

## CONCEPT NOTE

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Panel discussion

# Smart mechanization for shifting agricultural demographics

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Friday, 24 April 2026 (12:30–13:45 hours, UTC+7)  
Meeting Room A, UNCC, Bangkok



### Integrating new technologies into agricultural mechanization to address the changing demographics of the agriculture workforce

The agriculture sector remains the backbone of several economies in the Asia-Pacific region employing a large sector of the population. However, agricultural labor shortages across the region are intensifying due to long-term structural shifts, including youth outmigration and rural ageing, with the average age of farmers steadily increasing beyond 50 in several countries, and even surpassing 65 in some cases. The region's response has increasingly focused on mechanization as a way to sustain productivity, reduce costs, and modernize farming systems. Mechanization demonstrably improves agricultural productivity and cost-efficiency more than other tested factors such as farmland transfer and socialized services. The more recent inclusion of digital technologies in agricultural machinery and equipment, or in overall farming management (smart farming), has the potential to further improve these benefits with the additional potential of attracting youth into the sector. Emerging technologies such as drones, robotics, autonomous tractors, and IoT-based irrigation systems are being promoted to automate tasks and enhance precision. These innovations support data-driven decision-making, crop health monitoring, and resource optimization. However, ownership of agricultural machinery and more advanced technology is often unrealistic for smallholders due to high capital costs, fragmented plots, and limited operator skills. As a result, custom hiring has emerged as a dominant model across the region, with

some countries establishing thousands of custom hiring centres that allow small and marginal farmers to rent equipment as needed. These centres increasingly integrate AI and IoT technologies to predict demand and monitor equipment health, improving service reliability, and can help bridge gaps in digital literacy across age groups and genders. The event, event, co-organized by the Rural Development Administration of the Republic of Korea and the ESCAP Centre for Sustainable Agricultural Mechanization (CSAM), will give voice to a diverse panel (representing policymakers, researchers, farmers, private sector) to look at what is being done in the region to promote and improve the integration of new technologies into mechanization policies, and how these can promote inclusive, service-oriented access to new solutions, improve the working conditions and productivity of elderly and women farmers, while attracting youth to the agriculture sector.

## Programme

Time	Agenda
12:30-12:45	<p><b>OPENING SESSION</b></p> <p>Opening remarks by <b>Mr. Nam Hyuk Kim</b> Permanent Representative of the Republic of Korea to ESCAP</p> <p>Opening remarks by <b>Ms. Armida Salsiah Alisjahbana</b> Under-Secretary-General of the United Nations and Executive Secretary of ESCAP</p> <p>Video message from <b>Dr. Seungdon Lee</b> Administrator of the Rural Development Administration of the Republic of Korea</p>
12:45-13:40	<p><b>PANEL DISCUSSION</b></p> <p>Moderated by <b>Dr. Yutong Li</b> Head, ESCAP Centre for Sustainable Agricultural Mechanization (CSAM)</p> <p><b>Dr. Byounggap Kim</b> Senior Researcher, National Institute of Agricultural Sciences Rural Development Administration of the Republic of Korea</p> <p><b>Prof. Zhenbo Li</b> Deputy Dean, College of Information and Electrical Engineering China Agricultural University</p> <p><b>Prof. Dr. Hasan Silleli</b> Ankara University and Chair of the OECD Subworking Group on Agricultural Robots</p> <p><b>Prof. Rafis Abazov</b> Vice Rector, Kazakh National Agrarian Research University</p> <p><b>Ms. Katharina Staske</b> Managing Director, DLG Asia-Pacific</p> <p><b>Ms. Irish Baguilat</b> Coordinator, Women Farmers and Sustainable Agriculture Agenda, Asian Farmers Association</p>

To register for this side event, please use <https://forms.cloud.microsoft/e/2hv3SsUa47>  
To attend the side event in-person, all registrants must also register on Indico to attend the Commission by 12 April using the link: <https://indico.un.org/event/1021067/>

## Virtual meeting through Microsoft Teams at the link below:

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**Online registration here or via QR code**

For information, please contact:

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