

Harnessing Agricultural Innovation and Technology for Sustainable Food Systems and Nutrition Security

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Sustainable systems for food production are those which utilize resources efficiently without damaging the environment and ensure that future generations continue to benefit with food and nutrition security. While a sustainability standard has been elusive, many operational definitions have been determined to guide how each stage in food supply chains may function in a sustainable manner, from production (agriculture) to consumption. Furthermore, thinking about sustainability has evolved as farming systems have changed in response to technological innovations, and in response to consumer demands. “Agriculture for nutrition” has become more meaningful than “agriculture for food security”. The first Green Revolution which occurred centuries ago in different world regions gave way to the modern-day Green Revolution in the 1960s with its use of improved crop varieties and animal breeds supported by inputs. The biotechnology revolution in the late 1990s was a disruptive innovation in crop agriculture. The present-day situation is fast changing with digital, knowledge-based technologies arising from the so-called 4th Industrial Revolution. Coupled with innovations in robotics and food technology, more diverse food is becoming available to meet the nutrition needs of an urbanizing world. Yet the challenge remains to ensure that the benefits of innovation equally benefit all sectors of society, from rich to poor.