PROJECT NOTIFICATION

Ref. No.: 20-AG-28-GE-WSP-A-PN2000017-001(R)

Date of Issue	29 January 2021
Project Code	20-AG-28-GE-WSP-A
Title	Workshop on Empowerment of Small-scale Farmers in Adopting Internet of Things Technologies
Timing and Duration	16–18 March 2021 (three days)
Hosting Country(ies)	Malaysia
Modality	Digital Multicountry (DMC)
Implementing Organization(s)	Malaysia Productivity Corporation and APO Secretariat
Participating Country(ies)	All Member Countries
Overseas Participants	19
Local Participants	12
Closing Date for Nominations	26 February 2021

Notes: This PN supersedes the PN issued on 27 March 2020 due to a change in implementation modality from face-to-face to digital sessions.

1. Objectives

a. Enhance participants' awareness of global trends in digital agriculture and opportunities presented by the Internet of Things (IoT) for Asian agriculture focusing on rice;

b. Increase understanding of key concepts of smart rice farming based on advanced ICT solutions as well as the enabling environment needed to attract digital investment by small-scale farmers (SSFs) from the policy and business perspectives; and

c. Learn about cost-effective, state-of-the-art technologies that reduce losses, improve quality, and increase the productivity of SSFs in APO member countries and share successful models of smart rice farming.

2. Background

According to Food and Agriculture Organization (FAO), agriculture faces enormous challenges to feed more than nine billion people by 2050, which will require 70% more food production, with shrinking land and water resources for agriculture, aging farming communities, and shortages of productive farm labor. The negative impact of climate change on crop production, particularly on rice, will be a major constraint in increasing food production on a sustainable basis. Rice is the staple food of Asia, which is responsible for over 90% of worldwide production and consumption. In 2014, the FAO reported that 72% of farms worldwide are less than 1 ha in size. Data from the International Fund for Agricultural Development in 2013 showed that 80% of the total 500 million small farms are managed by SSFs, with most (around 87%) located in Asia. SSFs in the Asia-Pacific thus play key roles in food production, and innovations must reach them to develop sustainable, productive agricultural systems in the region. Smart farming may offer a solution with the potential to develop a climate-resilient, competitive, resource-efficient agricultural sector.

Smart farming is a management concept using advanced technologies to increase the productivity and quality of agrifood products. It focuses on providing advanced ICT infrastructure for tracking, monitoring, automating, and analyzing agricultural operations. ICT solutions include the IoT with precision equipment, sensors, actuators, Global Positioning System (GPS), Geographic Information System (GIS), big data, cloud storage, and unmanned aerial vehicles (UAVs) such as drones and robotics. These technologies are connected through the IoT and would enable farmers and other stakeholders to make more informed, timely, and appropriate decisions. Smart farming equipment makes operations easier and more convenient for farmers of all ages and abilities. To increase agricultural productivity in the Asia-Pacific, it is imperative to enable SSFs to adopt innovative digital technologies, which will help them to expand their businesses, increase income, improve profits, and sustain operations.

Promoting the adoption of smart farming will require addressing key issues of internet connectivity at farm level in rural areas, connecting ground-based sensors with cloud servers, collecting and analyzing huge amounts of data, developing cheaper IoT devices and sensors, and creating policy support for SSFs. However, SSFs lack funds for capital investment in smart technologies and may not understand IoT solutions and their benefits. It is thus necessary to devise strategies for supporting SSFs in adopting digital agricultural technologies. Strengthening academia/research–industry–farmer linkages and promoting public-private partnerships will be critical for the development of need-based, cost-effective technologies and their adoption by SSFs to reap the benefits of smart farming on a wider scale.

Some APO member countries such as the ROC, Japan, and the ROK have successfully adopted ICT solutions and ICT-based agribusiness models to increase productivity in rice. They have developed policies and institutional settings and undertaken innovative agricultural development programs focusing on building the capacity of small producers, agribusinesses, and food-processing SMEs. Such policies and programs include the provision of financial support to SSFs for the adoption of advanced agricultural technologies.

This workshop is being organized to create awareness of digital agribusiness concepts, global trends, and the opportunities IoT connectivity presents for the future of rice production; review the current status of smart rice farming by SSFs in member countries, share successful models of smart rice farming practices and approaches applicable for SSFs in Asia.

3. Modality of Implementation

a. The sessions will be conducted virtually.

b. The duration of each day's sessions will be around three hours.

c. The APO Secretariat will inform the resource persons and participants of the link to the virtual sessions.

d. The link will be exclusive to resource persons and participants and should not be shared.

4. Scope and Methodology

The sessions will consist of the following:

Day/Date	Activity
Tuesday, 16 March 2021	Presentations: • Key concepts and global trends in smart farming and opportunities offered by the IoT in rice • Basic infrastructure and facilities needed for the adoption of smart farming, challenges in their development, and transforming those challenges into opportunities for SSFs in the agribusiness sector • Enhancing the enabling environment for attracting investment in digital agriculture in rice from policy and business perspectives
Wednesday, 17 March 2021	Presentations: • Advanced ICT for smart farm management in rice • Digital tools and technologies for smart irrigation management in rice • Digitizing farm machinery for SSFs: A case study
Thursday, 18 March 2021	Presentations: • Digital technologies for marketing agricultural produce and product traceability in rice supply chains • Virtual site visit • Sharing Formulation of individual action plans by participants

5. Qualifications of Candidates

Participants must be competent in connecting to virtual meetings, including independently undertaking troubleshooting in the event of poor or lost connections. They must also be proficient in English, both written and spoken. Specific requirements are as follows:

a. Government officials, policymakers, executives of farmers' associations, senior academics, senior consultants, and extension officers engaged in R&D on digital technology applications in agriculture and/or in charge of promoting the adoption of digital agricultural technologies for greater multiplier effects.

b. Three years of experience or more in the position described above.

6. Requirements

a. Have necessary devices comprising a computer, web camera, microphone, and speaker or headphones.

b. Access to Internet connections suitable for videoconferencing. Stable, wired LAN connections are preferred.

c. Follow the instructions of the moderators/presenters in asking questions, joining discussions, and answering questions.

d. Participate in all sessions.

7. Financial Arrangements

a. The APO will meet the assignment costs for international resource persons.

b. The host country will meet the assignment costs of local resource persons and for a virtual site visit(s), either broadcast live or recorded as applicable.

8. Actions by Member Countries

a. Each participating country will nominate three or more candidates in order of preference.

b. Self-nominations will not be accepted.

c. All nominations must be endorsed by an APO Director or Alternate Director and submitted by a Liaison Officer or designated officer.

d. Each nomination must be accompanied by the APO biodata form and uploaded to the APO Document Management System (DMS)/Fleekdrive by the NPO. The biodata form is available on the APO website.

e. Late nominations will not be accepted. When a nomination requires the approval of higher authorities and requires a longer time, the member country concerned should send the name(s) of the nominee(s) before or by the deadline, indicating that approval will follow.

f. If a selected participant becomes unable to participate, the NPO concerned should inform the APO Secretariat and the host country promptly.

9. Actions by the APO Secretariat

a. Selection of candidates will be at the discretion of the Participant Selection Committee of the APO Secretariat.

b. Selection of candidates will be completed and announced two weeks prior to the start of the sessions.

c. Slots that become available due to withdrawal of a selected candidate(s) or lack of nominations by a member country may be filled by alternates to be selected on a merit basis.

d. The APO Secretariat will inform NPOs of the final program and link of the virtual sessions one week prior to commencement.

10. Dress Code

Participants are required to wear appropriate business attire during the sessions.

Dr. AKP Mochtan
Secretary-General