



Supporting Global Food Security in a Changing Climate Through Transatlantic Cooperation

By Michael Werz and Benjamin Pohl March 29, 2016

Policy communities in the United States and Europe are increasingly identifying climate change, environmental deterioration, water management, and food security as key concerns for development and global governance. The interplay of these trends is visible in the upheavals across the Middle East, with food riots and water disputes illuminating the region's food insecurity. In the five years before the uprising in Syria, for example, the country experienced one of the worst droughts on record, which decimated wheat production and wiped out livestock.¹ In Yemen, tensions—and outright conflicts—over water rights and illegal wells underpin the ongoing insecurity and anti-government sentiment.² There is little question that the effects of climate change will cause more extreme weather events and crop insecurity in the decades to come, and it is reasonable to expect that they will magnify such dangerous problems.

A few years ago, the complex interplay of several factors—including droughts in major grain- and cereal-producing regions, increases in biofuel production that reduced grain supplies, and other long-term structural problems—triggered the 2007-2008 world food crisis. The disruptions that this crisis caused affected both developed and developing countries, creating political and economic instability around the world and contributing to social unrest.³ The crisis highlighted the critical importance of better understanding the interdependencies and cascading effects of decisions made throughout the global food system, as well as how climate change could exacerbate such challenges.

The increasing urgency of food and climate security requires greater international cooperation and, more specifically, innovative and forward looking transatlantic policy responses to address these pressing issues. Over the past decade, the links between climate change, food security, and political instability have steadily risen on the global policy agenda, and both adelphi and the Center for American Progress have played a role in bringing attention to their importance. CAP has conducted significant research and analysis on the security effects of climate change, including its effect on human mobility, and has elevated these issues in Washington, D.C.⁴ For its part, adelphi has a long track record of raising climate security issues in Europe and in 2015 led an international consortium that prepared a report and knowledge platform for the Group of Seven, or G-7, nations on climate change's effect on state fragility.⁵

Policy debates in Germany and other European countries are far advanced when it comes to questions of promoting sustainable growth, addressing climate change, and fostering renewable energy sources. And policy conversations in the United States about emissions, environmental concerns, and the security implications of climate change have intensified over the past six years. These debates offer an important opportunity for transatlantic partners to move forward in exploring and addressing the issues arising from a long-term and deepening disruption of the global food system; they also offer a chance to reinvigorate transatlantic partnerships with new areas of engagement.

This issue brief looks at the food security situation in the Middle East and how the United States and its European partners can work together to confront the wide-ranging security challenges of climate change.

Volatility is the new normal

During a two-day future scenario exercise that was codeveloped by CAP and the World Wildlife Fund and designed by CNA Corporation, participants—including one of the authors—established a much-needed framework for long-term assessments of food security and climate change.⁶ The November 2015 exercise brought 60 high-level decisionmakers from 15 countries to Washington, D.C., to grapple with a crisis scenario set in the years 2020-2030. Participants were organized into country teams that represented key food producing and consuming countries and were asked to react and negotiate as the effects of climate change, political instability, and other pressures mounted in the global food system. As the simulation progressed, they designed simplified policy responses and adapted to new conditions.⁷

While the game was being designed in 2015, the world continued to witness food insecurity similar to what the exercise was intended to model. For example, erratic weather patterns altered food supply chains in several regions, while the conflict in Yemen contributed to more than 40 percent of Yemenis being food insecure, half of them severely so.⁸ Millions of refugees from the Syrian civil war challenged the world's ability to provide adequate levels of food aid, and brutal regimes and militant groups in Syria, Iraq, and Nigeria used starvation as a war tactic.⁹

A key takeaway from the game was the fact that volatility is likely to be the new normal as climate change, demographic shifts, and other factors continue to reshape the global environment in the years and decades ahead. Participants confirmed this understanding in subsequent public and private transatlantic dialogues.

European countries and the United States are just beginning to adapt to this volatile reality and to rethink what policies, programs, and international capacities are needed to address it. Because the risks are interconnected, responses need to be integrated across sectors. The key sectors dealing with these challenges—the climate change, development and humanitarian assistance, and peacebuilding communities—have to ensure that their

efforts, at a minimum, do not harm each other. Hydropower, for example, is often seen as a sensible investment: it mitigates climate change by producing clean energy, supports adaptation by reducing the flood and drought risks that climate change enhances, and supports economic development. Yet it can simultaneously endanger downstream food security by limiting the availability of water and/or fish, especially in the context of rising water scarcity and uncertainty over future water availability.¹⁰

And doing no harm is only the starting point. The key policy sectors addressing climate- and fragility-related risks should also strive to realize so-called cross-sector co-benefits.¹¹ For example, climate adaptation and climate finance can help improve water governance in the service of food security and nutrition. Conducting climate vulnerability risk assessments in a participatory manner, whether at the local or the transboundary level, could help build a shared understanding of challenges, as well as the trust conducive to peace and stability. Yet this will not always happen by default. Therefore, the climate adaptation community should systematically assess the opportunities for building peace—by, for example, empowering existing or nascent conflict resolution institutions on competing water uses.

The discussion of global food security is still dominated by the topic of food production. But many risks lie at the intersection of several systems, including the links between climate, access to water, agricultural production, logistics and infrastructure, international trade and finance, and state fragility. Because all of these systems are volatile, disruptions anywhere could lead to trouble everywhere—and few institutions are equipped to address results across all sectors.

National security dimensions

Throughout 2015, research and dialogues by both adelphi and CAP highlighted the evolving relationships among food security, stability, and conflict as the global climate changes. Both the United States and the European Union are also concerned with the increasingly negative impacts of conflict on global food security in recent years. From the U.S. perspective, the Obama administration has pointed to the likelihood of more frequent security and conflict-prevention challenges stemming from the confluence of environmental and demographic factors, particularly rural disruption and associated urbanization.¹² The effects of climate change can add to this rural disruption—with threats including unpredictable harvests, grazing, and fishing—and contribute to the economic push-and-pull factors that drive people to cities. The U.S. Department of State, for example, is working with international and nongovernmental organizations to better understand the food security needs of city populations and how they are influenced by a range of factors that constantly change.¹³ “How to feed our cities? Agriculture and rural areas in an era of urbanization” was also the topic of this year’s Global Forum for Food and Agriculture, the annual conference that brought 65 agriculture ministers to Berlin in January 2016, highlighting the continuing importance of rural areas even as urbanization has become a defining global trend.¹⁴

Food security is also on the rise as a policy issue in the European Union. Faced with the strongest migratory pressures in decades, the European Union has identified food security as a crucial issue for stability in its Southern Neighborhood. The first two implementation priorities of the European Union's 2013 resilience action plan targeted food security in the Sahel and the Horn of Africa, respectively.¹⁵ Meanwhile, efforts are under way to support farmers' livelihoods in Syria to mitigate the humanitarian toll of the ongoing civil war and the exodus from the country.¹⁶

Food security is not only a stability or humanitarian concern; it is also an international security concern. Although most countries still pursue some version of self-sufficiency when it comes to key foodstuffs, this is increasingly unrealistic for many countries given population growth and the scarce availability of land and water resources. Keeping up the pretense of self-sufficiency is dangerous as it raises expectations that are difficult to fulfill and often lead to frustrations when governments fall short; these frustrations may lead to violence.¹⁷

Self-sufficiency is also inefficient. Production factors are distributed unequally, and insisting on intensive agricultural production in less suitable areas may contribute to lower growth through misallocation of labor and capital, waste of natural resources, environmental degradation, and conflict over water. Subsidies designed to protect self-sufficiency can strain or overwhelm government budgets, and place unfair competitive pressure on producers in more efficient areas of production.

For example, collective food, water, and energy security policies in the Nile basin, and in many other transboundary basins, currently emphasize nationally conceived objectives that rely on mutually exclusive conceptions of water rights and future uses. However, these countries would be better served by collaborative, basinwide planning to situate food and hydropower production in more optimal places.¹⁸

Taking the nexus into account

The social conflicts and political protests that led to the Arab uprisings have transformed the European neighborhood in unexpected ways. The upheavals highlighted the connections between energy and food demand; in Egypt, for example, the upstream potential for hydropower and food production requires mutually beneficial solutions with upstream countries, such as Sudan and Ethiopia.¹⁹ Egyptian investment into and use of these resources could improve the situation but will require a change in mindset from one that prizes national self-sufficiency to one that accepts competitive advantages and disadvantages across national borders but maximizes overall productive capacity across the water, energy, and food sectors.

More generally, the international community should grapple with the fact that, in many areas, the economic benefits of using water for hydropower currently outweigh the benefits of using it for irrigation and food production. By contrast, most people probably would prize food over energy in their emotional hierarchy of values.²⁰ The uses are not necessarily competitive, but they can become so in the context of insufficiently integrated planning, an issue that is particularly relevant in transboundary basins without an institutionalized governance structure—and where violation of the value hierarchy has the greatest destabilizing potential. Market forces will eventually rebalance the water use incentive structure, but potentially at great human cost; the United States and Europe can and should seek to avoid such a painful market correction.

Thus, the international community should consider incentives to nudge countries towards appropriate consideration of food security issues, particularly against the backdrop of climate mitigation policies. Already, biofuel mandates have played an important, established role in recent food crises.²¹ Moving forward, the likelihood that significant amounts of climate finance may be used to support hydropower development could challenge food security as well as societal stability. Thus, water use for hydropower and irrigation can become competitive where big upstream reservoirs reduce downstream water availability when they are filled and through evaporation. Developments in the Mekong River basin demonstrate a further risk: The 11 dams currently slated for construction in Laos and Cambodia alone are estimated to block the migration of some 70 percent of the Mekong's commercial fish catch—in a region where freshwater fish are the main protein source and the average person consumes some 60 kilograms of freshwater fish per year.²² And ongoing attempts to limit global warming to less than 2 degrees Celsius—or even 1.5 degrees Celsius—will soon require the repayment of significant carbon debts due to contemporary lifestyle and consumption choices in rich countries and emerging economies and a potentially huge expansion of bioenergy use, with its accompanying effects on agriculture.²³ These policies should all be warning signs that global food security will soon face significant pressures, especially as the global population grows to 9 billion people and economic development sees the global middle class grow by several hundred million and shift to protein-heavy diets over the next few decades.²⁴

Developing integrated responses

The difficulty of crafting integrated responses to these overlapping challenges was starkly illustrated in the November food exercise. As the designers noted, participants in the simulation did not address all the interconnections between food, water, energy, climate change, and security, even though they recognized the interdependencies between these areas.²⁵ The players' responses thus did not live up to the scale and scope of the challenge, even though they were unencumbered by the budgetary constraints, institutional loyalties and political realities that real world political and institutional players face. This provides an indication of how big a challenge the international community faces.

Addressing the interconnections between these sectors implies two challenges: the first dimension relates to the unenviable task of seeking to overcome sectoral entrenchment at the national level, and the second dimension relates to international cooperation on the many interrelated facets of global food security.

In trying to address this challenge, the international community will need to reconcile and make productive use of the differences in value systems and priorities that currently criss-cross the food policy community. Some examples of these differences include the cleavage between those who emphasize the need to produce more food and those who focus on more effective distribution networks and efforts to combat food waste. In an analysis of major famines, including those in Bengal in 1943 and Bangladesh in 1974, economist Amartya Sen famously pointed out the crucial difference between not having enough food to eat and there being not enough food to eat.²⁶ Enough food existed during the Bengali and Bangladeshi famines—as well as others—but it was not available to those who needed it. In Bangladesh, for example, flooding caused millions of primarily agricultural laborers to lose their wages and thereby their entitlement to food, resulting in mass starvation.²⁷

Reflecting different emphases on the availability of or the access and rights to food, the food security community often has been divided in its priorities. This is mirrored in diverging opinions between those who emphasize the possibilities of scientific and technological progress in agriculture and those who insist on the resource efficiencies possible if food demand is directed towards local, vegetarian, and organic products. In short, technocratic approaches that emphasize scale and scientific optimism contrast—and sometimes clash—with community-based approaches that stress the political nature and values inherent in food governance. Better governance needs both scientific evidence and political value judgments, which suggests a need for both sides to engage in constructive deliberation.²⁸

The food security community not only needs to bridge its internal divides, but it also needs to link up with other communities whose work has a significant impact on global food security—including the climate, water, energy, trade, finance, and peacebuilding communities. Such cross-sector, horizontal integration needs to be complemented by better vertical integration.

Our transatlantic discussions—both in the food scenario exercise and in subsequent government and academic meetings—raised questions of whether the current global governance architecture is adequate to handle the complexities of the 21st century. Mitigating risks to global food security may require new institutions that have a sufficiently broad remit and are widely trusted around the world. The world also needs cooperative agreements to prevent governments from turning to protectionist measures in the face of rising food prices or scarcity, as these reactions only contribute to global price increases. In times of truly globalized markets, governments need to coordinate and act at the global level too.

Information and technology

Our dialogues made clear that sharing information more openly and ensuring that technological developments reach regions that need them will be crucial to handling more volatile conditions. The United States and the European Union need to exhibit strong leadership, both through policy support and from private businesses and innovators, to address the challenges that climate change poses to food security. Specifically, businesses that shape global food markets may need to more openly share data—data that today are kept confidential. This may necessitate new legal requirements or policy incentives in key countries, including the United States, Brazil, and nations across the European Union.

Both the United States and the European Union share the aspiration—embodied in terms such as sustainable intensification or climate-smart agriculture—of increasing agricultural yields and resilience while decreasing negative environmental impacts.²⁹ While such broad, aspirational terms may signify different emphases to different stakeholders, they offer a terminological nucleus for building a shared agenda. Although genetic modification of crops remains a key difference between the United States and the European Union, both sides can commonly support policies that advance and disseminate technologies that reduce water needs in agriculture, conserve soil health, maintain forests, and respect the tradeoffs that arise between agricultural production and climate change.

Recommendations

Collaborative data collection

To begin to address these challenges, the United States and the European Union can undertake action in a range of areas. First, they can join forces to ensure a solid evidence base and improve access to data. To this end, they could share data and methodologies they have developed and seek to develop a comprehensive and shared risk assessment methodology that combines good practices from both sides of the Atlantic. This could entail efforts to better integrate information that the private sector holds, as well as efforts to convince other countries to support greater transparency. For maximum effectiveness, such efforts should go beyond the food sector and include projections of future water and energy demand as well as the impacts of climate change and planned large-scale infrastructure for the future water supply.

One of the issues hampering better risk assessment is the absence of precise data on available stocks, as these are often held privately or by public authorities whom transatlantic policymakers may not trust. Governments thus need to discuss how they could encourage those actors that shape global food markets to share data more openly so that public- and private-sector decisionmakers can detect and address disruptions to the global food system before they occur.

Coordinate international assistance efforts

A second related action might lie in efforts to link existing initiatives on global food security to improve their effectiveness and ensure that experiences are shared to push down learning curves. The fragmented nature of planning, financing, and implementing international food security-related efforts has thus far impeded effectiveness.³⁰ A conversation on harmonizing approaches or optimizing complementarity would not necessarily have to be all-encompassing but could pragmatically start in a certain region or country. It could also focus on specific thematic issues—such as supporting policies that advance and disseminate technologies that help reduce negative environmental impacts in agriculture, conserve soil health, and maintain forests in developed and developing countries—while at the same time respecting the trade-offs between agriculture and climate change.

U.S. and European approaches to food assistance, for example, differ considerably; U.S. assistance is still predominantly in-kind, whereas the international community is increasingly advocating for providing cash to support local food markets.³¹ This means that U.S. assistance has the potential to undermine other international food assistance by crowding out local producers. Yet these differences need not be negative; there are cases where there are no local markets left and monetary assistance would hence only fuel inflation. If well-coordinated, European monetary and U.S. in-kind assistance could thus be mutually strengthening.³²

Balance humanitarian and structural development assistance

Third, the United States and the European Union should reflect together on the rise of humanitarian demand, of which food constitutes a significant share. With unprecedented numbers of people forcibly displaced, global humanitarian spending will need to rise. However, this must not come at the expense of more structural development assistance—particularly disaster risk reduction, or DRR. As this year’s High Level Panel on Humanitarian Financing reported, “12 out of a group of 23 low-income countries received less than US\$ 10 million for DRR over 20 years while receiving US\$ 5.6 billion in disaster response.”³³ This is a disaster in itself.

High-minded commitments to aid effectiveness aside, political realities will not change overnight. Due to acute current crises, an increasing share of official development assistance will go to humanitarian efforts. This begs the question of how humanitarian efforts can be used to strengthen resilience—not only to provide relief but also to prepare for and work to prevent future shocks. With the World Humanitarian Summit coming up in May, policymakers on both sides of the Atlantic should discuss how to change the incentive structure for humanitarian actors to enhance their focus on resilience and sustainability.³⁴

Strengthening the links between the humanitarian and development communities is only the beginning. Planning processes need to be integrated across interlinked sectors such as climate, water, agricultural production, international trade and finance, and infrastructure to ensure that policies do not end up working at cross-purposes but instead produce co-benefits in other sectors. The conceptual understanding of the water-energy-food security nexus is probably more advanced in Europe than in the United States, but the United States has important experiences to share from its own difficulty balancing water use for domestic consumption, agriculture, and energy production under the pressure of climate change, particularly in the West.³⁵ Harnessing these experiences for other countries could constitute a fourth element of a transatlantic agenda.

Focus on food security

A fifth item is the strengthening of the global governance structure on food security. Currently, that system is fragmented, and its linkages to the systems with which food governance interacts are too limited. The United States and the European Union need to consider how multilateral fora, such as the Group of 20, or G-20, can be leveraged to nudge global governance towards a more holistic and systematic response to food insecurity. This will be difficult, but the next EU-U.S. summit could provide a political mandate to the respective government agencies to jointly review the adequacy of current systems, look ahead to looming challenges, and build awareness throughout the American and European bureaucracies. This will not solve the problem but could serve as a precursor to thinking about new international governance structures that reach beyond the Atlantic, such as one in the G-20 format.

Building awareness is key to improving global governance. Both private-sector actors and public policymakers usually operate with short time horizons, focused on the next quarterly report or the crisis dominating the headlines. But global food security is too important to be planned on a short-term basis. The long-term trends of population growth, protein demand, and climate change are bound to continue and could overwhelm such haphazard responses. Food security—and the steps needed to effectively mitigate the risk of coming crises—should be placed at the center of national strategic planning processes and global governance systems.

Conclusion

Pressing food security challenges—which, in many cases, closely resemble those that played out in the November food security exercise—have continued to emerge in 2016. Ethiopia is experiencing increasing crop and livestock losses as a result of its worst drought in 50 years; the United Nations has found thousands of people starving in Syrian towns newly opened to humanitarian aid; and estimates of those affected by the extended drought-induced food crisis in Papua New Guinea now reach as high as 800,000 people.³⁶

In total, the World Food Program estimates that at the beginning of 2016 there were 795 million people vulnerable to food insecurity worldwide.³⁷ It is a crucial time to continue transatlantic dialogue and coordination on ways to address this threat. As the food security exercise showed, it is paramount that such dialogue and action address not only the crisis of the day, but also the structural challenges described above. The agenda that participants set out is admittedly ambitious, but there are few international policy challenges as crucial as the world's ability to feed itself.

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Endnotes

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