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of tomorrow drive our work
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development worldwide.

DIGITAL TECHNOLOGIES TO DISRUPT AGRICULTURAL FINANCE

**ULRICH HESS, GIZ
SME FINANCE FORUM
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Outline

- I. Digital technologies accelerate access to finance
- II. Digital technologies power precision farming and thereby farming productivity
- III. Example: Digital technologies transform the agricultural insurance value chain
- IV. Challenges



I. Digital technologies accelerate access to finance

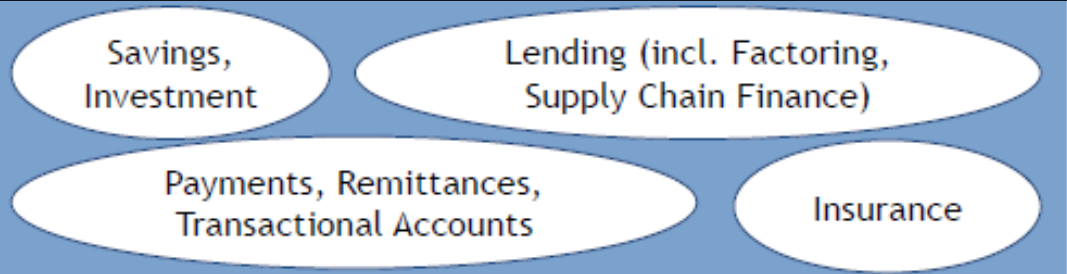
- Access to financial services is important for low- income households and MSMEs businesses and key factor for economic growth.
- The high cost of building and operating brick-and-mortar bank branches has been a major obstacle for extending financial services to low-income households especially in remote rural zones and MSMEs.
- Banks, microfinance institutions, mobile operators, and third party providers are leveraging mobile phones, along with networks of small-scale agents, to offer basic financial services at greater convenience, scale and lower cost than traditional banking allows.



Financial
Providers
MFinance

Banks, Digital Banks, Microfinance Institutions, FinTechs,
Non Banking Financial Institutions mobile operators

Products
gvf



Channels
Cellulant

Alternative Distribution Channels (ADC) enabled by technology:

- Online/internet, cards/ POS, tablets and Mobile in combination with agent networks (Branchless banking)

Customer
Mobisol

Unbanked and underbanked segments particularly in frontier/rural areas:

- MSMEs (including women-owned) in underserved geographies
- Individual consumers/retail customers

II. Digital technologies power precision farming and enhance productivity

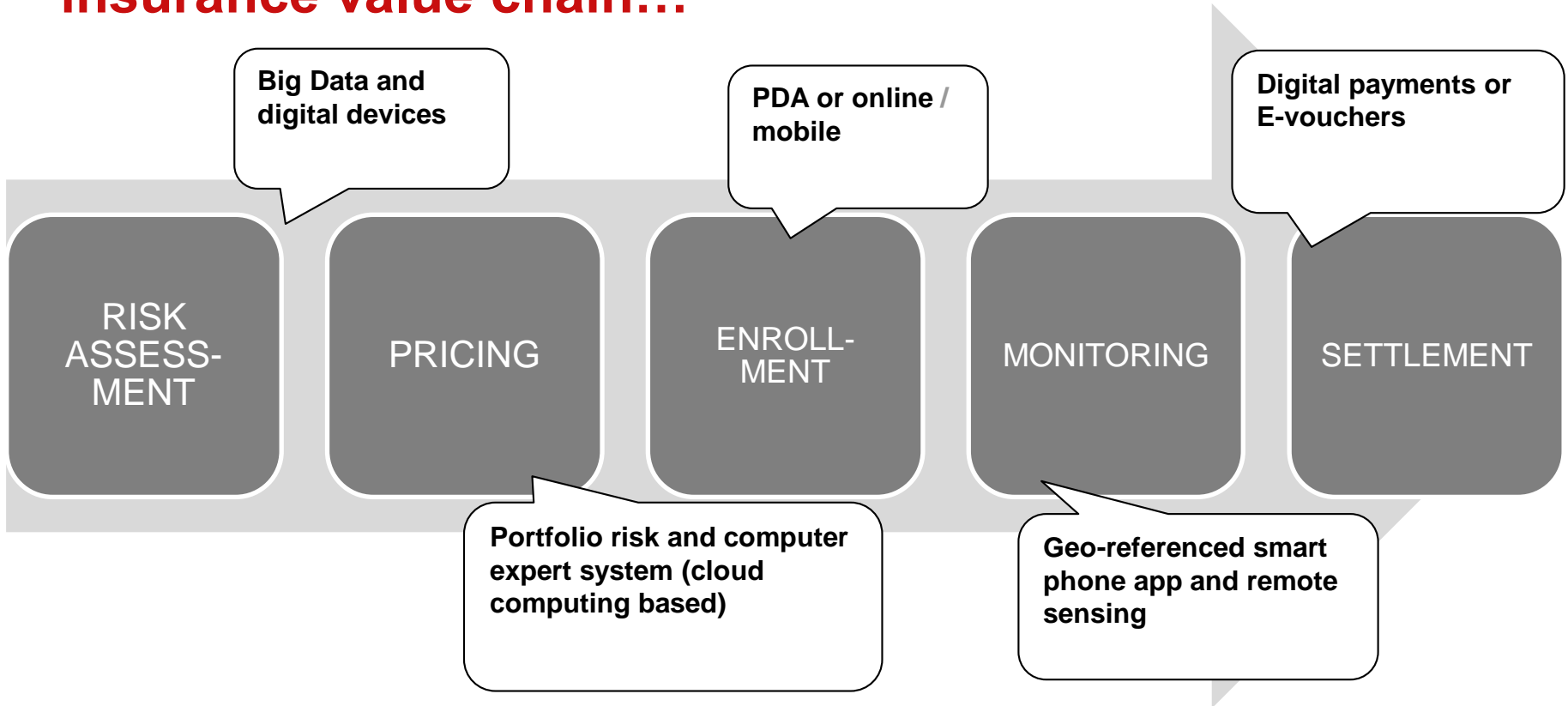
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- **Greater use of digital agriculture services** improves efficiency and productivity
- **Market for precision farming is 24bn USD (Goldman Sachs)**
- **Precision farming generates yield increases:**
 - precision-fertilizer (18%), precision planting (13%), precision spraying (4%) irrigation (10%), lighter tractors (13%) reduces compacting
- **Field Monitoring** drones, satellites, weather tracking algorithms and remote soil sensors detect issues early
- **Data Management through a Software** helps farmers make informed decisions at every stage of the growing cycle



III. Digital technologies transforms the agricultural insurance value chain...





IV. Challenges

- What works?
- What is the pay back period?
- Will customers adopt the digital delivery technologies?
- Will staff adopt the new techniques?
- Connectivity in rural areas?



References

- ❖ **Csaky / Frei-Oldenburg / Hess / Kuhn / Miller / Varangis / Perry (2017):** Climate Smart Financing for Rural MSMEs: Enabling Policy Frameworks - Prepared for the G20 Global Partnership for Financial Inclusion. <http://www.gpfi.org/publications/g20-gpfi-policy-paper-climate-smart-financing-rural-msmes>
- ❖ **Hess / Hazell (2016):** Innovations and Emerging Trends in Agricultural Insurance, GIZ. URL: https://www.giz.de/fachexpertise/downloads/giz-2016-en-innovations_and_emerging_trends-agricultural_insurance.pdf
- ❖ **Goldman Sachs Equity Research** , July 13, 2016 Profiles in Innovation, Precision Farming , Cheating Malthus with Digital Agriculture



Climate Smart Financing for Rural MSMEs:
Enabling Policy Frameworks

G20 Global Partnership for Financial Inclusion



Innovations and Emerging Trends
in Agricultural Insurance

How can we transfer natural risks out of rural livelihoods
to empower and protect people?



Thank You!