to zero. Given that global emissions are still *rising* rapidly in the majority of nations, a major focus of the UN's climate-change security strategy must be to facilitate emissions abatement in developed and developing nations alike. Global efforts to arrest climate change have been carried out largely in the context of the 1992 UN Framework Convention on Climate Change and its 1997 Kyoto Protocol. To date, those efforts have produced very modest results. Developed nations largely ignored the political commitment they made under the convention to return their emissions to 1990 levels by 2000. Even if the Kyoto treaty goes into force, it will cover only 25 percent of global emissions and not those of the United States and China, the world's two largest national emitters. By 2012, Kyoto will also only have reduced emissions in

participating countries by less than 3 percent below 1990 levels. Unless major new efforts are made to mitigate climate change, it will overwhelm most governments' adaptive efforts.

The climate architecture associated with the Kyoto Protocol has become increasingly divisive, not only among advanced industrialized countries, but also within the North-South dialogue. Since the 1992 Earth Summit, the environment has also lost ground politically, submerged under the broader sustainable-development agenda. To speed mitigation efforts, the Secretary-General must raise the visibility of climate change and play a more active role in overcoming obstacles to emissions mitigation. One complication is that while developed nations should take the lead in reducing emissions, emissions could be abated in developing nations more cost effectively. Until the international community develops the political will necessary for public and private financing of emission reductions, climate change is likely to continue indefinitely.

Raising the profile of climate change is easier said than done, particularly since imminent security challenges, such as Iraq, tend to crowd out long-term security threats. While the Secretary-General should integrate climate change more fully into his own personal diplomacy, a more formal institutional mechanism is needed to give the issue consistent attention. One option would be for the Secretary-General to advocate the creation of a UN High Commissioner for the Environment. The mandate of the High Commissioner would be to raise global awareness about environmental degradation—including climate change—and to shine a spotlight on best and worst environmental practices. Locating the office in Geneva would help integrate environmental concerns and climate change into the UN system in a way that the UN Environment Program in Nairobi has been unable to accomplish. The position would be a compromise between nations such as France and Germany that have advocated the creation of a World Environment Organization and others that have opposed efforts to strengthen global environmental governance.

B. *Adaptation*

Concentrations of atmospheric greenhouse gases are higher than they have been for tens of thousands of years—and these concentrations will climb for some time, even if the mitigation agenda succeeds. A two-part strategy is needed to deal with the adverse effects of climate change. First, the UN should strengthen those programs that handle disaster and humanitarian crises and that are already beginning to take climate change into account. Second, the UN should create a new effort focused on predicting, preventing, and handling climate-change-related disasters in weak states and those with repressive governments.

1. *Strengthening Ongoing Disaster Work*

a. *Shift priority from relief to prevention*

Humanitarian organizations have become increasingly adept at emergency response to emerging catastrophes. However, very little money is spent on disaster risk reduction. Even among countries with responsive decision-makers, there is too little awareness of the priority of disaster-risk reduction. One strategy that has been proposed is that at least 5-10 percent of humanitarian relief monies be dedicated to disaster-risk reduction. While this precise target should be resolved by member states, the Secretary-General should take the lead in proposing the establishment of such a principle. The UN's Inter-Agency Task Force on Disaster Reduction (IATF/DR) and the

Inter-Agency Secretariat of the International Strategy for Disaster Reduction (UNISDR) are existing frameworks in which early-warning systems and vulnerability assessments are already embedded to some degree.[5] In January 2005, the Second World Conference on Disaster Reduction will take place in Kobe, Japan. The parties will review the 1994 Yokohama Strategy on natural disasters and establish the disaster-reduction action plan for the next decade. These processes provide opportunities to focus more prominently on prevention.

b. *Integrate disaster and climate planning*

The UN system needs to integrate more fully concerns about the consequences of climate change into its security, natural-disaster prevention, and humanitarian-response activities. For example, the UN should make climate change a more explicit focus of UN/ISDR. In 2003, UN/ISDR launched a project to do just this, and its progress seems promising.[6] The IATF/DR, for example, created a new working group in May 2004 on climate adaptation and disaster reduction, and the UN/ISDR Secretariat is coordinating an expert dialogue among disaster relief, climate, and development communities.[7] As adaptation gains prominence in the global-warming community, however, climate-change bodies are in danger of reinventing the wheel on disaster prevention and response. The existing network of disaster experts need to be more fully integrated into the IPCC reporting process to avoid this potential problem.

2. *New Strategy Needed for Vulnerable States*

While strengthened UN early-warning and disaster-preparedness systems would help predict and address disasters, these systems still would not be entirely adequate to address the most dangerous security challenges (including massive migration, armed conflict, and state collapse), which are most likely to occur in undemocratic and weak states. A new multipart strategy is needed to address these challenges.

a. *Improve early warning systems and vulnerability index*

The UN system needs better tools for predicting which states and regions are most vulnerable to severe security threats related to climate change. There is already a proliferation of early-warning systems in the international community for dealing with different challenges. In the humanitarian realm, there are numerous systems: for instance, the UN's Humanitarian Early Warning System (HEWS) is an internal UN tool to identify countries in pre-crisis situations. Reliefweb, also overseen by the UN's Office for the Coordination of Humanitarian Affairs (OCHA), is an external system that focuses on natural disasters and complex emergencies. At the regional/country level, OCHA has an Integrated Regional Information Network (IRIN) primarily for sub-Saharan Africa. In agriculture, FAO has the Global Information and Early Warning System on Food and Agriculture (GIEWS), and USAID has its Famine Early Warning System. In terms of weather-related warning systems, UNDP and UNEP/GRID have developed a Disaster Risk Index (DRI), and the World Bank and Columbia University have nearly completed a Global Disaster Risk Hotspots project.

Much of this work is positive. But the emerging early-warning systems in the disaster-reduction community must take more fully into account political indicators of vulnerability—indicators such as (a) the repressive nature of political regimes and (b) other governance factors.[8] In addition, coordination among the vulnerability indexes mentioned above along with other early warning systems—such as the European Union's Global Monitoring for Environment and

Security (GMES) initiative—is necessary to standardize risk assessments in a format policymakers can use.[9] The climate-security nexus, moreover, should be analyzed systematically by the IPCC. As a first step, the IPCC should convene a conference that engages international security-, climate-, and disaster-expert communities.[10]

b. *Preventative diplomacy*

Once the UN has identified high-risk countries, it should develop contingency plans for the consequences of climate change. The extent to which the UN is already involved in systematic forward planning is not clear. As a first step, any contingency plans ought to be tailored to the individual circumstances of those countries and include plans for provision of shelter, nutrition, medicines, and policing. At the same time, local UN staff (or, if necessary, special envoys) ought to open discrete channels of communication with decision-makers in high-risk countries to discuss and encourage risk-reduction strategies. UN officials should also share information concerning disaster prevention with relief agencies such as the UN High Commissioner for Refugees, the International Red Cross, and the broader NGO relief community.

c. *Conflict and post-conflict engagement: Legitimacy and force*

Sometimes, however, diplomatic preparedness will not head off humanitarian catastrophe, and the world will be faced with the prospect of using force to prevent mass starvation or destabilizing migrations. The security risks of climate change, therefore, need to be a factor in debates about a standing multilateral peacemaking or humanitarian intervention force. The international community needs to revisit norms and institutional arrangements concerning the use of force in response to disasters just as it is doing with respect to WMD and terrorism. The UN should be facilitating this dialogue while also strengthening its programs for post-conflict reconstruction to include climate-induced catastrophes.

IV. **Conclusion**

Climate change will trigger profound global change, and these changes could pose genuine risks to international peace and security. Managing these changes well will require strong action within the UN system. While climate change could contribute to armed conflict and violence, preventing large-scale humanitarian catastrophes from climate-related drought, floods, crop failure, mass migration, and exceptionally severe weather remains the most significant policy challenge.

The UN needs to improve substantially the effectiveness of international emission-mitigation efforts. Not only should the Secretary-General incorporate climate change into his own personal diplomacy, he should consider advocating the creation of a new senior-level office (the High Commissioner for the Environment) that would be charged with building political support for addressing global environmental challenges in ways that promote sustainable development.

Because significant climate change is already occurring and will continue for some time, the UN must place equal emphasis on helping nations to adapt to global warming. In this regard, the UN system needs to work even harder to prevent and respond to humanitarian crises. Because disasters in which climate change plays a role will be difficult to predict, and because little will distinguish these disasters from traditional humanitarian crises, much of what the United Nations must do should not be specific to global warming. Many of the UN's existing disaster efforts are

on the right track, but these efforts need to be strengthened by shifting emphasis from disaster response to prevention and by integrating into their work programs awareness of the consequences of climate change.

Yet the UN system must also launch a new effort aimed at dealing more directly with the security risks associated with humanitarian disasters in weak and totalitarian states, where climate change is most likely to trigger regional insecurity. Here, the UN needs to develop powerful analytic tools—such as a fully coordinated vulnerability index—that are capable of reliably flagging populations at risk to the consequences of climate change. The UN also needs to beef up its preventative diplomacy, possibly through the creation of a senior-level disaster prevention coordinator. Finally, the security risks associated with climate change need to be factored into any discussions about multilateral intervention and the development of new norms and institutional arrangements regarding the use of force.

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Notes

[1] See IPCC (2001a); IPCC (2001b).
[2] See Schwartz & Randall (2003); Woods Hole Oceanographic Institution (n.d.).
[3] The report defined affected by natural disaster as those people who for a time either lost their home, animals, their crops, their livelihoods, or their health as a result of a natural disaster. See UN/ISDR (2003).
[4] See Doyle (2003); Haines & Patz (2004); WHO (2002); WHO (2003).
[5] The Inter-Agency Task Force is chaired by the Under-Secretary-General for Humanitarian Affairs. See UN/ISDR (n.d.).
[6] The infolink is a collaboration between the International Red Cross / Red Crescent Centre on Climate Change and Disaster Preparedness, the UNDP and ISDR. See Red Cross/Red Crescent Climate Centre (n.d.).
[7] UN/ISDR (2004).
[8] Brauch (2003).
[9] EC/ECSA (2004).
[10] German Federal Ministry for the Environment (2002), 7.