Digital Agriculture, Climate Resilience and Adaptation Priorities

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Introduction
Public and private sector priorities
Conclusions from the field work for Digital Agriculture (DA) Study in the South Caucasus
Digital Agriculture Study in the South Caucasus

Identify key issues in the agriculture sector that could be addressed through DA by:

- Outlining the key challenges for sector development
- Reviewing the current uses of DA in response to these challenges
- Assessing the potential for further DA applications
- Considering the nature of major obstacles to adoption
Limited expressed demand in the private sector possibly due to:

- Inadequate penetration of Internet services in rural areas & limited ability to pay for them
- Limited awareness of the possibilities offered by DA
- Inadequate training in how to access & use DA
- Lack of trust in online services
AGRICULTURE IS 
#23 OUT OF 23 
SECTORS IN TERMS 
OF DIGITALIZATION 
IN THE USA
Key Sector Challenges & Potential DA Solutions

- Small, fragmented farms
- Weak institutional base for land administration
- Weak capacity for knowledge transfer
- Sub-optimal access to modern technology
- Vulnerability to production & market risks
- Inefficient use of land & water resources
- Inadequate environmental management
- Limited capacity for policy formulation and public service delivery

- Agricultural Extension and Technology Transfer
- Risk Management
- Agricultural Markets
- Crop Forecasting
- Irrigation & Drainage Management
- Land Administration & Land Markets
- E-Governance for Agriculture
- Environmental Land Use Monitoring
Areas Where DA Could Make a Difference

- Agricultural Extension and Technology Transfer
- Risk Management
- Crop Production Forecasting
- Environmental Land Use Monitoring
I know a lot about financial risks – in fact, I spent nearly my whole career managing risks and dealing with financial crisis. Today I see another type of crisis looming: A climate crisis.

*Henry Paulson, US Secretary of the Treasury (2006-2009)*
High Priority in All Regions
1. Optimize agronomic practices, including fertilizer application
2. Improve crop varieties, particularly drought-tolerant crops

High Priority in Irrigated Regions
1. Optimize application of irrigated water
2. Improve irrigation water availability; rehabilitate irrigation capacity
3. Improve irrigation techniques
4. Rehabilitate water reservoirs

High Priority in Mountainous Regions
1. Adjust crop variety based on elevation
2. Research & improve livestock nutrition, management & health
3. Construct small-volume reservoirs for water storage
4. Improve drainage infrastructure
5. Reduce erosion and practice soil conservation
Climate Change Risk

- Decreased & more variable precipitation
- Higher temperatures
- Reduced river runoff

Impact on Agriculture

- Reduced, less certain & lower quality crop & livestock yields
- Crop failure

Recommended Adaptation Measure

- Improve farmers’ access to agronomic technology & information
- Increase quality, capacity & reach of extension services
- Improve farmers’ access to hydrometeorological capacity
- Create crop insurance program
- Improve farmers’ access to long-term, low-interest loans
- Improve market access
- Improve intersectoral & interagency coordination in planning

High priority in all countries
High priority in Georgia and Armenia
High priority in Georgia only