



Concept Note

ReCAMA Workshop on Smart and Sustainable Agricultural Mechanization

Friday, 27 May 2022

15:00-17:00 Beijing Time / 14:00-16:00 Bangkok Time

I. Background

Over the past two years, the COVID-19 pandemic has undermined in many aspects the progress achieved towards attainment of the Sustainable Development Goals (SDGs). The latest edition of the *Asia and the Pacific SDG Progress Report*¹ published by the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) shows that the pandemic and other key challenges, including climate change, are pushing the SDGs further out of reach of the Asia-Pacific region. At this rate, the region is only expected to achieve the 17 Sustainable Development Goals by 2065 – three-and-a-half decades behind the original goalpost. Concerted action is urgently needed in this ‘Decade of Action’.

SDG 2 aims at ending hunger, achieving food security along with improved nutrition, and promoting sustainable agriculture. As recognized at the United Nations Food Systems Summit held in 2021, food systems are a key component in achieving global sustainable development, and all other SDGs rely to some degree on healthier, more sustainable and equitable food systems. However, today agriculture and food systems are facing multiple challenges, including how to feed a growing population, reduce rural poverty, tackle the adverse impacts of climate change and sustainably manage ecosystem goods and services. Gender inequity in the agricultural sector is another key challenge with the above-mentioned ESCAP report underscoring the impact of the intersection of poverty and climate change on the livelihoods of women, who represent the majority of agriculture sector workers in some areas.

Sustainable agricultural mechanization has a key role in addressing these challenges. Mechanization can help in sustainable intensification of production, increase productivity and incomes, reduce drudgery, and build resilience to extreme weather and climate impacts. At the same time, the advent of smart

¹ <https://www.unescap.org/kp/2022/asia-and-pacific-sdg-progress-report-2022>

technologies, 'intelligent' equipment and digitally-enabled solutions is transforming agricultural mechanization and its contribution to agricultural and rural development. The application of Internet of Things, sensors, locations systems, robotics and artificial intelligence, big data solutions, and mobile applications, among others, can make agricultural machinery more precise and efficient, optimize agricultural and human inputs, and increase the quality and quantity of agricultural products, thus making mechanization a more potent agent for change. For example, smart mechanization can help in saving inputs, address labor shortages, and reduce food loss and waste. It can concurrently attract young people to enter the agricultural sector and establish profitable businesses.

Care needs to be taken, however, that smart mechanization serves to balance the economic, social and environmental dimensions of sustainable agricultural development. For instance, efforts are needed to promote the benefits of these technologies for smallholder farmers and other vulnerable segments of the farming community in order to avoid deepening existing inequalities. Enabling regional cooperation and knowledge exchange among countries and stakeholders are key for this purpose.

The Regional Council of Agricultural Machinery Associations (ReCAMA) is an initiative of ESCAP's Centre for Sustainable Agricultural Mechanization (CSAM) which aims to promote sustainable agricultural mechanization in Asia and the Pacific through strengthening the capacity of national agricultural machinery associations, facilitating the exchange of knowledge and information, and enhancing collaboration and closer business connections among national associations and their members. To date, ReCAMA has 21 Member associations from 15 countries. In view of the increasing importance of smart mechanization, a '*ReCAMA Workshop on Smart and Sustainable Agricultural Mechanization*' is being organized in response to the demand expressed by network members at the 7th Member Meeting of ReCAMA held in November 2021.

II. Objectives:

The objectives of the ReCAMA Workshop are to:

- 1) Promote a better understanding of the potential and opportunities provided by smart mechanization technologies and solutions for sustainable agricultural development.
- 2) Exchange good practices and learnings on the application of smart and sustainable agricultural mechanization.

- 3) Facilitate related regional cooperation and synergies among countries and stakeholders in the Asia-Pacific region.

III. Organization and Participation

The 'ReCAMA Workshop on Smart and Sustainable Agricultural Mechanization' will be co-organized virtually via MS Teams on 27 May 2022 from 15:00-17:00 Beijing Time (UTC+8) / 14:00-16:00 Bangkok Time (UTC+7) by CSAM, German Agricultural Society (DLG), and the Thai Society of Agricultural Engineering (TSAE) which is the Chair Association of ReCAMA for 2021-2022. The Workshop will be held during the AGRITECHNICA ASIA Expo being organized by DLG in Bangkok, Thailand, from 25-27 May 2022. For participants in Bangkok, opportunities for on-site participation are available.

Representatives of ReCAMA Member associations and their member enterprises as well as other pertinent stakeholders working to promote sustainable agricultural mechanization in the Asia-Pacific region including from government ministries/departments, universities and research institutions, other private sector entities, and civil society organizations are welcome to attend.

IV. Tentative Programme

<i>27th May 2022 Friday</i>	
15:00-15:15	<p>Opening</p> <p><i>Moderator: Mr. Anshuman Varma, Deputy Head / Programme Officer, ESCAP-CSAM</i></p> <ul style="list-style-type: none"> - Dr. Li Yutong, Head, Centre for Sustainable Agricultural Mechanization, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP-CSAM) - Ms. Katharina Staske, Managing Director, German Agricultural Society (DLG), Thailand - Ms. Dares Kittiyopas, President, Thai Society of Agricultural Engineering (Chair Association of ReCAMA)
15:15-15:45	<p><i>Moderator: Dr. Thi Tam Dinh, Vice Director General, Vietnam Institute of Agricultural Engineering and Post-Harvest Technology</i></p> <p>Smart and Sustainable Agricultural Mechanization – Overview</p> <ul style="list-style-type: none"> - Smart Agricultural Machinery – Technologies and Solutions - Mr. Alejandro Figueroa, Team Leader, German Chinese Cultivation and Agricultural Engineering Demonstration Park (DCALDP) - Policy and Institutional Support for Smart Agricultural Machinery

15:45-16:35	<p>in Malaysia – <i>Dr. Azman Hamzah, Director, Engineering Research Centre, Malaysian Agricultural Research and Development Institute</i></p> <p>Country Cases</p> <ul style="list-style-type: none"> - China: Unmanned farm - One way to realize smart agriculture – <i>Prof. Xiwen Luo, Academician, Chinese Academy of Engineering, Professor, South China Agricultural University</i> - India: Smart Farm Mechanization for Sustainable Agriculture in India - <i>Dr. C R Mehta, Director, Central Institute of Agricultural Engineering, Indian Council of Agricultural Research</i> - Japan: Toward the realization of "Digitalisation and Innovation" by developing smart agriculture based on the farm management information system – <i>Mr. Kawase Yoshiyuki, Principal Scientist, Department of Safety Evaluation and Standardization, and Coordinator, International Relations, Institute of Agricultural Machinery, National Agriculture and Food Research Organization</i> - Republic of Korea: Current State of Smart Agricultural Mechanization in the Republic of Korea – <i>Dr. Jehoon Sung, Director General, Department of Digital Agriculture, Rural Development Administration</i> - Thailand: Situation of Smart Farming and Mechanization – <i>Ms. Dares Kittiyopas, President, Thai Society of Agricultural Engineering (To be confirmed/TBC)</i>
16:35-16:45	Q&A
16:45-16:55	Digital Show of AGRITECHNICA ASIA
16:55-17:00	Wrap up and Closure