TARI-NARO-AARDO-FFTC Workshop

Project Information

Project title	Unlocking Agrifood Innovation: From Sensors to Smart Farms
Date	September 1-2, 2025
Location	Chang Yung Fa Foundation Building, Taipei, Taiwan
Co-organizers	Taiwan Agricultural Research Institute (TARI) National Agriculture and Food Research Organization (NARO) African Asian Rural Development Organization (AARDO)
Coordinators	From AARDO: **Dr. Sanjeeb Kumar Behera** Head of IEC Division, African-Asian Rural Development Organization Email: sanjeebbehera@aardo.org Whatsapp/Mobile: +91-9810664507

Project Summary

Rationale

Smart sensing technology utilizes various sensors to collect real-time data on the farm environment, including crop health and soil and weather conditions. This data is then processed by advanced software to generate valuable insights that empower farmers to make data-driven decisions. This concept, encompassing information perception, quantitative decision-making, intelligent control, precise input, and personalized service, represents a new paradigm for agricultural production. Exploring sensing, communication, and network models for smart agriculture is crucial for the large-scale and replicable development of this transformative approach.

Smart sensing technologies are not only seen as a path towards increased profitability for farmers but also as a promising solution for promoting sustainable agriculture. By enabling precise resource management and minimizing environmental impact, smart farming contributes to a more ecologically conscious agricultural sector. Additionally, consumer confidence in agricultural practices and the quality of goods is bolstered through the transparency and efficiency that smart farming technologies provide. Advanced smart sensors, coupled with innovative methodological and technical solutions, empower farmers to gather valuable measurements, store and integrate data, and extract actionable insights. These insights are then utilized by control and decision

support systems to automate and optimize agricultural processes, leading to significant improvements in efficiency and sustainability.

This workshop delves into the exciting new area of smart sensing, including the integration of AI-based intelligent sensing technologies and their applications within the agricultural sector. Through the exchange of research progress, ideas, and user experiences, the workshop aims to foster a multidisciplinary approach to smart sensing technology. Ultimately, by facilitating knowledge sharing and collaboration, the workshop aspires to create a shared vision for the future of smart sensing applications in agriculture, propelling the agrifood sector of the Asian and Pacific region towards a more sustainable and successful future.
This workshop is in line with Theme 1 of FFTC's Strategic Action Plan for 2025-2028: "Harnessing smart technologies to transform agrifood systems."

Objectives

- Highlight the potential for optimizing resource management, improve farm practices, and enhance profitability
- Foster collaboration among researchers, engineers, farmers, agribusiness owners, and technology developers
- Develop a shared vision for the future of smart sensing applications in the regions' agriculture sector.

Possible themes

- Advanced sensors, monitoring systems, and data collection strategies
- Real-time data processing and analytics for decision support in the field
- Successful implementations of smart technologies and showcasing the benefits for farmers
- Discussion: Challenges faced in adopting smart technologies and exploring potential solutions and future opportunities.

Expected outputs

- The latest information on smart sensing technologies used in agriculture and their applications.