Role of ICT to Improve Productivity, Sustainability, and Competitiveness in Agriculture Sector in Indonesia

Center For Agricultural Data and Information System
Ministry of Agriculture
Republic of Indonesia
27-28 September 2023
Agricultural development shift: Millennial farmers and digital farming

From old farmers to young/millenial farmers

From Traditional Farming to Modern/Digital Farming

Foto: Kridanto Priyo
Foto: BBPP Ketindan
Foto: Antara
Foto: GenAgraris
Role of Information and Communication Technology To Shorten Supply Chains
Barrier for Farmers to Use Information and Communication Technology

Farmer

Information and Communication Technology

Smallholder Farmer

Lack access to ICT

Low level of education
Need Initiative to Break Through the Barrier

Farmer

Information and Communication Technology

- Consolidating the agricultural/farmers community
- Development of Telecommunications Infrastructure in rural areas
- Build and increase awareness of technology and digital literacy for the farmers community
ICT Utilization in the Agricultural Sector

Upstream
- Digital Soil Testing
- Fertilization with Drone

Onfarm
- Watering and Fertilizing with IoT
- Pest Control using AI

Downstream
- Harvesting Using Robot
- Grading and Packaging automatically
- Marketing using e-commerce

Supporting
- Data Collection
- Policy Formulation
Implementation of ICT in the agricultural sector must be carried out in the form of a community involving all stakeholders.
National e-Agriculture Strategy for Indonesia

Grant named Strengthening Digital Agriculture Monitoring Capacities Using e-Agriculture (FAO)
- National Strategy e-Agriculture
- Data Collecting Program for Strengthening Digital Agriculture Monitoring

Strategic Goals
- Database: Farmers, Land, Fertilizer, Chemicals
  - Master data, reference data, meta data, data standard, DCP (Data Collection Platform), data governance

Challenges, Priorities
- Data Capture & Analysis
  - Big Data Analytics, Intelligent Decision Support System, DCP, machine learning, agriculture statistics

E-agriculture Solutions
- Information System
  - Agriculture IS, early warning system, AWR, knowledge sharing platform, planting calendar

- Human Resources & Infrastructure
  - Agriculture & IT Literacy
  - Internet, IT Devices, IoT System, Smart Irrigation System

Action Plan
- Database: 2023-2027
- Knowledge sharing platform: 2023-2024
- IoT System: 2026-2027
- Smart Irrigation System: 2025-2027
Several MoA’s Websites for Knowledge Sharing
Several MoA’s Mobile Applications
Thank You

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