

A Case Study of Good Practice in Climate Services from India

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Jim Hansen

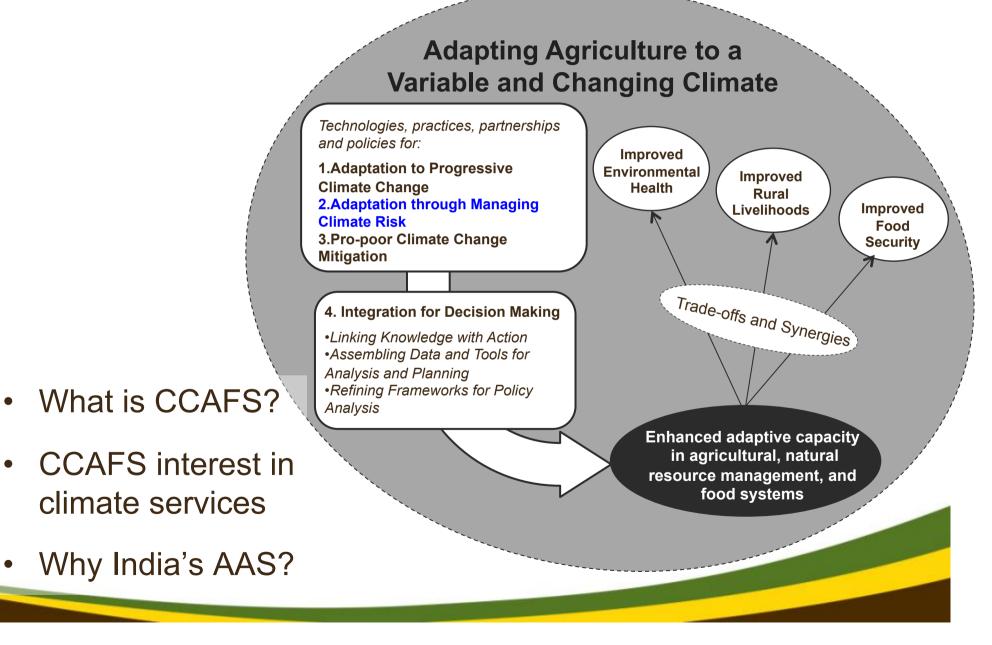
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CCAFS and Climate Services





Background: History of India AAS

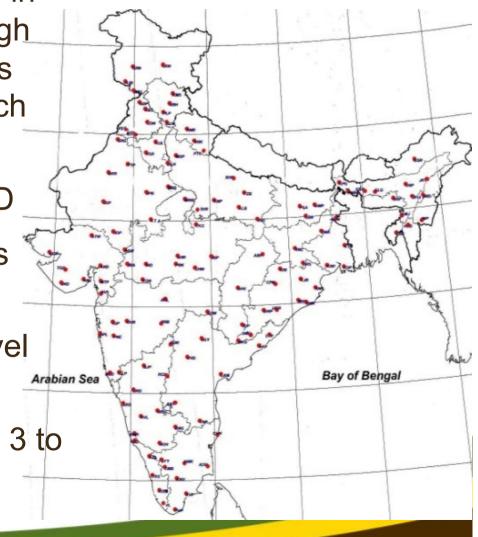


- 1932 Division of agrometeorology started
- 1945 Farmer weather bulletins began to be issued
- 1976 Agromet advisory services at the State level initiated, using IMD short-range weather forecasts
- 1988 National Center for Medium Range Weather Forecasting (NCMRWF) established to develop NWP models for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

Background: History of India AAS



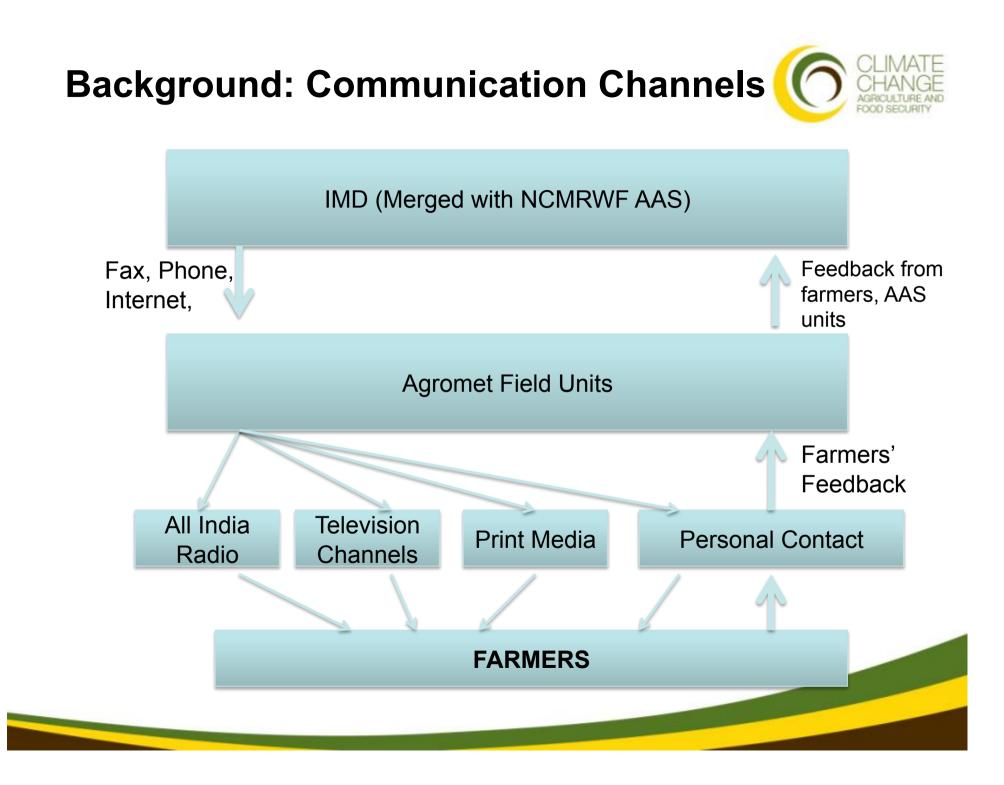
- NCMRWF bulletins to farmers in 127 agroclimatic zones, through Agrometeorological Field Units (AMFU) in SAUs, their research stations, ICAR institutes
- 2007 AAS transferred to IMD
- 2008 District level advisories initiated
- 2011 Experimental block level forecasts
- 2012 Plans to scale up from 3 to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





- 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

- 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





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



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



- 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



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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

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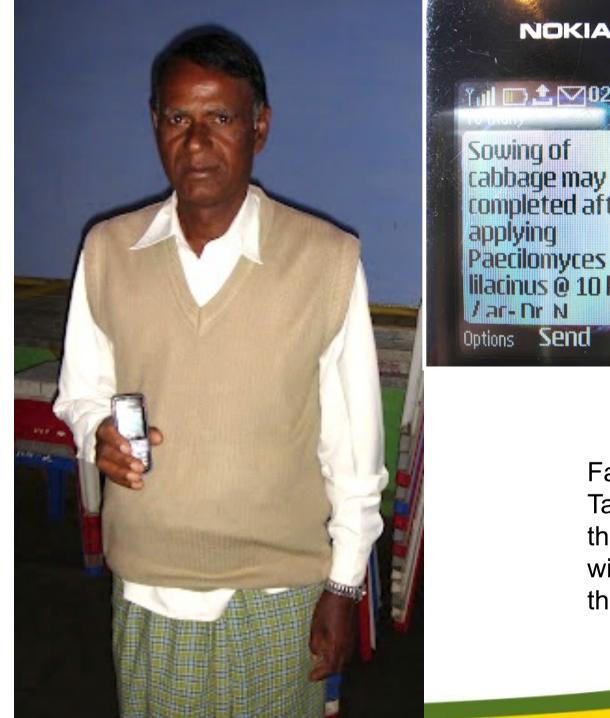
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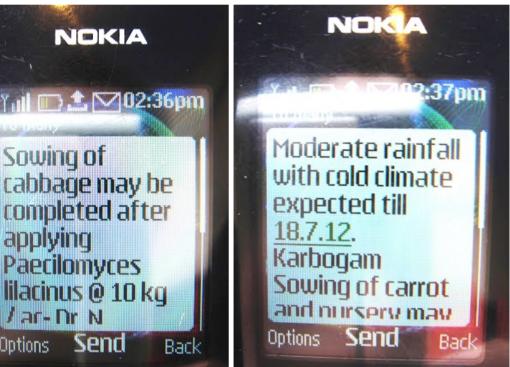
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AAS Bulletin outside milk collection station in a village in Andhra Pradesh. AAS Bulletins in vernacular are put up in 5 commonly visited places in the village



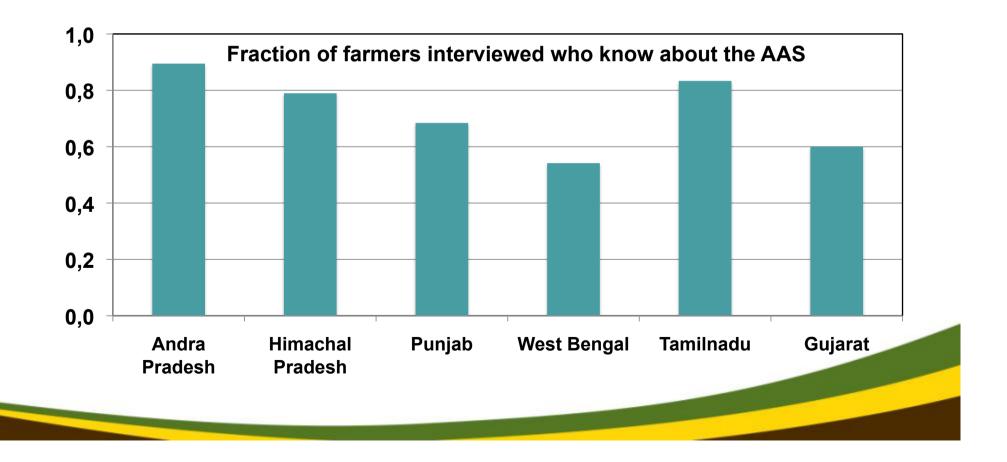


Farmer in a village in Tamil Nadu displaying the SMS he received with agro advisories for the week

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

