



A Case Study of Good Practice in Climate Services from India

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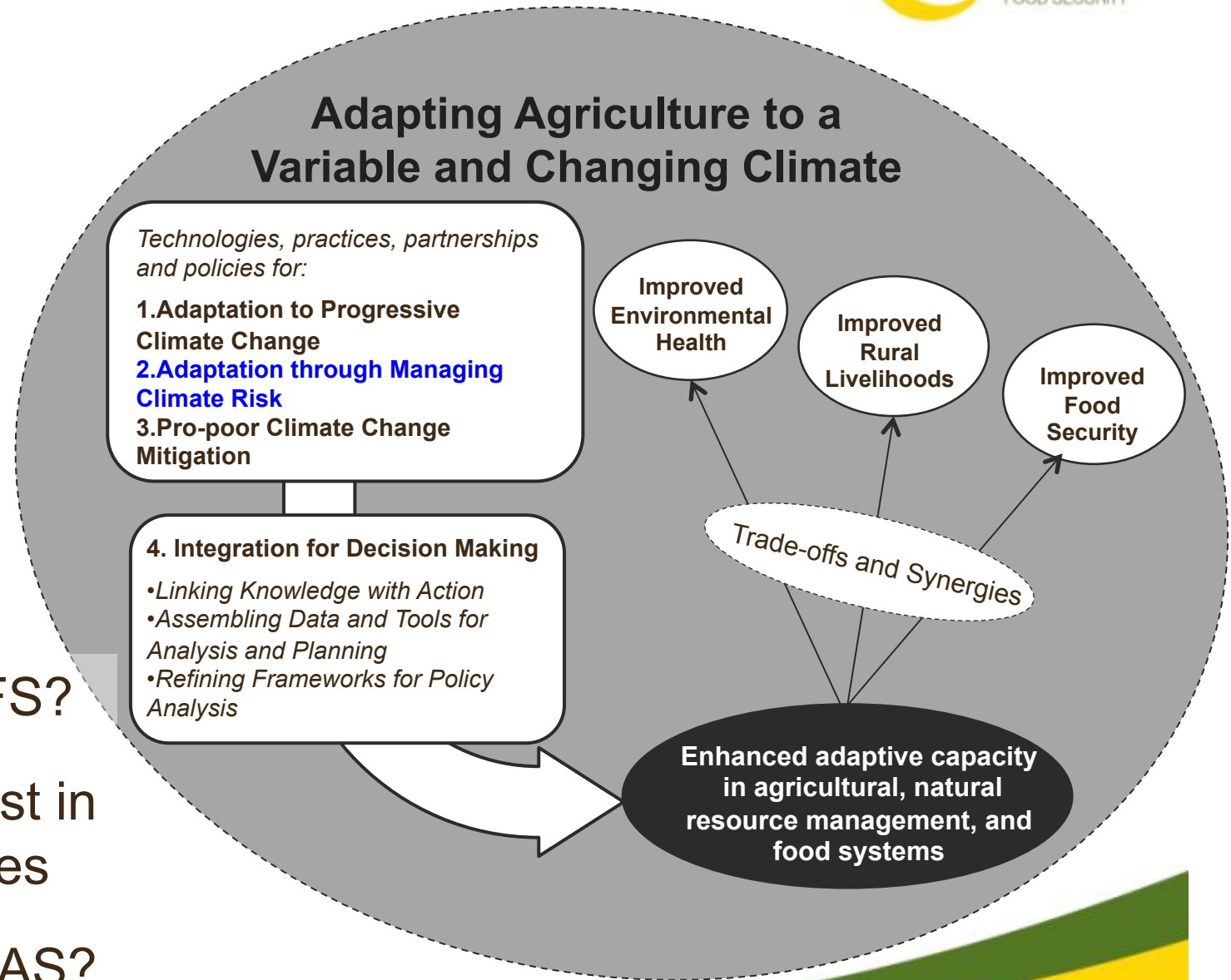
Jim Hansen

ICCS2, Brussels, Belgium

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CCAFS and Climate Services



- What is CCAFS?
- CCAFS interest in climate services
- Why India's AAS?

Background: History of India AAS



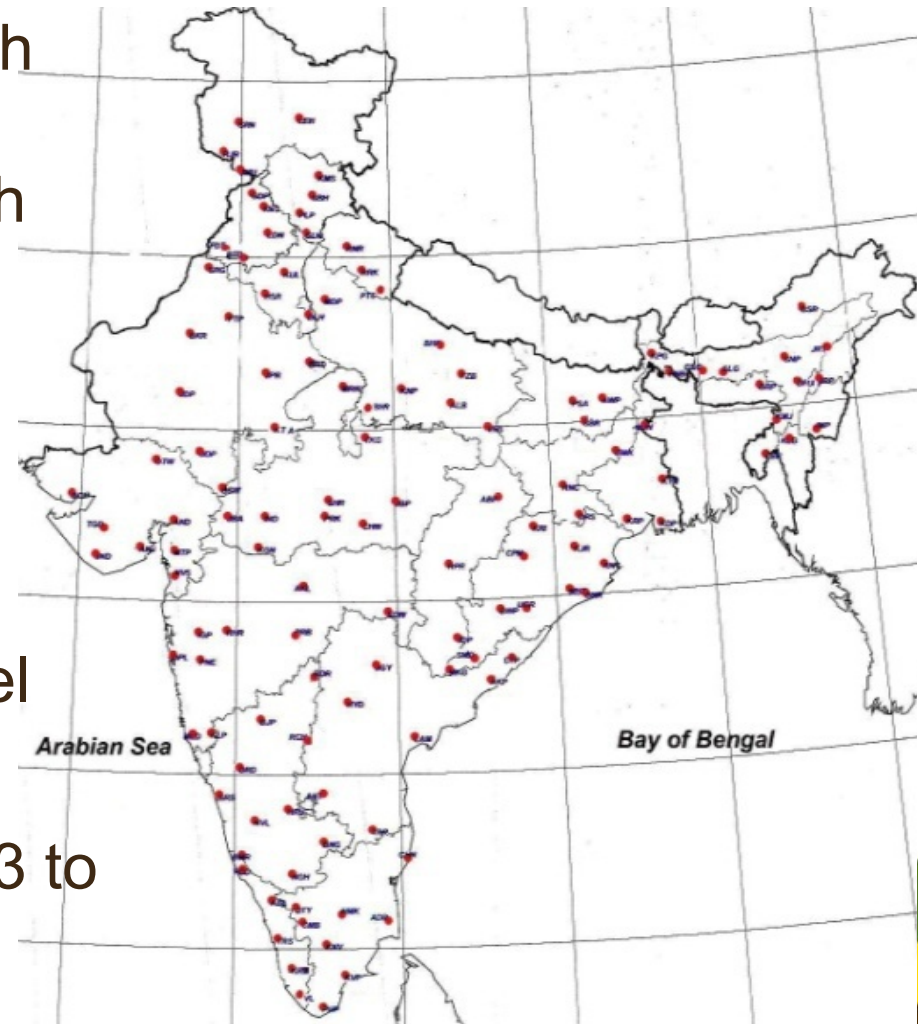
- 1932 – Division of agrometeorology started
- 1945 – Farmer weather bulletins began to be issued
- 1976 – Agromet advisory services at the State level initiated, using IMD short-range weather forecasts
- 1988 – National Center for Medium Range Weather Forecasting (NCMRWF) established to develop NWP models for forecasting 3-10 day weather
- 1991 – AAS initiated with 5 AAUs
- 2003 – Impact evaluation commissioned



Background: History of India AAS



- NCMRWF bulletins to farmers in 127 agroclimatic zones, through Agrometeorological Field Units (AMFU) in SAUs, their research stations, ICAR institutes
- 2007 – AAS transferred to IMD
- 2008 – District level advisories initiated
- 2011 – Experimental block level forecasts
- 2012 – Plans to scale up from 3 to 10 million farmers

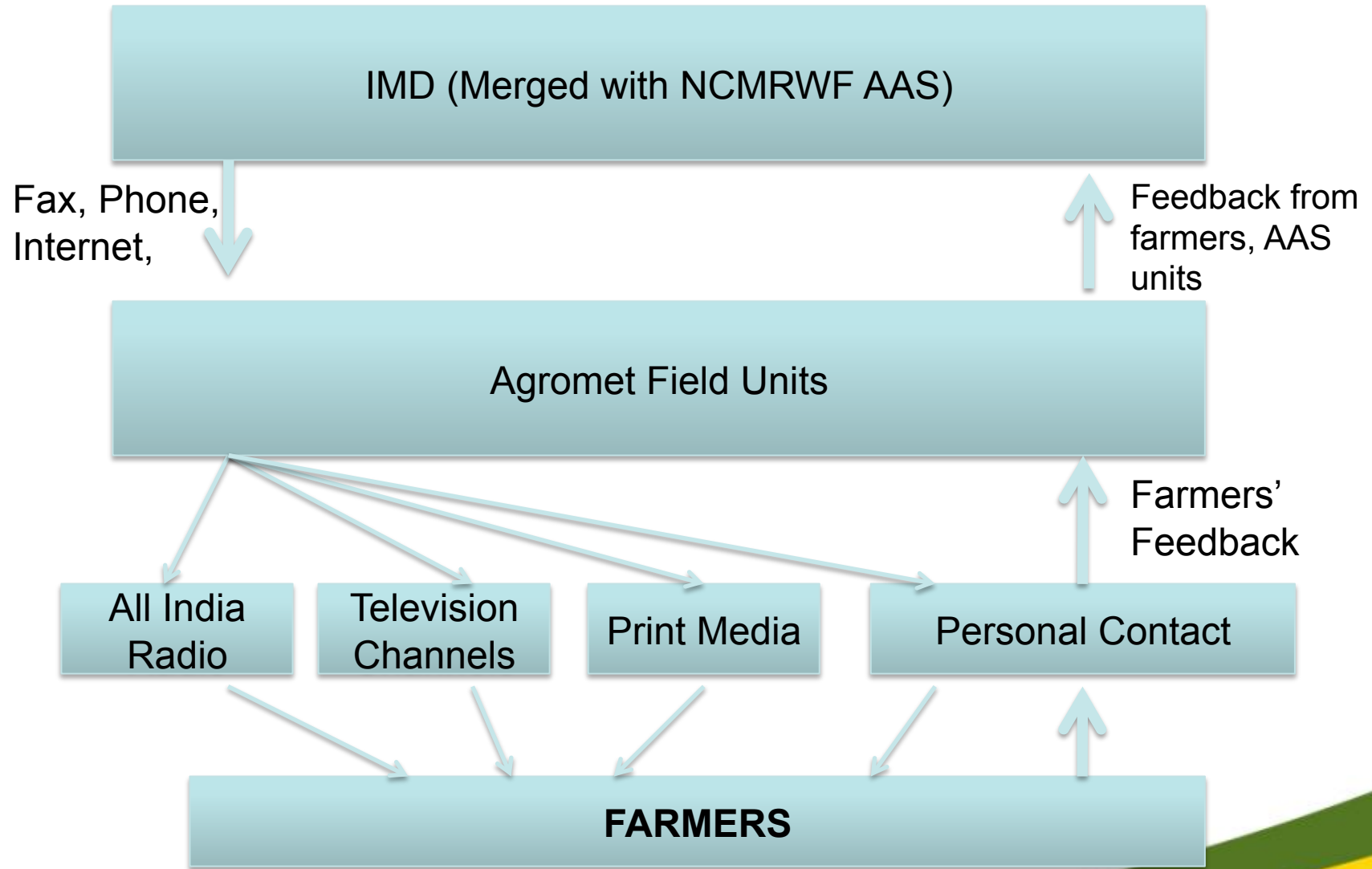


Background: AAS Bulletins



- Location-specific forecasts of rainfall, T_{\max} , T_{\min} , cloud cover, wind – from a multi-model ensemble, every Tuesday and Friday
- Multi-disciplinary team of agricultural scientists assists AMFUs to prepare bi-weekly advisories
- Location- and crop-specific advisories, in local language: prevailing weather; soil & crop conditions; irrigation, fertilizer, pest control recommendations
- Disseminated through mass media; to select farmers by phone (SMS or voice messages), internet, or in person

Background: Communication Channels



Background: 2003-2007 AAS evaluation



- National Centre for Agriculture Economics and Policy Research, commissioned by NCMRWF
- 15 of the 127 AAUs
- 6 seasons during 2003–2007
- 80 farmers: 40 responding and 40 non-responding farmers
- 10-15% increase in yield
- 2-5% reduction in the cost of cultivation

India AAS Study by CCAFS



- Partnership with Indian Meteorological Department (IMD), State Agricultural Universities, ICRISAT
- Objectives:
 - Synthesize aspects of good practice that can guide investment in climate/weather services for farmers elsewhere
 - Strengthen evidence and transferrable lessons, by capturing what is happening at the village level and how it is impacting rural communities
 - Showcase as a case study of good practice
 - Not meant to quantify economic benefit

Study Methods

- Draws from Mali study
- AAS implementation:
 - Review of program documents
 - Interviews with IMD, Regional Met Centers, AMFUs, other institutional representatives involved in advisory development or communication



Study Methods

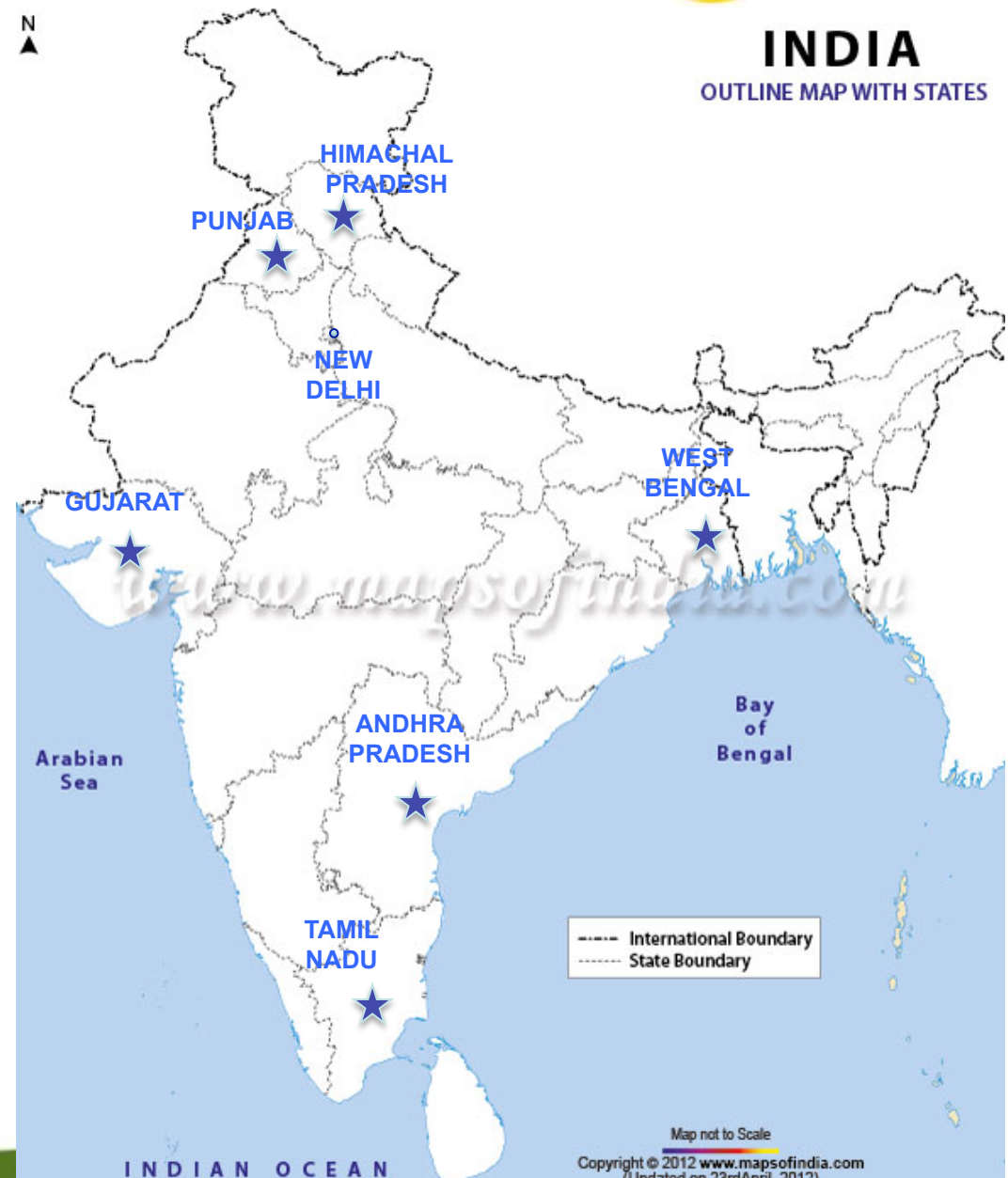


CLIMATE
CHANGE
AGRICULTURE AND
FOOD SECURITY

INDIA

OUTLINE MAP WITH STATES

- Village component:
 - 6 states across India
 - Each state: random selection of 3 villages from different agroclimatic zones



Study Methods

- Focus groups in selected villages
- Disaggregated by gender
- Progress from general, to climate, to AAS



Study Methods

- Structured interviews with men and women
- Specific uses of AAS: information used, channels, perceived gaps, suggestions



Field Team in Andhra Pradesh



Field Team in Punjab

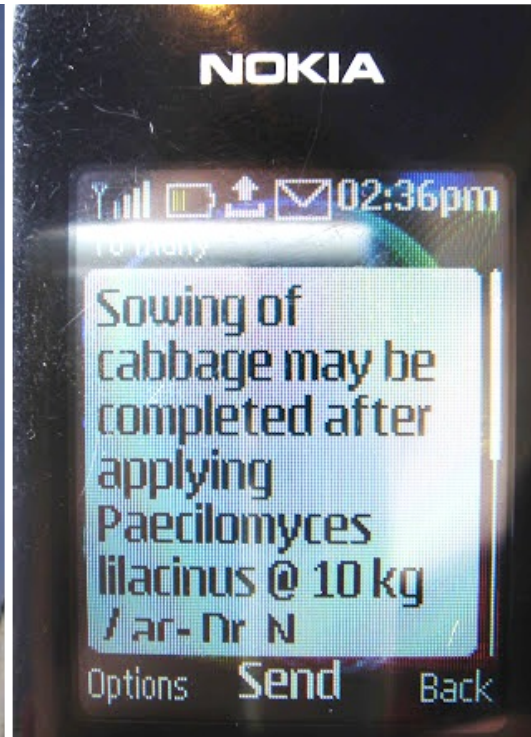




கன்னிவாடி பகுதியில் அடுத்த ஐந்து நாட்களுக்கான வானிலை முன்னறிவிப்பு

தேதி	மழையளவு	மேகமூட்டம்	காற்றின் வேகம்	காற்றின் திசை	வெப்பநிலை
21-07-12 சனி	லேசான மழை	மிதமான மேகமூட்டம்	மிதமான காற்று	மேற்கு திசை	லேசான வெப்பநிலை
22-07-12 ஞாயிறு	லேசான மழை	மிதமான மேகமூட்டம்	மிதமான காற்று	தென் மேற்கு திசை	லேசான வெப்பநிலை
23-07-12 திங்கள்	லேசான மழை	மிதமான மேகமூட்டம்	மிதமான காற்று	தென் மேற்கு திசை	லேசான வெப்பநிலை
24-07-12 செவ்வாய்	லேசான மழை	மிதமான மேகமூட்டம்	மிதமான காற்று	மேற்கு திசை	லேசான வெப்பநிலை
25-07-12 புதன்	லேசான மழை	மிதமான மேகமூட்டம்	மிதமான காற்று	மேற்கு திசை	லேசான வெப்பநிலை

AAS Bulletin outside a Farmers Union office in a village in Tamil Nadu. The one-page advisory is broken down into weather forecasts for the following 4 days in a tabular form for ease of reading and interpretation

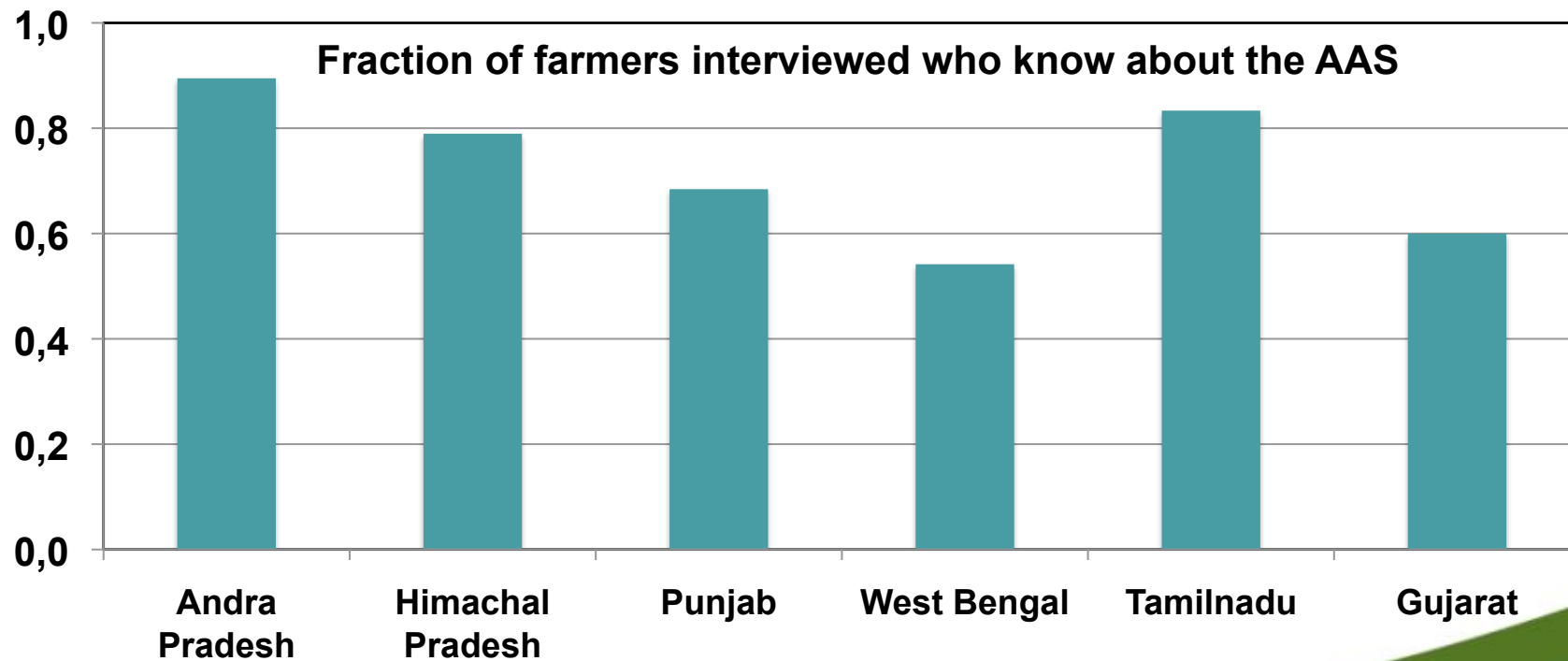


Farmer in a village in Tamil Nadu displaying the SMS he received with agro advisories for the week

Preliminary Observations



- Clear distinction between farmers knowing about AAS and being able to use it for their purposes



Preliminary Observations



- In most cases, marginal farmers less able than “progressive farmers” to benefit from the advisories
 - Traditional knowledge considered sufficient to manage very small farms
 - Access constraints due to literacy or available time
 - Capital constraints prevent following recommended fertilizer or pesticide use



Preliminary Observations



- Women by far the least informed except in a few places where women's' groups were more active
- Villages where women were more aware, also seem to be villages with overall greater awareness and use of advisories
- Political factions in villages sometimes keep one group away from information



Remaining tasks



- Data analysis
- Report
- Video to capture farmers' experience (India and Mali)
- CSP-CCAFS-USAID-WMO Workshop on *Scaling Up Climate Services for Farmers in Africa and South Asia* (Dakar, 10-12 December)



Our heartfelt thanks to those who made this research possible



- ICRISAT staff at Patencheru, Andhra Pradesh
- IMD Staff, New Delhi
- Nodal Officers at Agromet Field Units and Staff at Regional Met Centers
- Field Team Facilitators
- CCAFS Team at IRI and New Delhi
- All the farmers and their families who welcomed us into their lives and took time out to speak to us

