Brief Report on Kisan Goshthi on Smart Farming for a Sustainable Future: Embracing Innovation and Technology

The Department of Agriculture, which is dedicated to enhancing the lives of farmers, actively drives initiatives that strengthen and support rural communities. In alignment with this mission, a Kisan Goshthi was organized by the Department of Agriculture, IIAST, Integral University, on 19th April 2025, at Anwari Village, under the leadership of Prof. Mohd Haris Siddiqui, Dean, Faculty of Agricultural Science and Technology, and Dr. Saba Siddiqui, Head, Department of Agriculture, IIAST. The faculty coordinators, Dr. Ambreesh Singh Yadav, Dr. Usman Sayeed, and Dr. Kalpana Bisht, facilitated the session, offering valuable insights into smart farming technologies and sustainable innovations tailored for the local farming community under the theme: Smart Farming for a Sustainable Future: Embracing Innovation and Technology. This initiative directly supports the Sustainable Development Goals (SDGs) while contributing to Viksit Bharat @2047's vision of doubling farmers' income and building a globally competitive agriculture sector.

Dr. Ambreesh Singh Yadav, Associate Professor, Department of Agriculture, IIAST, welcomed the farmers and opened the session with a focus on smart agricultural tools and IoT-based solutions. He discussed the significance of integrating soil moisture and nutrient sensors, which allow real-time monitoring of the soil's condition, enabling timely and efficient application of water and nutrients to crops. This not only prevents resource wastage but also supports optimal crop growth and reduces the environmental footprint of farming. He further emphasized the importance of mobile applications that provide real-time weather updates and agricultural advisory services. Dr. Yadav highlighted that the adoption of such technologies enhances productivity, conserves natural resources, and reduces operational costs. The focus on efficient resource utilization aligns with the Climate Action (SDG 13) and Clean Water and Sanitation (SDG 6) goals, and reflects Viksit Bharat @2047's ambition of achieving green, sustainable, and climate-resilient agricultural growth.

Following this, Dr. Usman Sayeed delivered upon eco-friendly practices and the integration of sustainable farming with digital support tools. He introduced drone-based surveillance for crop health, which helps in early detection of stress symptoms, pest infestations, and nutrient deficiencies across large fields with precision. He also elaborated on smart irrigation systems that use sensor-based technologies to optimize water use, especially in water-scarce regions. His discussion highlighted the advantages of using organic amendments instead of synthetic inputs and outlined water-saving techniques like precision irrigation. Dr. Sayeed illustrated case examples where farmers have successfully implemented these strategies using low-cost technological

interventions. He emphasized that awareness and accessibility of technology, when combined with ecological responsibility, ensure long-term sustainability in agriculture. This approach promotes Life on Land (SDG 15) and Affordable and Clean Energy (SDG 7), in line with Viksit Bharat @2047's goals of fostering rural innovation and leading the world in sustainable environmental practices.

Further, Dr. Kalpana Bisht concluded the technical sessions with a discussion on market linkages, government schemes, and women's empowerment in the agricultural sector. Her session focused on the utility of digital trading platforms like e-NAM and explained various ongoing schemes including PM-KISAN, Soil Health Card Yojana, and PMFBY. She also elaborated on techniques for better market access and encouraged rural women to actively participate in agri-entrepreneurial initiatives. Dr. Bisht introduced the use of mobile applications such as Plantix and Kisan Suvidha for identifying pest issues and crop nutritional deficiencies. These apps enable farmers to take immediate action through accurate, app-based diagnostics. She shared examples of local women who have successfully adopted these roles and highlighted the importance of grassroots innovation in driving community-based agricultural development. This empowerment of rural women contributes significantly to achieving Gender Equality (SDG 5), Decent Work and Economic Growth (SDG 8), and No Poverty (SDG 1), which directly resonates with Viksit Bharat @2047's vision of women-led development and thriving rural economies.

The Goshthi witnessed participation of over 40 attendees, including farmers, students, and local leaders. The interactive session allowed farmers to share their concerns and receive direct feedback from experts. The enthusiasm and feedback received from the attendees reflected high satisfaction with the organization of the Goshthi and the relevance of the information shared. This initiative served as an effective medium for knowledge dissemination, bridging the gap between academic research and practical field application, while also providing a valuable learning experience for students. By promoting Quality Education (SDG 4) and fostering Partnerships for the Goals (SDG 17), the Goshthi directly contributes to Viksit Bharat @2047's aspirations of creating a knowledge-driven economy, ensuring inclusive growth, and building a skilled and capable rural workforce.

Glimpses of the Goshthi


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