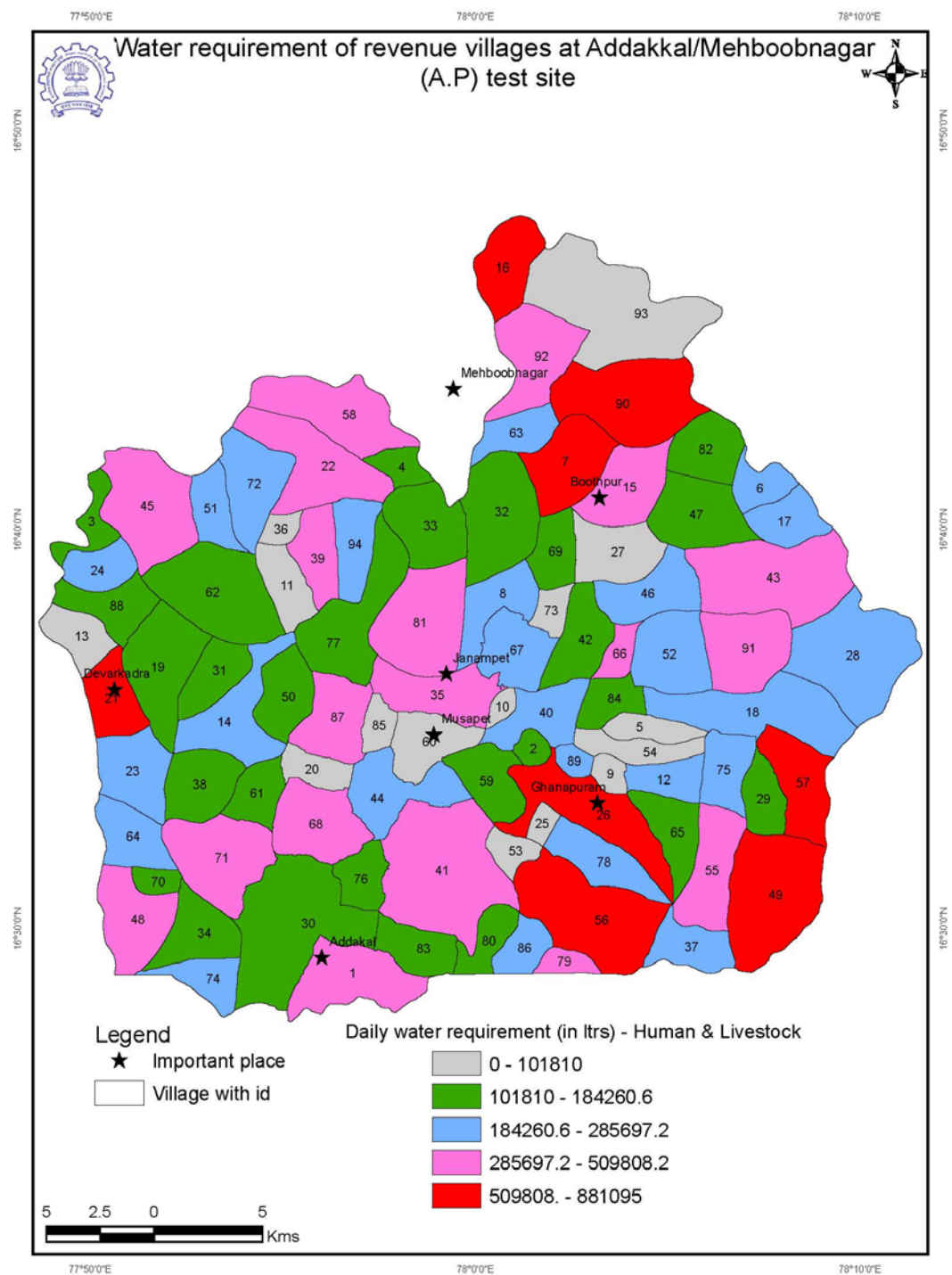
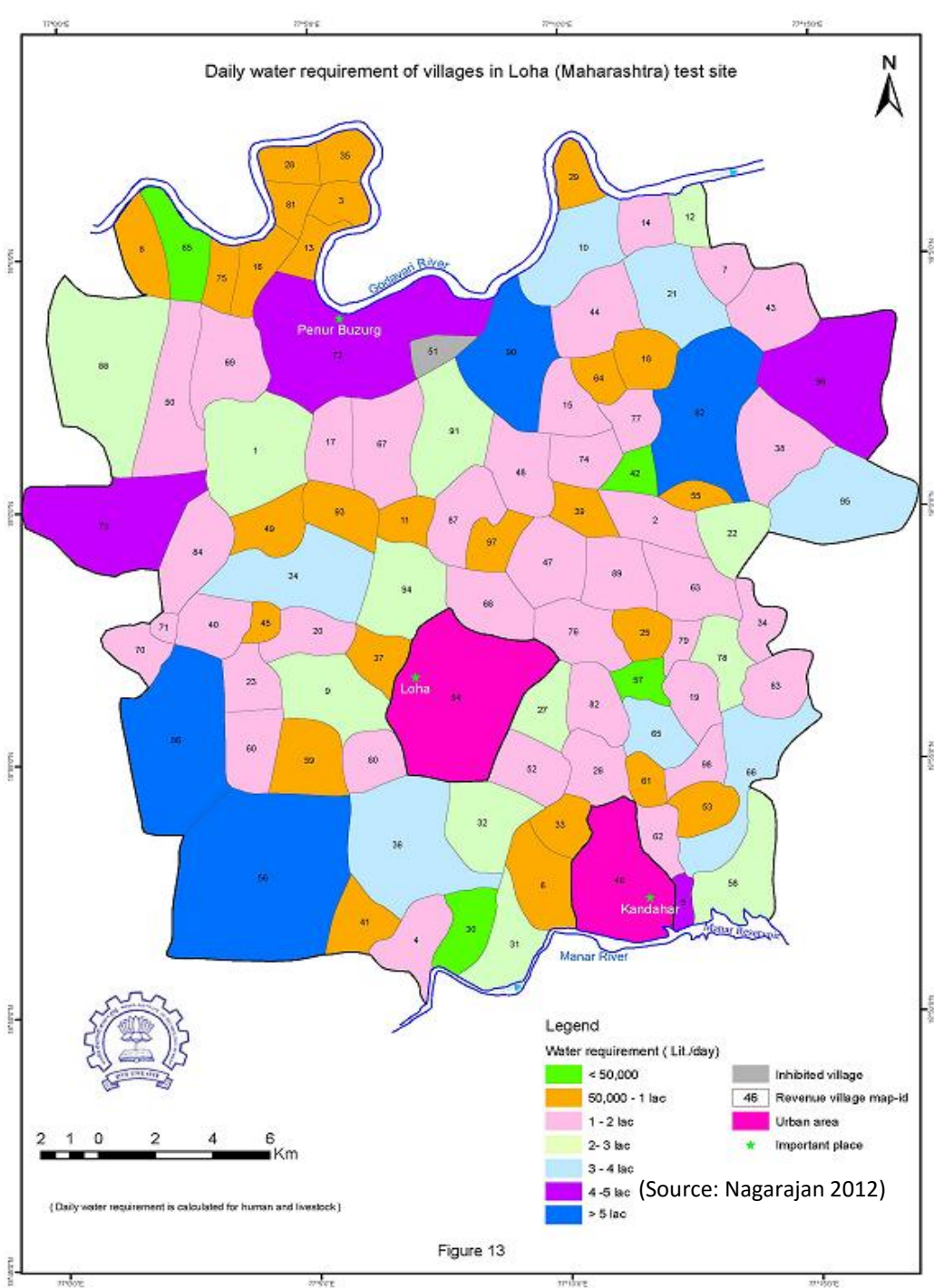


Village agriculture & other water demand and supply source



Standardized water level index (SWI)

- Low precipitation + high evapo-transpiration = low soil moisture content and low groundwater recharge.
- Ground water drought (defined by decrease in ground water level)

$$SWI = (W_{ij} - W_{im}) / \sigma$$

W_{ij} is the seasonal water level for the *i*th well and *j*th observation,

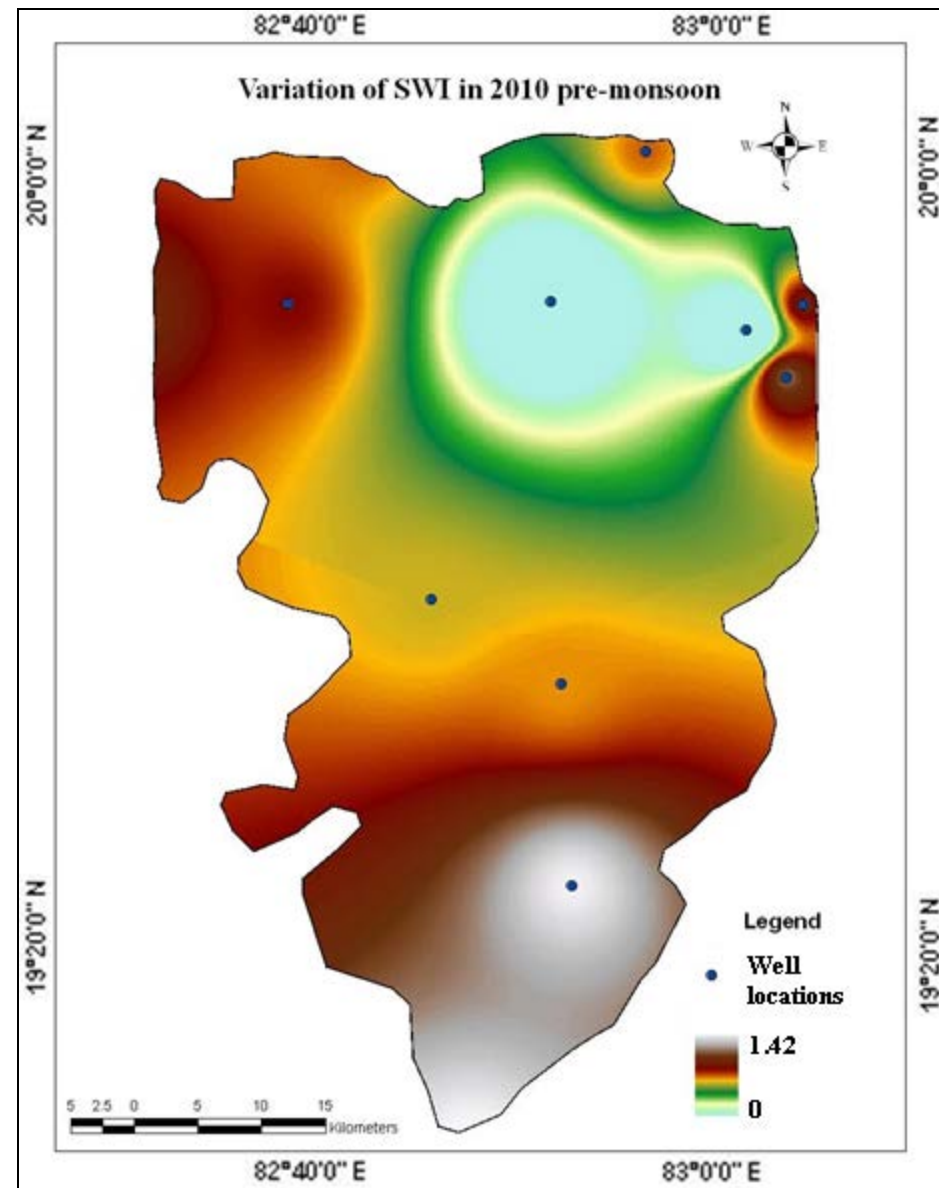
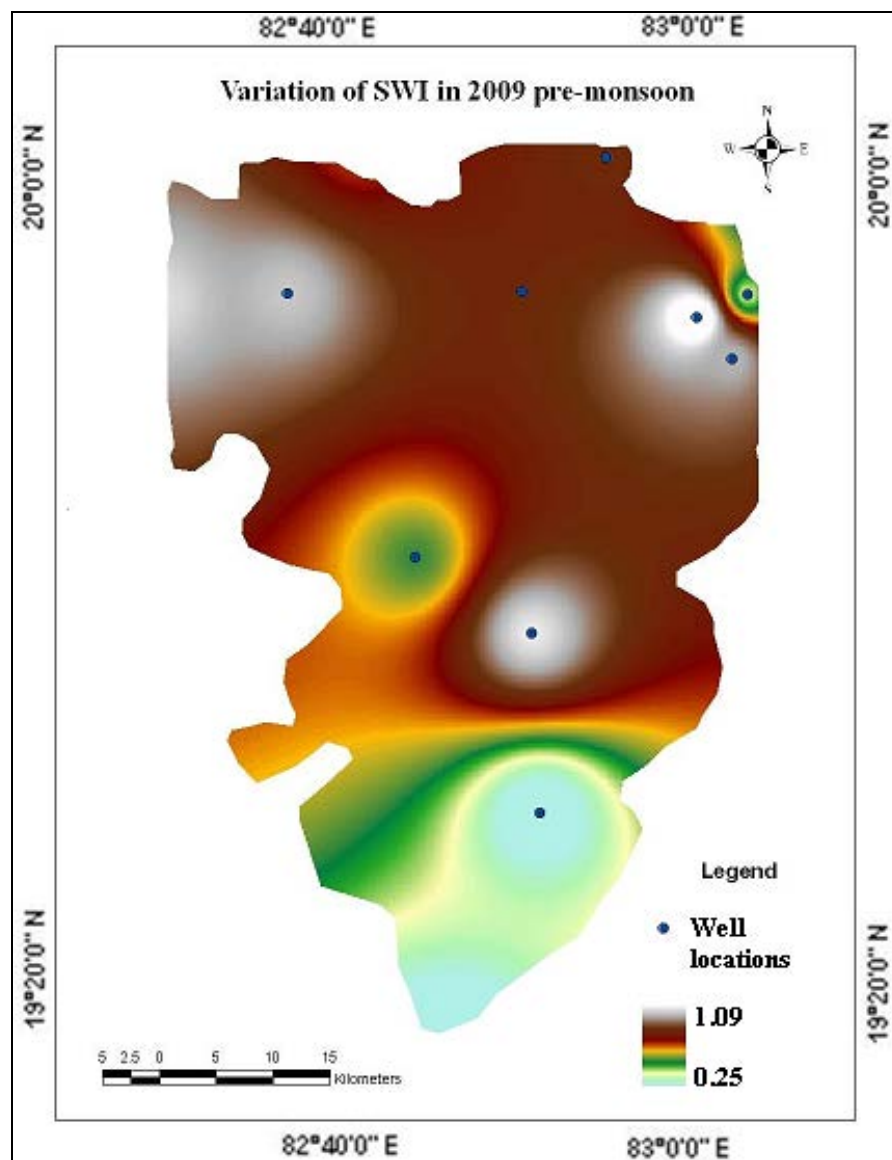
W_{im} its seasonal mean,

and

σ is its standard deviation.

Measures water level below the ground surface

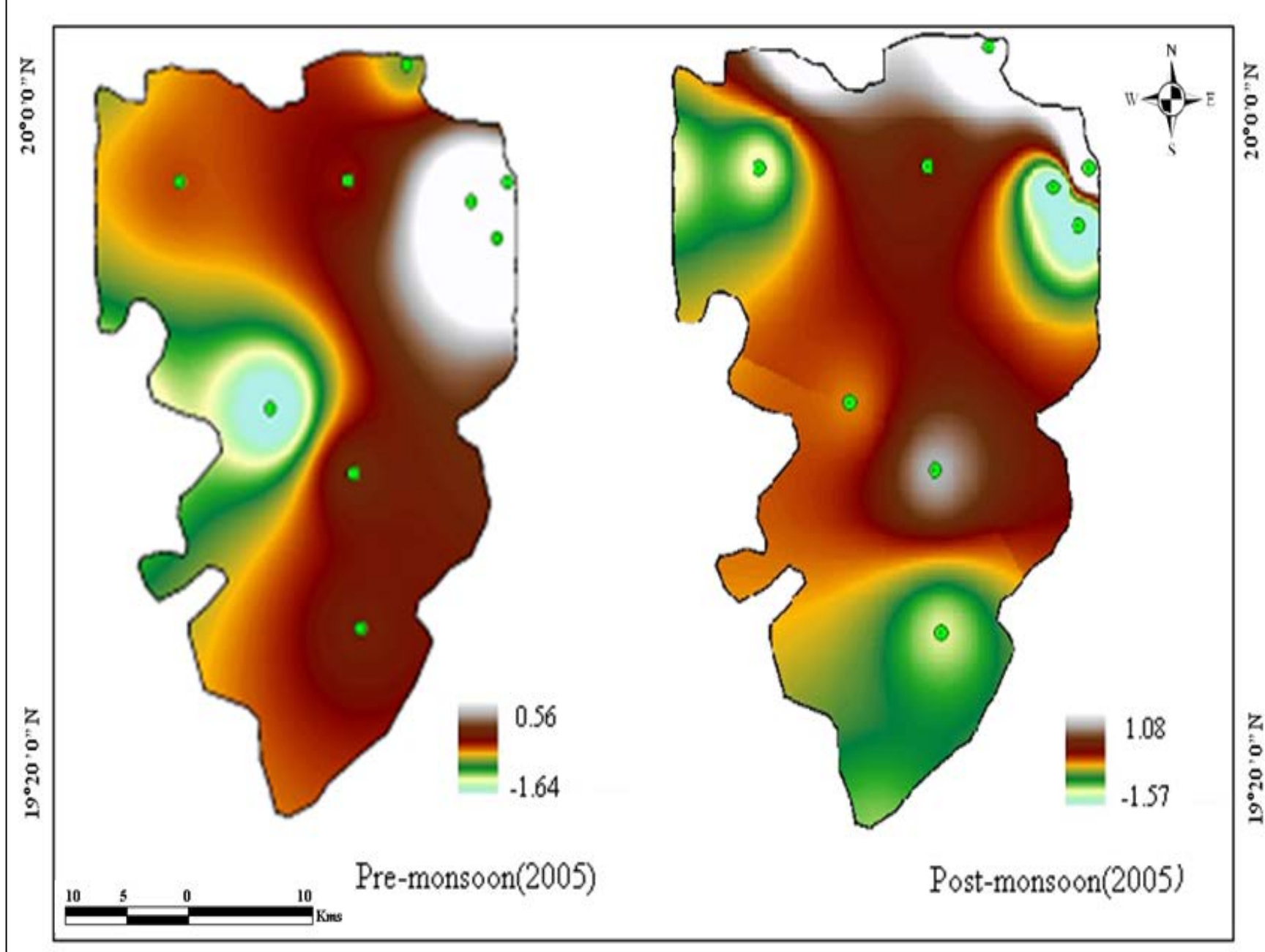
Drought classes	Criterion
Extreme drought	SWI>2.0
Severe drought	SWI>1.5
Moderate drought	SWI>1.0
Mild drought	SWI>0
No-drought	SWI<0



Variation of SWI in 2009 and 2010 pre-monsoon seasons in Tel river basin

(Source: Sangita & Nagarajan 2012)

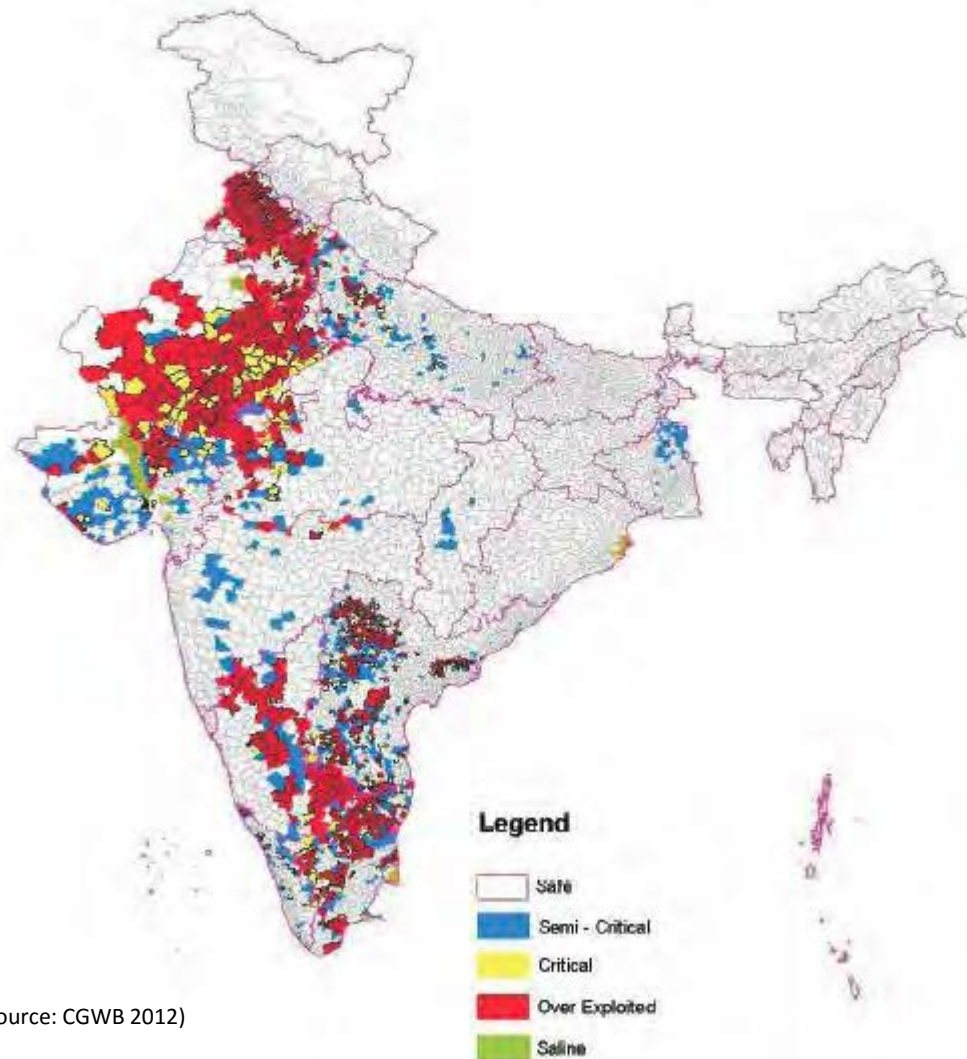
SWI<0 = No drought, SWI>0 = mild drought, SWI>1 = moderate drought, SWI>1.5 = severe drought



Spatial variation of SWI in 2005 Pre-monsoon and Post-monsoon season

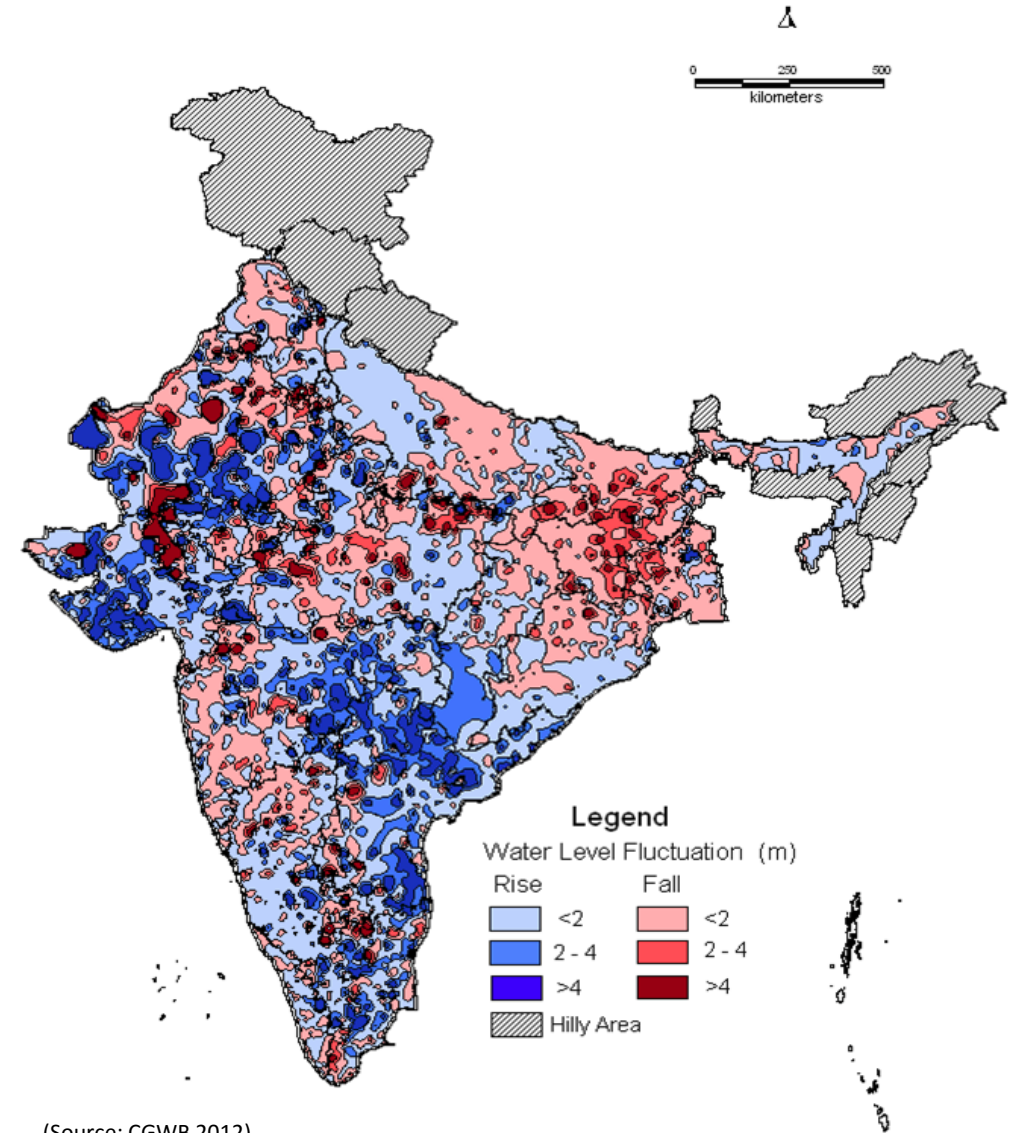
(Source: Sangita & Nagarajan 2012)

Categorization of Ground Water Assessment Units



(Source: CGWB 2012)

Water Level Fluctuation [November 2009 to November 2010]



(Source: CGWB 2012)

Thank you