



Digital Agriculture Trends & Challenges

Presented at
ASEAN Next 2019



**Food and Agriculture
Organization of the
United Nations**

*19 March 2019
Bangkok, Thailand*

SUSTAINABLE DEVELOPMENT GOALS



17 Goals.

169 targets to achieve within the next 12 years!

AGRICULTURE & FOOD SECURITY



There is more than enough food produced today to feed everyone in the world, yet close to 821 (2017) million are chronically hungry.

A third of farmland is degraded, up to 75 percent of crop genetic diversity has been lost and 22 percent of animal breeds are at risk.

One in nine people on the planet still suffer from hunger

Every year, the world loses or waste about a third of the food it produces

Women make up almost half the agricultural workforce, but they own less land and lack access to resources.

Average age of farmers is increasing

The number of hungry people has barely changed during the past 2 years

Multiple burden of malnutrition despite decades of economic growth.

Increasingly impacted by climatic shocks

ASIA AND THE PACIFIC

Regional Overview of Food Security and Nutrition

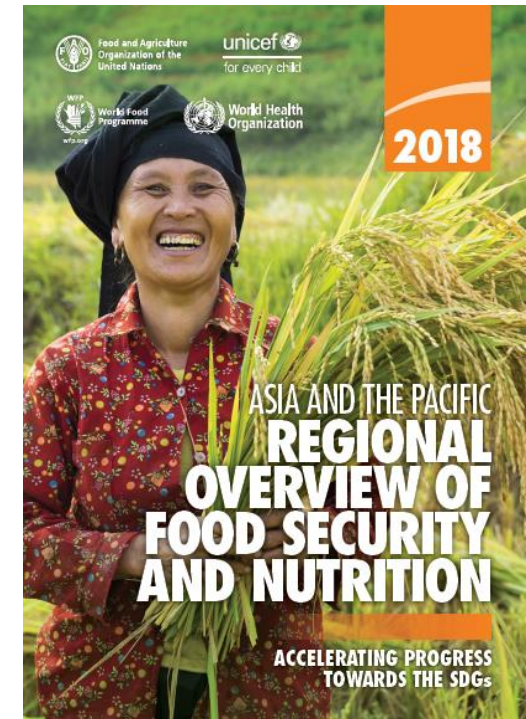
- **Continued stagnation** in hunger levels in Asia and the Pacific. Rise in some sub-regions
- **Slow down of reduction of undernutrition** - changing food systems in the region - double burden of malnutrition in all countries. Unacceptably high prevalence of undernutrition in young children + **rising overweight and obesity** in children and adults.
- Need for shared actions implemented through **multi-sectoral approaches**
- **Growing incidence of and damage from climate-related disasters** negatively affecting food security and nutrition.
- **Urban malnutrition** – New challenges and need for new nutrition partners and policy advocates.



Stunting
(under 5 years)

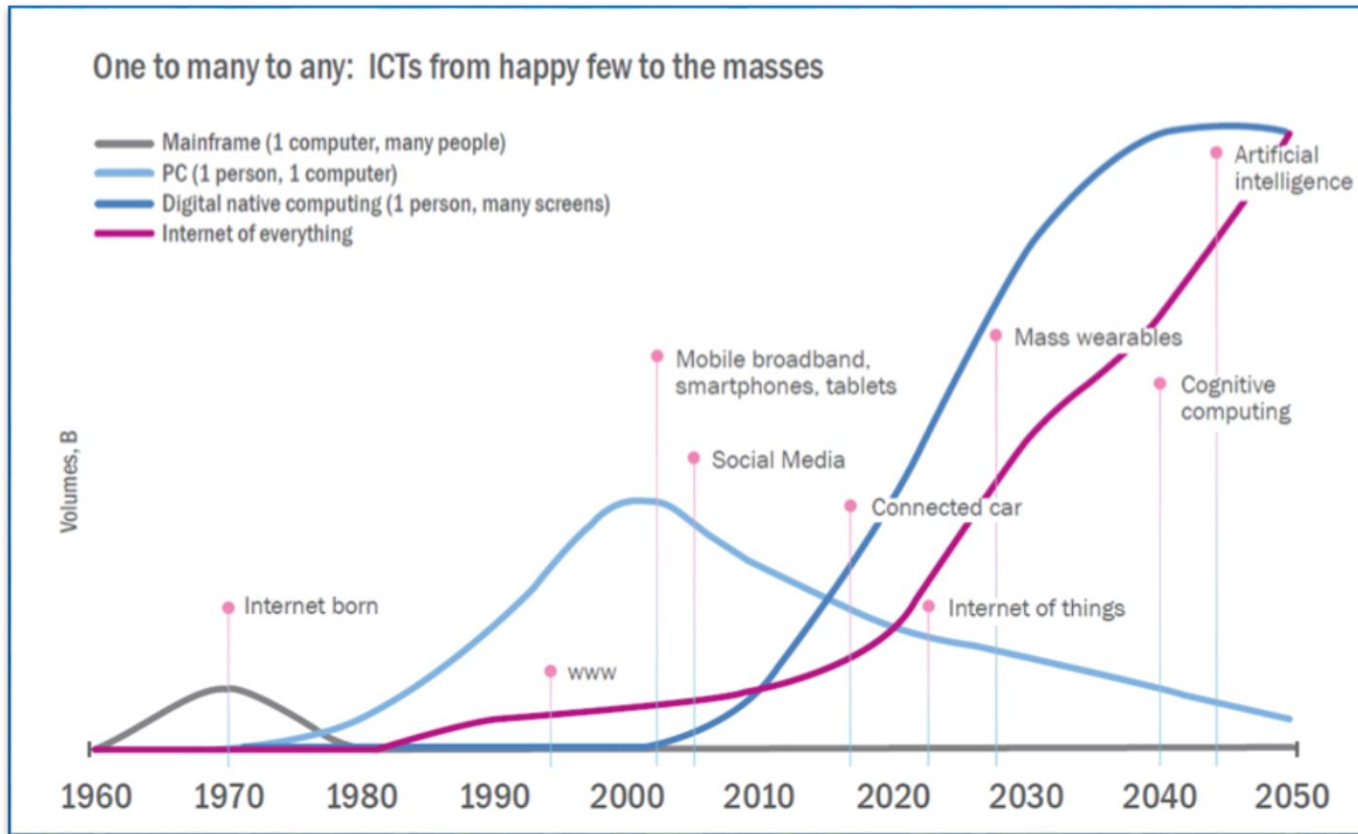


Obesity
(adults)



Overweight
(under 5 years)

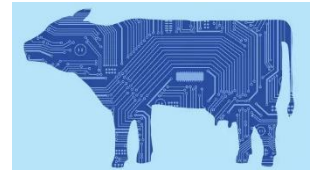
A MORE CONNECTED FUTURE



Drones & GIS



Connected Cow



3D food printing



- ❖ *20 Billion connected devices by 2020 – Gartner*
- ❖ *Broadband is increasingly mobile & more affordable - ITU*

DIGITAL TECHNOLOGIES IN AGRICULTURE

TELEPHONE> Interactive voice response

COMPUTERS AND WEBSITES> Agriculture information and markets

BROADCASTING> Expertise sharing, advisory, community

SATELLITE> Weather, universal accessibility, remote sensing

MOBILE> Advisory, sales, banking, networking

INTERNET AND BROADBAND> Knowledge sharing, social media, e-community, banking, market platform, trading, etc.

SENSOR NETWORKS> Real time information, better data quantity and quality, decision making

DATA STORAGE AND ANALYTICS> Precision agriculture, actionable knowledge



BLOCKCHAIN

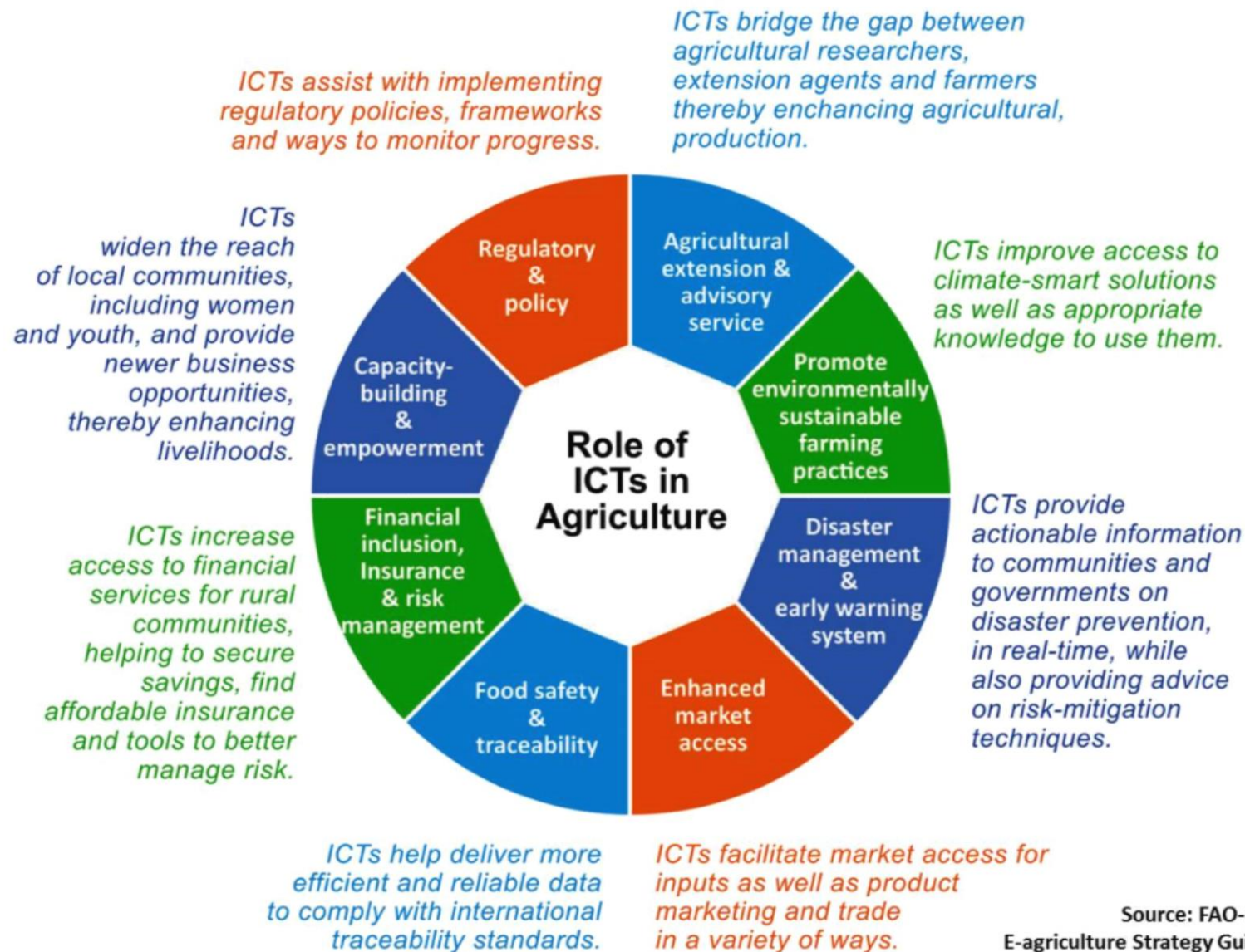


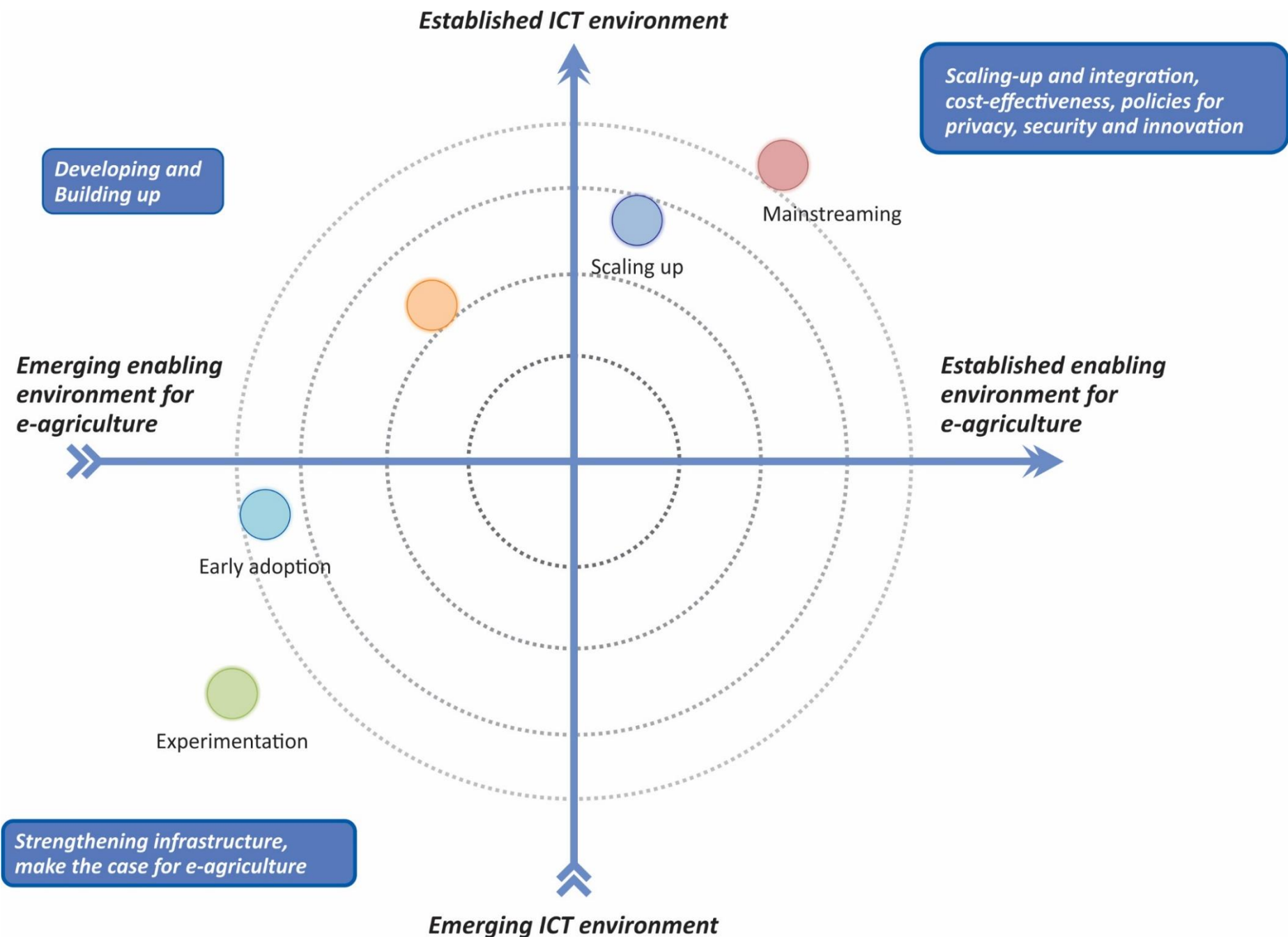
BIG DATA

Artificial Intelligence

Source: FAO-ITU E-agriculture Strategy Guide

ROLE OF ICTs IN AGRICULTURE





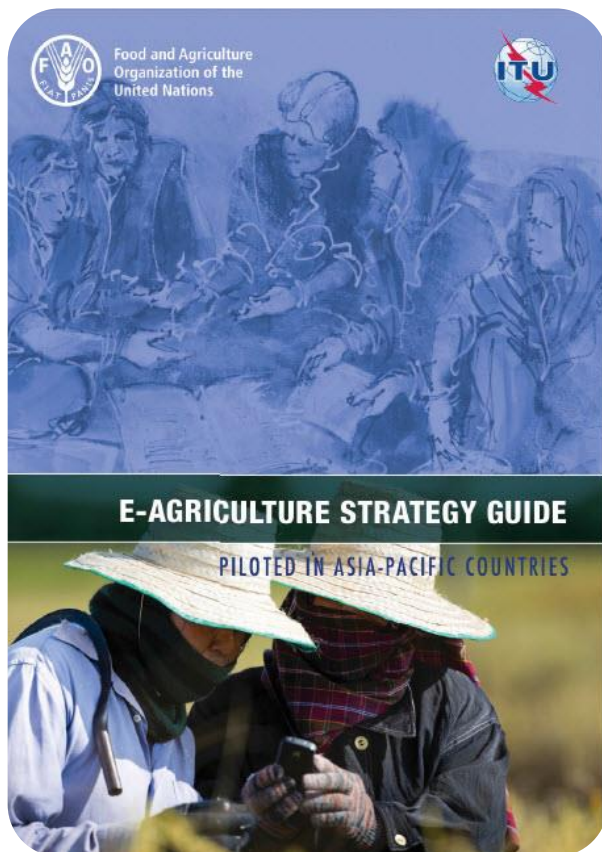
ADDRESSING KEY BUILDING BLOCKS



- Infrastructure
- Interoperability
- Reliable Data
- Data sharing/ privacy
- Policies & Regulations

- Digital Literacy
- Gender-Digital Divide
- Data Analytics
- Capacity Development
- Support to Innovations

E-AGRICULTURE STRATEGY GUIDE



In Russian



Food and Agriculture Organization of the United Nations



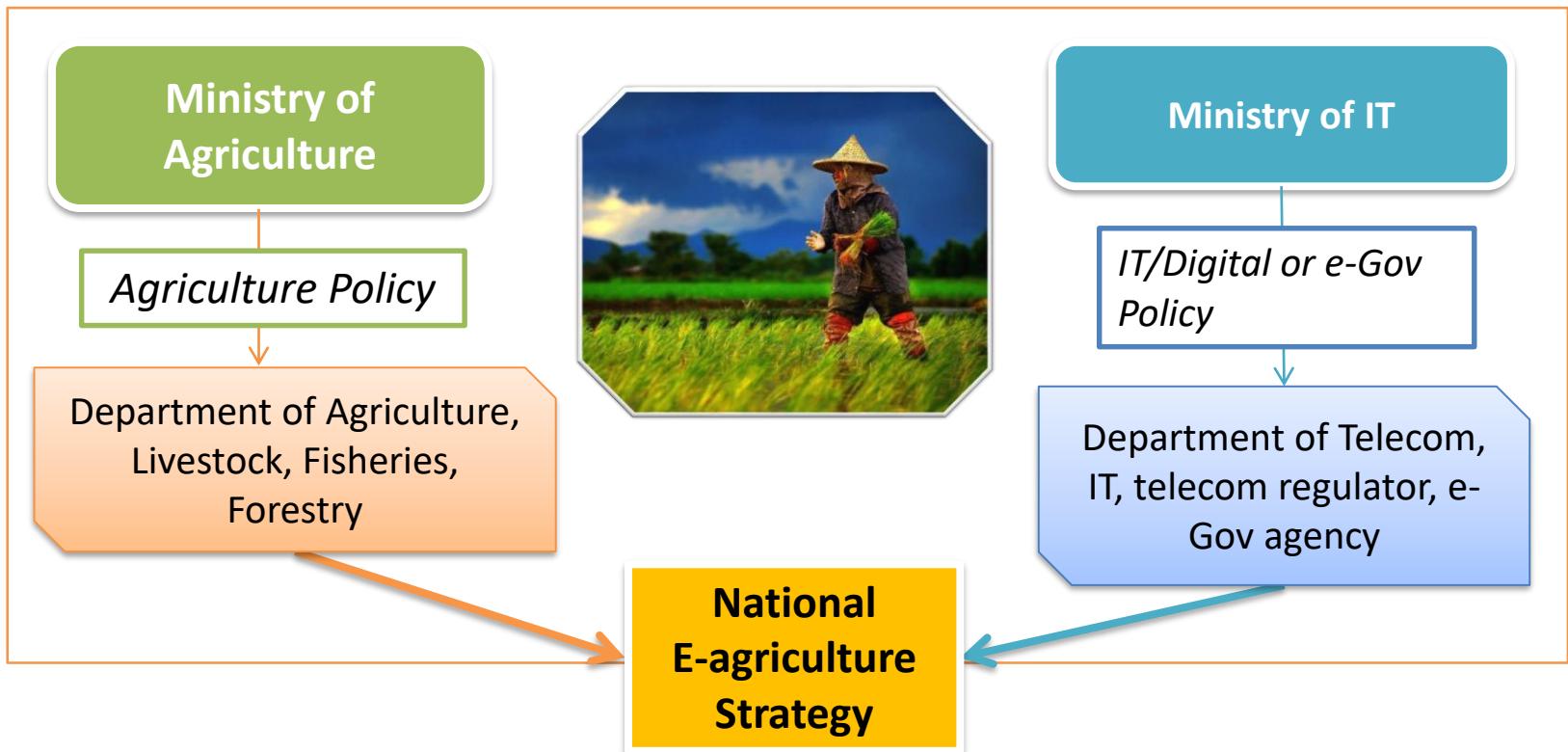
This framework is used to assist countries to identify, design and develop sustainable ICT solutions/services to overcome challenges faced in agriculture or to accelerate achieving national agricultural goals.



SPC
Secretariat
of the Pacific
Community

Download from (English) -
<http://www.fao.org/3/a-i5564e.pdf>

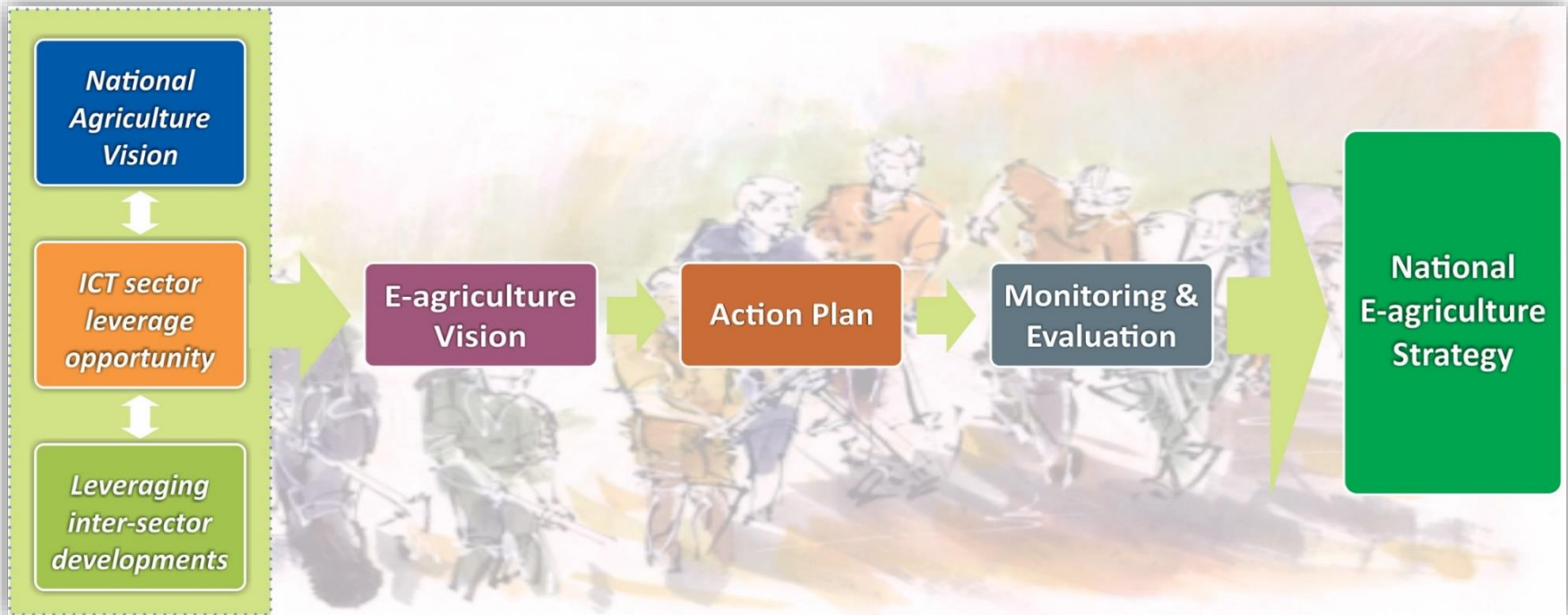
DEVELOPING NATIONAL E-AGRICULTURE STRATEGY



National E-agriculture Strategy

Is a comprehensive framework to develop sustainable e-agriculture services and solutions

DEVELOPING THE NATIONAL E-AGRICULTURE STRATEGY

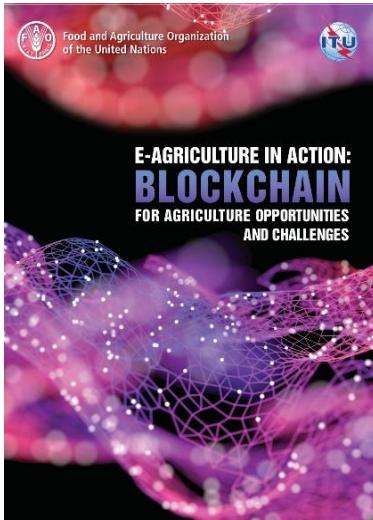


The National E-agriculture Strategy is an output of a comprehensive multi-stakeholder consultative process.

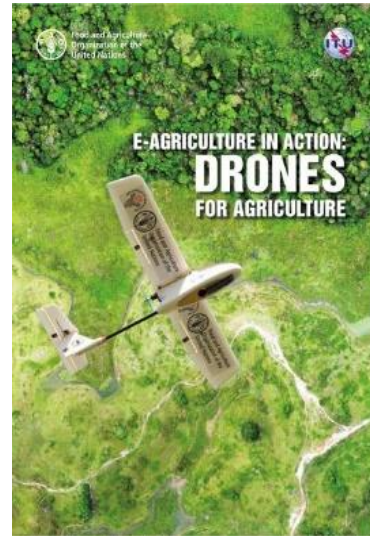
FAO-ITU technical assistance to countries in developing their
NATIONAL E-AGRICULTURE STRATEGY

- **2015-2016:** Bhutan and Sri Lanka
- **2016:** Lao PDR ICT Masterplan
- **2016-2017:** Philippines, Papua New Guinea & Fiji
- **2017:** Myanmar's agriculture extension modernization strategy
- **2017-2018:** Afghanistan
- **2018-2019:** Pakistan
- **2019:** Mongolia

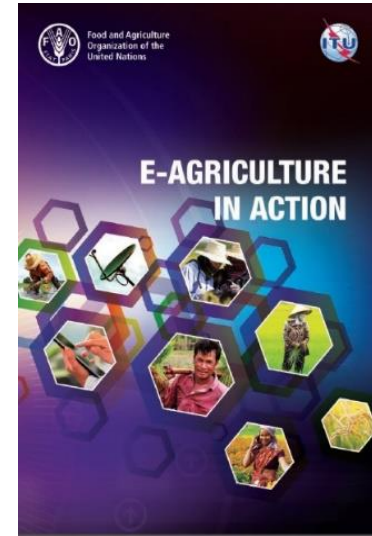
KNOWLEDGE PRODUCTS



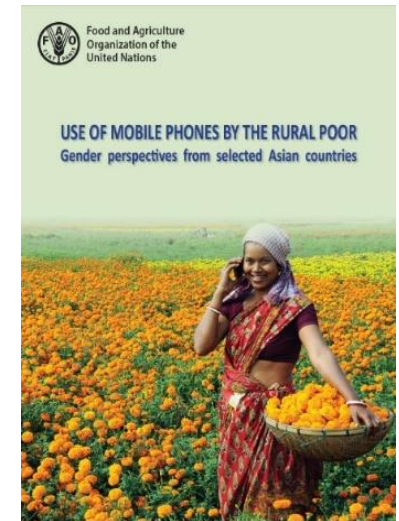
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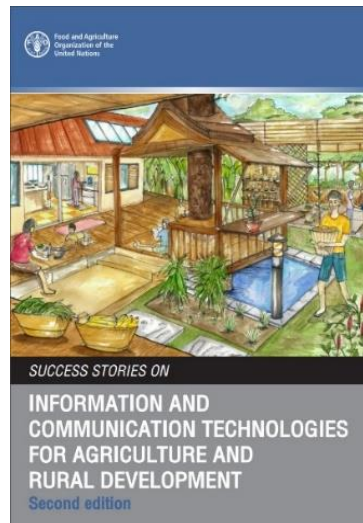
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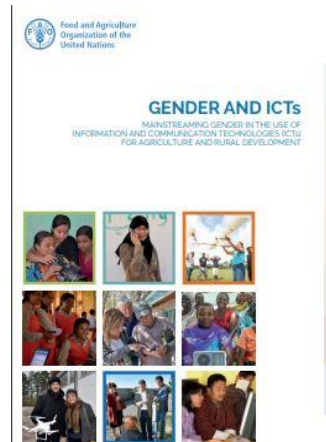
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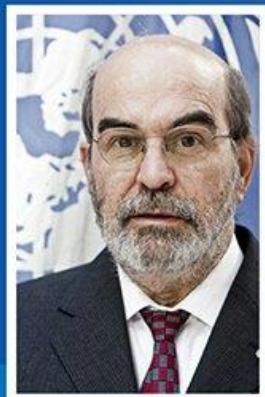


Bangkok, Thailand



Nanjing, China

THANK YOU



Digital technologies are creating opportunities to improve how we produce, distribute and manage food and feed people, creating a major driver for economic growth and an accelerator for innovation and change

José Graziano da Silva
Director-General, FAO

www.itu.int/ICT4SDG

fast forward together
#ICT4SDG



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