



Agriculture and Local Adaptation to Climate Change in the MENA

Policy Issue

Middle East and North African agricultural sectors are working hard and struggling to adapt to the intensity of climate change. Farmers are forced to reduce the negative impact of climate change with limited government support, while finding new opportunities to maintain livelihoods.

The Context

Soaring temperatures and extremely dry conditions make the MENA region one of the most vulnerable to climate change. While these societies have faced rising heat and water scarcity for thousands of years, experts predict that the region will experience more intense droughts and coastal flooding in the coming years.

Alternative Policy Solutions (APS) at the American University in Cairo and the Governance and Local Development Institute (GLD) at the University of Gothenburg recently held a Policy Roundtable that brought together experts to discuss the various ways climate change is affecting everyday life and livelihoods. Participants included **Yahia Gumaa** from the Institute of Environmental Studies at the University of Khartoum (Sudan), **Mohamed Salih Dafalla** from the Faculty of Agriculture at the University of Khartoum (Sudan), **Nadim Farajalla** of the Issam Fares Institute for Public Policy and International Affairs at the American University in Beirut (Lebanon), and **Khalifa Al-Zeidi** of the Center for Environmental Studies and Research at Sultan Qaboos University (Oman). They highlighted four important factors in the struggle against climate change.

1. Climate Change is Continental

The fast pace of climate change, largely driven by greenhouse gas emissions from other parts of the world, affects the ability of local communities in MENA to sustain agricultural productivity. Because “agriculture is a climate-dependent activity,” as Gumaa and Dafalla explained, Sudanese farmers are especially susceptible to the high fluctuations in daily temperatures and rainfall, shortened seasons, shifts in agroecological zones, and heavy sandstorms. Lebanon also experiences high temperatures, melting snow, soil erosion, severe rain, and dust storms, all of which affect photosynthesis, fruit quality, and honey making. Meanwhile, Oman experiences tropical cyclones with severe flooding that damages farms.

Farajalla stated simply, “Climate change is wreaking havoc on our agricultural sector,” and more research is needed to understand the links between climate change and agriculture so farmers can adapt and save money in the long run.

2. Adaptation from the Farmer’s Perspective

This perspective calls for a definition of adaptation based on “enabling farmers, the producers of food, to live with whatever changes they will experience in their climate, and to stay productive to achieve a sustainable livelihood,” as Farajalla said. This gives farmers the “ability to produce substantively rather than just subsistence and to enable a decent quality of life and a livelihood that can be transferred to their children.”

Without clear climate policies and investments from the government, farmers confront these challenges on their own through peer-to-peer networks and local knowledge.

3. Local Solutions for Climate Adaptation

“Climate change is a fact. To solve problems, there is a need for research,” Dafalla explained, “There is always a gap between researchers and executive institutions.” According to Gumaa, most policies have been developed in isolation and not integrated between all sectors. MENA countries do not have a holistic natural resource policy to tackle climate change, especially as urban areas are expanding into farming communities, thereby pushing those communities into forests.

Most often, the response is politicized; cash subsidies and cooperatives support followers of politicians instead of the farmers most in need of assistance. In the context of limited resources, climate change can exacerbate underlying conflicts and land insecurity, as is illustrated by the farmer-pastoral conflicts in Sudan and Lebanon’s internal migration struggles. In addition, the politics of climate change on the regional level are skewed to those who produce oil, leaving non-oil-producing countries struggling and powerless. As Al-Zeidi explained, “We don’t have any policy to protect nature and the environment from industry.” Instead, industry and lobbying groups continue to call the shots.

Nonetheless, farmers and local communities face the destruction of climate change on a daily basis. Farajalla explained that while a global adaptation fund based on human rights is needed, there is now “more incentive to look at local challenges and address them locally.”

4. Climate Change Justice

Climate change is severely disrupting societies. In Sudan, it contributes to extensive internal displacement and emigration. Men are forced to cities and mining areas seeking work, leaving women to raise children under difficult circumstances. In Lebanon, climate-induced economic scarcity places pressure on families and communities, contributing to new tensions between host communities and refugee populations. Overcoming these challenges will require an approach blending international experiences, scientific expertise, and local indigenous knowledge. It must place justice at the center, while leveraging a science-society-policy dialogue to determine innovative policies to improve farmers’ adaptive capacity.

Full Policy Roundtable, Recorded via Zoom and published via YouTube, [watch here](#).

About GLD

The Governance and Local Development Institute (GLD) is a research institute based at the University of Gothenburg, originally founded in 2013 at Yale University by Professor Ellen Lust. GLD focuses on the local factors driving governance and development. The institute is dedicated to international collaboration and scientifically rigorous, policy-relevant research in an effort to promote human welfare globally. Findings are made available to the international and domestic communities through academic publications, policy briefs, public presentations, and social media, as well as on-the-ground workshops in cooperation with local partners.



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