



**Summary Report on IUFOST Scientific Roundtable Discussion #1 (SRD1)**  
**Topic: Food Losses/Food Waste**

*Release - December 10 2019: A panel of international experts considered the broad issues of Food Losses/Food Waste in the first of the new IUFOST series of Scientific Roundtable Discussions (SRDs) held on December 6, 2019.* This Roundtable was co-chaired by Dr. Roger Clemens, Presiding Officer of the International Academy of Food Science and Technology (IAFoST) and Dr Vish Prakash, Past Academy President and Immediate Past Chair of IUFOST Scientific Council.

**1. Highlights from Panelists:**

- a) **Jane Ambuko**, University of Nairobi, Kenya and expert panel member on FAO initiated report on Food Losses/Food Waste – Capacity building and options to reduce food losses and waste with focus on small land holders; the way forward to minimize the food losses in low-income countries through small processing centers and converting commodities to stable food products as well as extending shelf life of perishables through evaporative cooling chambers.
- b) **Alexander Mathys**, ETHZ, Head of Sustainable Food Processing Laboratory, Zurich, Switzerland – Holistic sustainability assessment as the basis for “hot spot” identification of value chains, innovations, bioprocessing (i.e. for insects and or algae), and social as well as regional aspects of food losses and waste from sustainable methods that can be multiplied.
- c) **Rob Vos**, Director Markets, Trade and Institutions (MTID), International Food Policy Research Institute (IFPRI) Washington USA – Measurement of the quantity and quality of food losses along with the value chain and system-wide solutions for food loss prevention.; consumer behavior and raising awareness.
- d) **Hongda Chen**, National Program Leader for Bioprocess Engineering and Nanotechnology National Institute of Food and Agriculture (NIFA), USDA and IUFOST Scientific Council member, Washington USA – Researchable ideas and areas; the intervention of process / technology to enhance shelf-life, e-commerce infrastructure.
- e) **Charis Galanakis**, Distinguished Scientist in College of Science of King Saud University Saudi Arabia and Research and Innovation Director of Galanakis Laboratories Greece – Policy frameworks, optimizing agricultural practices, changing consumer-attitudes, motivating retailers, promoting packaging and process technologies, valorizing waste streams.

*Background paper by Mary Ann Augustin*, Chief Research Scientist, CSIRO Australia – Creating value from food loss and waste through the use of food processing with appropriate value addition; unavoidable food loss as new source of raw materials for the food industry; use of separation techniques, use of whole of the biomass/side stream of the processing; use of fermentation.

**2. Overarching themes for follow up nationally and regionally through input from all, including Chairs:**

- Prevention of waste requires collaboration across multi-disciplines.

- High- vs low-income countries present loss and waste very differently and need to be addressed very differently.
- Food losses and waste challenges are best addressed through innovations and improvements of the entire food chain that have food loss reduction as a derived outcome, not as the only objective.
- How losses and waste can be avoided, and what to do with waste, if it is unavoidable, needs local innovation and knowledge of successful approaches elsewhere
- Economic losses must also be considered and evaluated so that the holistic approach will trigger new ways of handling waste and losses differently
- Producers and processors at farm and manufacture levels need incentives to adopt or change technologies
- Advances in technology: early detection sensors, microwave-assisted pasteurization, as well as adaptable tech-sealable bags, solar-powered cold storage, processing technology, including drying, are some new accessible developments for preventing food losses and waste
- Creating wealth from waste: e.g. algae and insects to convert organic waste into good quality protein and fat are a few examples
- Funding agencies, industry and the scientific community need to redefine the tools available to address food losses and waste.
- Social sciences and social impact interventions potentially are a very high yield investment that has not yet been leveraged.
- Changing consumer's understanding and interest in food losses and waste is a key part of the whole process.
- Regional hubs in different regions are needed to address unique needs as a cooperative.

### **3. Ways Forward:**

- Partnering in multi-disciplinary efforts to achieve success in combining the research, investment, technical expertise and increasing consumer confidence and involvement in the outcomes.
- Specific attention to food losses and waste at every level from local, national, regional and international levels with full governmental awareness and support at each level.

### **4. The outcome:**

- IUFoST is preparing a report based on this Roundtable Discussion to be distributed to IUFoST Regional Groupings. The IUFoST Regional Groupings are asked to hold a similar Roundtable on the subject through the IUFoST platform and to prepare a regional assessment around the topic of *Food Losses/Food Waste*. IUFoST Regional Groups represent Europe, the Near East, Africa, Central and South America, and the South East Asia. In areas where there is no IUFoST regional grouping, *Food Losses/Food Waste* Committees are being organized to consider this topic, perhaps by the adhering bodies.
- IUFoST will compile all the regional assessments and Adhering Bodies reports with the first report and issue its assessment and guidance in a paper available to Adhering Bodies, associates, international and governmental organizations and other interested parties.
- The Report is intended to:
  - inform on the work of Food Scientists and Technologists going forward and to find areas of international collaboration across disciplines.
  - define the pathways to reach the goals set scientifically for IUFoST regarding capacity building
  - inform policies nationally and internationally through scientific member countries and
  - raise awareness of this issue by publication in journals – dissemination in different forms of media.

#### **4. Questions from IUFoST SRD1 that emerged for the Regional Bodies and Adhering Bodies to consider regionally and locally:**

- How important is Food Losses/Food Waste reduction for addressing problems of world hunger and climate change?
- Better storage (e.g. through cold chains) will reduce food losses significantly. So why are farmers and distributors of food in developing countries still investing so little in better storage facilities?
- How can consumers help to reduce food losses and waste?
  - What are the stage-specific causes of Food Losses/Food Waste along the Food Chain?
  - How do we find concerted and collective solutions to Reduce Food Losses/Food Waste?
  - How do we construct a path going forward for minimizing Food Losses/Food Waste?
  - What are the ways for promoting and enabling individual and collective change to prevent Food Losses/Food Waste?
  - How do we integrate the Food Safety agenda into preventing Food Losses/Food Waste actions and capacity building and e training, which is actually the IUFoST core agenda?
- How can a hub with the focus of an interdisciplinary research program to reduce Food Losses/Food Waste in developing countries be created in Africa?
- How much of the loss incurred is due to the lack of know-how and infrastructural support?
- How can we facilitate the use of intelligent logistics (which can reduce losses in the supply chain)?
- Would regional hubs for processing of food losses into food ingredients and products help to provide a solution?
- What are the mechanisms for multi-stakeholder engagement, business models and role of government for building sustainable food chains?
- Are funding mechanisms for capacity building and knowledge development sufficient? If not, what can be done at regional, national and international levels?
- What can be done to improve consumer understanding? (e.g. many consumers do not understand use by and best before dates)
- What will help facilitate the behavior change required for consumer acceptance of food technologies and processing interventions aimed at reducing food losses and waste?

**These are the major points arising out of the nearly 90 minutes deliberations and pave the way for the IUFoST Adhering Bodies and Regional Body Roundtables. This outline and agenda are put forward to ensure a global way of addressing the issues, with not only a modern science perspective but also a traditional view and what is sustainable.**

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*The Roundtable ended with thanks expressed to co-chairs Dr. Roger Clemens and Dr. Vish Prakash for their excellent leadership in this first IUFoST Roundtable Discussion. The Panelists and research contributors were thanked for lending their expertise and commitment to the Roundtable Discussion and for making it such a valuable start to the series. Rapporteur Daisy Lanoi, Post Graduate student at Egerton University in Kenya, and Rapporteur Omolola Arowolo, Post Graduate student, Food Microbiology and Biotechnology at the Federal University of Agriculture, Abeokuta, Nigeria were thanked for their fine work.*

*SRD Coordinator Judith Meech ED, IUFoST, Jeremy Hutchings SRD IT Expert, Susanna Rosebush, and all contributors and participants also were acknowledged.*