



Policy Priorities for Digitalization in Agriculture: Implications for Food System Transformation

Suresh Babu

**International Food Policy Research
Institute, Washington DC**

**PPFS Webinar on Digitalization and Innovation of APEC
Food System:**

**Sharing digital innovation technology policies in APEC food
system and discussing perspectives and best practices for
next steps of Roadmap action**

2 December 2021

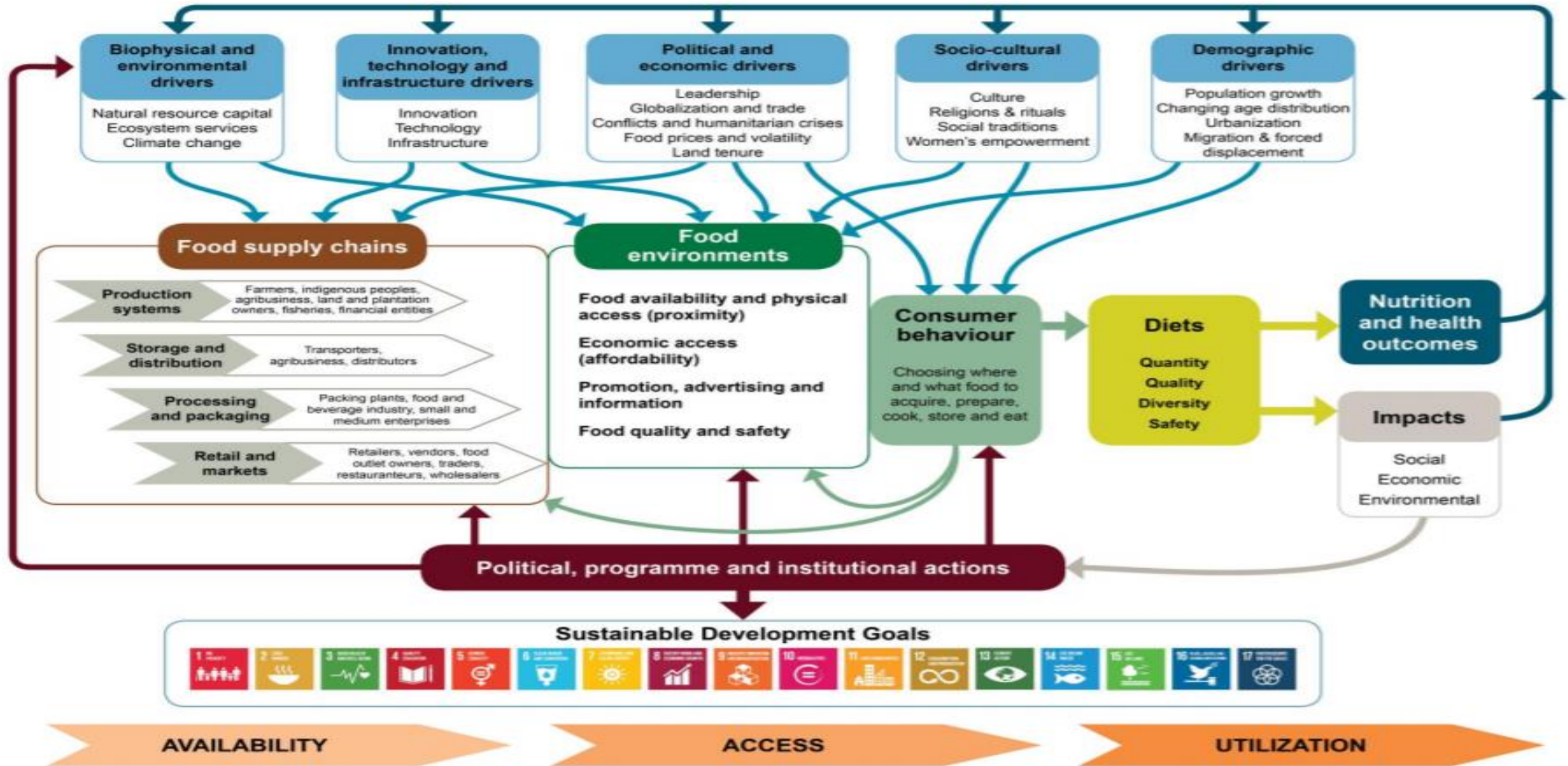
Republic of Korea



**RESEARCH
PROGRAM ON
Policies,
Institutions,
and Markets**

Led by IFPRI

Food Systems Approach to Nutrition



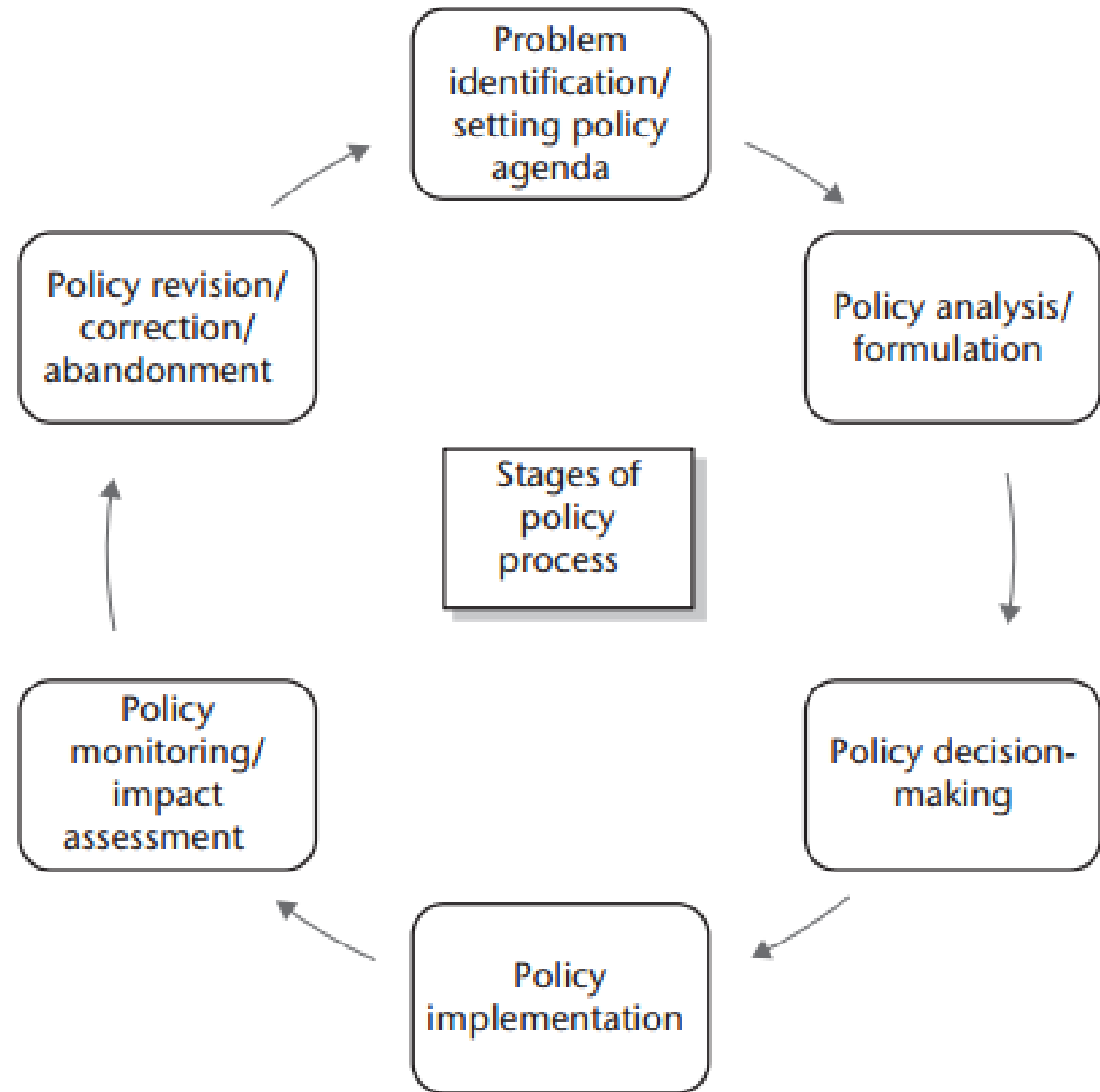
Source: HLPE, 2017

Stages of policy making process

Digital technologies can assist in the evolution of the agricultural sector to a modern sector

DT can make food system a data-driven, intelligent, agile and interconnected system

DT can involve multi-stakeholders in policy making process by bringing various groups such as researchers, extensionists, breeders, farmers, processing units, retailers, supermarkets, and end consumers.

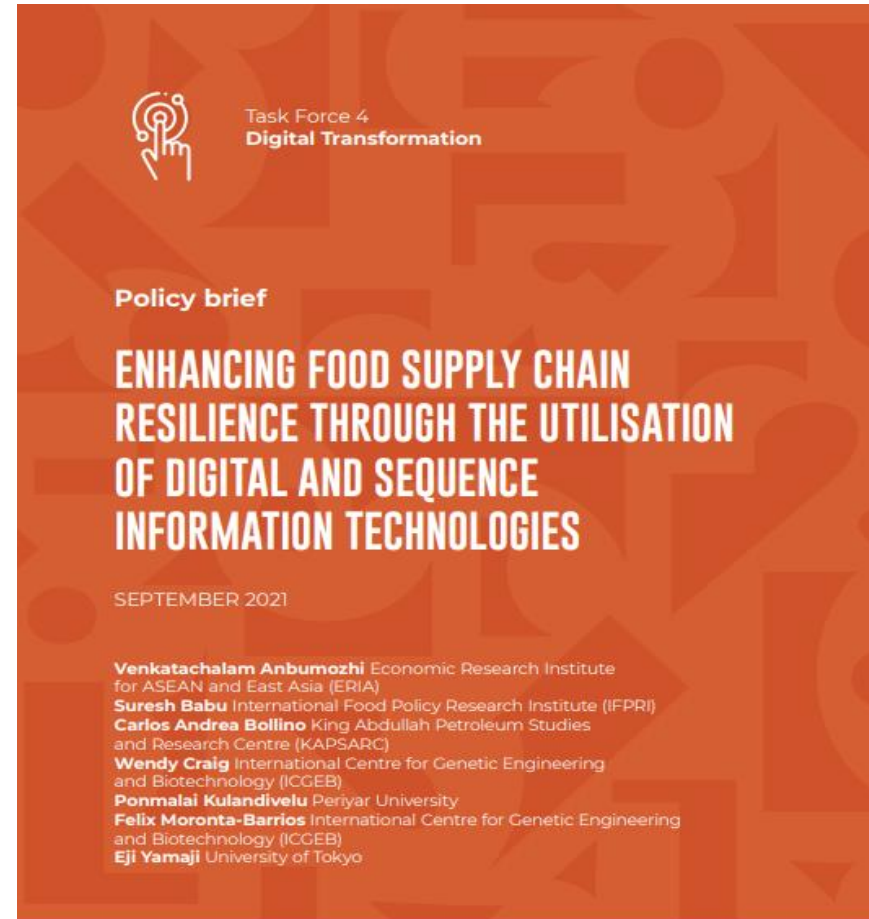


Food Systems – Challenges and Opportunities – The context of digitalization of Value Chains in Agriculture



Why should policies and strategies guide Digitalization ?

- **Global goals** require national and local action
- All SDGs require some form of **digital revolution to speed up the process**
- Food System Transformation **affect 13 SDGs directly and others indirectly**
- Agricultural digitalization is key for **achieving SDGs goals including Climate Smart Agriculture**



T20 NATIONAL COORDINATOR AND CHAIR

ISPI

T20 CO-CHAIR

Iai

T20 SUMMIT CO-CHAIR

Università Bocconi MILANO

T20
THINK 20
ITALY 2021

G20
ITALIA
2021

Why?

Digital Technology's Role in Agricultural Transformation

Frame Conditions

Drivers or
Characteristics

Performance

Outcomes and
Impact

Emerging Trends in Digitalization of Agriculture

- The **developing and emerging economies** have been active in **digital innovations** for several years.
- In the past two decades, global advances in **precision agriculture, remote sensing, robots, farm management information systems, and computer-aided decision support systems** have paved the way for broad digital transformations in the farming sector and in some parts of food value chains.
- Recent developments, such as **cloud computing, Internet of Things, Big Data, blockchain, drones, and artificial intelligence** facilitate the integration of technology development into smart food production and service systems to ultimately enhance resilience

Source: <https://www.t20italy.org/2021/08/30/enhancing-food-supply-chain-resilience-through-the-utilisation-of-digital-and-sequence-information-technologies/>

Opportunities in Agricultural Digitalization

- Digitally enabled **food value chains can improve resilience** to agricultural productivity fluctuations and food insecurity.
- Digital innovations can **increase economic values** multifold using online big data and genetic data
- Digital sequence information (DSI) and other digital technologies must **maximize positive social and environmental impacts**
- Digitalization can help in **global supply chain risks**.

Source: <https://www.t20italy.org/2021/08/30/enhancing-food-supply-chain-resilience-through-the-utilisation-of-digital-and-sequence-information-technologies/>

Three policy areas need immediate action

- first, **policy coordination** that facilitates the adoption of digital transformations in food value chains;
- second, the creation of **DSI-enabling institutional environments**;
- third, steering basic research funding to encourage **multi-disciplinary research** that bridges technology, social, and environmental disciplines.

Source: <https://www.t20italy.org/2021/08/30/enhancing-food-supply-chain-resilience-through-the-utilisation-of-digital-and-sequence-information-technologies/>

■ THANK YOU

■ Q & A