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ICT, Innovation and Knowledge Challenges as seen by a World Conference of Experts

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EDITORIAL

Over the course of the past two decades important developments in Information and Communications Technologies (ICT) took place that enabled new approaches to production, harvest, storage, transport, distribution and delivery of food and other products. Of particular interest are innovations that increase the quality of food, reduce its cost to the final consumer and create opportunities for developing countries to address food security issues in a sustainable way.

Technology evolved resulting in the convergence of: 1) Consumerization of technology (mobile devices and "Bring You Own Device"), 2) social networks, 3) cloud computing, and 4) big data. This created new opportunities for innovation. These resulted in decision making aids capable of using data over large networks, locally acquired data, location, and socially constructed knowledge, intelligent device networks, used anytime, anywhere on any device.

One particular focus is the use of ICS in process and management improvement resulting from the application of process re-engineering, optimization, simulation and business intelligence systems leading to targeted management decision making tools that improve the use of resources and outcomes in production. Moreover, growing consumer demands are driving global needs for traceability that can only be enabled by the use of ICT.

Challenges remain in acquiring knowledge, especially from non-traditional sources, that can be integrated into current knowledge systems. Furthermore, making ICT accessible at locations where infrastructure is lacking or of limited capacity has created a gap between the technologically enabled and the technologically not-enabled. Achieving ICT's potential contributions will require that technology strategies and actions be enacted to promote capacity building, reduce the digital divide and increase access to information and markets.

The World Conference on Computers in Agriculture (WCCA), held in San Jose Costa Rica in 2014, provided a forum where professionals from different disciplines exchanged research finding and experience on the use of ICT in a wide variety of contexts. This special issue is a collection of manuscripts by experts in agriculture and food related disciplines presenting the results of their research and experience on uses of ICT, which although not comprehensive in their scope, partially address the issues discussed above.

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