WORLD AGRICULTURE FORUM

Webinar Report

The State of Global Agriculture and Food Systems Transformation: Meeting SDG Targets by 2030

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Hosted By: World Agriculture forum

Moderator: Ramona Angelescu Naqvi, COO, WAF

Panellists:
Prof. Rudy Rabbinge– Chair of the Board, World Agriculture Forum
Dr. Maximo Torero- Chief Economist, FAO
Dr. Aditi Mukherji- Director, Climate Change Adaptation and Mitigation Impact Action Platform, CGIAR
Dr. Ibrahim Mayaki- Special Envoy for Food System at African Union and former Prime Minister of Niger

Webinar recording link: www.youtube.com/watch?v=Krz9MXQVFA8&t=567s

WORLD AGRICULTURE FORUM

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Introduction

With only five years remaining to achieve the ambitious 2030 Sustainable Development Goals (SDGs), the stakes have never been higher. The World Agriculture Forum convened global thought leaders to discuss important issues: what policy and governance reforms, technological advances, and financial mechanisms could deliver transformative solutions? And, most importantly, are these ambitions still achievable by 2030?

In the face of rising climatic crises, economic instability, and growing inequality, the dialogue transcended mere discussion—it became an urgent call to action. Speakers discussed new ways for reforming global food systems, improving climate resilience in agriculture, and encouraging international collaboration to address interconnected challenges.

Source: United Nations, Department of Economics and Social Affairs. (2024). The 17 Goals

Webinar Overview

Opening Remarks

Ramona Angelescu Naqvi in her opening remarks, emphasized the critical juncture the world faces, with just five years remaining to achieve the Sustainable Development Goals (SDGs) by 2030. She highlighted that SDG2- Zero Hunger, is deeply tied to agriculture and food systems.

She highlighted that SDG2 – Zero Hunger is deeply tied to agriculture and food systems. However, she also underscored that agriculture and food are interconnected with several other SDGs, including those addressing rural poverty (SDG1), gender equality (SDG5), climate action (SDG13), and good health and well-being (SDG3). While initial progress was made following the adoption of the SDGs in 2015, setbacks have occurred due to compounding shocks, including the COVID-19 pandemic, ongoing conflicts, and climate change. Instead of decreasing, global hunger and food insecurity are on the rise.

Ramona Angelescu set the stage with sobering statistics: In 2023, approximately 733 million people faced hunger, with over 2 billion experiencing moderate to severe food insecurity. More than 3 billion people lacked access to a nutritious diet, and nearly 60% of countries worldwide struggled with moderate to high food prices due to conflicts and supply chain disruptions. Alarmingly, instead of achieving Zero Hunger, hunger levels have increased in 22 countries since 2016. Climate change further exacerbates the crisis, with droughts, floods, and heatwaves worsening food insecurity. Ms Naqvi called for urgent transformation in food systems to make them more sustainable, resilient, and equitable.

"Transforming food systems is not just an ambition—it is essential for a sustainable and equitable future."- Ramona Angelescu Naqvi

Understanding the Crisis

The Current State of Food Insecurity

Dr. Maximo Torero provided an overview of the state of food insecurity, noting that the key drivers of food insecurity include conflict, climate change, and economic crises. The COVID-19 pandemic significantly reversed progress, with projections indicating that by 2030, approximately 581 million people will still be experiencing hunger.

He warned that climate change is surpassing six of nine planetary boundaries, leading to an increase in extreme weather events that threaten food production. To counter these challenges, he stressed the need for resilient, efficient, and inclusive food systems. Despite the urgency of the issue, climate finance remains disproportionately low for agriculture, with only 3-4% of climate funding allocated to the sector. Dr Torero called for greater investment in agricultural resilience to mitigate the effects of climate change on global food security.

Climate change is surpassing six of nine planetary boundaries, threatening food production worldwide." -Dr Maximo Torero

Climate Change & Agriculture: A Double-Edged Sword

Dr. Aditi Mukherji highlighted the agricultural sector's paradox: it is both a major contributor to climate change and a victim of its devastating consequences. She stressed the alarming reality that the 1.5°C global warming threshold has already been breached for an entire year. Instead of reducing emissions, global rates have increased by 1-2% annually. The agricultural sector is a major contributor to climate change, responsible for 33% of global greenhouse gas emissions. Unlike sectors such as energy and transportation, agriculture lacks cost-effective, low-emission technologies, making mitigation efforts more complex.

Dr Mukherji pointed out that smallholder farmers are disproportionately affected by climate change due to heatwaves, extreme weather, and soil degradation. To

address these issues, she advocated for greater investment in low-emission agricultural practices that do not compromise productivity. Without such investments, food production will remain vulnerable to climate change while continuing to contribute significantly to greenhouse gas emissions.

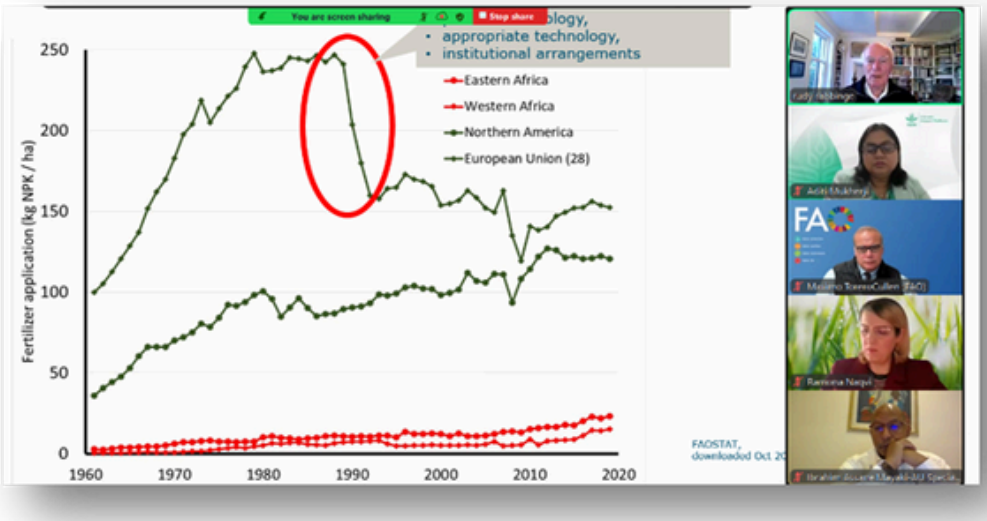
"Without investment in low-emission agricultural practices, food production will remain vulnerable to climate change."- Dr Aditi Mukherji

Productivity Gaps and Regional Disparities

Prof. Rudy Rabbinge provided an insight about what's happening in the agriculture today, indicating six mega trends. He gave the historical perspective on agricultural productivity, contrasting that while productivity has increased significantly in regions such as the United States and Europe—rising from 800 kg/ha to 9,000 kg/ha—Africa has not experienced a similar Green Revolution. Unlike Asia and the West, the continent has struggled to achieve large-scale agricultural transformation. Despite the availability of high-yield, low-environmental-impact farming methods, progress has been hindered by inadequate policy support. Prof. Rudy stressed that Africa's agricultural policies must prioritize science-driven solutions and improve access to modern technologies for farmers to enhance productivity while minimizing environmental impact.

Sustainable progress hinges on political commitment and financial support—both remain inadequate in many regions."Prof. Rudy Rabbinge

"Africa's agricultural transformation lags behind due to inadequate policy support, despite the availability of high-yield, low-impact farming methods." - Prof. Rudy Rabbinge



Challenges in Africa

Dr. Ibrahim Mayaki highlighted key challenges in Africa's agricultural sector, emphasizing the fragmented implementation of SDGs, rapid population growth, urbanization, climate adaptation, and inadequate financing. He added that while some progress has been made in land and labor productivity, food systems struggle to keep pace with demographic shifts. Urbanization is outpacing policy responses, and climate adaptation remains underfunded at the farmer level. He stressed the need for better governance and regional cooperation, ensuring policies and scientific advancements are accelerated effectively. Without a focus on acceleration, Africa's agricultural transformation will remain slow and insufficient to meet future demands.

Africa's agricultural transformation will remain slow unless regional cooperation accelerates."-Dr. Ibrahim Mayaki

The Path Forward

Dr. Mukherjee emphasized that agriculture is both a victim and a cause of climate change, requiring urgent action to transition toward low-emission practices. She highlighted that while past investments have prioritized productivity, they have not always been aligned with low-emission goals. Moving forward, she stressed the necessity of increased research and development to make low-emission technologies more accessible and cost-effective, particularly for smallholder farmers. She pointed out that such technologies must balance environmental sustainability with resilience, productivity, and income stability to ensure widespread adoption. Additionally, she underscored the need for social protection mechanisms during the transition, as many farmers would require financial and structural support to adapt to these changes.

Prof. Rudy Rabbinge acknowledged that agricultural challenges vary significantly across regions, making it essential to tailor solutions accordingly. While sophisticated techniques in Western Europe enhance productivity with minimal environmental degradation, similar advancements have yet to reach regions like sub-Saharan Africa, attributing it to the lack of appropriate technology, scientific development, financial resources, and political will. He called for leapfrogging to modern, regionally appropriate technologies and emphasized that sustainable progress hinges on political commitment and financial support, both of which remain inadequate in many parts of Africa and South Asia.

"We cannot choose between productivity and sustainability—agriculture must embrace both to secure our future." -Dr Aditi Mukherjee

Dr. Ibrahim Mayaki discussed the shifting global dynamics in agricultural cooperation. While South-South partnerships are expanding, he expressed concern that broader multilateral efforts are weakening.

He stressed that financing must extend beyond agriculture to encompass entire agri-food systems, noting that small-scale farmers currently bear most of the financial burden. Rather than relying solely on government funding—which remains stagnant—he advocated for a new paradigm where governments create enabling environments that attract private sector investment and small and medium enterprises into the food system. Additionally, he emphasized the need for science and technology to be accessible and practical for smallholder farmers, ensuring they can improve productivity effectively. He concluded by highlighting the importance of regional cooperation in Africa, where fragmented national efforts must be replaced by integrated regional food baskets, infrastructure investments, and trade facilitation to drive meaningful change.

"Financing must go beyond agriculture—it must support entire agri-food systems to drive real change." - Dr. Ibrahim Mayaki

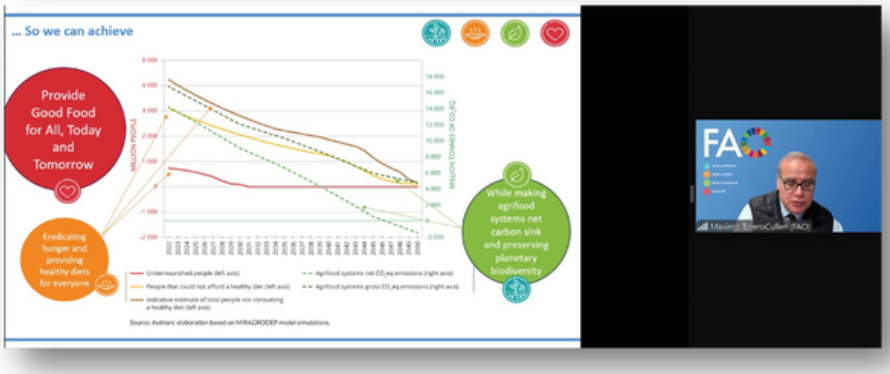
Dr. Maximo Torero highlighted the complex challenges posed by climate change, emphasizing that its effects go beyond extreme temperatures, excess precipitation, and water scarcity. The increasing variability in climate indicators makes it difficult for farmers to make well-informed decisions, further complicating agricultural planning and productivity. Additionally, he pointed out the growing phenomenon of species migration—both plant and animal—along with human displacement due to environmental stress, further straining global food systems.

He stressed the urgent need for a significant transformation in agricultural productivity, particularly in low-income countries, as the current trajectory remains inadequate to combat hunger effectively. However, many sub-Saharan African nations face severe financial distress, limiting their ability to allocate substantial portions of their GDP toward necessary agricultural investments. Furthermore, he highlighted that technology markets are highly concentrated, making it difficult for developing regions to access and adopt innovative agricultural solutions.

Dr. Torero also underscored the critical role of climate financing in supporting agricultural sustainability. Despite agriculture's vulnerability to climate change, it receives only 3-4% of total climate financing, which is insufficient to drive meaningful improvements. In contrast, the energy sector has attracted significant investments and policy reforms, leaving agriculture comparatively neglected, despite its vast potential for efficiency gains and sustainability advancements.

The increasing variability in climate indicators makes it difficult for farmers to make well-informed decisions, further complicating agricultural planning and productivity. -Dr Maximo Torero

"Despite its vulnerability, agriculture receives only 3-4% of climate finance—this must change."- Dr Maximo Torero



Addressing Key Issues- Q&A Highlights

FAO's Strategy to Address Agricultural Challenges

Dr. Maximo Torero outlined the organization's efforts to enhance global food security by focusing on two major areas: increasing resilience and improving efficiency in food systems. To strengthen resilience, FAO is developing strategies to help vulnerable countries prepare for climate-related shocks. Anticipatory action is crucial, as every dollar spent in early response can save seven dollars in later emergency interventions. To support smallholder farmers, FAO is partnering with reinsurance companies to provide financial protection mechanisms. Additionally, key priority is the development of a taxonomy of food insecurity, mapping the most vulnerable regions based on micronutrient availability and climate vulnerability.

"Every dollar spent on early response to climate shocks can save seven dollars in later interventions." - Dr Maximo Torero

In terms of efficiency, FAO promotes sustainable intensification of agriculture through improved governance, data utilization, and investment coordination. The `Hand-in-Hand Initiative' aims to boost agricultural productivity in 75 countries using precision farming techniques. Despite Africa's predominantly organic agricultural practices, the region lacks soil mapping and tailored solutions, which FAO is addressing through regional investment programs. To bridge the financial gap in agriculture, FAO is collaborating with private sector investors and international financial institutions to de-risk agricultural investments. Moreover, the organization is working closely with governments to enhance policy coordination, ensuring that agricultural transformation aligns with climate goals.

Strengthening the Multilateral System for Food Security

Dr. Ibrahim Mayaki emphasized the need to strengthen the multilateral system to effectively implement the Sustainable Development Goals (SDGs). The recently adopted Kampala Declaration by the African Union aligns with FAO's priorities for food security and climate resilience. However, systemic governance challenges persist, as governments often operate in silos, hindering effective collaboration. A major issue in Africa is land governance, where non-transparent agreements result in land grabs and displacement. Strengthening land ownership policies is essential for ensuring food sovereignty.

"Land governance is a critical challenge—non-transparent agreements continue to displace communities and threaten food sovereignty."- Dr Ibrahim Mayaki

Furthermore, climate finance must be more accessible to African nations to support sustainable agriculture. Trade, infrastructure, and digital connectivity improvements are also critical for agricultural productivity. Additionally, decentralizing power is necessary to empower local communities and smallholder farmers, enabling them to participate in decision-making processes.

Research, Innovation, and Climate-Smart Agriculture in CGIAR

Dr. Aditi Mukherji emphasized CGIAR's commitment to integrating resilience building, adaptation, and low-emission strategies with mitigation efforts in agriculture. Dr. Mukherji outlined five key pathways guiding CGIAR's approach:

1.Developing technologies for low-emission, climate-resilient food systems
2.Minimizing excessive fertilizer use, food loss, and waste
3.Enhancing agricultural productivity through genetic innovations and advanced farm-level technologies
4.Promoting agroecological approaches and sustainable intensification
5.Addressing emissions while building resilience to climate shocks.

Using drought as an example, she described CGIAR's end-to-end approach, which includes early warning systems before droughts occur, drought-resilient seeds and improved water management, and drought insurance and policy advocacy post-drought. She stressed that this proactive approach builds long-term resilience.

"A just transition framework is essential for integrating adaptation and mitigation in agriculture." – Dr Aditi Mukherji

Scaling Up Agricultural Success Stories

Dr. Maximo Torero stressed that while many small-scale agricultural interventions have proven successful, scaling them up remains a challenge. For example, South Sudan has the ideal climate for rice production but lacks the necessary technology and investment. Through FAO's 'Hand-in-Hand Initiative,' high-yield rice varieties and sustainable farming techniques have been introduced, with support from the African Development Bank to expand the initiative. Similarly, in Central America's Dry Corridor, FAO has conducted soil analyses and water management studies to determine the best crops for climate resilience, leading to regional-scale interventions that address food insecurity and water scarcity.

Small Island Developing States (SIDS), particularly in the Pacific and Caribbean, face extreme dependence on food imports and climate vulnerabilities. FAO is working with these nations to enhance regional self-sufficiency through local crop production and fisheries. In Africa, the organization is implementing regional agricultural initiatives in West Africa (boosting grain and livestock production), Eastern Africa (expanding irrigation and high-yield crops), and the Sahel Region (addressing desertification and food security). However, coordination failures among international organizations remain a significant challenge to scaling up efforts effectively.

"Scaling up successful agricultural interventions is challenging—technology, investment, and coordination must align to drive impact."- Dr Maximo Torero

Governance and Finance in Agriculture

Dr. Ibrahim Mayaki identified weak governance as one of the most significant obstacles to food security in Africa. Agricultural governance is often fragmented across different ministries, leading to inefficiencies and poor coordination. For example, some governments invest in agriculture without considering climate resilience, resulting in wasted resources. A systemic, inter-ministerial approach is needed to align agricultural and climate policies.

Climate finance is crucial, yet many African nations struggle to access it due to limited negotiation capacity. Land grabbing further exacerbates the issue, as large portions of African land are sold under non-transparent conditions. Improving infrastructure and trade is essential for agricultural productivity, requiring investments in transportation, storage, digital tools, and decentralized energy solutions. Additionally, shifting power dynamics to prioritize smallholder farmers over large agribusinesses is necessary for sustainable agricultural development.

Policy Coherence and Agricultural Transformation

Dr. Aditi Mukherji highlighted the need for policy coherence between agriculture and climate action. While many successful pilot projects exist, they often remain isolated rather than scaled up. Bridging the research-to-policy gap is critical, as scientific evidence should directly inform policy frameworks. However, many governments continue to subsidize unsustainable agricultural practices, making it difficult to transition to low-emission food systems.

Agricultural subsidies must be redirected toward sustainable practices, including regenerative agriculture, precision farming, and soil health investments. A just transition for farmers requires clear financial mechanisms, such as climate adaptation. funds, crop insurance, and reward systems for sustainable land management. Science must drive policy, and policy must enable action to create meaningful agricultural transformations.

Agricultural subsidies must be redirected toward sustainable practices, including regenerative agriculture, precision farming, and soil health investments. -Dr Aditi Mukherji

Soil Health and Sustainable Intensification

Prof. Rudy Rabbinge emphasized that soil health is central to agricultural sustainability and climate resilience. In some regions, excessive fertilizer use has degraded soil, while in others, insufficient fertilizer application has resulted in poor yields. Sustainable intensification—combining organic and conventional practices—offers a balanced solution. This includes targeted fertilizer applications, crop rotation, cover cropping, and organic matter management. Governments must focus on farmer education and training rather than imposing blanket bans or subsidies. Without urgent investment in soil health, food insecurity will continue to rise.

"Without urgent investment in soil health, food insecurity will continue to rise"- Prof. Rudy Rabbinge

Country-Driven Agricultural Transformations

Dr. Maximo Torero concluded that agricultural transformation must be country-driven, with external support playing a supplementary role. Successful cases, such as Ethiopia's Agricultural Transformation Agency (ATA), demonstrate that coordinated policies, governance reforms, and strategic investments can significantly improve food security. Countries must develop tailored solutions rather than rely on one-size-fits-all approaches to achieve sustainable agricultural growth and climate resilience. *Without country-led policies, strong governance, and strategic investment, achieving food security and climate resilience will remain an uphill battle.*

Final Reflections from the Panel

Prof. Rudy Rabbinge emphasized that agricultural transformation requires a holistic approach. It is not just about scientific advancements but ensuring they create real impact. He highlighted the importance of youth engagement in agriculture, the role of both public and private sector financing, and, most critically, the necessity of strong political will and the right attitude to drive meaningful change where it is urgently needed.

Dr. Ibrahim Mayaki stressed the urgency of adopting simple yet radical changes to achieve food security and climate resilience. He highlighted the importance of FAO's leadership in the multilateral system, ensuring that agriculture, climate, fisheries, land use, and the blue economy are integrated into a unified strategy. A coordinated ecosystem of support at both national and regional levels is essential for sustainable transformation.

Dr. Aditi Mukherji outlined three key pillars for a just transition in the agrifood system: investment in research and innovation to develop low-emission agricultural technologies, financial support for farmers adopting sustainable practices, and policy coherence to phase out high-emission farming. She emphasized that justice and equity must be at the heart of this transition, as smallholder farmers—despite contributing the least to climate change—are among the most affected. The agrifood system debate, she stressed, must prioritize fairness.

Dr. Maximo Torero highlighted four fundamental aspects for the future of food systems. First, urgency: Climate change is a global issue requiring solutions that promote equity and redistribution. Second, efficiency through data and science: Leveraging research and technology is crucial, but countries also need to build human capital to absorb these advancements. Third, financing: Expanding access to climate finance for smallholder farmers and emerging economies is essential. Finally, a long-term perspective: Governments must look beyond short-term fixes and consider the future sustainability of food systems.

Closing remarks

Ramona Angelescu Naqvi reaffirmed the World Agriculture Forum's commitment to fostering cross-sectoral dialogue and action. As the clock ticks toward 2030, the insights from this discussion will shape policies and initiatives aimed at building a more resilient and sustainable global food system.

Key Takeaways

Actions Needed to Achieve SDG Targets in 5 Years

Climate-Resilient Agriculture

- Invest in climate-smart, low-emission farming.
- Scale up drought-resistant crops, efficient irrigation, and soil restoration.
- Expand early warning systems for climate shocks.

Boost Agricultural Finance

- Increase agriculture's share of climate finance to 10%.
- De-risk private investment with incentives and insurance.
- Strengthen public-private partnerships for funding.

Policy Reforms for Sustainability

- Redirect subsidies to sustainable farming.
- Improve land governance to prevent land grabs.
- Align agricultural policies with climate and trade goals.

Strengthen Regional & Global Cooperation

- Develop regional food baskets for better distribution.
- Expand South-South cooperation on agricultural technology.
- Strengthen multilateral food security policies.

Leverage Science & Technology

- Promote precision farming, AI, and regenerative agriculture.
- Scale up soil mapping to optimize fertilizer use.
- Make low-emission technologies accessible to small farmers.

Ensure a Just Transition for Farmers

- Provide social protection for those adopting sustainable practices.
- Train rural populations in modern farming techniques.
- Engage youth in agriculture through innovation and incentives.

Strengthen Food Governance

- Establish accountability to track SDG progress.
- Use data-driven policymaking for better decisions.
- Align national strategies with long-term sustainability goals.

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