

**A brainstorming meeting to identify new areas of researchable technologies with respect to Agricultural Engineering was organized by Indian Society of Agricultural Engineers, New Delhi in association with Department of Science & Technology, GOI on 18 June, 2018. The inaugural session was graced by Dr. Ramesh Chand (Member, NITI Aayog, Govt. of India) as the Chief Guest. Prof Indra Mani, President ISAE, while welcoming the honored guests and participants from all over the country emphasized the objectives and ethos of this meeting. One of the objective of the meeting was to bring together all different stakeholders of agricultural engineering technology development e.g. peer group of the professionals of agricultural engineering, Government officials, research and development funding agencies, scientists, manufacturers, planners, students and others. It was emphasized that outcome of the meeting will be used to plan new researchable issues in cutting edge areas of agricultural engineering. Based on these recommendations, DST will plan to give opportunity to research scientists for possible funding. Prof Gajendra Singh, Patron ISAE, presented an overview of this brainstorming meeting and made the participants aware of the structure of the discussions. He briefly touched upon the areas selected for the discussions.**

**Dr. Neeraj Sharma (Guest of honor) while addressing the participants appreciated this initiative of ISAE. He emphasized about the DST's continuous efforts to fund research projects on important areas in agriculture in general and Agricultural Engineering in particular. He mentioned about the need for new technology developments to meet the present challenges in increasing the yield by adopting diversified high value crop patterns and efficient farm machines. He also highlighted to work on focused problems like application of sensors in agriculture, nanotechnology, packaging and waste management. He appreciated the efforts made by ISAE for the brain storming session and wished to keep the strong relationship in future. He showed keen interest in signing an MOU between ICAR-IARI and DST to plan and work on different issues related to Agricultural Engineering.**

**Dr. Ramesh Chand (Member, NITI Aayog, Govt. of India) and Chief Guest of the inaugural session expressed views on the different problems related to agriculture and importance of Agricultural Engineering in green revolution. He appreciated the brain storming step taken by ISAE in association with DST. He emphasized to do research on both frontier areas having long term prospective as well on technologies for immediate application. He stressed on selecting the right and focused researchable topics related to farmers' real problems. He gave special emphasis on considerations of scale factor, social factor, economic factor, ecological factor and sustainability factor, while developing innovative, adoptable, reliable, low drudgery and low-cost interventions to be particularly used by small**

and marginal farmers. Dr Chand further emphasized to work on scale neutral multipurpose machines/ tools for cereals as well as horticulture crops. He also emphasized to work on high tech agriculture, low cost fencing system, bird scaring devices, on farm value addition and low-cost storage, packaging, marketing direct link between consumer and farmer, crop residue management, waste to wealth, use of drones for crop damage assessment, artificial intelligence and big data management.

After the inaugural program, two parallel sessions were organized in the area of “Sensors and artificial intelligence in agriculture” (Facilitator – Dr. V. K. Tewari, Professor, IIT Kharagpur) and “Engineering interventions for hi-tech agriculture, value addition and smart packaging & storage” (Facilitator – Dr. Pitam Chandra, Former Director ICAR-CIAE, Bhopal) in the forenoon. In the afternoon two more areas namely “Application of solar energy in agriculture” (Facilitator – Dr. S N Das, Director General, National Institute of Solar Energy, Faridabad) and “Conservation agriculture and biomass management: waste to wealth” (Facilitator – Dr. J. S. Mahal, Dean, CAET, PAU, Ludhiana) were discussed. In each session researchable issues in the theme areas were brainstormed. In the concluding session, all the researchable issues were presented by the facilitators. Detailed researchable issues in the selected frontier areas of agricultural engineering were finalized. The workshop ended with vote of thanks by Dr. Manoj Khanna, Secretary General ISAE, to the all the dignitaries, resource persons, participants and funding agency.







