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VIEWPOINT

From Climate Change to Conflict? No Consensus Yet*

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Many scholars, policymakers, and activists have argued that climate change will lead to resource competition, mass migration, and, ultimately, an increase in armed conflict around the world. This article takes issue with the 'deterministic' view that climate change and resultant resource scarcities will have a direct impact on political violence. Rather, the effect of climate change on armed conflict is contingent on a number of political and social variables, which, if ignored by analysts, can lead to poor predictions about when and where conflict is likely. This article then discusses ways to improve research on the climate change–conflict connection and outlines broad policy suggestions for dealing with this potential problem. Scholars must communicate their findings with the policy community in order to come up with prudent solutions to this problem, while countering unnecessary rhetoric on both sides of the debate.

Introduction

Global climate change is one of the most important challenges facing the international community today. Scientists have presented overwhelming evidence that climate change is indeed occurring, that human activity has contributed to the problem, and that it will have far-reaching implications for ecosystems, including human settlements (IPCC, 2007). Even governments and corporations that were once skeptical about climate research have come to the conclusion that something must be done to mitigate potentially disastrous consequences. National governments, international organizations, non-profit groups, and multinational firms, while seldom finding consensus, have nonetheless entered into serious dialogue on the issue.

Because climate change is likely to have profound effects on agriculture, settlement patterns, natural disasters, disease, and economic activity more generally, many have begun to speculate about future scenarios and potential human impacts. One group of scholars, policy planners, and activists has suggested that climate change will exacerbate resource scarcity, create mass population dislocations, and, ultimately, fuel violent conflicts. These effects will be particularly acute in developing countries where infrastructure is lacking and agricultural economies are most sensitive to environmental stress. Writing in the *New York Times*, Homer-Dixon (2007) argues that 'climate stress may well represent a challenge to international security just as dangerous – and more intractable – than the arms race between the

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United States and the Soviet Union during the Cold War or the proliferation of nuclear weapons among rogue states today'. Writing in a recent report, a group of retired senior United States military officers called climate change a 'threat multiplier for instability' (CNA, 2007: 6). In a recent article, Busby (2008) argues that climate change should be placed squarely on the US national security agenda. In 2007, the Norwegian Nobel Committee awarded the Peace Prize to Al Gore and the Intergovernmental Panel on Climate Change, citing climate change as a threat to international security. Some, including United Nations Secretary-General Ban Ki Moon, have even claimed that the crisis in the Darfur region of Sudan – which pits farmers against pastoralists – stems, in part, from environmental pressures and the scarcity of water and land (Ki Moon, 2007).

The argument about the connection between climate change and conflict boils down to an argument about resource scarcity and competition over the means to sustain livelihoods.[1] Long-term trends such as desertification, rising sea-levels, and the spread of disease vectors, along with the increased frequency and severity of short-term natural disasters such as flooding and hurricanes, will disrupt economies, reduce the available supply of natural resources, and generate mass migration out of affected areas. Competition between haves and have-nots will intensify, and wars will be fought over dwindling food and water resources. Some areas may well become net beneficiaries of climate shifts, even as the absolute availability of resources declines, but this will only exacerbate global and intrastate inequalities and produce further friction. Environmental refugees fleeing uninhabitable areas will place strains on receiving communities, undermine the ability of those communities to provide basic services, and contribute to ethno-cultural tensions (for an evaluation, see Gleditsch, Nordås & Salehyan, 2007). Developed countries will erect physical and virtual barriers to entry in order to protect their resources and way of life. States will falter as they are unable to meet the demands of their people, face a reduction in revenues, and be unable to contain outbreaks of violence. In summing up their core predictions in a US Department of Defense report, Schwartz & Randall (2003: 2) write, 'nations with the resources to do so may build virtual fortresses around their countries, preserving resources for themselves. Less fortunate nations … may initiate struggles for access to food, clean water or energy … defense priorities shift and the goal is resources for survival rather than religion, ideology, or national honor.'

Ultimately, it is difficult to assess prognostications about the future (see Busby, 2008). However, environmental degradations, resource shortfalls, and natural disasters of the past can inform conjectures about what may transpire down the road. A recent special issue of the journal *Political Geography* (Nordås & Gleditsch, 2007) presents some of the most sophisticated and carefully conducted empirical analyses to date of the nexus between climate change, environmental degradation, and armed conflict. Yet, most contributors to the special issue are rather circumspect about the relationship between climate change and political violence. The general impression left by this new wave of research is that direct links are few and weak; causal pathways are complex and contingent on a host of additional factors. Writing in this special issue, Raleigh & Urdal (2007: 689) conclude that 'demographic and environmental variables

[1] At the same time, a large body of research suggests that natural resource abundance, rather than its scarcity, contributes to civil conflict. Resources may finance rebel operations, the discovery of new resources may create conflict over their distribution, and natural resource dependence may make economies more prone to downturns. For examples of this literature, see de Soysa (2002), Collier & Hoeffler (2004), Le Billon (2001), and Ross (2004).

only have a very moderate effect on the risk of civil conflict'. Barnett & Adger (2007: 644) argue that 'it is important to stress that climate change will not undermine human security or increase the risk of violent conflict in isolation from other important social factors'. Finally, Hendrix & Glaser (2007: 711) point out that 'the Neo-Malthusian expectation of a decreasing resource base may miss more theoretically interesting mechanisms leading to conflict in resource-scarce environments'.[2]

Despite this work, there is a disjunction between scholarly research on environmental conflict and often-heard assertions in journalistic accounts and policy papers. The main purpose of this article is to close this gap by engaging in discussion with the policy community. While many in academia have been cautious about their claims, policy activists – seeking to underscore the urgent need to take action on climate change – continue to make dire predictions about looming 'resource wars', often basing their arguments on speculation or shoddy research. In this article, I also encourage researchers to incorporate theoretically informed political variables into their models of environmental conflict and call on the academic community to better communicate their findings to general audiences.

Let me be clear: climate change certainly presents a major challenge to economies, social relations, and livelihoods, and action must be taken quickly to attenuate its negative impacts and to adapt to this reality. That said, claims of environmental determinism leading seamlessly from climate change to open warfare are suspect. The overly structural logic linking climate change to armed conflict ignores human agency, ingenuity, the potential for technological innovation, and the vital role of political institutions in managing conflict (or failing to do so). Additionally, ignoring the role that governments play in managing and redistributing resources, as well as mediating conflict, leads to incorrect predictions and policy prescriptions, and allows decisionmakers to shift blame for civil wars and grave human rights violations. If scholars are serious about informing policy debates (see Mack, 2002), then communicating more effectively with the policy community is critical.

On a fundamental level, if we acknowledge that actors faced with environmental stress make decisions strategically, then we can see that violence is generally a poor response to resource scarcity, given the alternatives. Barring the defeat, subjugation, or extermination of the other party, armed conflict by itself does nothing to resolve the underlying incompatibility over the distribution of resources. Violence is typically used as a strategy used to influence outcomes during negotiations, whether in a domestic or international setting (Filson & Werner, 2002; Wagner, 2000); eventually, actors must come to the bargaining table. Moreover, there is good reason to think that civil wars are extremely disruptive to the natural environment, leaving fewer resources than there were to begin with. Warfare is, therefore, an inefficient and costly way to resolve conflicts over resources (Fearon, 1995). Failure to find a suitable bargain and forgo fighting stems from failures in the political process, not from the absolute level of resources. Thus, while environmental degradation is certainly not a necessary condition for armed conflict, neither is it a sufficient one, since states play a key role in containing or aggravating violence.

In the remainder of this article, I will assess the link between climate change and armed conflict. In doing so, I will point out the pitfalls of what I term 'deterministic' approaches, which place the emphasis on structural features of the environment rather

[2] For other critical views of the resource scarcity–conflict link, see Gleditsch (1998) and Urdal (2005).

than social processes and the decisionmaking capacity of actors. This environmental determinism – though becoming a 'conventional wisdom' in some policy and activist circles – is misleading and possibly counterproductive. Finally, I will suggest ways in which scholars can improve empirical research as well as communicate with the policy community.

The Environment, Conflict, and the State

The deterministic view argues that climate change and concomitant resource scarcities will lead directly to violent conflict or, at least, to a significantly higher risk of violence. This reasoning is most often heard in journalistic accounts, statements by activists, and policy papers by government agencies and IGOs.[3] This view downplays the role of governments, political institutions, and social actors in mitigating resource pressures and conflict. Most people in the academic community, however, reject simple determinism and have made more nuanced arguments (e.g. Barnett, 2001; Diamond, 2005). Nonetheless, scholars making strong claims about the primacy of environmental conditions continue to argue that human ingenuity and the redistributive functions of governments are likely to be overwhelmed by environmental stress (Homer-Dixon, 1999, 2000). Below, I outline the importance of governance to regulate resources, manage the environment, and contain conflict. These factors are often missing or understated in popular accounts of the environment–conflict connection.

A few caveats are in order here. It is important to note, again, that the most severe effects of climate change are likely to be felt in the future, and the future is inherently uncertain.[4] While fundamental shifts in the environment are not inconceivable, our best bet for predicting what is to come is to look at what has transpired in the past. Since it is frequently argued that climate change will lead to resource scarcities and exacerbate inequality, it is possible to draw upon past evidence regarding these factors to develop a sense of how conflicts might unfold given changes in the Earth's atmosphere. Additionally, I do not take issue with the claim that climate change will present considerable challenges for human societies and ecosystems more generally. Humanitarian crises stemming, in part, from climate change have the potential to be severe, and steps must be taken quickly to attenuate such contingencies. Rather, my purpose here is to underscore the point that environmental processes, by themselves, cannot explain why, where, and when fighting will occur; rather, the *interaction* between environmental and political systems is critical for understanding organized armed violence.

First, the deterministic view has poor predictive power as to where and when conflicts will break out. For every potential example of an environmental catastrophe or resource shortfall that leads to violence, there are many more counter-examples in which conflict never occurs. But popular accounts typically do not look at the dogs that do not bark. Darfur is frequently cited as a case where desertification led to food scarcity, water scarcity, and famine, in turn leading to civil war and ethnic cleansing.[5] Yet, food scarcity and hunger are problems endemic to many countries – particularly in sub-Saharan Africa – but similar problems elsewhere have not led to large-scale violence. According to the Food and Agriculture Organization of

[3] For examples, see Abbott, Rogers & Sloboda (2006), Baldauf (2006), Borger (2007), Christian Aid (2006), Faris (2007), Podesta & Ogden (2007), Schwartz & Randall (2003), Smith (2007), and Vogel (2007).

[4] For an analysis of how future climate change scenarios may unfold, see Busby (2008).

[5] For an excellent counterpoint, see de Waal (2007).

the United Nations, food shortages and malnutrition affect more than a third of the population in Malawi, Zambia, the Comoros, North Korea, and Tanzania,[6] although none of these countries have experienced full-blown civil war and state failure. Hurricanes, coastal flooding, and droughts – which are all likely to intensify as the climate warms – are frequent occurrences which rarely lead to violence. The Asian Tsunami of 2004, although caused by an oceanic earthquake, led to severe loss of life and property, flooding, population displacement, and resource scarcity, but it did not trigger new wars in Southeast Asia. Large-scale migration has the *potential* to provoke conflict in receiving areas (see Reuveny, 2007; Salehyan & Gleditsch, 2006), yet most migration flows *do not* lead to conflict, and, in this regard, social integration and citizenship policies are particularly important (Gleditsch, Nordås & Salehyan, 2007). In short, resource scarcity, natural disasters, and long-term climatic shifts are ubiquitous, while armed conflict is rare; therefore, environmental conditions, by themselves, cannot predict violent outbreaks.

Second, even if local skirmishes over access to resources arise, these do not always escalate to open warfare and state collapse. While interpersonal violence is more or less common and may intensify under resource pressures, sustained armed conflict on a massive scale is difficult to conduct. Meier, Bond & Bond (2007) show that, under certain circumstances, environmental conditions have led to cattle raiding among pastoralists in East Africa, but these conflicts rarely escalate to sustained violence. Martin (2005) presents evidence from Ethiopia that, while a large refugee influx and population pressures led to localized conflict over natural resources, effective resource management regimes were able to ameliorate these tensions. Both of these studies emphasize the role of *local* dispute-resolution regimes and institutions – not just the response of central governments – in preventing resource conflicts from spinning out of control. Martin's analysis also points to the importance of international organizations, notably the UN High Commissioner for Refugees, in implementing effective policies governing refugee camps. Therefore, local hostilities need not escalate to serious armed conflict and can be managed if there is the political will to do so.

Third, states often bear responsibility for environmental degradation and resource shortfalls, either through their own projects and initiatives or through neglect of the environment. Clearly, climate change itself is an exogenous stressor beyond the control of individual governments. However, government policies and neglect can compound the effects of climate change. Nobel Prize-winning economist Amartya Sen finds that, even in the face of acute environmental scarcities, countries with democratic institutions and press freedoms work to prevent famine because such states are accountable to their citizens (Sen, 1999). Others have similarly shown a strong relationship between democracy and protection of the environment (Li & Reuveny, 2006). Faced with global warming, some states will take the necessary steps to conserve water and land, redistribute resources to those who need them most, and develop disaster-warning and -response systems. Others will do little to respond to this threat. While a state's level of income and technological capacity are certainly important, democracy – or, more precisely, the accountability of political leaders to their publics – is likely to be a critical determinant of how states respond to the challenge.

Fourth, violent conflict is an inefficient and sub-optimal reaction to changes in the environment and resource scarcities. As

[6] See FAO's Food Security Statistics, http://www.fao.org/faostat/foodsecurity/index_en.htm, accessed 2 October 2007.

environmental conditions change, several possible responses are available, although many journalists and policymakers have focused on the potential for warfare. Individuals can migrate internally or across borders, or they can invest in technological improvements, develop conservation strategies, and shift to less climate-sensitive livelihoods, among other adaptation mechanisms. Engaging in armed rebellion is quite costly and risky and requires large-scale collective action. Individuals and households are more likely to engage in simpler, personal, or small-scale coping strategies. Thus, organized violence is inefficient at the individual level. But, more importantly, armed violence against the state is used as a means to gain leverage over governments so as to gain some form of accommodation, namely, the redistribution of economic resources and political power. Organized armed violence rarely (if ever) arises spontaneously but is usually pursued when people perceive their government to be unwilling to listen to peaceful petitions. As mentioned above, rebellion does not distribute resources by itself, and protracted civil wars can have devastating effects on the economy and the natural environment, leaving fewer resources to bargain over. Thus, organized violence is inefficient at the collective level. Responsive, accountable political leaders – at all levels of government – are more likely to listen to citizen demands for greater access to resources and the means to secure their livelihoods. Political sensitivity to peaceful action can immunize states from armed insurrection.

Finally, some have argued that environmental degradation may weaken state capacity and governance (Barnett & Adger, 2007; Homer-Dixon, 1999). This argument holds that declining agricultural yields and economic productivity will reduce the fiscal base of the state, undermine government agencies, and further weaken state capacity in developing regions. A weakened state is more likely to become a target of armed insurrection. Hendrix (2008) argues that climatic conditions and the diffuse nature of temperate-zone agriculture play an important role in the development of the taxation and administrative capacity of states. However, using climate forecasts for sub-Saharan Africa, Hendrix & Glaser (2007) find little evidence that year-to-year variance in precipitation in the region will change over the next 100 years. While it is certainly possible that climate change will negatively impact state capacity, such effects either have not yet materialized or have not been adequately researched, making these claims speculative at this point. But more importantly, corruption, cronyism, and predatory state behavior seem to be larger problems facing many developing-state economies, and efforts to tackle these problems promise to significantly improve the fiscal and administrative situation for many countries.

Challenges for Future Research

Research on the connection between climate change and conflict promises to be a significant 'growth area' in social science and is likely to promote further dialogue with natural scientists as well as policymakers. The impact of global warming on social systems is likely to be profound, and researchers should devote greater attention to modeling these effects. Yet, if we are to improve our understanding of causal pathways to violent conflict, empirical research must take into account how political processes and institutions – given the reality of climate change – shape the incentives of actors to engage in violence. Even among those who reject the deterministic view, despite affirmations that 'politics matter', most empirical scholarship fails to incorporate political variables in a meaningful way. For instance, many of the contributions to the special issue of *Political Geography* fail to

include political variables in their analyses, or include simple measures of democracy (such as the Polity index) to account for a wide range of political behavior. There are at least four areas of improvement for research on environmental conflict. Many of these suggestions echo those made in this journal a decade ago by Gleditsch (1998), but are worth repeating here.

(1) *Develop better measures of political institutions*. Conflict research in general (not just environmental conflict) has been overly reliant on measures of central government institutions and has overwhelmingly focused on indicators of democracy. While democracy at the level of the central government is clearly important, data collection on other features of the political system must also be developed on a cross-national and/or country-by-country basis. For research on the environment and conflict, disaggregated data on resource management institutions and procedures will be particularly important. This may include data on agricultural and land-use policies, the environmental impact of public projects, and the effectiveness of disaster-relief mechanisms. Other institutions, such as a well-functioning, independent judiciary to resolve disputes, effective local police forces, anti-corruption measures, immigration and citizenship policies to deal with environmental migrations, and political systems that are open to protests and peaceful petitions, are also important variables for future data-collection efforts.

(2) *Develop exogenous measures of environmental stress*. Many of the indicators of environmental degradation that have been included in empirical analyses – such as soil erosion, clean water availability, and land degradation – are probably endogenous to human activity and failures of governance; the causal arrow may run the other way. Climate change, however, is a global trend that is beyond human control, at least at the local level. Therefore, to reduce concerns about reverse-causality and endogeneity, it is important to collect data on truly exogenous factors.[7] Erratic rainfall, drought, coastal flooding, and hurricanes, among other natural conditions, are beyond human control and can be integrated into models of conflict. Following Miguel, Satyananth & Sergenti (2004), Hendrix & Glaser (2007), for instance, use measures of rainfall in sub-Saharan Africa to predict conflict events.

(3) *Model endogenous relationships*. Many of the most interesting claims about climate change, environmental degradation, and conflict relate to how environmental pressures and political failures reinforce one another. There may be multiple feedback loops by which environmental change weakens the state and fuels conflict, while governance failures make environmental conditions worse. Employing statistical and case-study techniques to model these processes is likely to yield valuable insights. For instance, droughts may lead to food scarcity and social tensions, but obstacles to resource redistribution through market mechanisms or government intervention may exacerbate conflict. Modeling such dynamic processes and teasing out endogeneity will be important for future research.

(4) *Look for interactive, contingent effects*. Resource scarcity and environmental

[7] For recent research on the relationship between natural disasters and armed conflict, see Brancati (2007) and Nel & Righarts (2008).

> degradation may well lead to conflict, but such direct effects may be mitigated (or exacerbated) by other social and/or political factors. Therefore, rather than looking for direct effects, it is important to model contingent effects. Many have argued, for instance, that resource scarcity will lead to armed conflict only in countries that are already poor and badly governed. Wealthy, developed democracies are less likely to experience armed violence over a diminishing resource pool. Thus, the interaction of environmental conditions and political variables should be modeled explicitly.

This is certainly not a comprehensive list of avenues for future research and data collection. Empirical research on the environment–conflict nexus has typically focused on proving or disproving the deterministic view. By better specifying the political processes by which governments intervene (or fail to intervene) in resource conflicts, and circumventing concerns about endogeneity, proponents and doubters of environmental conflict theory may be able to find areas of agreement.

Policy Discussions

Mack (2002) calls on conflict scholars to engage policymakers and to inform public debates about important global issues. Climate change has recently become one of the most high-profile issues facing the global community, as recently evidenced by the selection of Al Gore and the Intergovernmental Panel on Climate Change for the Nobel Peace Prize. In granting the award, the Norwegian Nobel Committee remarked that climate change 'may induce large-scale migration and lead to greater competition for the Earth's resources. Such changes will place particularly heavy burdens on the world's most vulnerable countries. There may be increased danger of violent conflicts and wars, within and between states.'[8] Because of the international focus on the issue, research on the climate change–conflict connection is likely to capture the attention of global leaders, and careful policy advice is critical for coping with the challenges that climate change will pose.

First, in discussions with policy leaders, it is important to note that, while climate change and its concomitant effects – sea-level rise, desertification, erratic weather, etc. – are broad, structural conditions affecting humanity, armed conflicts are the product of failures of government, ambitious rebel leaders, or a combination of both. Therefore, we cannot let governments and rebels off the hook for their deliberate actions. The Sudanese government, for instance, may be tempted to claim that the conflict in Darfur is due to environmental pressures and that they bear little responsibility for intercommunal fighting. According to this twisted logic, consumers in New York and London, who are spewing carbon into the atmosphere, are partly responsible for resource wars in Darfur. 'If [Darfur's] collapse was in some part caused by the emissions from our factories, power plants, and automobiles, we bear some responsibility for the dying', writes Faris (2007). Corrupt, repressive leaders have been quick to blame their country's ills on colonialism, global capitalism, or some other convenient scapegoat. We should not add climate change to this list. Leaders must be held accountable for their decisions to use violence, even if as a tactic to secure dwindling resources.

Second, it is important for researchers to be forthright about the predictive power of their empirical models (see Ward & Bakke, 2005), particularly when speaking to policy audiences. Nel & Righarts (2008), for example, show that natural disasters significantly

[8] Full text of announcement: http://nobelpeaceprize.org/eng_lau_announce2007.html, accessed 17 October 2007.

increase the predicted probability of a civil conflict over a specified baseline. However, marginal increases in predicted effects do not tell us much about the absolute risk of an event, which is typically very low in models of conflict. A finding that a variable doubles the risk of war may seem alarming, but it is counterbalanced by very low absolute probabilities of violence, typically in the single digits. For policy audiences (especially those untrained in quantitative analysis), both marginal and absolute effects are important to report, but the way that issues are framed is quite important in conveying meaning and urgency. 'Condition X triples the risk of armed conflict!' sounds very different from 'condition X triples the risk of armed conflict, but still, 96% of such cases never escalate to violence'. The latter statement conveys the importance of an issue but, also, underscores the message that mitigating conflict, given a particular risk factor, is achievable.

Third, alarmism regarding climate change has led some to conclude that states, particularly in the developed world, must be better prepared militarily to deal with the threat of mass migration, failed states, and resource conflicts. Some leaders in the US Congress and in the US military establishment, for instance, have added climate change to the list of potential long-term threats to national security.[9] Enhanced military preparedness to prevent migration and secure resources, however, is likely to be a waste of finances and effort, and it misses more productive opportunities to meet the challenge. Focusing on low-cost technological improvements in developing countries, such as improved irrigation systems, better seeds and fertilizers, and strategies for managing urban growth, is likely to yield far greater returns for the investment, and these are proactive steps that can be taken to prevent conflicts from erupting in the first place.

Fourth, as researchers have long understood, promoting political transparency, accountability, and the rule of law is crucial for preventing conflicts. Corruption and cronyism often prevent resources from reaching the most vulnerable populations, leading to gross income inequalities and severe poverty. Improving the administrative, judicial, and policing capacity of states can head off conflicts over basic resources, and these are goods to be pursued for their own sake. Mediation, arbitration, and alternative dispute-resolution mechanisms at the local and international levels can prevent conflicts from arising. These suggestions are nothing new, and they have been emphasized by scholars and policymakers alike, but it is important to reiterate this point in the debate over environmental conflict.

Finally, it is absolutely vital that developing countries improve their capacity to meet the basic needs of their citizens; on this front, developed states must help. International assistance to foster development and adaptive capacity can fill the void when developing countries lack the necessary skills and resources. Doing so does not necessarily conflict with the goal of preserving the environment, and, as Sachs (2005) points out, many of the most effective solutions are not very costly to adopt. Much of sub-Saharan agriculture, for instance, depends on rainfall, which can be unpredictable. Simple, low-cost technologies to improve water delivery and efficiency, the introduction of better seeds and fertilizers, improvements in soil quality, and so on can markedly raise crop yields without significantly increasing the amount of land under cultivation. Technological and knowledge transfers to developing countries are important. Rich nations must help the developing world 'leapfrog' over environmentally destructive industrial practices and promote the adoption of

[9] See 'Bill Ties Climate to National Security', *Boston Globe*, 9 April 2007.

cleaner technologies globally. In addition, helping developing countries improve their disaster preparedness systems, urban planning policies, and social welfare programs can go a long way in improving living standards. Such measures are not simply altruism, but can prevent international ripple effects from further environmental degradation. Encouragingly, the 2007 climate change conference in Bali began to address the issue of adaptation. But, politicians concerned with their short-term political futures will be unlikely to follow through on promises to address long-term problems unless there is concerted citizen action on this issue.

Policies to improve the adaptive capacity of states to deal with global warming and better governance can significantly reduce the likelihood of armed conflict. If climate change and resource scarcity lead to warfare, then the lack of ingenuity and proper planning – at the local, national, and international levels – is to blame. We should all be concerned about the effects of climate change and take the necessary, if difficult, steps to improve the environment and mitigate the adverse consequences of a warming world. However, before jumping to conclusions about state failure and mass warfare, we must carefully consider the complex relationship between resources and violence.

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