

Resilient Risk Governance Systems

Enhancing Integration and Adaptive Capacity across Scales

Lessons from Gorakhpur, India



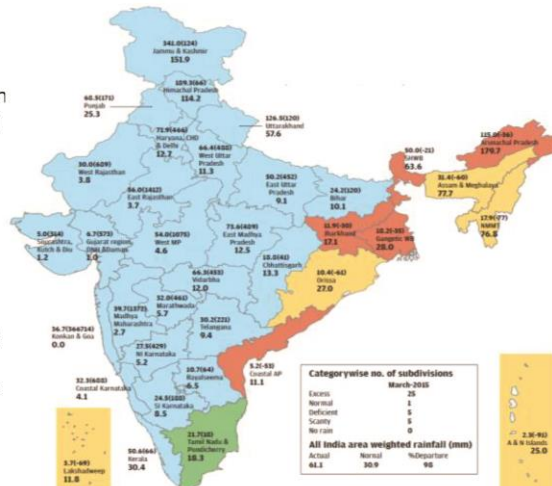
Adaptation Futures-2016
Rotterdam, 12 May 2016



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Wettest March in 48 years

The first few days of March brought heavy rainfall with major parts of the country seeing many times more rain than historically recorded. East Rajasthan saw an increase of 1,412 per cent over normal rainfall, central Maharashtra saw an increase of 1,372 per cent and western MP an increase of 1,075 per cent



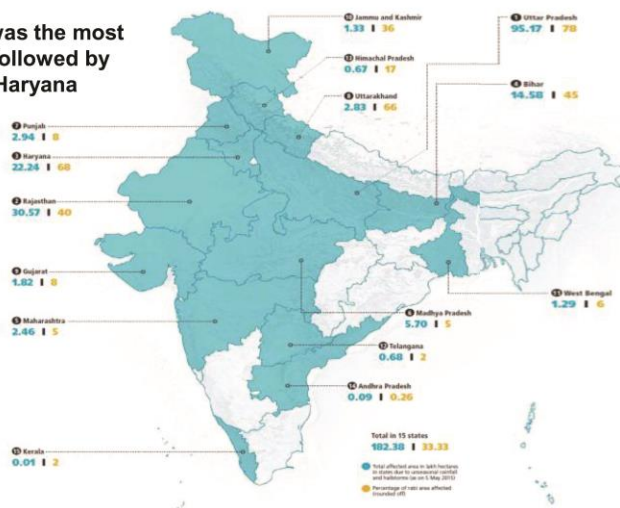
LEGEND:
 (1) Excess (-20% or more) (2) Normal (-20% to -50%) (3) Deficient (-20% to -50%) (4) Scanty (-60% to -99%) (5) No rain (-100%) (6) No data
 SOURCE:
 (a) Rainfall figures are based on operational data.
 (b) Small figures indicate actual rainfall tomm, while bold figures indicate normal rainfall tomm. Percentage departures of rainfall are shown in brackets.
 SOURCE: IMD



Crop damaged in 15 states of India – Feb, March, April 2015

Area affected by unseasonal rain and hail

Uttar Pradesh was the most affected state, followed by Rajasthan and Haryana



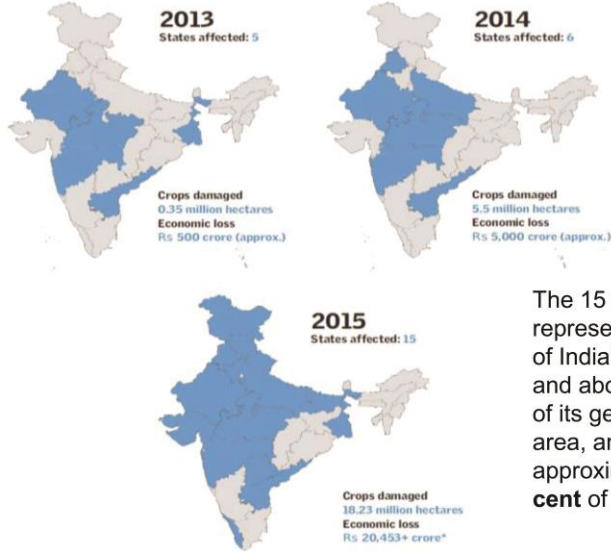
Area affected by unseasonal rain or hail

Fifteen states were impacted significantly by unseasonal rain or hail. Some states were affected to the extent of 68–78 per cent

State	Area affected (in lakh hectares) as on 5 May 2015	Average of last three years (2011–12, 2012–13 and 2013–14) of rabi area sown (in lakh hectares)	Percentage of rabi area affected (rounded off)
Uttar Pradesh	95.17	122.04	78
Rajasthan	30.57	76.46	40
Haryana	22.24	32.59	68
Bihar	14.58	32.23	45
Maharashtra	2.46	51.53	5
Madhya Pradesh	5.70	104.20	5
Punjab	2.94	35.97	8
Uttarakhand	2.83	4.27	66
Gujarat	1.82	22.18	8
Jammu and Kashmir	1.33	3.66	36
West Bengal	1.29	23.16	6
Himachal Pradesh	0.67	4.03	17
Andhra Pradesh (including Telangana)	0.77	34.39	2
Kerala	0.01	0.48	2
Total in 15 states	182.38	547.19	33.33

Source: Rajya Sabha starred question no. 144 answered on 8 May 2015

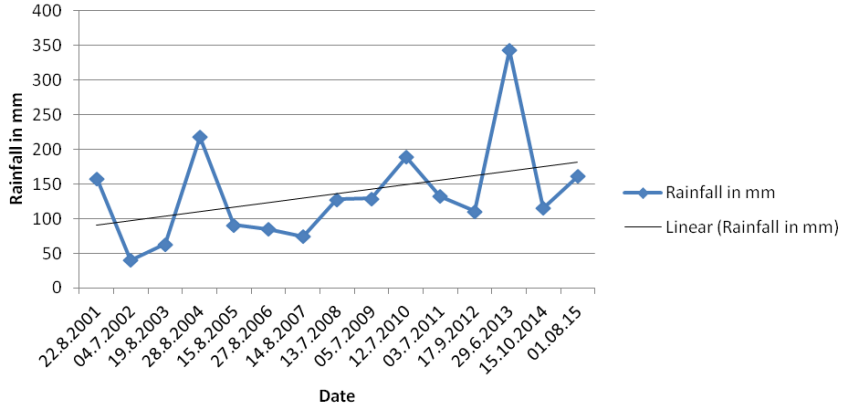
When freak becomes the norm



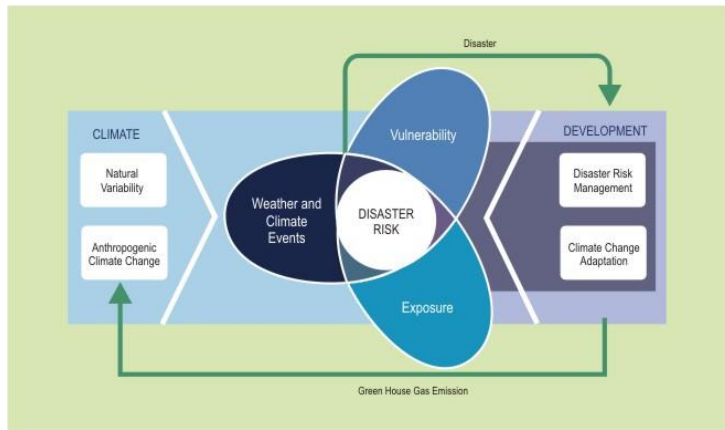
The 15 states represent **75 per cent** of India's population and about **70 per cent** of its geographical area, and produce approximately **81 per cent** of its foodgrains



Extreme Rainfall Gorakhpur (2001-2015)



Climate Change - Disaster - Development Connect

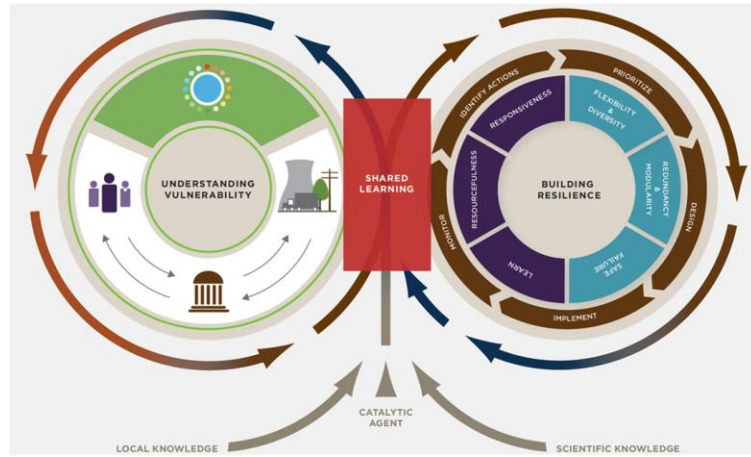


(Source: *Managing the Risks of Extreme Events and Disasters to Advance climate Change Adaption - Special Report of Intergovernmental Panel on Climate Change*, Cambridge University Press, USA, 2012)

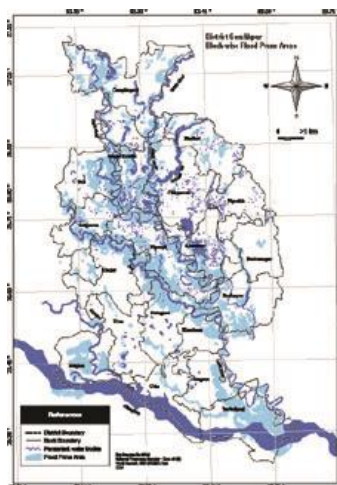
- Disaster Management Act 2005 : **NDMA**
- State Disaster Management Plan : **SDMA**
- District Disaster Management Plan : **DDMA**
- Village Disaster Management Plan :

- A routine process
- Largely relief centric- Coordination of agencies
- Top down, Non participatory
- Single Hazard

The Resilience Framework

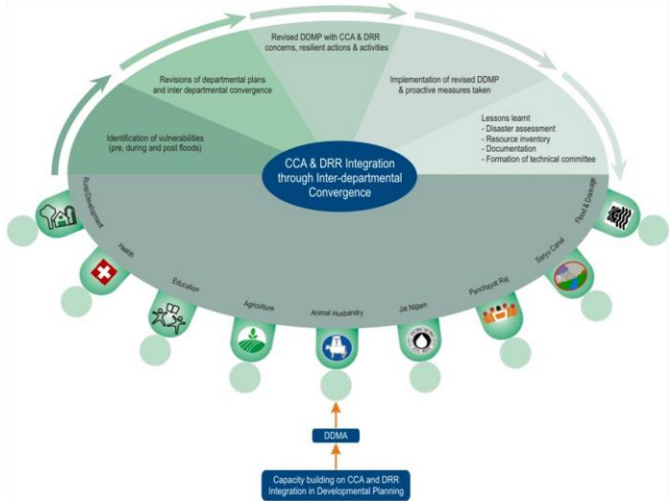


Objectives

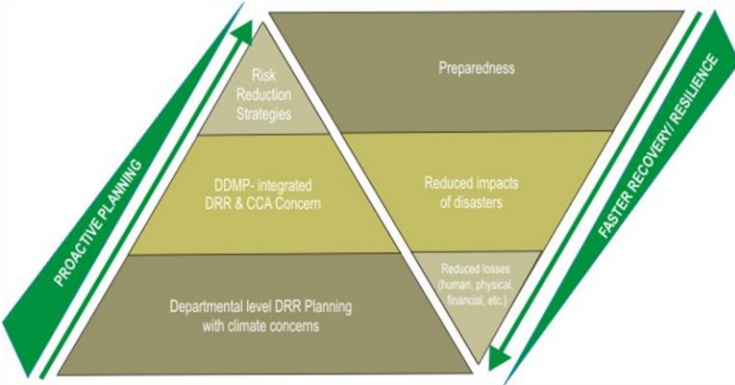


- 1 Systemic Factors Contributing to resilience.
- 2 Policy innovations bridging vertical gap (National- Local) and Horizontal gaps (departments)
- 3 Relevant capacities of the departments

CCA & DRR Integration through Inter-departmental Convergence



The Approach

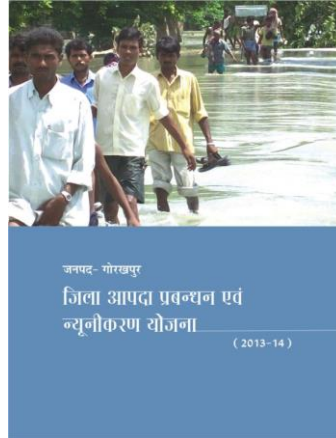
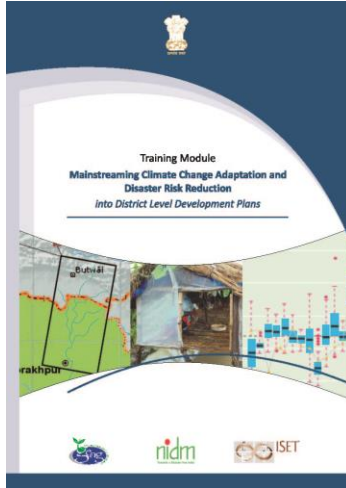


Challenges	Strategies
Comprehensive understanding of vulnerability- contributing factors & Systematic plan to collect and synthesize data	<ul style="list-style-type: none"> • Iterative SLDs • Participation of lowest ranked officials • Analyzing departmental, inter-departmental plans • Loss and damage data
Implications of climate change, climate projections- downscaled	Climate data/analysis → Departments → key gaps issues
Horizontal Coordination	Joint Understanding
Damages data mainly for compensation	Root Cause of vulnerability with CRF (Systems, Agent, Institution, Exposure)

Key Messages

- DDMPs - an effective mechanism for promoting climate-sensitive planning at district level.
- Vertical and horizontal gaps can be countered by building capacities of line departments and engaging them in developing plans with CCA-DRR linkages
- CCA-DRR linkages are crucial in planning at pre-, during- and post-disaster phases, thereby, building resilience
- Understanding of climate change and disaster management integration helps in forward looking development planning process
- Communication, coordination and convergence at departmental level is the key for effective disaster management planning and implementation

Key Outputs



Thanks!