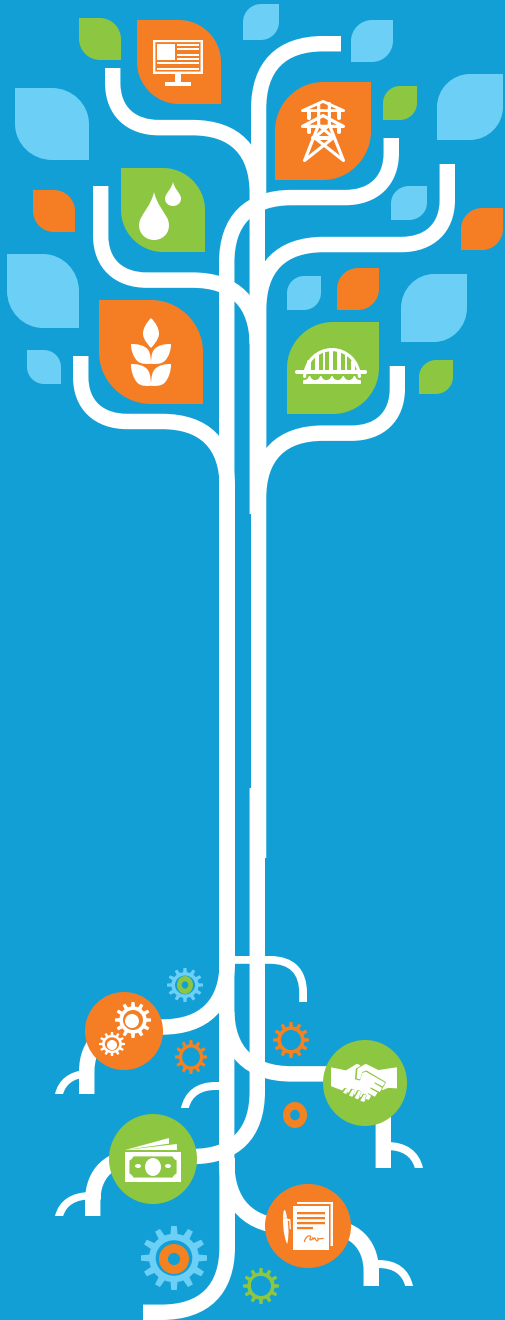**ADB**

2021 ADB Business Opportunity Seminar

29 September 2021

Yoonee Jeong
Senior Digital Technology Specialist (Digital Connectivity)
Sustainable Development and Climate Change Department

BUSINESS OPPORTUNITIES

Contents

I. ADB's Digital Technology (DT^1) Projects

II. Strategy 2030 and Digital Opportunities

III. Strategic Directions for Digital Strategies in Operations

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1 Digital Technology (DT) and Information and Communications Technology (ICT) are often used interchangeably. DT is a newer term used to highlight its transformative role in the digital economy.

Which Digital Technologies?

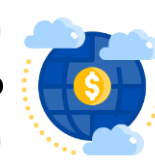|			
Broadband Networks	**Digital identification**	**Digital payments**	**Cloud computing**
Internet of Things (IoT)	**AI/ML**	**Robotics**	**Cybersecurity**
Earth Observation	**Geospatial Information Systems**	**Enterprise level digital systems**	**Digital software and applications** **And many more...**
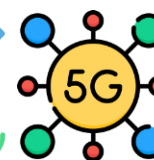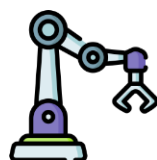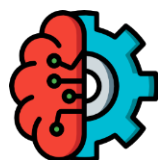
PART I.
ADB Digital Technology Projects
(2010–2020)

Proportion of DT Projects
(Based on 2010-2020 Approvals)
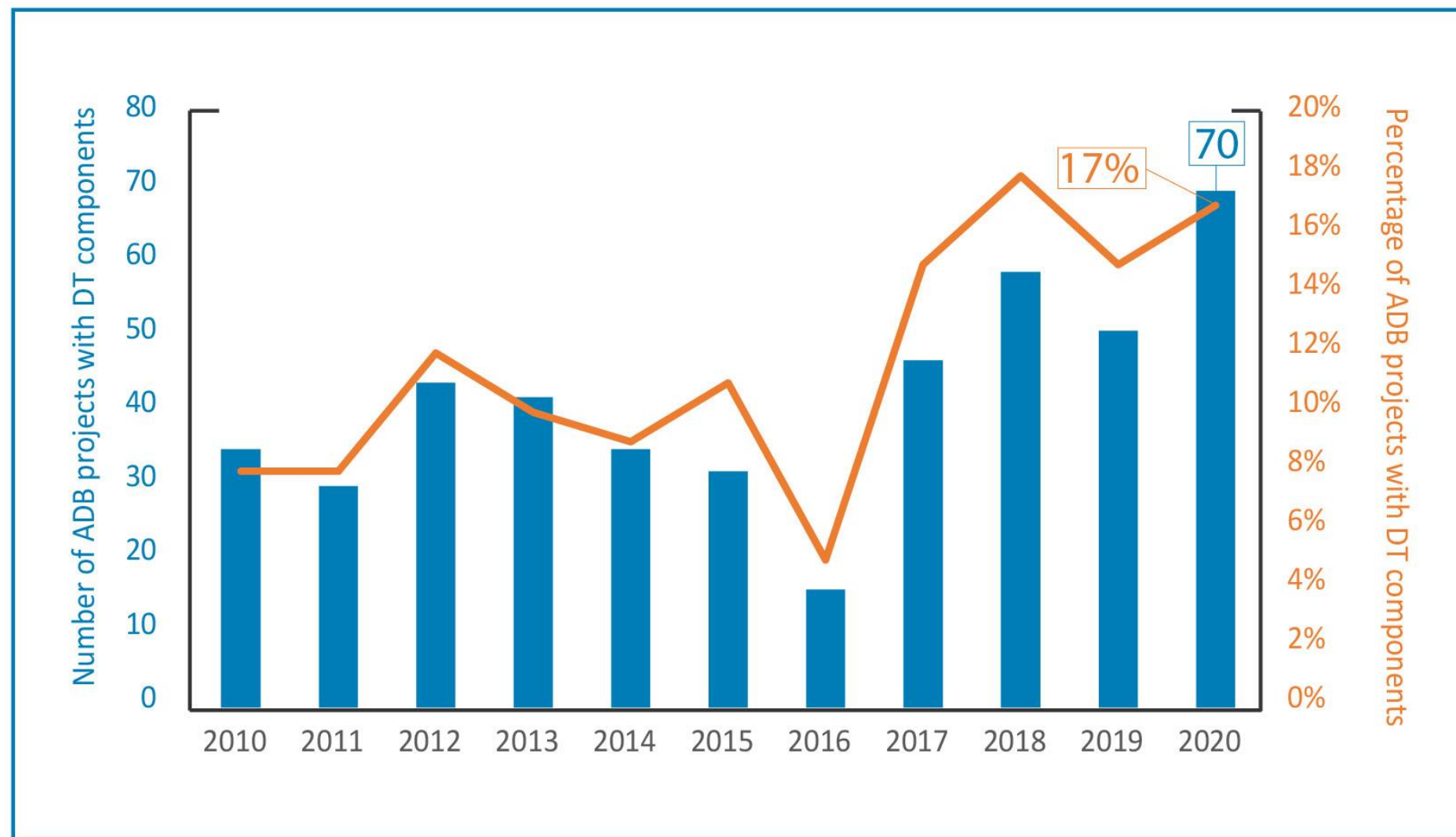
Digital Projects by Sector
(Based on 2010-2020 approvals)

Multisector — 3%
Public Sector Management — 17%
Energy — 13%
Transport — 12%
Agriculture — 11%
Finance — 11%
ICT — 10%
Industry and Trade — 7%
Education — 7%
Water and other infrastructure — 5%
Health — 4%
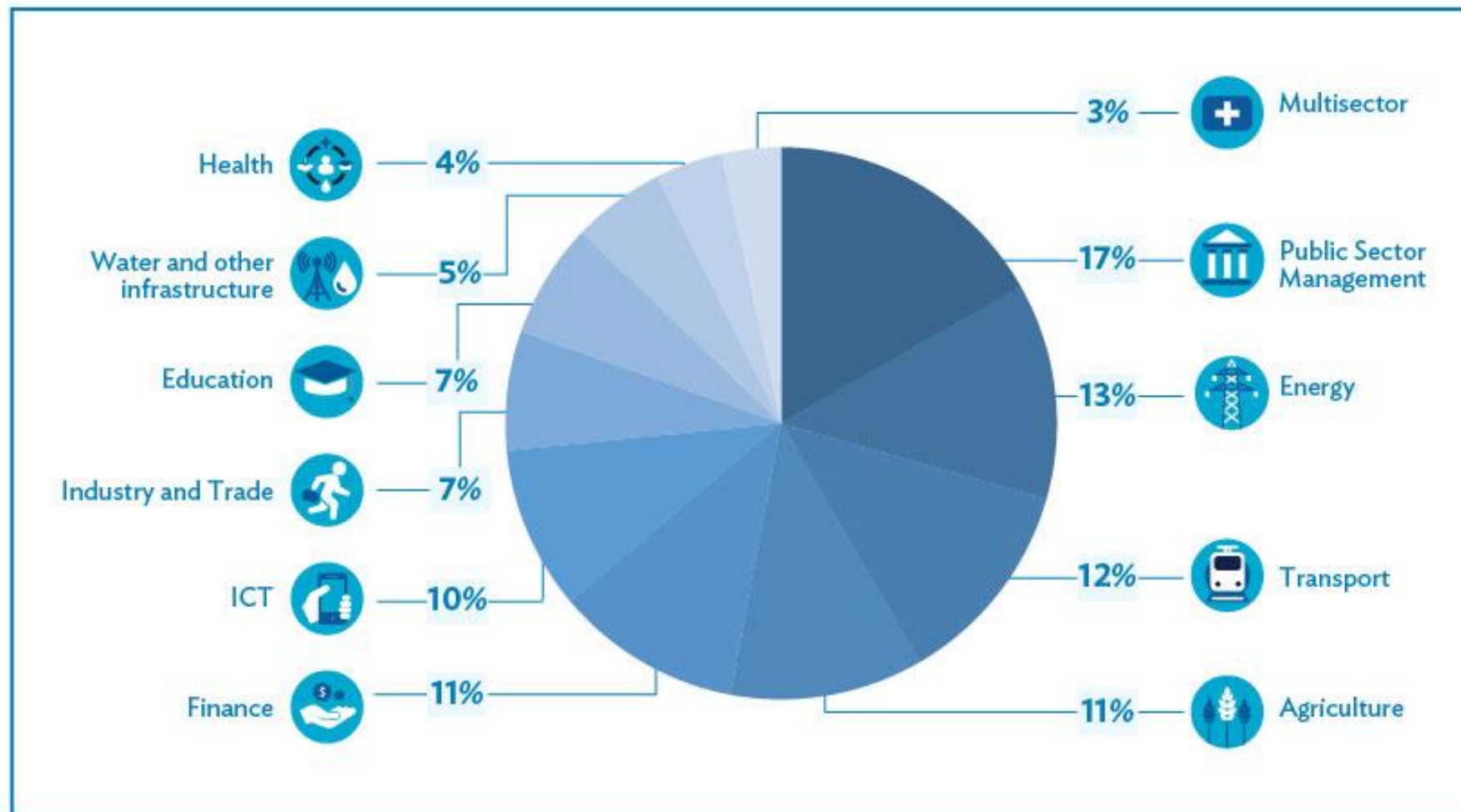
ICT-led

16%
Only 74 of the 461 projects introduced ICT infrastructure and systems

$2B+
Represents round 8% of the total spending for ICT-led projects

ICT-related

84%
Majority of the projects, around 387, had a significant ICT component

$25B+
Represents round 92% of the total spending for ICT-related projects

Digital Projects by Regions
(Based on 2010-2020 approvals)

TOP 5 COUNTRIES with the most ICT-related projects

1. PRC - 45
2. IND - 33
3. MON - 30
4. BAN - 21
5. INO - 19

Region	Projects
SARD	98
EARD	81
CWRD	71
SERD	66
PARD	36
SDCC	34
PSOD	30
ERCD	15
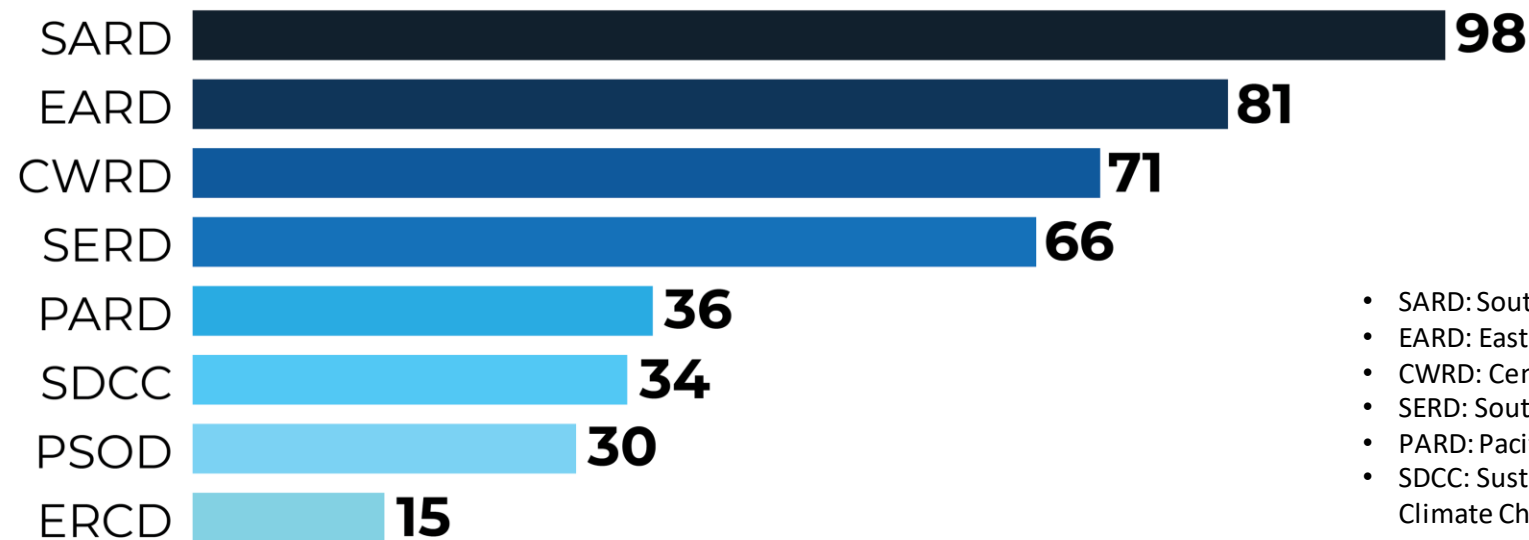
LEGEND:
- SARD: South Asia
- EARD: East Asia
- CWRD: Central West Asia
- SERD: Southeast Asia
- PARD: Pacific Islands
- SDCC: Sustainable Development and Climate Change
- PSDO: Private Sector Operations
- ERCD: Economic Research and Regional Cooperation

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PART II.

Strategy 2030 and Digital Opportunities

OP1: Addressing Remaining Poverty and Reducing Inequalities

Education	- Primary and Secondary: e-learning content, teaching skills using digital content, computer labs, and education sector MIS. - TVET: skill matching databases for employment, digital skills for jobs - Tertiary: improve curriculums on digital technology, and build research labs on digital technology	**Bangladesh: Tertiary Education Proposed BAN: Improving Computer and Software Engineering Tertiary Education Project** • $100M Loan (proposed in 2019) • DT component: IT and computer science education to produce IT skilled graduates in growing IT industry
Health	- Universal health care by introducing national health information systems - capacity building programs for health practitioners in rural health care centers - Support rural health infrastructure equipped via internet connectivity and patient information systems	**Viet Nam: Local Health Care for Disadvantaged Areas Sector Development** • $100M Loan (2018) • DT component: To upgrade commune health station (CHS) infrastructure including the implementation of electronic health records
Social Protection	- Integrated social protection management information system covering various social protection schemes - innovative payment mechanism (mobile, off-the-shelf payment using digital identification) for beneficiaries	• **Philippines: Expanded Social Protection Program.** • $500M policy-based loan, (2020) • DT component: automate compliance verification by IT integration. ✓ E-payment, grievance redress process

⚥ OP2: Accelerating Progress in Gender Equality

Education	• Distance learning for girls • Vocational and skills program on digital technology for girls
Women-led enterprises	• Use digital technology to provide women access to gender-sensitive financial services and alternative access to finance, especially for women entrepreneurs in rural and peri-urban areas. • Financing programs for women entrepreneurs to set up businesses in digital service industries (e.g. e-commerce, online outsourcing services, data entry, programming, web design, etc.)
Social Protection	• Social protection program for pregnant, childcare, and elderly using digital ID system (see Pakistan example on next slide)

Pakistan: Benazir Income Support Program (BISP)

- $430M loan (approved in 2013 and still active)
- Government program launched in 2008 as a flagship safety net program
- Provides monthly cash grants to women in the targeted families
- Possession of a computerized national ID card (CNIC) is a prerequisite for the benefits.
- In the beginning,.
- DT components:
    - expansion of the cash transfer program to women households (paid to the female head of targeted poor families) via ATMs, banks, mobile phones based on a computerized national ID card.
- Impact: 20M additional women were registered and issued a national ID.
- Program currently being expanded to include insurance and skills development

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OP3: Climate Change, Disaster Resilience, and Environmental Sustainability

Energy	• Renewable energy integrated into smart grids • Digital Technology for energy efficiency (e.g. automatic street lighting control) • Electricity charging infra for Electric Vehicles
Disaster Risk Management	• National disaster and emergency communications network (mobile and satellite communication) • Mobile-based early warning system (floods, earthquakes) • Satellite imagery for disaster risk assessment, rehabilitation planning,
Environment	• Earth Observation (EO) technology for monitoring weather, environment, ocean pollution, etc. • Big data analysis from various information sources on weather, land, water sources, etc.

Earth Observation Examples

India: Kolkata Environmental Improvement Investment Program
- Developed flood risk maps and improving resilience to floods using satellite imagery of prior flood incidents
- Funding from $1M TA, associated $100M loan (2016)

Indonesia: Emergency Assistance for Rehabilitation and Reconstruction
- Comparing pre- and post-tsunami satellite imagery to plan the reconstruction of the Palu
- $300M loan program approved in June 2019

Pakistan: Climate Change Risks for Sindh Coastal Area
- Identify areas of coastal degradation using satellite imagery to prioritize mangrove rehabilitation
- Loan preparation for 2020

Bhutan: Integrated Irrigated Agriculture Development Project (BIIADP)
- Identify landslide risks to irrigation infrastructure in Bhutan using satellite imagery
- Loan preparation for 2020

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Urban Water and Waste Management	• Asset management information systems (water pipes, sewer pipes, etc.) • Smart technologies (IoT sensors) used to detect water leaks in pipes • Supervisory Control and Data Acquisition (SCADA)[1] systems
Urban Transportation	• Intelligent Transportation Systems (real time traffic control, transport routing information, ambulance dispatch, etc.) • IT systems for multi-modal transport systems (scheduling, ticketing, unified transport card, etc.)
Others	• e-government services at local government offices (civil registration, vehicle registration, business registration services) • Smart surveillance and alarm systems using CCTVs for public safety • Intelligent street lighting using IoTs for energy efficiency

Promoting Smart Drinking Water Management in South Asian Cities
• TA: $2.5M(2015)
• Digital technology component: smart technology solutions (IoT-based) for non-revenue water leak detection
• Knowledge partnership with K- Water

Guizhou Gui'an New District Smart Transport System Development Project in PRC
• Loan: $200M(2019)
• Digital technology component: Intelligent Transport System (ITS), electronic buses and its infrastructure

Project: Kolkata Environmental Improvement Investment in India
• Program loans: $100M (2018), $200M (2016), $100M (2013)
• Digitized its administrative, planning, and asset management systems.
• GIS and web-based platform is used for a comprehensive sewage master plan.
• ICT based flood forecasting and early warning system.

[1] SCADA is a control system used for process management in industrial and infrastructure process such as electric transmission and distribution, oil and gas pipelines, water supply system, etc.

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🌾 OP5: Promoting Rural Development and Food Security

Agriculture value chain	• Digital agriculture market information hubs and marketplaces • Agriculture products supply chain tracking systems
Farming and irrigation technology	• Earth Observation (satellite imagery) technology used for planning irrigation systems and for measuring water consumption
Rural economic hub	• Multipurpose rural ICT centers (agriculture, education, health, and government services) • E-learning and training programs for agriculture extension workers

PRC: Gansu Internet Plus[1] Based Agriculture Service

• Agriculture value chains are complex and can benefit from digitization. In Asia, smallholders are increasingly getting internet access via smartphones.

• PRC has initiated **internet-plus policies[1]** with the objective to integrate the agricultural sector into the wider economy by linking rural economic development approaches with internet-based DT solutions (e.g. automated traceability system for agriculture products, e-commerce systems)

• E-commerce and internet-based support services are accelerating growth in rural areas.

• PRC government has requested ADB to provide **lending support** for "the Gansu Internet-Plus Based Socialized Agricultural Service System Development Project".

• The project is included in 2020 pipe-line (firm) for $220M OCR.

[1] **The term of "Internet Plus"** is proposed by PRC prime minister Li Keqiang in his Government Work Report on March 5, 2015 so as to keep pace with the Information Trend.

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🏛 OP6: Strengthening Governance and Institutional Capacity

Public Management	• Public finance and tax management information systems • Cadastral and land management systems to track zoning boundaries, subsurface infrastructure, ownership history, etc. • E-procurement systems to improve public procurement efficiency, transparency, integrity and anti-corruption
Service Delivery	• Cybersecurity and data privacy services and policies • One-stop service portal for citizens • Online registration and e-certificate services (birth, death, marriage, vehicle registration, business registration, etc.)
e-Government Infrastructure	• Cloud hosting of e-government systems • National broadband networks connecting all public institutions, including local government offices, schools, public health facilities • National ID systems as a foundation for integrated e-government

Mongolia: Tax Administration Management Information System

- **ICT systems for tax management** can help streamline the tax administration and optimize revenue collections to create fiscal space for development.
    - Previous ICT system for tax management in Mongolia was fragmented and inefficient in handling the tax management process.
- **ADB loan ($25M)** for Strengthening ICT Systems for Efficient and Transparent Public Investment and Tax Administration in Mongolia
    - Approval date: 20 Sep 2018
- **Implementation**: Oct 2018–Sep 2021
- **SDCC (DT) supported** the project team for the initial concept design of the digital component (ICT system for tax management) of the loan through a SDCC-DT's regional TA in 2017.

OP7: Fostering Regional Cooperation and Integration

Connectivity	• Regional Internet Connectivity (e.g. submarine cables in Pacific)
Trade Facilitation	• Digitization of international trade processes
Regional Public Goods	• Health surveillance information systems for communicable diseases • Remote and distance learning (e.g. regional campus in Pacific)

Submarine cable systems in the Pacific:
- Tonga (2011) – Grant $9.7M
- Solomon Islands (2012) – Loan $10.5M and Grant $7.5M
- Samoa (2015) – Grant $25M
- Palau (2015) – Loan $25M
- Cook Islands (2017) – Loan &15M

Kacific Satellite (Non-sovereign lending)
- $50M loan to
- construction, launch, and operation of a shared, GEO satellite (Kacific-1)
- Provision of low cost, high-speed, easily accessible broadband internet in Asia and the Pacific

South Pacific: Regional University Integration
- $19M regional loan for the University of South Pacific (USP) (2012)
  - ✓ to expand **regional campuses**
  - ✓ to enhance **ICT based distance learning programs**
  - ✓ to improve student services
- **USP is the world's first regional university (**25,000 students from across the 12 Pacific Island Countries)
- 12 campuses were connected via internet and cloud to share teaching materials and student records.

PART III.

Strategic Directions for Digital Strategies in Operations

SDCC Digital Technology for Development Unit

Country-based Digital Technology Roadmap

Digital Technology Pipeline Development

Project Design Support to integrate Digital Technology

Knowledge on Digital Technology

Digital Technology Trends

Strategic Directions

1
Using Country Focused Approach

- Conduct **DT readiness assessments** for DMCs to provide inputs for the countries' new CPS

- Provide **tailored support for target DMCs** based on DT readiness assessment

- Support **developing digital strategies** for DMCs in line with the CPS exercises

2
Promoting Innovative Technologies

- Promote innovations using DT through **knowledge sharing in partnership with private sector**

- Conduct **pre-feasibility** studies on digital components in ADB projects

- Support **pilot projects** in areas where the possibility of scaling up is high

3
Providing Integrated Solutions

- Deliver integrated solutions through cross-sector / **thematic collaboration** (e.g. smart city, e-government)

- Focus on **cross-cutting areas** to promote digital technologies (e.g. broadband internet, cloud computing, AI, digital ID, digital payment, earth observation and GIS, cyber security, etc.) .

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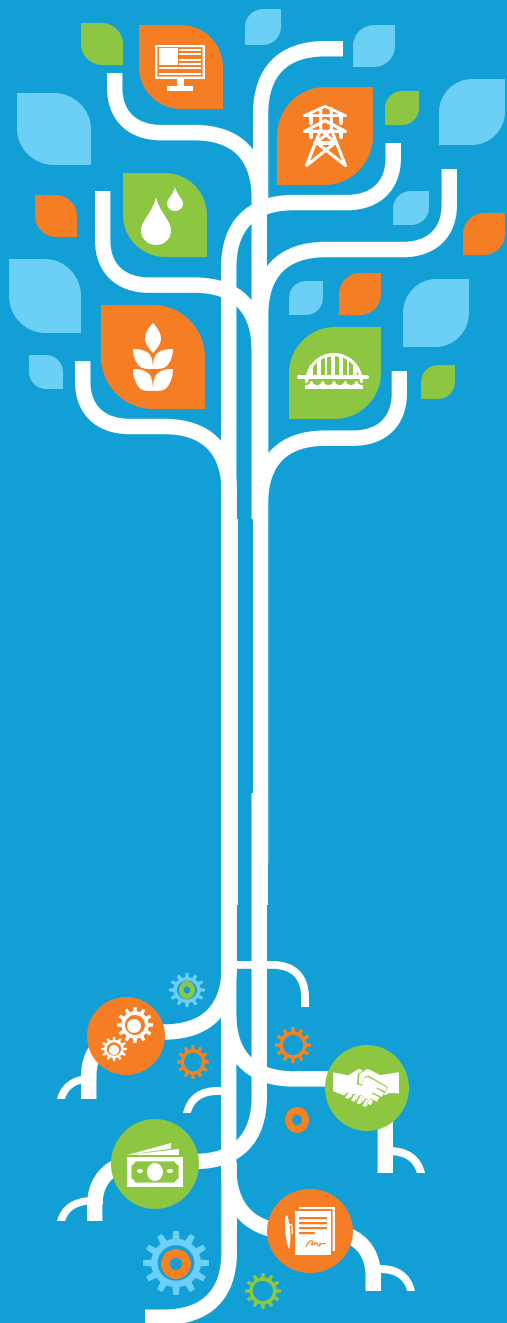
THANK YOU!

Yoonee Jeong

Senior Digital Technology Specialist

Digital Technology for Development Unit

yjeong@adb.org