

Current Status and Challenges in Food Science & Technology: Lessons for Future

M Shivamurthy

University of Agricultural Sciences, India

Sustainably feeding the constantly growing world is one of our major challenges. The demand for food was achieved by a blend of scientific and technological progress, government policies, institutional interventions, business investments and through delivery mechanisms. However, increased farm inputs and outputs were partly at the expense of detrimental effects on the environment. It is estimated that, in 2050 there will be 9.8 billion people requiring about 70 percent more food for consumption. In this regard, food science and technology has a significant role to play in achieving food and nutrition security of the world. Advancement in food preservation and stabilisation technologies can extend shelf life of food and food products by strengthening the ability of food sustainably available for all by reducing food waste. Good post-harvest handling practices from farm to retail, including supporting logistics and infrastructure, can mitigate the loss of fresh produce. This is becoming increasingly relevant as the food produced in rural areas has to reach the growing population in urban areas and megacities. This results in increased pressure for the optimisation of the distribution of food, improved access to appropriate modes of transportation and better management of cool chain logistics to ensure sustainable food supply. Despite these concerns for the future, the continuous push for research and technological advancements must continue for successful achievement of global food security and sustainability issues. Existing and emerging technologies has to address the four dimensions of food security. For example, technologies for improving agricultural productivity, methods for improving soil fertility and irrigation technologies can increase food availability. Post-harvest and processing technologies can address food accessibility, biofortification can make food more nutritious and climate-smart technologies (including the use of precision agriculture and early warning systems) can mitigate food instability. However, harnessing the potential of such technologies for food security requires investments in research and development, human capital, infrastructure and knowledge flows. A favourable environment for agricultural innovation would benefit from an enabling environment, gender-sensitive approaches to technology development and dissemination, and regional & international collaboration. Furthermore, technology foresight and assessment for agricultural innovations must be in place to manage potential technological risks, while maximizing potential improvements to food security. Preceding international initiatives were rightly concerned with hunger and malnutrition, while many of these initiatives exhibited concern for the poor, but not all were able to translate the concern for improving nutritional well-being into action. Accordingly, identification of successful ways and means for achieving progress is especially important. Planners and policy makers need an effective policy and programme framework for making decisions and for formulating workable and effective interventions. These not only need to be adapted easily at different country situations, also they need to be sensitive and responsive to the socio-cultural contexts and complexities. Additionally, effective interventions require nutritional surveillance and provision of security is specially needed during emergencies and economic crises.

Biography:

Dr. M Shivamurthy is currently the Professor (HAG) and University Head of the Department of Agricultural Extension, University of Agricultural Sciences, Bangalore, India. Visiting scholar for the Ghent University, Belgium and Humboldt-University, Berlin besides local coordinator for the International Masters in Rural Development. He carried out more than 15 externally funded research projects and research guide for 21 MSc and PhD scholars, has over 200 publications in reputed journals /proceedings and books. In recognition of his work he has received several national and international awards and presented papers at more than thirty international conferences and training programmes.

Specialization and present research: Rural Development, Natural Resource Management, Adoption and Diffusion Studies, Human Resource Management, Empowerment of women, formation of SHGs and Scaling up of Agricultural Innovations in rural areas.