
DROUGHT 2009 India

Disaster Preparedness using IT Tools: Case Studies on the use of ICT and GIS Derived tools for Micro-Level Drought Preparedness

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Prediction….

- India Meteorological Department (IMD) has predicted near normal southwest monsoon for 2009.(May, 2009) (http://www.imd.gov.in/section/nhac/dynamic/lrf.htm)

- International Research Institute for Climate and Society, Columbia has predicted below normal rainfall for India for 2009. (May, 2009) (http://portal.iri.Columbia.edu/portal/server.pt)

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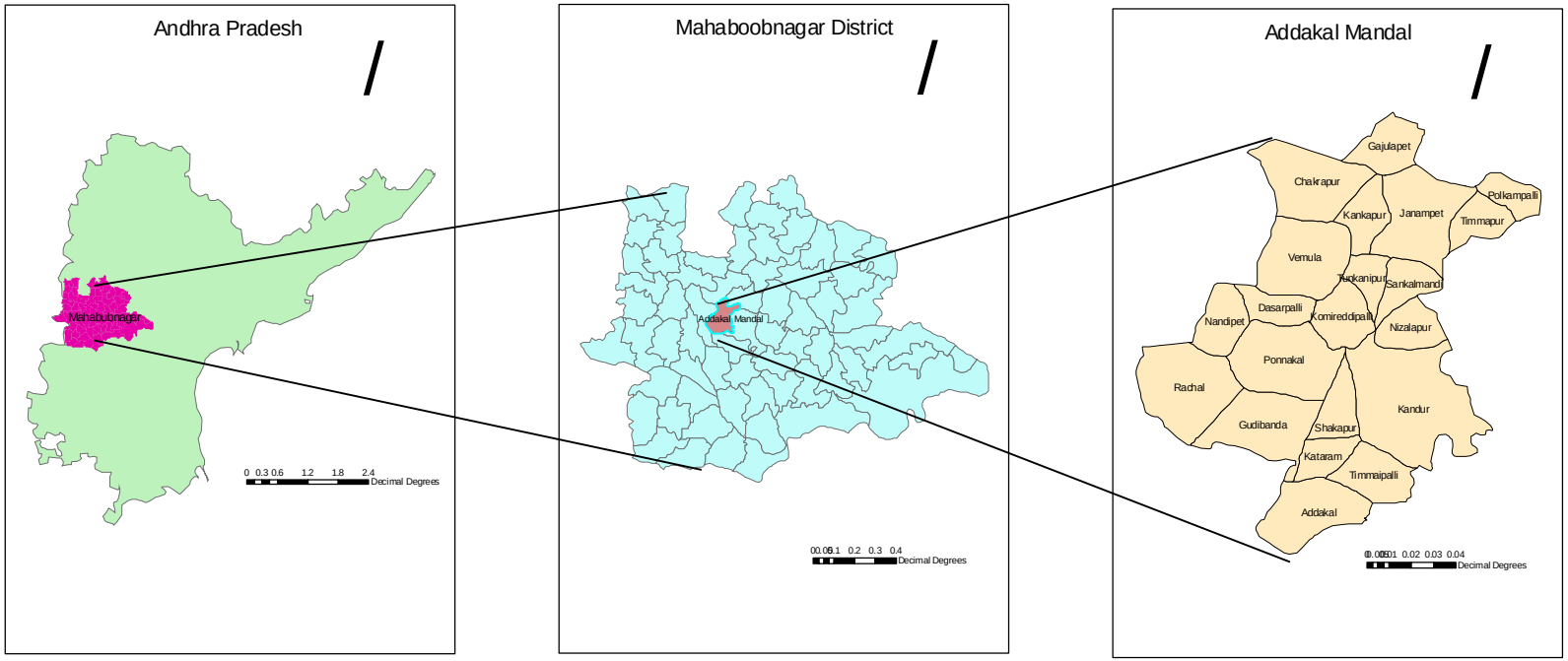
Drought Vulnerability and Agroadvisary

• Based on this, a below normal rainfall (400 mm) was predicted for addakal block, Mahaboobnagar.

• ICRISAT also recommends growing an array of crops together with livestock along with other income-generating activities that can lessen the risks of total crop failure and enhance farm income. (http://www.hindu.com/2009/07/05/stories/2009070555380900.htm)

Location of Adakkal *Mandal*, Mahabubnagar, AP



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ICRISAT-AMS

- ICRISAT helped AMS with 8 Village Knowledge Centers and One Hub (Internet)
- ICRISAT – AMS use VC (2-way) provided by ISRO (Since March 2007)

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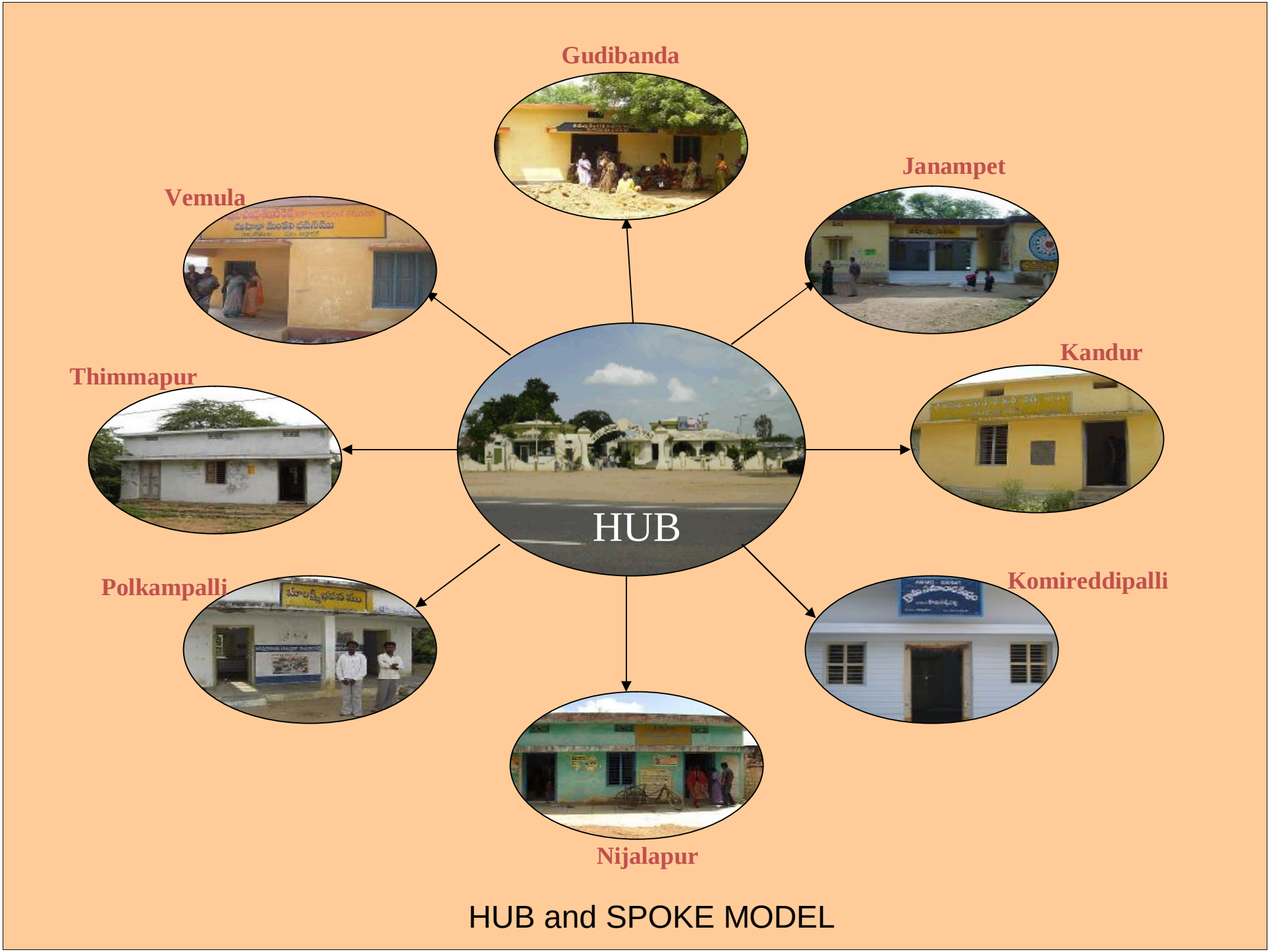

HUB and SPOKE MODEL

Drought Vulnerability Assessment Framework

- ICRISAT adopted a method developed at IIT Bombay.
- Water deficit \ surplus information
  - demand
  - available from rainfall-runoff
- Cadastral maps – ArcGIS Software.
- Choropleth Maps **à** Color coded maps

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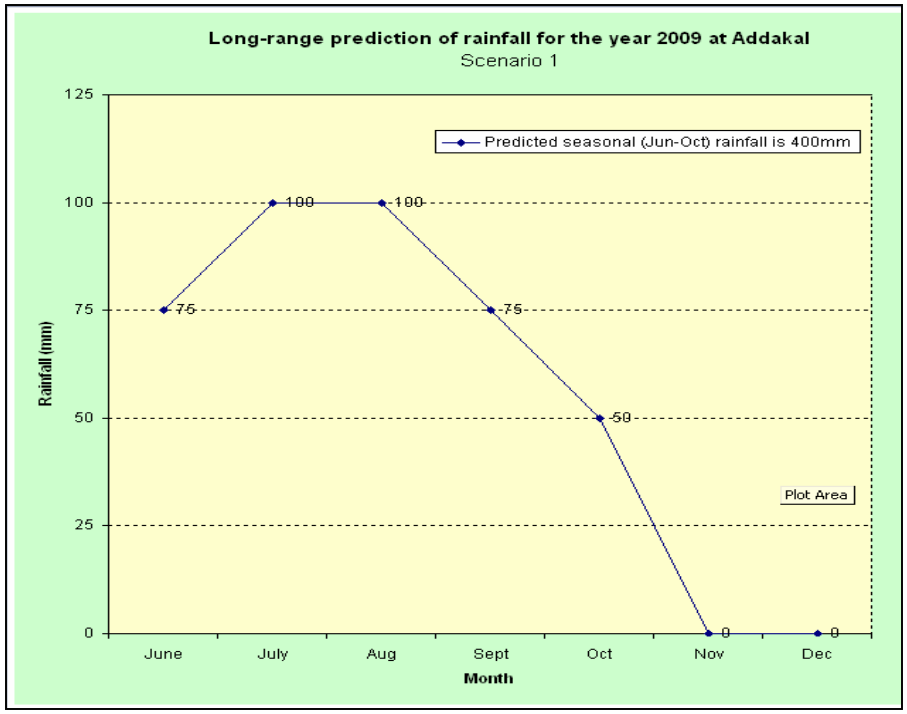
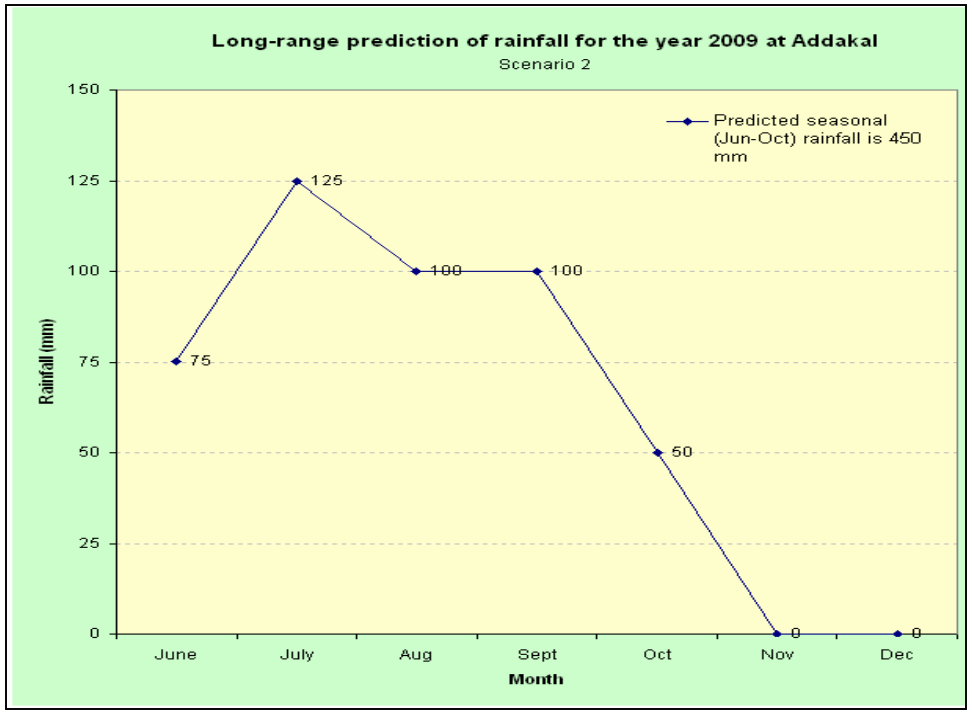
Seasonal Prediction of Rainfall for the Year 2009 at Adakkal





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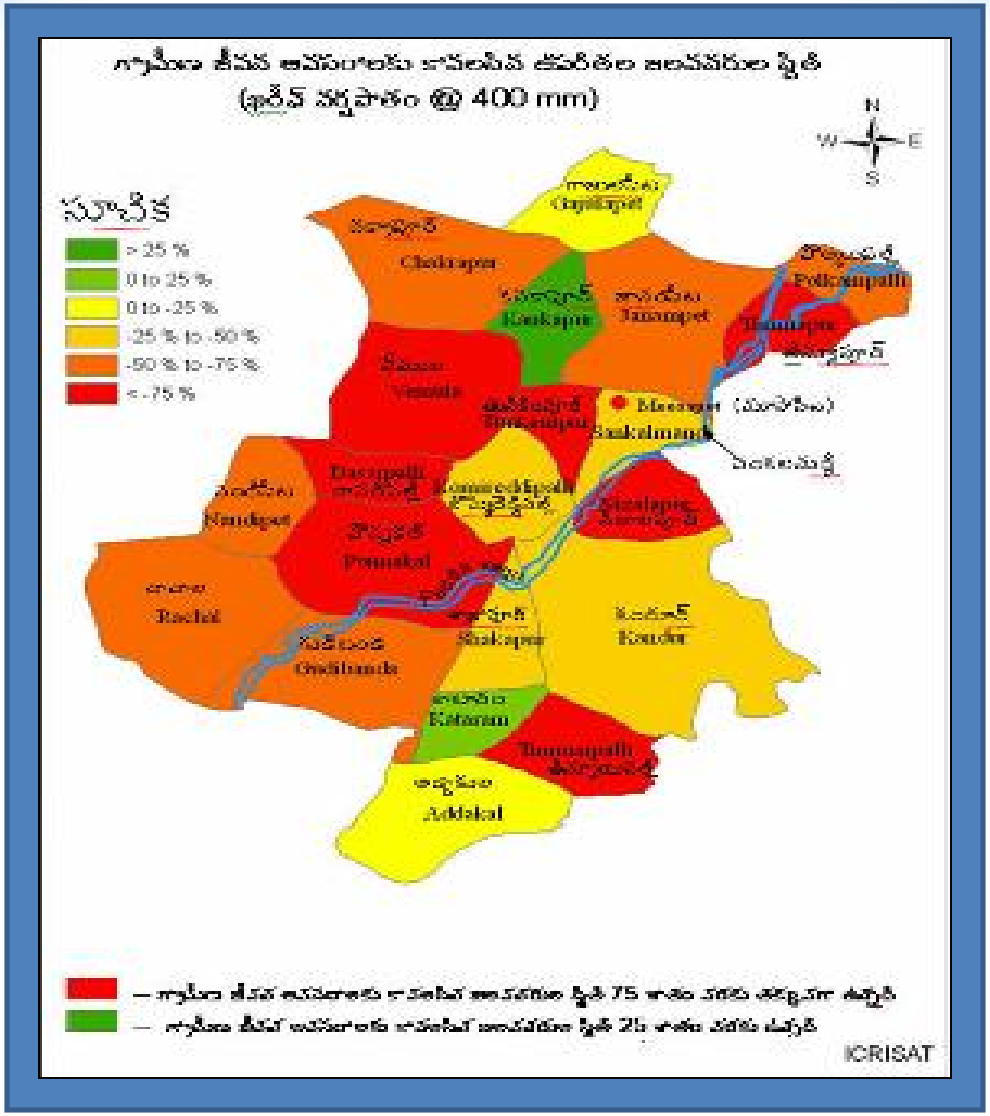
Micro-level Drought Vulnerability Maps



Most Drought affected villages

- Vemula
- Thimmapur
- Nijaralapur
- Ponnakal
- Thimaipalli
- Thunkanipur

Problems aroused due to these condition

- Drinking water
- Inadequate irrigation
- shortage of feed and fodders for livestock
- People are selling their livestock

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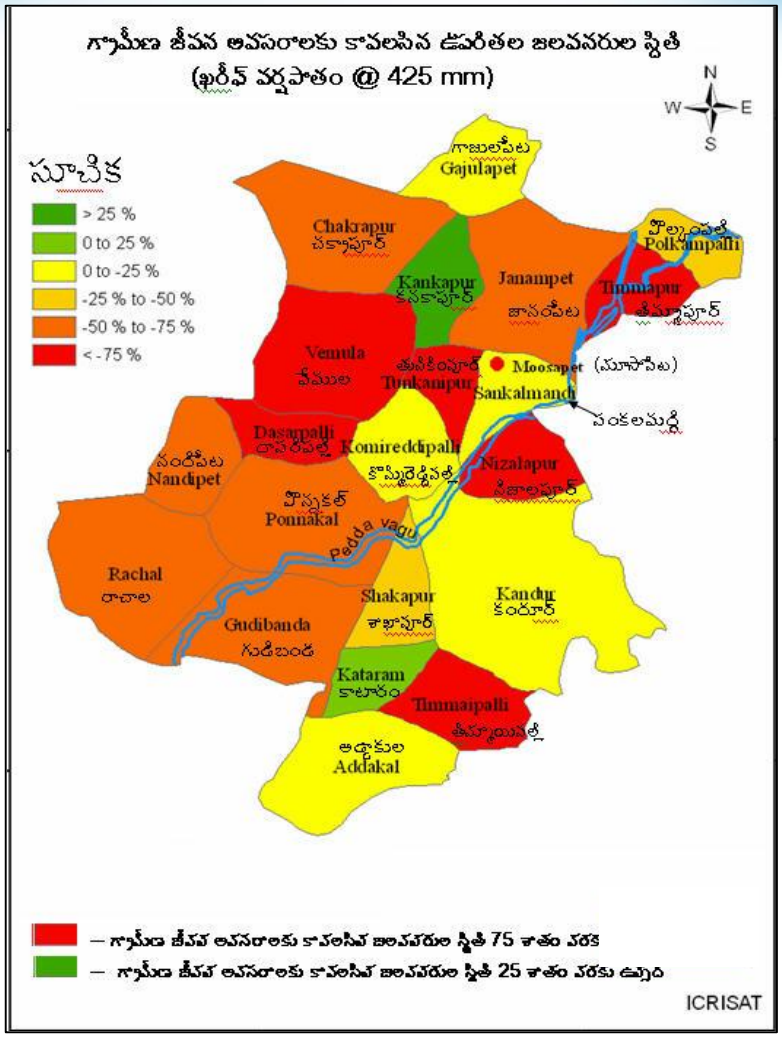
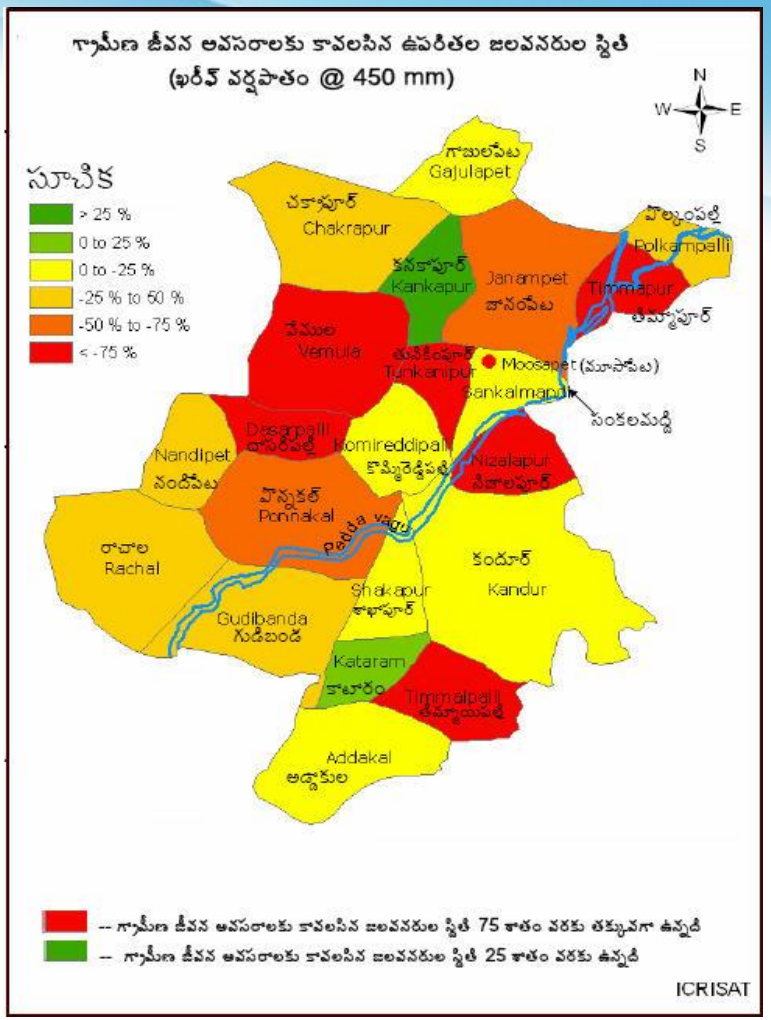
Next likely Drought situation



425mm



450mm

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Drought awareness raising using color-coded maps

ICRISAT scholars with help of village volunteers contact rural residents to exchange information on upcoming drought

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Validation of Drought Vulnerability Maps

Rural women measuring rainfall

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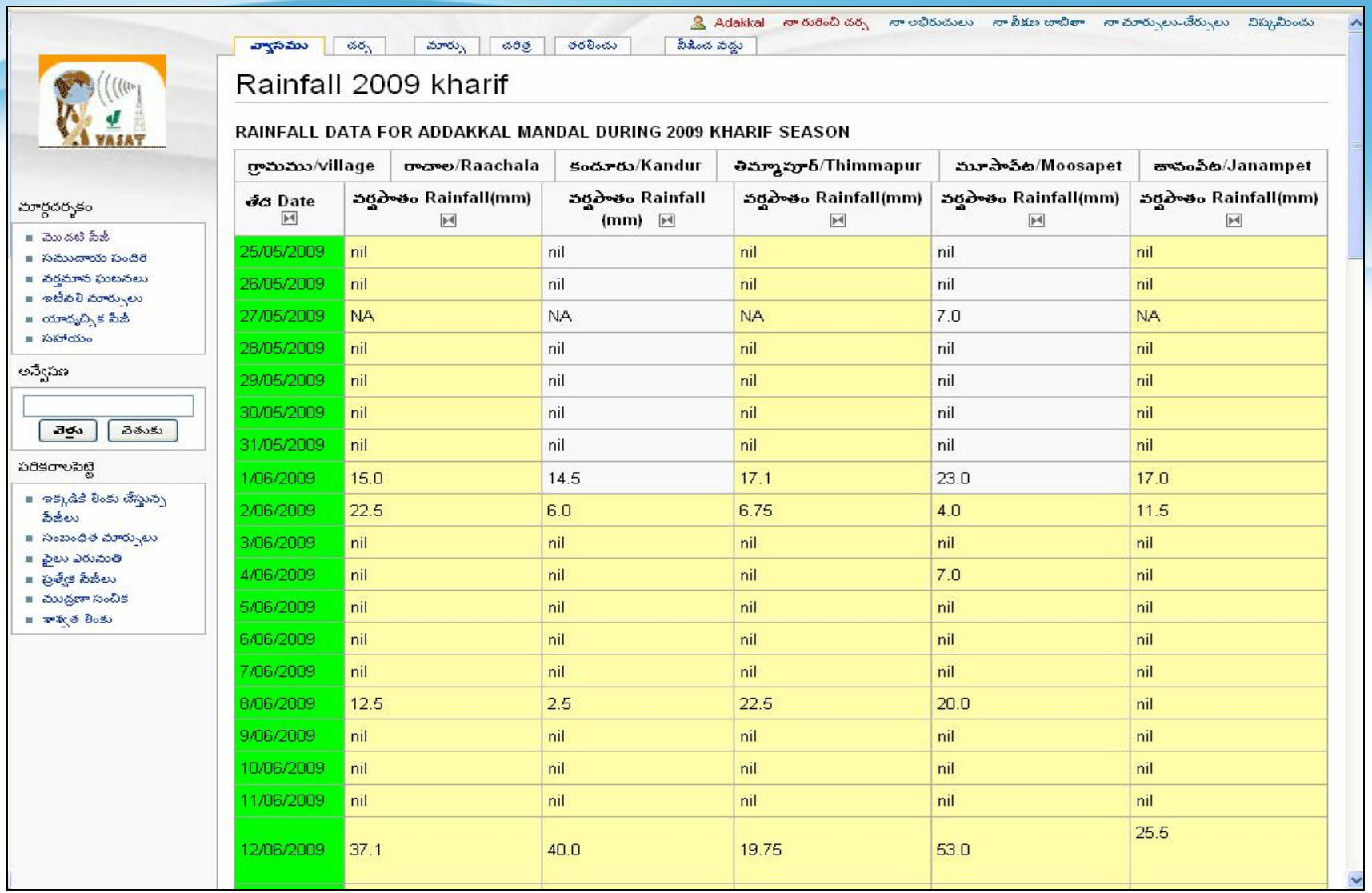

Rainfall 2009 kharif

RAINFALL DATA FOR ADDAKKAL MANDAL DURING 2009 KHARIF SEASON

గ్రామము/village	రాచాల/Raachala	కందూరు/Kandur	తిమ్మాపూర్/Thimmapur	మూసాపేట/Moosapet	జానంపేట/Janampet
తేది Date	వర్షపాతం Rainfall(mm)	వర్షపాతం Rainfall (mm)	వర్షపాతం Rainfall(mm)	వర్షపాతం Rainfall(mm)	వర్షపాతం Rainfall(mm)
25/05/2009	nil	nil	nil	nil	nil
26/05/2009	nil	nil	nil	nil	nil
27/05/2009	NA	NA	NA	7.0	NA
28/05/2009	nil	nil	nil	nil	nil
29/05/2009	nil	nil	nil	nil	nil
30/05/2009	nil	nil	nil	nil	nil
31/05/2009	nil	nil	nil	nil	nil
1/06/2009	15.0	14.5	17.1	23.0	17.0
2/06/2009	22.5	6.0	6.75	4.0	11.5
3/06/2009	nil	nil	nil	nil	nil
4/06/2009	nil	nil	nil	7.0	nil
5/06/2009	nil	nil	nil	nil	nil
6/06/2009	nil	nil	nil	nil	nil
7/06/2009	nil	nil	nil	nil	nil
8/06/2009	12.5	2.5	22.5	20.0	nil
9/06/2009	nil	nil	nil	nil	nil
10/06/2009	nil	nil	nil	nil	nil
11/06/2009	nil	nil	nil	nil	nil
12/06/2009	37.1	40.0	19.75	53.0	25.5

Rainfall data uploaded by rural volunteers on VASAT wiki @ http://vasatwiki.icrisat.org/index.php/Rainfall_2009_kharif

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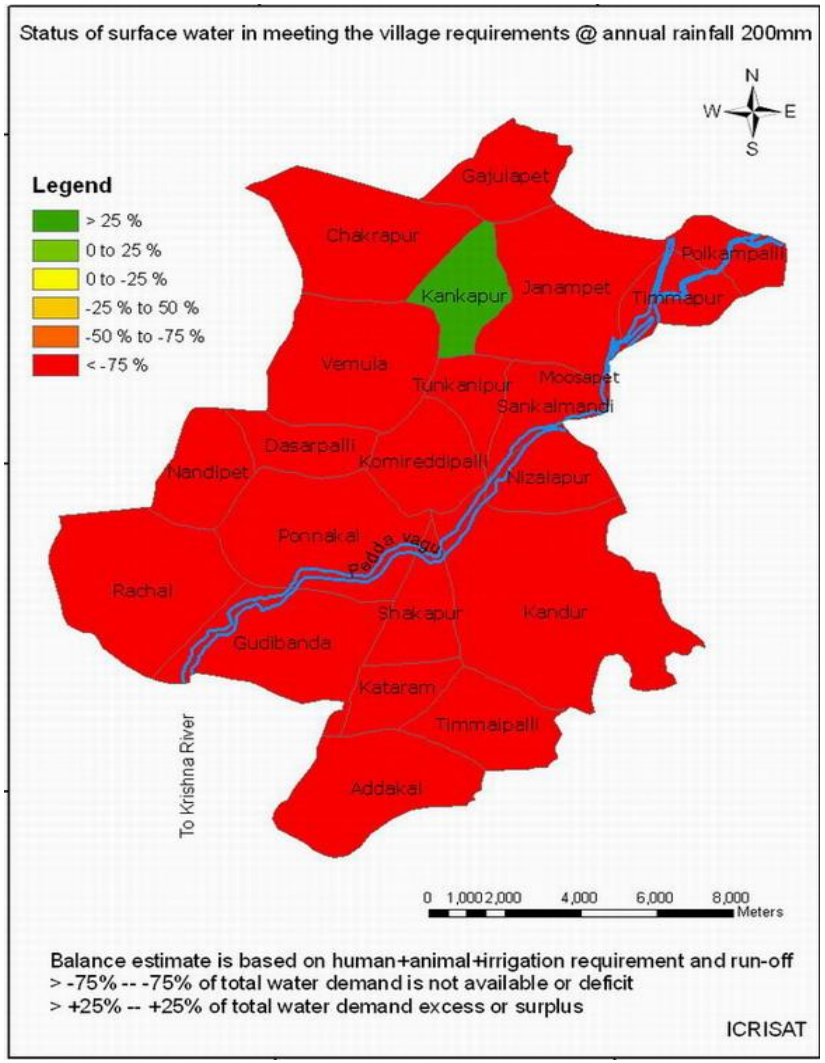
Present drought Situation



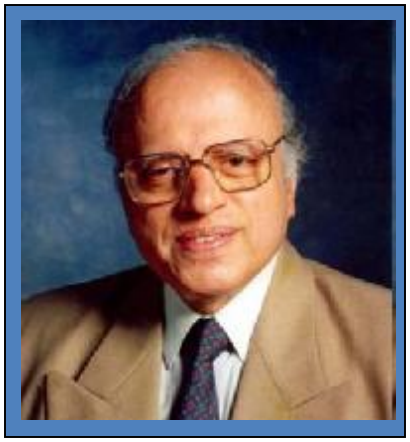
Month	Normal (mm)	Predicated (mm)	Actual Rainfall (mm)
June	68	75	83
July	145	100	11.65
August(till 26th)	122	100	39.85

Total rainfall received till now: 134.4mm

Drought 2009 India

Ø The Prime Minister of India, Dr. Manmohan Singh also noted the “difficult situation” following delayed and deficient rainfall that the country was facing.

Ø Dr. M.S. Swaminathan has emphasized the need for a science-based contingency plan.



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Present framework gains significance and emphasizes integration of scientific inputs for local - level contingency plans .

- Ø Soil management
- Ø Land planning
- Ø Crop management
- Ø Integrated Watershed Management

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THANK YOU

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Discussion | This map in PS