Almaty Bishkek Corridor Initiative – e-Agriculture workshop

Session V: e-Agriculture in ABCI : Improving regional connectivity, efficiency and productivity using ICT in Agribusiness Operations
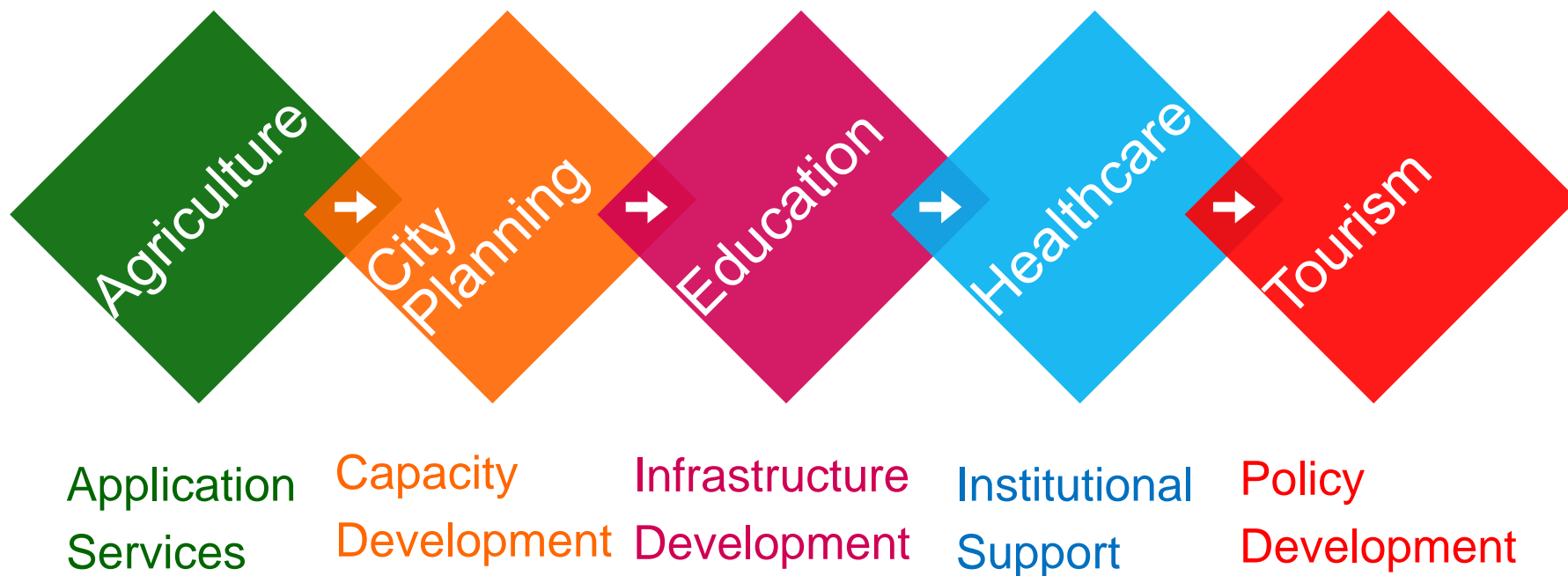
Arun Ramamurthy
Senior Public Management Specialist (ICT and e-Governance)
Sustainable Development and Climate Change Department
Asian Development Bank
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- Diversification economic theme and ICT in ABC

- ICT as an enabler in Key Sectors
  - Agriculture
  - City Management
  - Education
  - Health

- An ICT   packaged approach for reaping benefits of economies of scale, and better knowledge management

- USD 40 million ICT investments proposed in first phase

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ICT cuts across sectors

Agriculture	City Planning	Education	Healthcare	Tourism
Application Services	Capacity Development	Infrastructure Development	Institutional Support	Policy Development

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Proposed snap shot of Recommendations

Application Services	Capacity Development	Infrastructure Services	Institutional Support	Policy Development
• eAgriculture • eTourism • eHealth	• ICT Incubators • CoE for Innovation • Training	• Digital ABC Cloud • Wireless Zones • Command Center	• Digital ABCI Committee • ICT Evangelist • Brand Building	• Policy changes • New policy development
Budget $ 29.25 Million	Budget $ 3.1 Million	Budget $ 6.62 Million	Budget $ 0.6 Million	Budget $ 1.0 Million

The total planned budget is $40.57 Million

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Application Services – e-Agriculture

Mobile Info Systems	Direct communication with farmer on weather, market demand; collaborate with farmer and agriculture experts; training on farming methods on mobile
Agri Management System	Online purchase & sale of agri products with integration to trade hubs and automated logistics services – to reduce cost and waste
Automated Quality Control Systems for Farmers	Traceability of farm products from farm to retail; data captured through the mobiles is stored/ retrieved from the cloud system. Traceability is a mandatory requirement for exports to EU.
Modern Farming Techniques - Pilot	Precision farming uses sensors on the field to monitor soil parameters; 2D mapping of arable land for analysis and advanced warning systems. This makes farming more predictable hence bringing down the cost of credit and insurance.

Policy building package

Policy - Capacity Development

Engagement mechanism to create and sustain ICT incubators linked to universities and to develop the industry and academia partnership.

Policy - Standards & Processes; Project Management

Policy for instituting processes & standards for application and infrastructure.

Policy - PPP

Policy for development for Public Private Partnership (PPP) & its business models.

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Benefits of RCI

- Sharing of development, design & maintenance cost

- Economics of scale reduces purchasing cost

- Larger market size brings in new employment opportunities

- Sharing of knowledge and best practices

Savings of 12% in cost which is $5 Million

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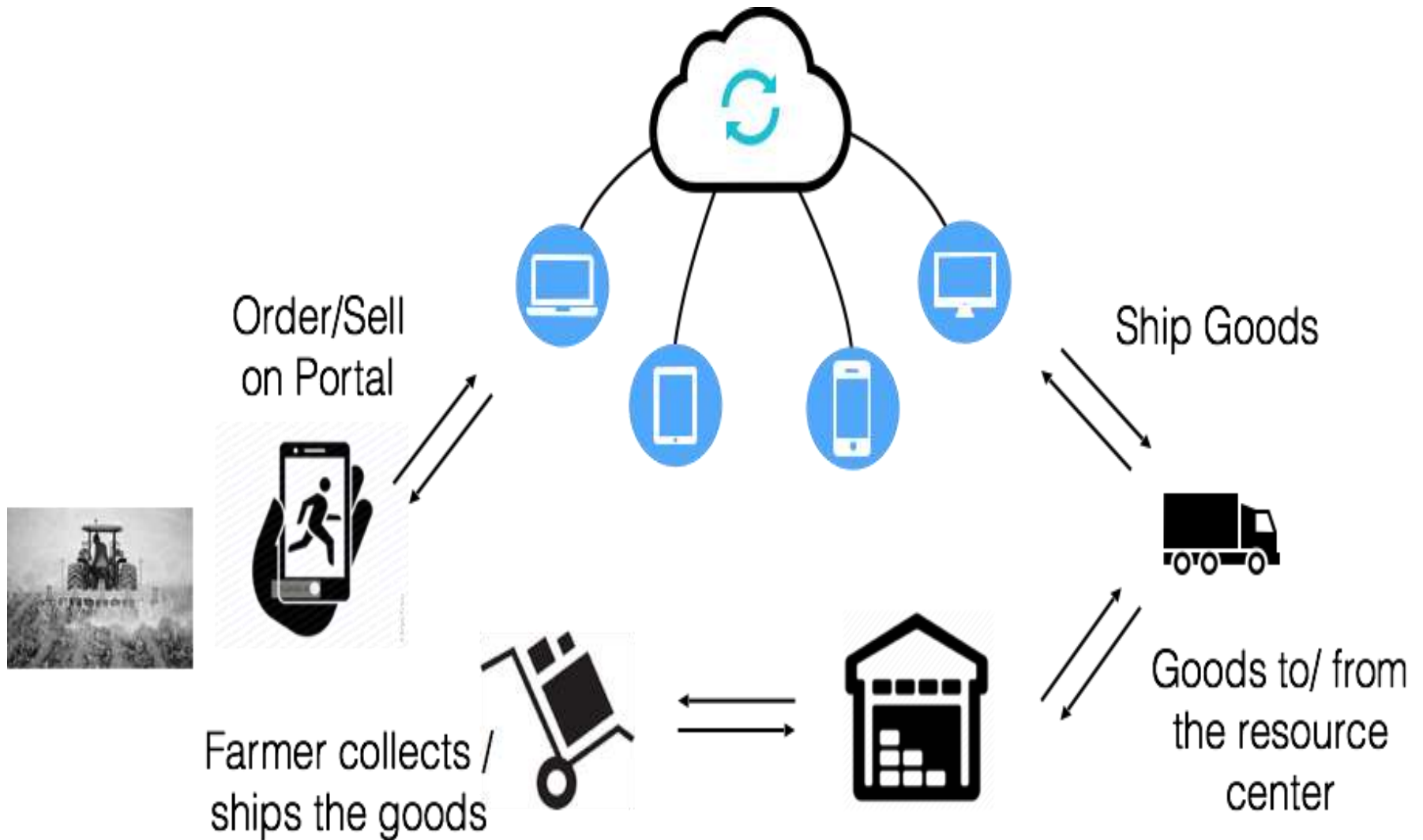# ICT enabled business processes in Agriculture

- Agribusiness value chain enhancements
    - Supply chain management
    - E-Commerce
    - Traceability of Agri products
    - Precision Farming

Increase productivity and efficiency, Better price, market access, and competitiveness of Agriculture products
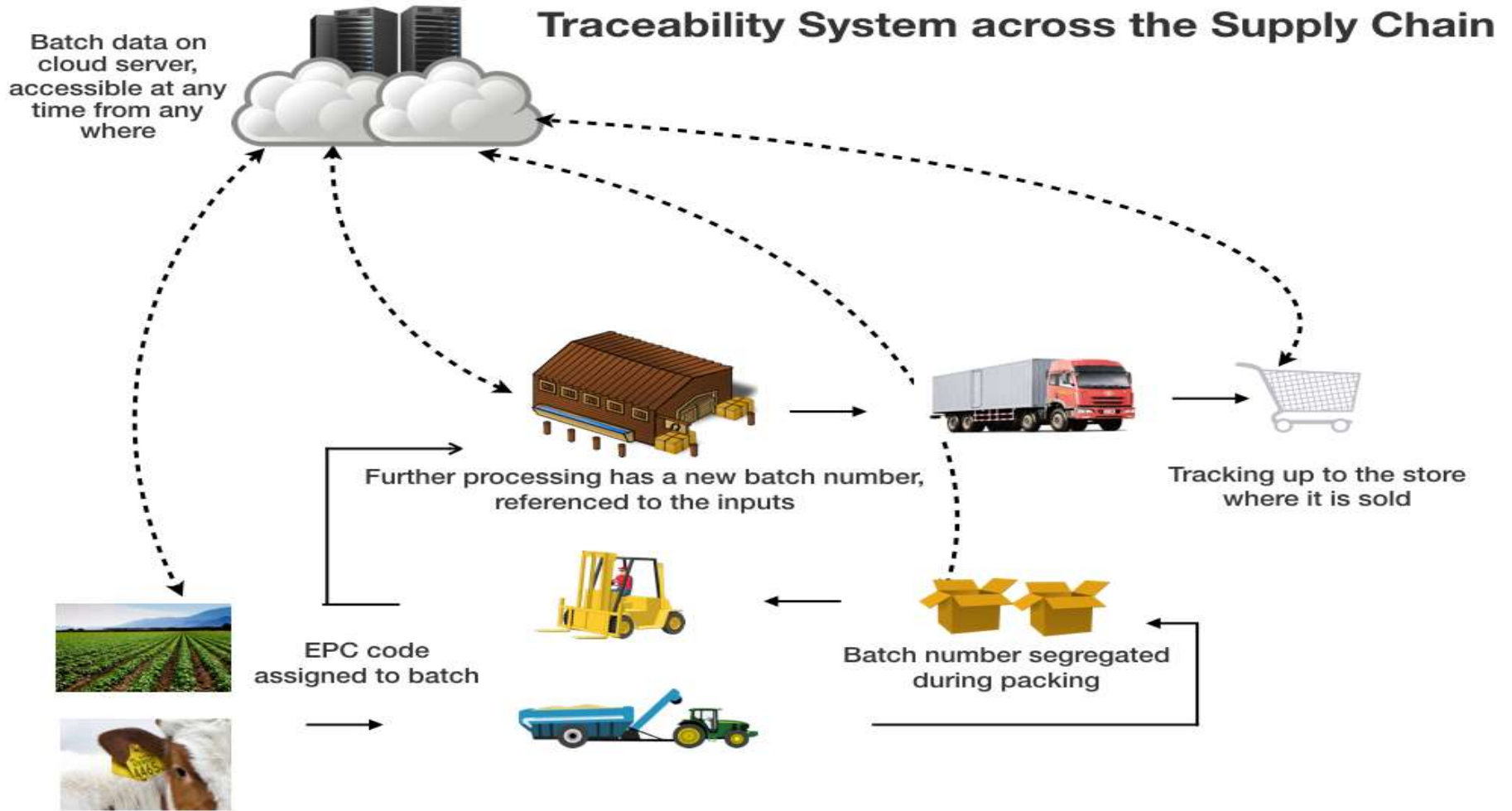
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ICT in Agriculture used in developed countries

- Agri-webinars – dissemination of farm business practices

- Crop clinics – Expert advisory services through VC

- e-Trading – Agriculture commodity online trading platforms

- Electronic auctions – Online procurement platforms

- eAgriculture Systems – Automated agribusiness value chain

- Precision farming – for monitoring, tracking, and improving, GIS/GPS

Supply Chain Portal

Order/Sell on Portal

Ship Goods

Farmer collects / ships the goods

Goods to/ from the resource center

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Traceability Systems

Traceability System across the Supply Chain

Batch data on cloud server, accessible at any time from any where

Further processing has a new batch number, referenced to the inputs

Tracking up to the store where it is sold

EPC code assigned to batch

Batch number segregated during packing

Viet Nam : ICT based Smart Agriculture (Fujitsu Ltd)

• Co creation of new business model with agriculture producers, food processors, local government, academia, and machinery producers

• Fujitsu implements two production facilities in Hanoi to produce high value added vegetables – medium size tomatoes and low potassium leaf lettuce

- Green house cultivation and
- Vegetable factory cultivation

• ICT based smart agriculture using data through sensors to automatically control production

- Temperature, CO_2, Sunlight, Rain, wind direction and speed, humidity, nutrient liquid temperature and electrical conductivity

Exterior View of the factory (409 m^2)

Green house cultivation zone

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Thank you

Additional information - Appendix

Application services – e-Tourism & e-Health

eTourism

Direct interaction with tourist through online chat; help tourist to create a customized itinerary; integration with social media – Experiential tourism to bring more trade and commerce

Tele-ICU

Digitally connected remote ICUs to a command center where in the intensivist diagnose the patient. This increases the efficiency of the intensivist by more than 200% and reaches out to a wider community. Institutions and Institutional coordination in play

Tele-Radiology

Transmission of radiology images to a command center from a remote location for diagnosis. The efficiency and the reach of the doctors is increased.

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Capacity Development Package

Innovation Entrepreneurship Program(IEP)	A program to create and sustain ICT incubators linked to universities and to develop the industry and academia partnership.
CoE for Skills Development	Building training programs in advanced ICT skill areas. A study is recommended followed by its implementation.
Institutional & Applications training	Program to design, build and deploy training programs for government agencies and the communities in eAgriculture and eTourism applications.

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Infrastructure Service Package

Wireless Zones

Installation and maintenance of 30 public Wi-Fi zones across the ABCI region to enable easy access to internet to citizens.

ABC Cloud

Feasibility study and specification detailing for setting up a cloud system for exclusive use of the ABCI region.

Communication Command Center

Feasibility study to setup a command center at Almaty and Bishkek with real time integration of data from utilities, CCTV and satellites.

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Institutional Support package

Digital ABCI Committee

Committee to recommend policy changes, approve budgets and coordinate across ministries/ department for smooth project execution.

ICT Evangelist

An independent body to promote technology; create a forum to enable the investors meet the entrepreneurs and give away awards on ICT excellence & innovation.

Brand Building

Brand building program within and outside the ABCI region to encourage participation of citizens/ departments and to attract private investments.

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