



Memorandum

Nexus²⁵ Breakfast Discussion:

Artificial Intelligence and the Geopolitics of Food Security

January 18, 2024

On January 18, 2024, the Nexus²⁵ project organized a breakfast discussion on the sidelines of the Global Forum for Food and Agriculture (GFFA) in Berlin. The conversation, hosted by the state representation of Baden-Württemberg, brought together key stakeholders from multilateral organizations like the World Bank and World Food Programme, German government, civil society, and the private sector. Participants discussed current risks to modern food systems, how to incorporate risk assessments into multilateral and national security decision making, and key advancements in digital technology such as artificial intelligence.

Recent crises such as the COVID-19 pandemic, the invasion in Ukraine, and conflict in Gaza have demonstrated the fragility of the modern agri-food system. While the world produces enough food to support the global population, fragile supply chains are easily disrupted by conflict, migration, and crisis. Policymakers increasingly recognize food insecurity as systemic challenge, but current approaches are just as fragmented as food systems are. As a result, there is an enduring risk of creating two parallel food systems: one that works for powerful actors in the Global North and one that doesn't, leaving the large portions of the population in the Global South in a state of food insecurity.

In this context, key takeaways from the conversation included:

The central role of geopolitics in food security. Today's food systems are highly vulnerable to conflict, crisis, and the effects of climate change. These vulnerabilities will only escalate as extreme weather events such as droughts and flooding intensify. Notably, key geopolitical actors face interrelated climate, migration, and food security challenges. These nexus issues will directly impact foreign policy decision making as well as the multilateral operating environment. For example:

- Increasingly protein-dependent eating habits of the middle class and a strong reliance on soybean and wheat imports have created both immediate and long-term food security challenges for China. The country's food self-sufficiency ratio has steadily decreased since 2000, and food imports have increased by an average of 11.4% annually over the past two decades. To combat these vulnerabilities, China has aggressively invested in domestic fisheries and agriculture. Simultaneously, the country has aggressively invested in land and built new trading relationships in Africa and Latin America. As the United States and EU continue to de-risk investments away from China and its partners, there is a risk of fracturing the current food system and forcing countries to choose between the West and its competitors.

- Agriculture is the largest source of livelihood in India, with a [FAO-estimated](#) 70% of rural households dependent on the sector. More than 60% of agriculture is rain-fed, [straining](#) the country's groundwater resources. Furthermore, as saltwater intrusion and flooding threatens India's rural areas and neighboring Bangladesh, urban migration is expected to increase, further exacerbating food security challenges. This has the power to further destabilize India's relations with its neighbors – including China and Pakistan – and raise governance and state capacity challenges in its largest urban areas.

The opportunity for digital technologies to break down silos and support locally led approaches. As one participant noted, one of the key barriers to cooperation and coordination is that actors are all measuring different things, working off different data sets, and struggling to see the full picture of food and nutrition globally. Advancements in digital technology are powerful tools to close these gaps in understanding and improve multilateral policymaking.

- Artificial intelligence has a powerful automation and predictive capacity. AI and other emerging technologies enable stakeholders to treat large amounts of data in a short period of time, reduce the need for in-depth data mining, and accurately model threats to the current food system.
- Advances in digital technologies have critical implications for farmers and local leaders as well. Digital cash transfers enable food and humanitarian assistance to reach anyone with a mobile phone. Databases and readily available data allow small farmers to monitor biodiversity and production, access reliable weather forecasting, optimize distribution, and lower food waste. Digital technologies also empower local leaders to better understand – and fill – nutrition gaps within the community. However, participants noted that our understanding of these new technologies is limited. Advancements must therefore be paired with rigorous monitoring, ethical and data privacy-focused use, and consultations to ensure resources reflect local needs.

The power of food as a predictive national security tool. Given the geopolitical implications of food security – and the power of new technologies in modeling food risk – food can serve as a powerful tool for foresight and analysis. Lagging crop yields, shifts in consumption, and supply chain issues hint to underlying governance and security challenges or impending conflict. The links between food security and peace will be further revealed as climate-related risks continue to threaten supply chains. As one participant noted, “we will not have stability if people are hungry.” Food insecurity is often the result of broader security and governance challenges, and solving hunger is a good first step when working to address complex crises. Food security indicators – as showcased by the [Global Food and Nutrition Security Dashboard](#) – must therefore be integrated into crisis response and national security decision making.

Overall, the discussion concluded that food security has the potential to be a key area of cooperation in a polarized environment and economy. Throughout the conversation, participants emphasized the need to break down silos between the myriad of development, diplomacy, and security-focused stakeholders. At the multilateral level, this could include the World Bank, Food and Agriculture Organization (FAO), Global Alliance for Food Security (GAFS), and other regional and multilateral mechanisms. At the same time, it is critical to integrate nexus approaches at every level and work toward concrete action that considers the needs of those most affected by the food-climate nexus.

Speakers and attendees:

1. Alexander Müller, Founder and Managing Director, Think Tank for Sustainability
2. Amadée Mudie-Mantz, Policy Advisor, Munich Security Council (MSC)
3. Amb. Andreas von Brandt, Head of Division, DG for Stabilization, German Federal Foreign Office
4. Barbara Junge, Chief Editor, taz
5. Carmina Dietrich, Policy Officer, German Federal Chancellery
6. Dr. Alexandra Horst, Senior Economist, World Bank
7. Dr. Amandine Gnanguénon, Director of the Geopolitics Program, Africa Policy Research Institute (APRI)
8. Dr. Bettina Rudloff, Senior Associate, German Institute for International and Security Affairs (SWP)
9. Dr. Imke Rajamani, Managing Director, Hamburg Sustainability Conference
10. Dr. Julia Steets, Director, Global Public Policy Institute (GPPI)
11. Dr. Julian Lampietti, Manager for Global Engagement in the Agriculture and Food Global Practice, World Bank
12. Dr. Magdalena Kirchner, Director, Stiftung Mercator
13. Dr. Martin Frick, Director, World Food Programme (WFP) Berlin
14. Dr. Michael Werz, Nexus²⁵ and the Center for American Progress
15. Dr. Olumide Abimbola, Founder and Director, Africa Policy Research Institute (APRI)
16. Gregor Darmer, CEO, Global Perspectives Initiative
17. Helen Naser, German Federal Ministry for Economic Cooperation and Development
18. Judith Althaus, Speaker, German Federal Chancellery
19. Margherita Bianchi, Nexus²⁵ and Istituto Affari Internazionali (IAI)
20. Michael Schwarz, Managing Director, Baden-Badener Unternehmer Gespräche e.V.
21. Siena Cicarelli, Nexus²⁵ and the Center for Climate and Security (CCS)
22. Sophie Rau, Project Manager, Stiftung Mercator



Nexus²⁵ is a joint project of the Istituto Affari Internazionali (IAI) in Rome and the Center for Climate and Security (CCS) in Washington, DC. The project, led by Dr. Nathalie Tocci at IAI, Erin Sikorsky at CCS and Dr. Michael Werz at the Center for American Progress (CAP), is funded by Stiftung Mercator in Germany.

For additional information please visit <https://www.nexus25.org> or contact the Nexus²⁵ team at info@nexus25.org.