

# UN Food Systems Summit +4 Stocktake

## SIDE EVENT REPORT

### Tailoring Science, Technology, and Innovation to Local Contexts while Advancing Global Agendas: Lessons from Multi-Country, Cross-Sectoral Approaches to Agri-Food Systems Transformation

27 July 2025 | 14:00 - 15:15



#### Organizers and partners:

- Japan International Research Center for Agricultural Sciences (JIRCAS)
- Ethiopia Institute of Agricultural Research (EIAR)
- Japan's Ministry of Agriculture, Forestry and Fisheries (MAFF)
- World Agriculture Forum
- Food and Agriculture Organization of the United Nations (FAO)
- Ajinomoto Co., Inc.
- Greenin Inc.
- The Vietnam Gardening Association (VGA)
- Uganda's Ministry of Water and Environment (MWE)

#### Side event overview (50-100 words):

Building on the 2021 UNFSS momentum, countries have committed to accelerating the transformation of agri-food systems to be more sustainable, inclusive, and resilient. Nations such as, Japan, Ethiopia, Uganda and Vietnam, have emphasized the critical role of Science, Technology, and Innovation, while acknowledging that there are “no-one-size-fits-all” approaches. Despite the significant differences in biophysical and socio-economic contexts, both Asia and Africa share a common characteristic: the predominance of small-scale producers. This multi-stakeholder event will showcase experience of applying knowledge-based tools tailored to local contexts and designed to support decisions to achieve global climate, food security, and land degradation neutrality targets.

## List of speakers and key messages

NAME AND TITLE OF SPEAKER	KEY MESSAGES OR/AND RESPONSES TO QUESTIONS
<p><b>1. Mr. Osamu Kubota</b> Deputy Assistant Minister, Export and International Affairs Bureau, MAFF</p>	<p>Mr. Kubota stated that Japan's food system faces many challenges, but that climate change response and biodiversity conservation are among one of the most pressing issues, and that the MAFF has been focusing considerable effort on these areas in recent years. Furthermore, Mr. Kubota emphasized that transforming the agricultural food system in these areas requires to achieve both productivity growth and sustainability, and that leveraging the expertise of the private sector is essential to achieving this. Mr. Kubota also emphasized that there is no one-size-fits-all solution and that it is necessary to adjust science, technology, and innovation to suit regional circumstances. As specific examples, he introduced initiatives that Japan has recently developed domestically and internationally, such as the MIDORI Strategy, the ASEAN-Japan MIDORI Cooperation Plan, Global MIDORI Cooperation Plan and the Joint Crediting Mechanism (JCM).</p>
<p><b>2. Professor Nigussie Dechassa</b> Director General, EIAR</p>	<p>In welcoming the participants and audience, Prof. Nigussie referred to Ethiopia's agricultural sector context - dominated by rain-fed smallholder producers, and elaborated the Ethiopian Green Legacy Initiative, as an indigenous approach to tackling global issue, to reverse deforestation and environmental degradation and enhance resilience of agrifood systems through climate smart agriculture. At the same time, he encouraged the participants to do knowledge sharing exercise, particularly how to sensibly apply systemic approaches to customize scalable technologies to local contexts and to identify and overcome barriers of adoption.</p>
<p><b>3. Dr. Jacqueline Hughes</b> <b>Moderator</b> Secretary General, World Agriculture Forum; Advisory Board Member, the International Scientific Advisory Board for Strategy "MIDORI"</p>	<p>Dr. Hughes moderated the panel session, in which the panellists shared their experiences with their respective organizations' activities, including background, motivation, approaches and tools, achievements to date, and challenges, to achieve the following:</p> <ul style="list-style-type: none"> <li>➤ Share experiences from multi-country initiatives;</li> <li>➤ Determine necessary conditions to foster enabling environments, political will and inclusive governance; and</li> </ul>

	<p>➤ Explore opportunities for multi-country, cross-sectoral and multi-stakeholder partnerships to advance agri-food transformation</p>
<p><b>4. Dr. Yasuro Funaki</b> Director of Social Sciences Division, Project Leader of Green Asia, JIRCAS</p>	<p>Dr. Funaki showcased the application of agricultural technologies in the Asia-Monsoon region. Aligned with Japan’s “MIDORI” Strategy for sustainable food systems, JIRCAS leads the “<a href="#">Green Asia</a>” project to boost production potential and build sustainable food systems. By leveraging technologies developed in Japan and through international partnerships, the project accelerates the application of scalable solutions suited to the region’s shared characteristics—high temperature and humidity, rice-based farming, and a prevalence of smallholder farmers. A dedicated <a href="#">Technology Catalog</a> has been developed, and promising technologies are now undergoing field trials.</p>
<p><b>5. Ms. Gaia Stopponi/ Ms Serena Fortuna</b> Environment and Climate Change Fellow, FAO Ethiopia, on behalf of Ms. Serena Fortuna, Team Leader and Senior Forestry Officer, Halting Deforestation, Degradation, and Emissions Team, FAO Forestry Division</p>	<p>Ms. Stopponi, on behalf of FAO’s Halting Deforestation, Degradation and Emissions Team Leader Serena Fortuna, shared experiences from FAO’s work through the UN-REDD Programme and other initiatives to scale cross-sectoral solutions for decoupling agricultural production from deforestation. She presented two key tools FAO has developed: the Solutions-tree, an evidence-based framework mapping drivers to actionable solutions with participatory prioritization, and the Public Expenditure Analysis, to align investments across sectors for sustainable land use. She emphasized the need for integrated, forest-positive approaches that protect natural capital, boost productivity, and strengthen resilience.</p>
<p><b>6. Mr. Bob Kazungu</b> Assistant Commissioner for Forestry, Assessment &amp; Monitoring and National REDD+ Focal Point for Uganda</p>	<p>Mr. Kazungu, presented Uganda’s experience of public expenditure review ongoing, that includes both forestry and agriculture sector. There is need for significant financing for the forestry sector to halt deforestation, restore degraded land, and expand sustainable forest use. Uganda is collaborating with FAO to conduct a public expenditure analysis on forestry and agriculture starting in 2023. The review shows that funding for forest protection, restoration, and sustainable management is limited, while subsidies for crops and livestock are substantial. The exercise revealed that allocating just 3-5% of these subsidies to forestry-positive targets could have a significant impact on forest and sustainable food system transformation.</p>

<p><b>7. Dr. Kaori Ono</b> Executive Officer in charge of Sustainability, Ajinomoto</p>	<p>Dr. Ono presented Ajinomoto’s major climate change initiatives, focusing on sustainable agriculture and livestock solutions. In Thailand, the “Thai Farmer Better Life Partner Project” aims to improve cassava productivity and sustainability through training in soil diagnostics, virus-free seedlings, soil and pest management, and climate adaptation. These efforts have led to a 30% productivity increase, reduced reliance on chemical fertilizers, and lower GHG emissions. A similar project in Vietnam has doubled yields and tripled farmer income. In livestock, Ajinomoto co. is developing feed-use amino acids to enhance protein efficiency and reduce methane emissions. To scale these initiatives, supportive frameworks, policies, incentives, and funding are essential to help farmers invest in innovation. Collaboration with international organizations is crucial to establish common metrics for measuring impact and delivering effective incentives.</p>
<p><b>8. Dr. Tadele Mamo</b> Director, Agricultural Economics Directorate, EIAR  <b>Mr. Junichi Hanai</b> CPO, Greenin Inc.</p>	<p>In a public–private partnership pilot project in Ethiopia, Dr. Mamo presented research using Greenin Inc. 's AI-powered DSS “e-kakashi.” The system predicts rice harvest timing from Growing Degree Days (GDD) using IoT sensors and weather forecasts. For the X-Jigna variety, GDD-based harvest (2,665°C after sowing) yielded 11% more than the conventional 139-day method. Satellite analysis showed 97–98% of harvests in Fogera were delayed, with potential yield gains of 31,465 tons. Mr. Hanai emphasized two needs: (1) sharing harvest timing info via SMS, and (2) securing youth harvest teams.</p>
<p><b>9. Dr. Nguyen Thi Thanh Thuy</b> Head of the International Cooperation Division, VGA</p>	<p>Agriculture faces climate and resource challenges but holds strong potential for transformation. By mobilizing experts, professional associations, farmer networks, and cooperatives, we advance sustainable and diversified farming systems. Bridging innovation with local knowledge and digital tools enables low-emission, climate-smart, and scalable solutions. Inclusive approaches empower women, youth, and communities, turning local innovation into global impact for resilient, equitable, and sustainable agriculture.</p>

*Optional: Interventions from the floor*

SPEAKER	QUESTION OR KEY POINT OF INTERVENTION
1. Mr. Kazungu/MWE	The Moderator asked Mr. Kazungu of Uganda for his views on forests and forest products, which are crucial to global sustainability but are often overlooked in policy discussions and land-use planning. In response, he spoke about the need for collaboration between government ministries in the fields of agriculture, forestry, and energy, and the importance of establishing a platform for this purpose.
2. Ms. Gaia/FAO	Asked by the Moderator how reducing deforestation can contribute to a more resilient food system, Ms Gaia of FAO highlighted the following points, reduced deforestation helps stabilizing ecosystems, reducing climate risks, preserving essential ecosystem services that underpin agricultural production, supporting long-term productivity and helping to maintain healthy soil and water cycles, which will contribute to more resilient and sustainable agrifood systems.
3. Dr. Ono/Ajinomoto	The Moderator raised a case that humans are omnivorous, and a balanced diet is important, while alternative meat made from legumes can be important for vegans. Then she asked Dr. Ono for Ajinomoto's stance to animal-based food. In response, Dr. Ono stated that diet solely dependent on legume protein can result in deficiencies in some essential amino acids, while over-reliance on animal-based meat creates an environmental concern due to its significant contribution to GHG emissions. Provided this trade-offs, Dr. Ono stressed the rationale for Ajinomoto to invest in climate smart sustainable livestock solution.
4. Dr. Funaki/JIRCAS	The Moderator asked Dr. Funaki about the potential to scale up Japanese agricultural technologies to the wider Global South in the future. He responded that the reason for expanding Japanese agricultural technology to the Asian monsoon region is that there are common agricultural features, such as hot and humid climates and the dominance of smallholders. Provided that, he emphasized the need of sensible approaches in scaling up of Japanese agricultural technologies to other regions, by first evaluating local contexts where technologies are to be introduced, especially the similarity of biophysical and socio-economic conditions.
5. Mr. Hanai/Greein	Asked by a scientist from Ethiopia Agricultural Transformation Institute (ATI) Mr. Hanai of Greein suggested that IoT sensors

	<p>(e-kakashi) can not only be applied to large-scale rice farming and customized for other crops such as wheat, potato, and corn. He further indicated the possibility of the technology to be integrated into Ethiopia's existing agricultural research and extension system, combining IoT sensing and satellite image analysis to cover a wide area.</p>
6. Mr. Kubota/MAFF	<p>An official from the Australian Department of Agriculture, Fisheries and Forestry asked Mr. Kubota/the Ministry of Agriculture, Forestry and Fisheries about feedback from consumers and other stakeholders regarding the MIDORI strategy, particularly regarding “visualization,” and also inquired about the existence of a global expansion plan. Mr. Kubota explained that the system is not based on a legal framework and is still in the trial stage and also stated that the response from stakeholders has been generally positive so far.</p>
7. Dr. Ono/Ajinomoto	<p>A representative of Joint FAO/IAEA Centre of Nuclear Techniques asked Dr. Ono/Ajinomoto about private sector’s challenges and expectation in working with international organizations, especially when working with member states and farmers with fewer resources. Dr. Ono answered as following. When collaborating with international organizations—especially in resource-constrained member countries and with smallholder farmers—several key challenges arise. One major issue is achieving a shared understanding of complex social and environmental problems, such as climate impact, which may not be immediately recognized or prioritized by local stakeholders. Additionally, farmers often face significant barriers to investing in sustainable practices due to high upfront costs and limited access to capital. To address these challenges, it is essential to establish incentive frameworks that encourage the adoption of improved agricultural methods. International organizations play a critical role in this process by facilitating cooperation, providing technical and financial support, and helping to develop standardized measurement tools. These tools are vital for assessing the effectiveness of interventions and ensuring that incentives are distributed fairly and transparently across regions and communities.</p>
8. Dr. Thuy/VGA	<p>Dr. Thuy, appreciating the question from an expert of UN Gender Initiative, shared the VGA experience on gender considerations that are central to advancing sustainable and</p>

	<p>diversified agriculture. Mobilizing experts, associations, and cooperatives ensures inclusive participation, empowering women, youth, and local communities. Strengthening women's roles is essential for resilient, equitable, and climate-smart agricultural systems. Similar dynamics exist in many regions, including Africa, where women constitute the majority of agricultural labor. For example, in Vietnam, women play key roles in farming, household gardening management, supported by the Women's Union from central to local levels and collaborate with agricultural extension organizations to transfer technology and knowledge, connecting them to broader development activities.</p>
9. Mr. Hanai/Green	<p>There was a question from an officer of Science Technology Department from the Philippines to Mr. Hanai/Green on their strategy to ensure the adoption of new technologies by farmers with existing practices. Mr. Hanai suggested that climate change is a major opportunity for traditional farmers to adopt new technologies, as they can no longer rely on old experience. Farmers make decisions, and DSS can help them make better decisions under climate change. If farmers can see the cost-effectiveness and profitability of adopting new technologies, they will be more likely to adopt them.</p>
10. Professor Nigussie Dechassa/EIAR	<p>The Moderator requested Prof Dechessa to give his thoughts on the direction of the panel discussion and the proposed ways forward for sustainable agrifood systems.</p>

#### Overall session summary, conclusions and recommended actions (max 300 words)

This event brought together a gender-balanced team of the speakers from Asia and Africa, representing diverse sectors. The speakers also reflected a wide range of institutional affiliations - national agricultural research institutions, government ministries, international organizations, private companies, and NGOs. This diversity created a valuable opportunity for the panel participants to share practical experiences in applying knowledge-based tools across various contexts. It also provided lessons on how to apply systemic approaches effectively to the transformation of agri-food systems.

The audience also represented stakeholders from a wide range of sectors, including researchers from international agricultural research, officers from government ministries, UN initiatives, and NGOs, who were actively engaged in the Q&A with the speakers/panellists to

learn more about on-ground experiences to derive lessons for application to their own contexts.

The participants witnessed the synergies from the multi-stakeholder representation presenting diverse on-ground experiences in utilizing knowledge-based tools in different contexts to address global agendas, with the interactive discussion excellently facilitated by the Moderator. As Prof. Dechassa of EIAR reflected, the exchange of lessons learned gave the participants hope, for, despite differences in each context and no-one-size-fits-all rules, the participants were certain that partners were envisioning a common vision for the future with sustainable and resilient agrifood systems.

Recalling, thanks to the selection criteria for UNFSS+4 Side Events, the CN development process had become a 'Connecting the Dots' experience for this Side-Event team, as the organizers were reaching out to our existing partners in the research and public sectors, while also being introduced to new partners in the private sector and the UN. So, this Side Event offered not only a Science Policy interface, but a forum for public-private multi-stakeholder dialogues at the important stocktaking moment. We sincerely acknowledge UNFSS+4 Side-Event team to enable this to happen.

Side-Event information is archived on the following link:

<https://www.jircas.go.jp/en/event/2025/e20250727>