Achieving Food Security in Digitalised World

The World Economic Forum (WEF) has pinpointed that unpredictability is the only constant when it comes to agriculture, farmers’ livelihoods, and food security. At a time when the world is moving rapidly towards using new technologies, their use in agriculture, especially by small farmers, is minimal. Several international organisations are trying to introduce new technologies and systems in developing countries to improve agricultural productivity and food systems. However, their work is in very early stages.

Despite the critical role of agriculture, the sector has lagged far behind others in the development and implementation of digital tools as indicated in a recent report by McKinsey. The report establishes that ‘even in industrialised economies like the United States, the agricultural sector ranks 23rd out of 25 industries in digitalisation, and the rate of adoption is slow.’ In case of ‘low and middle-income countries, it appears that these innovations have an even smaller foothold’ (McDade 2017). Though some studies estimate that big data-driven agriculture will help reduce the cost up to 50% and increase yield by 20%.

Rapid population growth coupled with climate change poses major challenges for increasing agricultural production. Agriculture needs to be smart to meet these challenges. Adoption of new technologies by using data is imminent to make prudent decisions without undermining the co-benefits for environmental sustainability, nutrition, and livelihoods.

According to the Food and Agriculture Organization (FAO), the production of food should be increased up to 70% to feed 9.6 billion people by 2050 by overcoming barriers like slow-down productivity, scarcity of arable land, climate change effect, scarcity of freshwater, prices like energy, and rapid urbanisation. In this backdrop, technology and devices like Internet of Things (IOT), cloud computing, machine learning and big data analytics for crop inter-cultural operations, climate smart management, harvesting, post-harvest management and marketing can help in introducing smart agriculture. Big data will help researchers, policymakers, farmers and other stakeholders in short and long-term planning for various crops, livestock and fisheries to enhance agri-businesses.

The panel will try to answer specific questions like:

1. What is the impact of big data on smart agriculture and food security?
2. What are the opportunities, threats and challenges of big data use in agriculture?
3. How to target food insecurity?

It is hoped that the discussion generated in the panel will help identify the ways that ICT, big data and other related developments can effectively support in overcoming challenges faced by agriculture in Pakistan and other regions of South Asia. The discussion would also focus on how various countries in South Asia and beyond are using new knowledge and technologies for the development of agriculture and food security, and what value digitalisation will add in decision-making as an element of transformation.
Reference

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