

# Engaging with farmers to explore potential benefits of S2S predictions

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Organizers



Integrating Climate Information and Decision Processes for Regional Climate Resilience

Final Project Report, September 2019



The International Research and Applications Project: Integrating Climate Information and Decision Processes for Regional Climate Resilience (IRAP)









IRAP was funded for 5 years beginning September 2013-August 2018, with an additional no-cost extension through August 2019.

Started in the Caribbean region in 2013 and expanded to <u>India</u> and Bangladesh in 2016.

#### IMD, Delhi & IMD, Pune teams played a great role

UA: Jim Buizer, Tim Finan IRI: Andy Robertson, Nachiketa Acharya IMD Pune: AK Sahai, DS Pai IMD, Delhi: KK Singh, DR Pattanaik, Kripan Ghosh IMD Patna: Anand Sankar, Sandeep Kumar & other IMD team members, CER, Tanjavur, Tamil Nadu: Palaniappan, Santhanagopala Krishnan RIMES: Anshul Agarwal, Mitesh Sawant

### Objectives

- Understand decision processes in which climate information is used
- Institutional context within which information is provided, accessed, and implemented

#### Steps

- Determine vulnerabilities and user needs
- Work-together to produce climate information required
- Decision support tools & networks
- Improve through evaluation
- Build local capacity



Mills, J., Gaskell, P., Ingram, J. et al. Engaging farmers in environmental management through a better understanding of behaviour. Agric Hum Values **34**, 283–299 (2017). https://doi.org/10.1007/s10460-016-9705-4



### Interventions



### In all the 4 pilot districts



#### Forecast Application in Risk Management (FARM) Field School (FFS) in agriculture



## Flow of climate information



Text messages sent to participating farmers/FARM participants also connected through social media groups/phone calls



Calibrated probability forecasts for (a) Week 1 (15–21 June) and (b) Week 2 (22–28 June), issued on 14 June 2018. Shown is the probability of the dominant tercile category. *Robertson et al. (2019) JGR, 124:13,861-13, 875 [CFSv2, IMD gridded 1x1 Obs]* 



#### उप-मौसमीय (सब-सीजनल) पूर्वानुमान

सप्ताह संख्या-9 (६-9२ जुलाई) में थोड़ा अधिक संभावना के साथ (३३ प्रतिशत की तुलना में ४० प्रतिशत) <mark>सामान्य से कम वर्षों हो सकती है</mark>।

*सप्ताह संख्या-२ (१३-१६ जुलाई)* में भी थोड़ा अधिक संभावना के साथ (३३ प्रतिशत की तुलना में ४० प्रतिशत) <mark>सामान्य से कम वर्षा</mark> **हो सकती है।** 

> (ए. सत्तार) नोडल पदाधिकारी, कृषि मौसम आर०पी०सी०ए०यू०, पूसा, समस्तीपुर

### Findings

Farming decisions

- Crop choices
- Choice of crop varieties
- Land-cultivated
- Time of planting/transplanting

Climate information

in decision-making

- Fertilizer use
- Pesticide/Fungicide use
- Irrigation interventions
- Mechanization
- Labour use
- Harvest timing
- Post-harvest storage
- Drought prone areas more info, and diversity of information needs /decisions making
- Huge demand for additional/tailored climate info



### Summary

- Climate information is strongly valued, both FFS and text forecasts 2018 was a difficult year
- More vulnerable farmers have limited access and ability to use the information – thus may need more capacity building efforts [complex barriers land ownership, resources, social structures, traditions]
- Improved climate knowledge, regular access to forecasts, KVKs-NGOs hand holding crucial
- Irrigation interventions climate forecasts S2S scale provided important prep time
- IMD plans evolving to meet some of these needs

   FPOs and alignment with grassroot agencies
   important to scale-up lessons learnt



Thank you. srini@rimes.int A REAL PROPERTY OF

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