

Digital Agriculture and AKIS Experiences from IFAD

NEN

Near East,
North Africa,
Europe and
Central Asia

MCO Istanbul

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COMCEC



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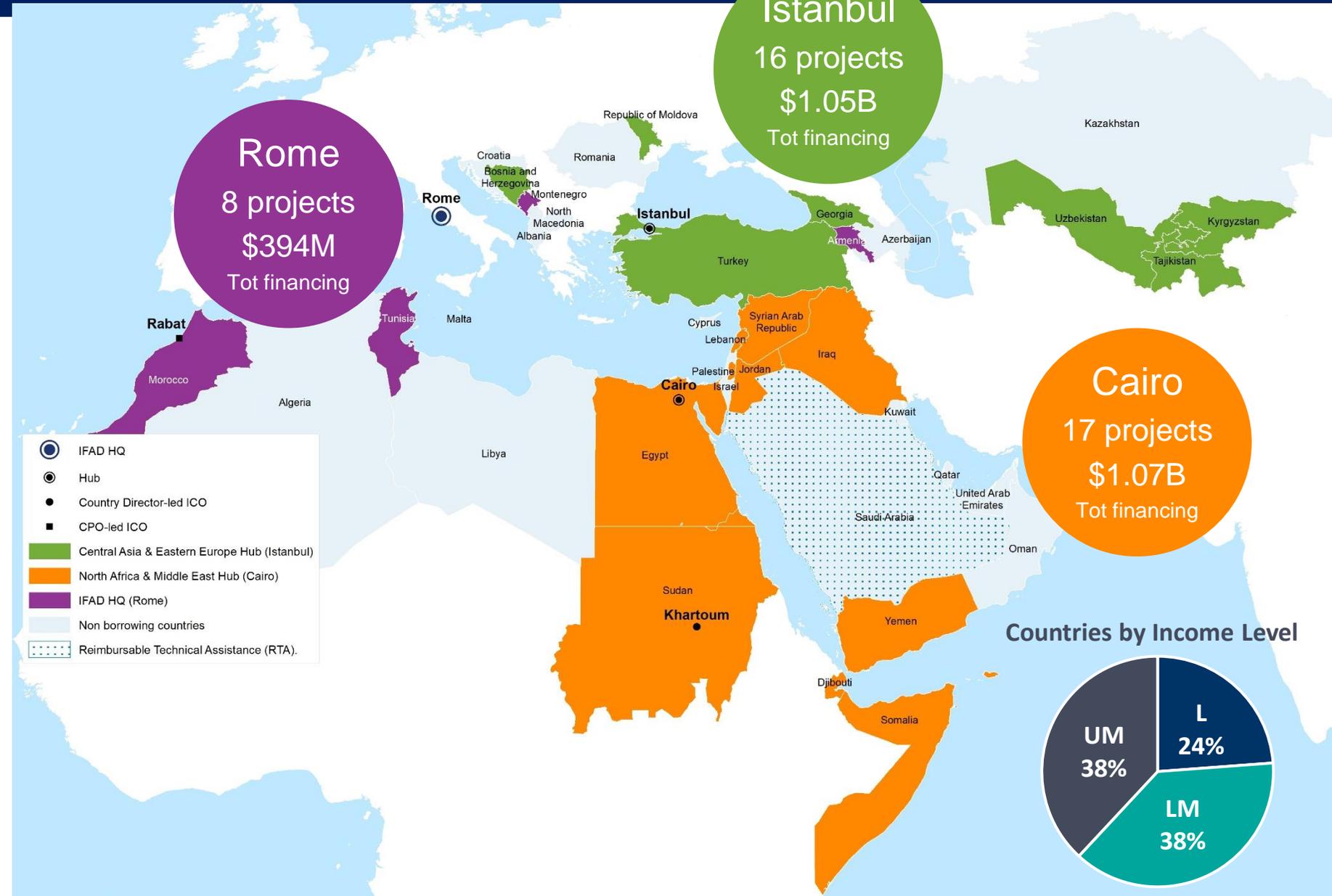
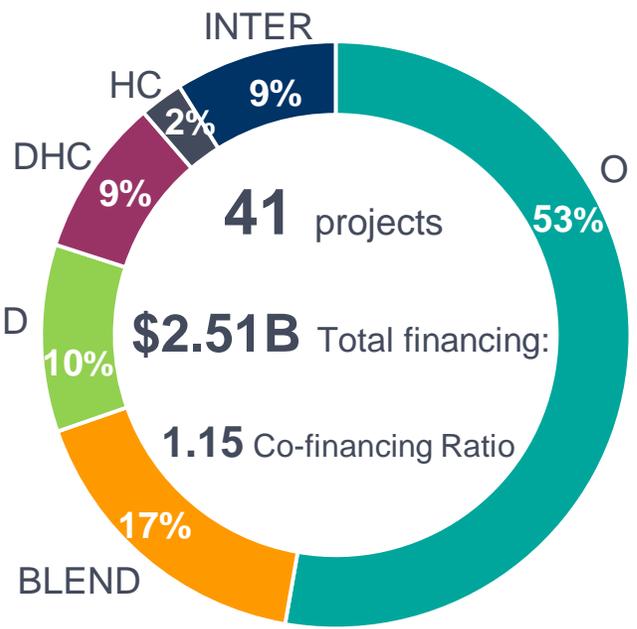
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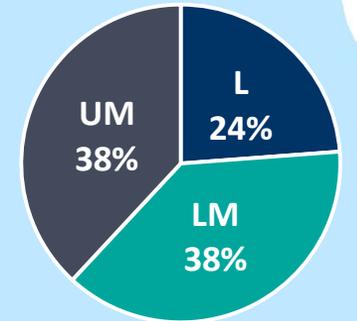
NEN Investment Portfolio

21 Countries
33% Fragile situations

NEN Overall Investment Value



Countries by Income Level



RPSF Rural Poor Stimulus Facility

8 Eligible countries

\$9.08 million total allocation to NEN countries

7 Proposals approved under 1st round (Djibouti, Lebanon, Somalia, Syria, Palestine, Sudan, Yemen) **\$3.4 million**

5 Proposals for the 2nd round (Djibouti, Somalia, Palestine, Sudan, Yemen) **\$5.5 million**



Inputs/output
agricultural markets



Subsidized Credit
Services and increased
Working Capitals



Social Protection for
the most vulnerable

Repurposing and Restructuring

\$4.2 million funds repurposed under ongoing projects (Djibouti, Egypt, Georgia, Jordan, Palestine, Tunisia)

7 projects extended due to COVID-19. Average extension 6.4 months

RBA's Policy response

8 Joint Policy studies with FAO, WB, WFP, UNDP for BiH, Egypt, Iraq, Jordan, Morocco, Tajikistan, Tunisia and Turkey

Digital tool, **Agricultural Investment Data Analyzer (AIDA)**, used to help the Governments of Egypt, Tunisia, Jordan and Yemen



Strong field coordination

Need for an existing and fully endowed implementation unit to act quickly and efficiently (field network)



Flexibility

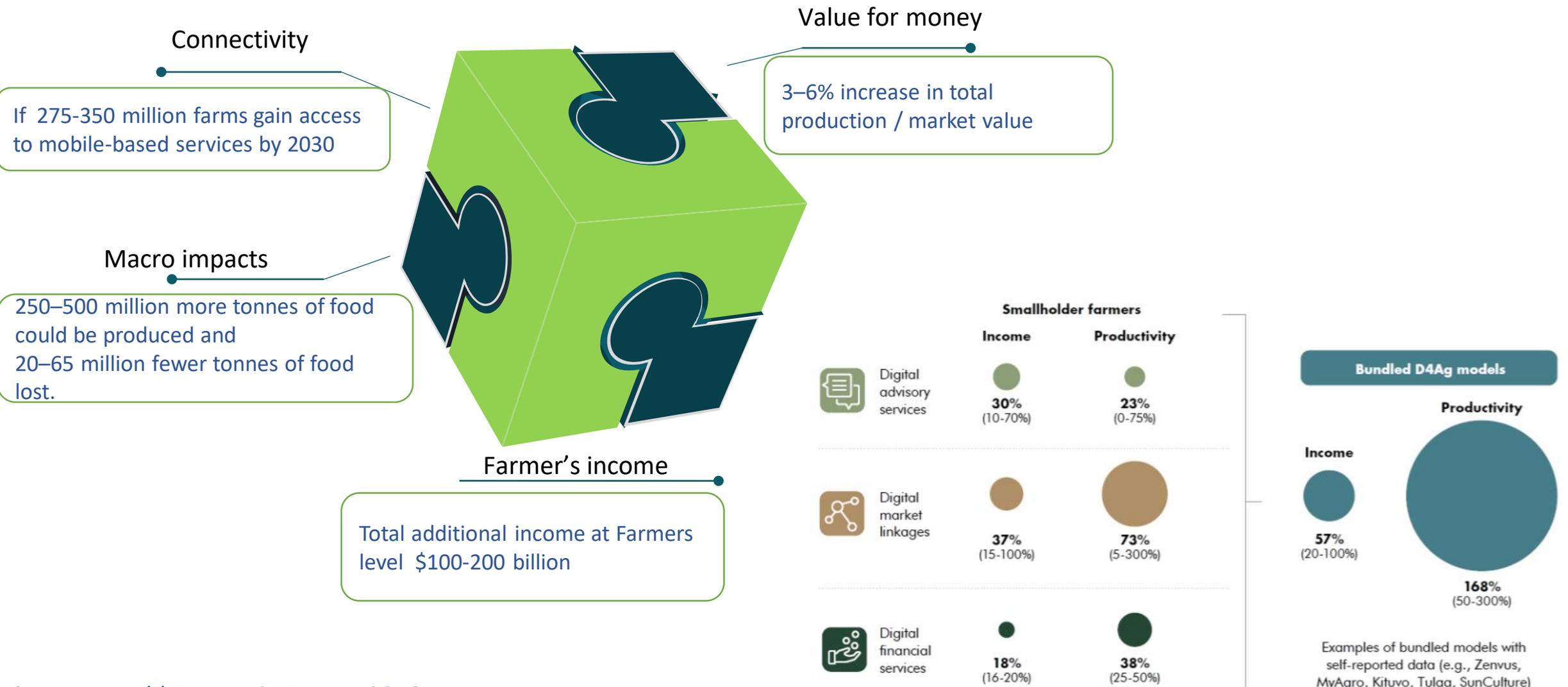
Procurement procedures due to heavy processes not well aligned with the spirit of an emergency response (seasonal inputs)



Demand driven approach

Prioritize the provision of inputs and other basic assets in order to maintain adequate production of fast-maturing produce and respond to the immediate needs for food security

Digital Transformation of Agri Food Systems: The Untapped Potential



Source: World Economic Forum, 2018

Accelerate and scale up social and economic development for smallholder households and poor rural people through ICT4D solutions and interventions

New 2020-2030 **ICT4D Strategy** approved

Key Objectives:

- Increase poor rural people's **productive capacities** and **benefits from market participation**
- Strengthen the **environmental sustainability** and **climate resilience** of poor rural people's economic activities

Key Action Areas:

- Promote the scalable uptake of ICT4D solutions in IFAD operations
- Strengthen ICT4D partnerships
- Enhance ICT4D knowledge management and sharing
- Build internal ICT4D awareness, capacity and leadership

Main areas of intervention:

- Increase **access to information** (particularly on markets and weather)
- Expand **access to services**
- Strengthen **financial inclusion**

ICT4D a key pillar of IFAD's COVID-19 Response:

- Grant to PAD for providing 1.7 million farmers in **Pakistan, Kenya, Nigeria** with key information to tackle COVID-19 challenges
- Grant to the **Asian Farmers Association** (AFA) for strengthening farmer organizations' digital capacities
- Scaling-up of a governmental e-extension solution in **Cambodia** to promote farmers' access to agricultural information and inputs
- Provide 160,000 households with access to finance via smart card and mobiles in **Nepal**
- Expanded internet coverage and digital registration of beneficiaries to ensure they are able to access a range of digital services in **Myanmar**



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- Anacafé project in Guatemala -climate-smart coffee production
- UPTAKE project in **Tanzania** - with Farm Radio International to benefit resource poor farmers
- **Moroccan** Agency for Agriculture Development (ADA) developed an online marketing for local agricultural products.
- Provide 160,000 households with access to finance via smart card and mobiles in **Nepal**
- Blockchain with Valyou – Traceability of international remittances in **Malaysia**

- Technology application at corporate and project level, knowledge sharing
- Setup data standards and requirements
- Upgraded GIS enterprise IT, GIS Tools
- Strengthen CoP for Geospatial Technologies
- Pilots and Scale-up use of digital technologies in operations



The images above show terracing and afforestation of the [Murat River Watershed Rehabilitation Project](#) in Turkey to help conserve soil and water. Satellite imagery reveals the contours of the terraces after they have been constructed.

Geospatial Technologies

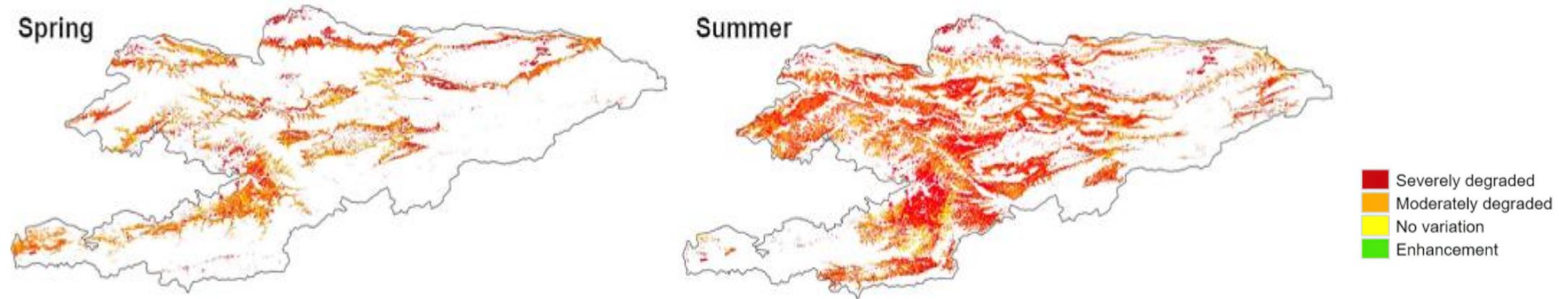
- Geomapping of IFAD Investments- infrastructure, area under irrigation, climate resilient practices etc. in over 60 countries (13 in Asia Pacific)
- Geospatial Analysis for Impact Assessments
- Collaboration with European Space Agency for remote sensing services
- GeoScan- IT platform for access to useful datasets for Country Strategies and project design. Data on climate, land use, demographics, infrastructure.
- GeoAdapt- access to relevant databases for to conduct climate vulnerability assessments

Blockchain and Traceability

3-year [pilot](#) in collaboration with mobile money provider **Valyou** – integration of blockchain in mobile money for enhanced security and traceability in cross-border remittances tailored to migrant workers from Pakistan and Bangladesh in Malaysia.

Knowledge Partnership with FAO/RBA –
Capacity Building and Learning on use of Blockchain technologies

GIS in M&E of the projects like in Murat River Watershed Rehabilitation Project in Turkey.



- A large part of Kyrgyzstan's land area serves as pasture that are subject to degradation caused by overgrazing and exacerbated by climate change. To analyze pasture degradation trends, GIS instruments were used to prepare nationwide maps on pasture conditions.
- The study compared the average pasture conditions in the periods 2000–2004 and 2016– 2020 using Landsat-based spectral indices and a digital elevation model. The remote sensing analysis took into account pasture types, grazing periods and altitudes, and a dataset of field measurements.
- Satellite imagery corrections entail the atmospheric correction of satellite images and intercalibration of sensors.
- Calculation of Landsat-based spectral indices led to calculation of vegetation, moisture and burn indices over Kyrgyzstan for every grazing period in each season in both five year timeframes.
- Changes in the pasture condition over time was assessed.

IFAD, UNDP and FAO joint study with the Ministry of Agriculture and Forestry (MoAF) entitled “COVID-19 Rapid Impact Assessment on Agri-Food Sector and Rural Areas in Turkey” in 2020

Digital Solutions to Enhance the Marketing and Business Skills of Rural Smallholders in Turkey to Mitigate the Impact of COVID-19 in 2021.

- Smallholder farms which have low incomes and limited access to social, health and digital services are already vulnerable, and have limited capacity to cope with any crises.
- E-marketing and other short food supply chains tools should be developed and promoted to ensure access of rural smallholder farmers including women farmers to the conventional and other agri-food supply chain platforms.

- Most of the smallholder respondents were aware of digital platforms. However,
 - Need of multiple forms of support, from rural finance to training in how to use digital platforms effectively in their business solutions.
 - Finance the needs of farmers for the equipment and infrastructure they need to access digital services.
 - Training programmes about the availability of these platforms and how to use them are also essential as a way of increasing digital marketing.



Technical Support to 3 Regions – ESA, WCA and **NEN** during **2022-2024** based on prioritisation

Component 1: Ecosystem Assessment and Mapping for Country Strategies and Development Plans

- Supporting integration of ICT4D in Country Strategies and development plans
- Support integration of ICT4D in new and ongoing projects

Component 2: Building Capacity and Awareness on ICT4D

Component 3: Strengthening Learning and Knowledge Management



Key Target Groups: Government Partners, PMUs, Implementing agencies, rural institutions (particularly women and youth) and country teams

Grant Components and Targets

Technical Advisory



9 Country Strategies

9 New designs and 9 ongoing operations

Prioritization based on discussion with country and regional teams

Focus on Digital Financial Inclusion and improving Market Access

Capacity Building



500 ToT – 6 in person and/or virtual trainings per year

Scale-up to 2000 people in 3 years

Post grant: Learning material to be useful

Focus on implementing partners, women, youth and rural institutions

Knowledge Management



Demand driven knowledge products focused on operational knowledge

6 dissemination events

Learning microsite for Capacity Development

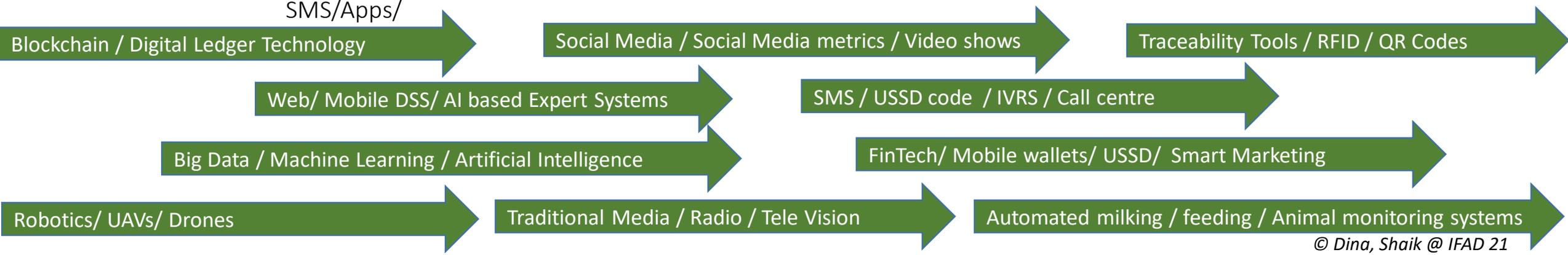
Trainings and M&E of grant

Implementing partner for DAS: Development Gateway

Cafeteria of digital innovations: IFAD brings smallholders perspective

AgriTech Themes			Potential Digital Solutions		
Climate change Adaptation	AWS/ IOT Linked Irrigation mgt.	Water management automation	RS/ GIS for watershed	Fore warnings USSD/ App based Insurance	AI/ ML Trends
Access to Markets	E- m platforms Mkt price push pull	Data / Aggregation models	Traceability RFID to DLT	DTC Smart Apps Social Media based	Smart Contracts Equipment logistics Smart warehousing
Financial Inclusion	Vouchers Warehouse receipts Smart Savings	Credit wallets USSD to Apps Credit ratings	Block chain for remittances	Mobile Money Ergos- AI	GIS for derisking
Production capacities	Data driven/ Personalised Advisories SMS/Apps/	Time scheduling / Full stack platforms Input supplies	AI solutions Animal tracking Enveloped services	Crop, soil and weather Monitoring	Digital profiles SME Skill development

Vertical / Horizontal Integration



1. The digital solutions should be based on **small holder farmers needs**. Should integrate a combination of low end and high end digital tools depending on the accessibility, affordability and applicability in the last mile
2. Organizations should work on **blending** digital advisories with real time provision of services such as input supplies. Market access and financial inclusion
3. When digital services are used for **increasing efficiency** of existing structural and functional components of organizations, they will be sustainable. Rather than introducing digital services on adhoc pilot project basis

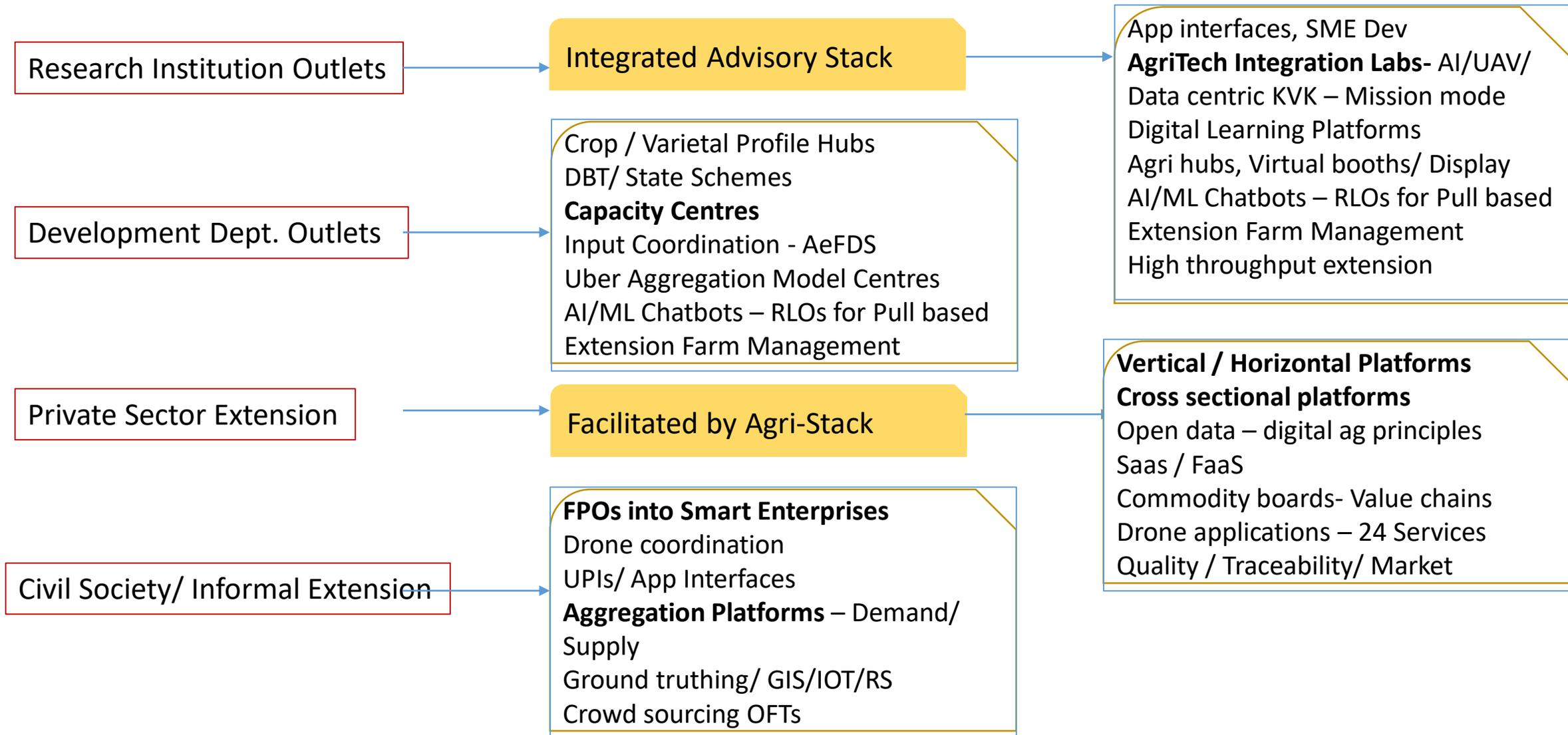
4. Digital services should address the actual **pain points** in the agri food systems. We need to move from technology centric approaches to farmer centric.
5. Digital services are more impactful, when we elevate our efforts from individual digital solutions to coordinated efforts and then to **platform based** approaches.
6. There is a need for complementing and driving **Agtech and Fintech ecosystem** with Government initiated national platforms.
7. Develop **farmers registries**, data policies, favorable policy environment for facilitating partnerships, plan full stack approaches etc.,

COMCEC: What IFAD can offer?

- Be a partner in developing medium term strategy for digital agriculture and full stack development in the region
- Design and develop Agtech/ FinTech Integration project to bring value chain perspective in IFAD project areas
- IFAD can help in designing the concept of Smart Villages along with other UN agencies.
- Bring on board global experiences of digital innovations in support of smallholder farmers productive capacities, market access, climate resilience and financial inclusion.

- Facilitate the private sector engagement strategies from different countries/IFAD projects.
- Drive blended efforts in integrating agricultural advisories, skill development, market access, financial inclusion and women empowerment.
- Experiences of using digital land records with unique identity numbers and integrating GP coordinates, soil health status, input recommendation and service coordination will go a long way. IFAD can collaborate and pilot in its project areas - these advanced efforts through its PoLG or co-investments.
- IFAD has cross-country experience of using QR codes, RFID markers and BlockChain technologies in bringing traceability of agricultural commodities. IOT suites for supply chain management requires proper private partnerships.

IFAD can offer a Scoping strategy



AgriStack of Government

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Hien Bernard, Shaik Meera and Kiymaz Taylan

Thank you

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