Digital Agriculture-based Advisories for Enhanced Water Use Efficiency and Sustainable Agriculture

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Why Digital Agriculture for Enhancing Water Use Efficiency?

- Large yield gaps (farmers yields are 2 to 5 folds lower than achievable.
- Farmers have no access thru extension agencies
- The NSSO 2013 showed: % farmers

No ext.support	Govt.machin ery	Other farmers	Media	Pvt. agents
59	11	20	19.6	7.4





PM's Doubling Farmers' Income

"The Hon'ble Prime Minister of India made a statement on 28 February 2015 at Bareilly on Doubling Farmers' Income by the year 2022."

Prime Minister's Seven Point Strategy for Doubling Farmers' Income by 2022

- 1. Focus on irrigation with per drop-more crop;
- 2. Quality seed and soil health;
- 3. Investments in warehousing and cold chains;
- 4. Value addition through food processing;
- 5. Creation of a national farm market;
- 6. New revolutionary crop insurance scheme to mitigate risks at affordable cost; and
- 7. Promotion of ancillary activities like poultry, beekeeping, and fisheries.





Death Valley of Impacts Food secure and prosperous farmers



- Context, Culture, Capacity
- Science of Delivery Listen, Learn, Leverage, Adapt, Ownership & Relationship
- Pragmatic Policies for Prosperity





KISAN MITrA : Farmers-Centric Integrated & Inclusive Market Oriented Development Rain water management More crop Soil Health per drop Restructuring Breed Productivity Sustainable Climate Enhancement Intensification Change Reading Evaluation Online M&E **High Value** Livestock Knowledge crops Goatary desire Feed Poultry Feedbacks Management IPM Monitoring **Fisheries** Grading Health Marketing Marketing and Processing Value Grading addition Processing Packing Storage Reducing PH loses and value addition Packaging Policies Risk Enabling Institutions Coverage policies SWC Soil test based SHGs inputs Wasteland Incentives Wastewater development Plantation treatment Skilling & wastewater Microenterp youth Mechanisation Off-farm employment Collective Reduced inputs cultivation income Fodder cost Production Skilling ADB Skill Credit from women Developmen formal Institutions

Better, Faster and Cheaper delivery through Digital Agriculture



Better, faster and cheaper products/services will increase smallholder farmer productivity, providing gains in poverty-reduction, nutrition, education, and savings



Digital Information System for DFI





Groundnut Crop Sowing Advisories Devanakonda Mandal, Kurnool District





Climate resilient groundnut yields



Farme

- Sowing at right time is critical in rainfed agriculture
- Large variability exists at Devanakonda in rainfed crop-sowing date
- Presently no advisory is available to farmers on right sowing period
- ICRISAT, Microsoft, aWhere, CYA (NGO) joined hands
- 175 farmers registered their mobiles for receiving advisories through SMS

Water Impact Calculator: Simple tool for Irrigation scheduling



- Simple and Excel based decision making tool
- Computes field scale water balance at daily time scale
- Estimates crop water requirement and soil moisture availability based on basic minimum inputs
- Design Irrigation scheduling (time and amount to be applied)
- It is a Generic tool which is applicable to field, horticulture and vegetable crops
- Validated for different horticulture crops in Andhra
 Pradesh and Karnataka



On-line Monitoring Dash board

Historical Observed Crop Yield in Karnataka (2010-2017)

This data collected through crop cutting experiments during various projects supported by Government of Karnataka and CSR projects.



Groundwater Recharge



Kisan MiTRa interface on web and mobile TechnoBrain + VassarLabs + TresholdSoft



Agro-eco Zone-wise Crop Planning





Monitoring, Evaluation and Learning based on LRI







Thank You

