From Prevalence to Vulnerability
Implications of Climate Change on Health Policy in India

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Source: all-free-download.com/free-photos/download/earth_dry_dehydrated_223112.html

Outline of Talk

- Vulnerability Indices
- Case Studies at District Level
- Implications for the Real World

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Fundamentals

Vulnerability

∫Exposure, Sensitivity and Adaptive Capacity

Source: IPCC

The Vulnerability Web

Elements of Vulnerability

Reduced Adaptive Capacity

Increased exposure

Increased sensitivity

Poor access to care and preventive services

Climate Drivers

Exposure Pathways

Health Impacts

Health Outcomes/Burden
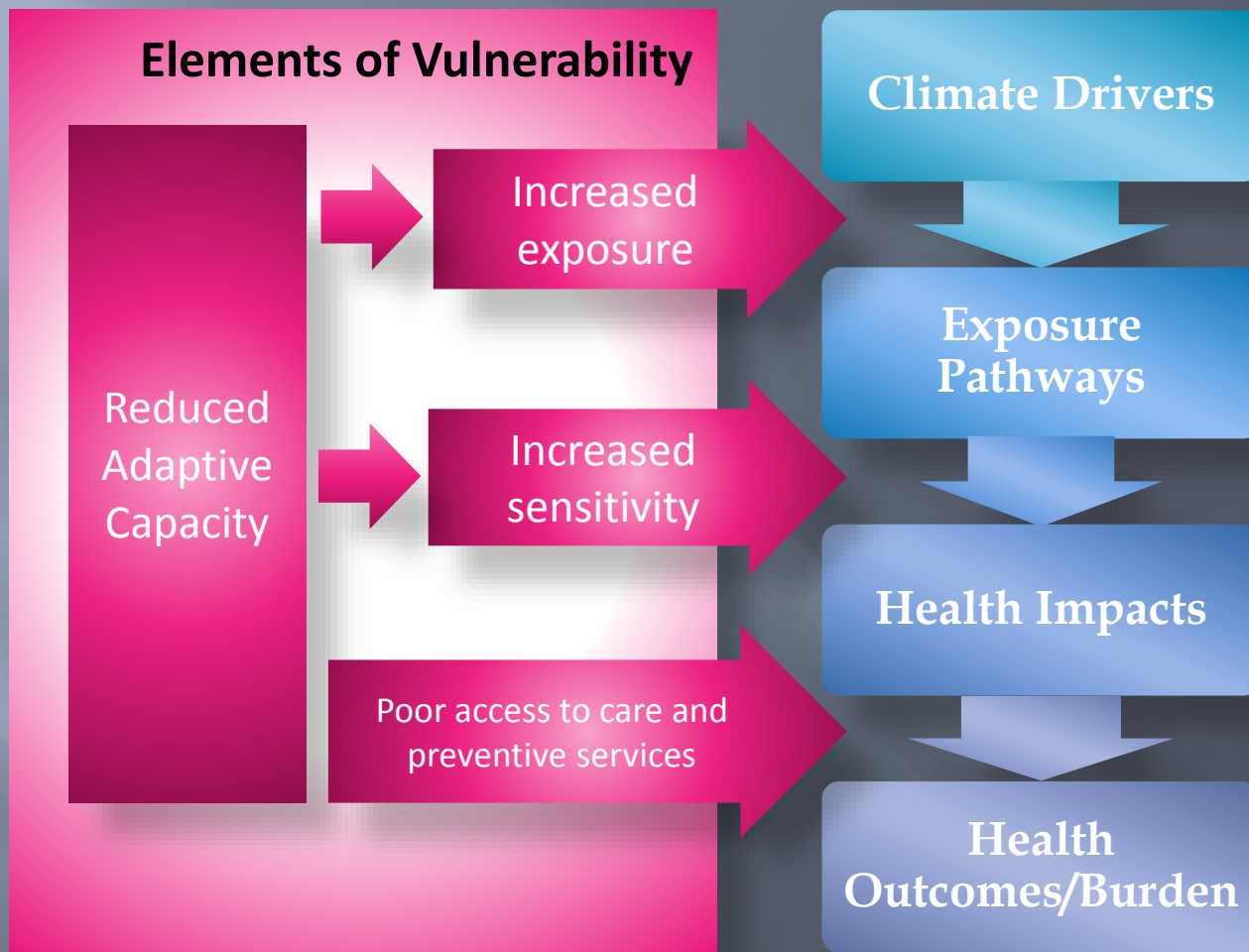
Source: Courtesy Dr. John Balbus, NIH
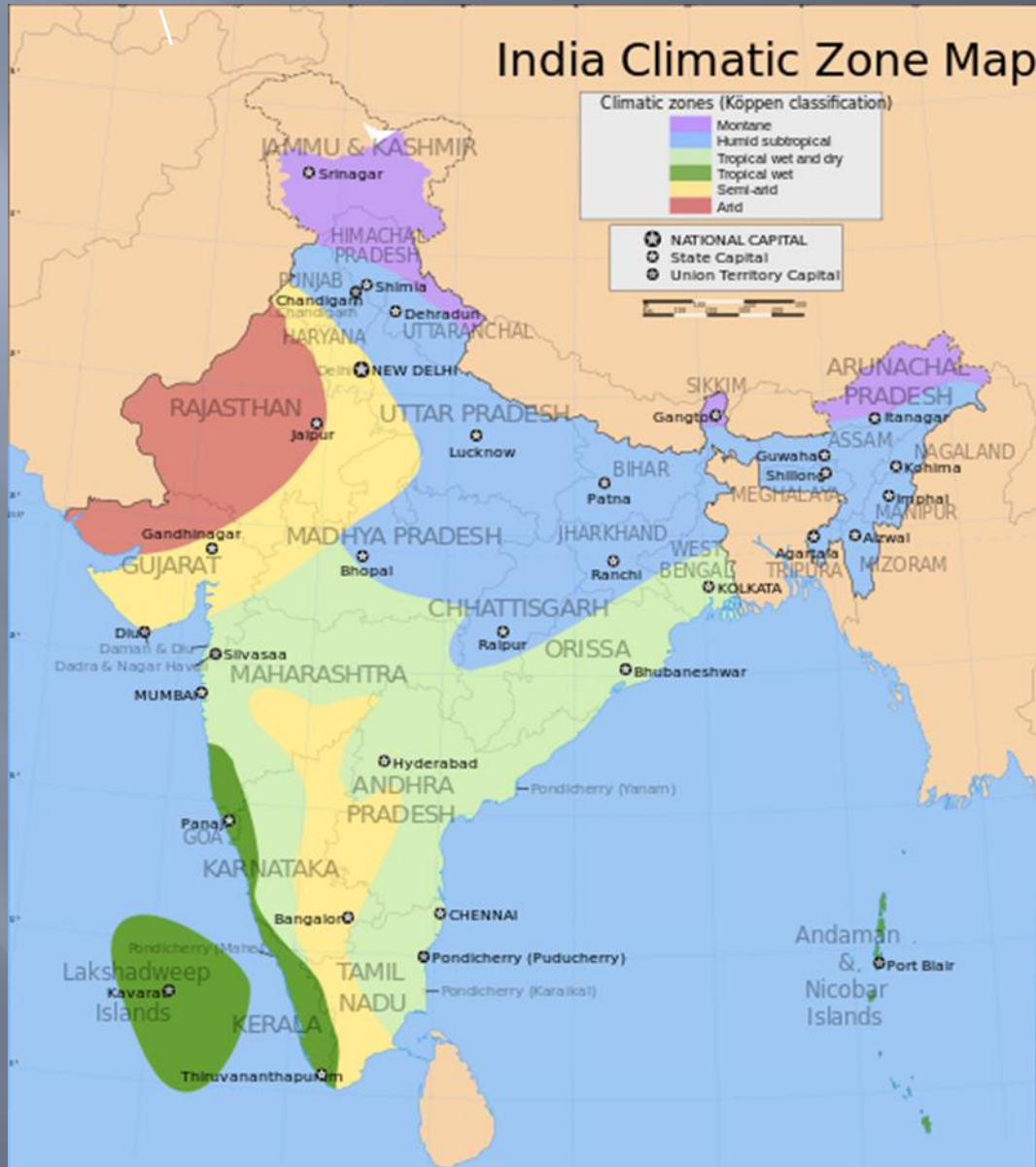
Source: Saravask, based on work by Planemad and Nichalp

Background

- Guidance document on V&A

- Workplan Presentation: 2010 PAHO/WHO Global Workshop in Costa Rica

- WHO SEARO supported and guided project

- First of it's kind exercise in South-East Asia

Objectives

To assess the baseline vulnerability for climate-sensitive diseases at the local level in India

To construct a pilot tool for assessment of health vulnerability to climate change at the sub-national level in India (SEPARATE STUDY)
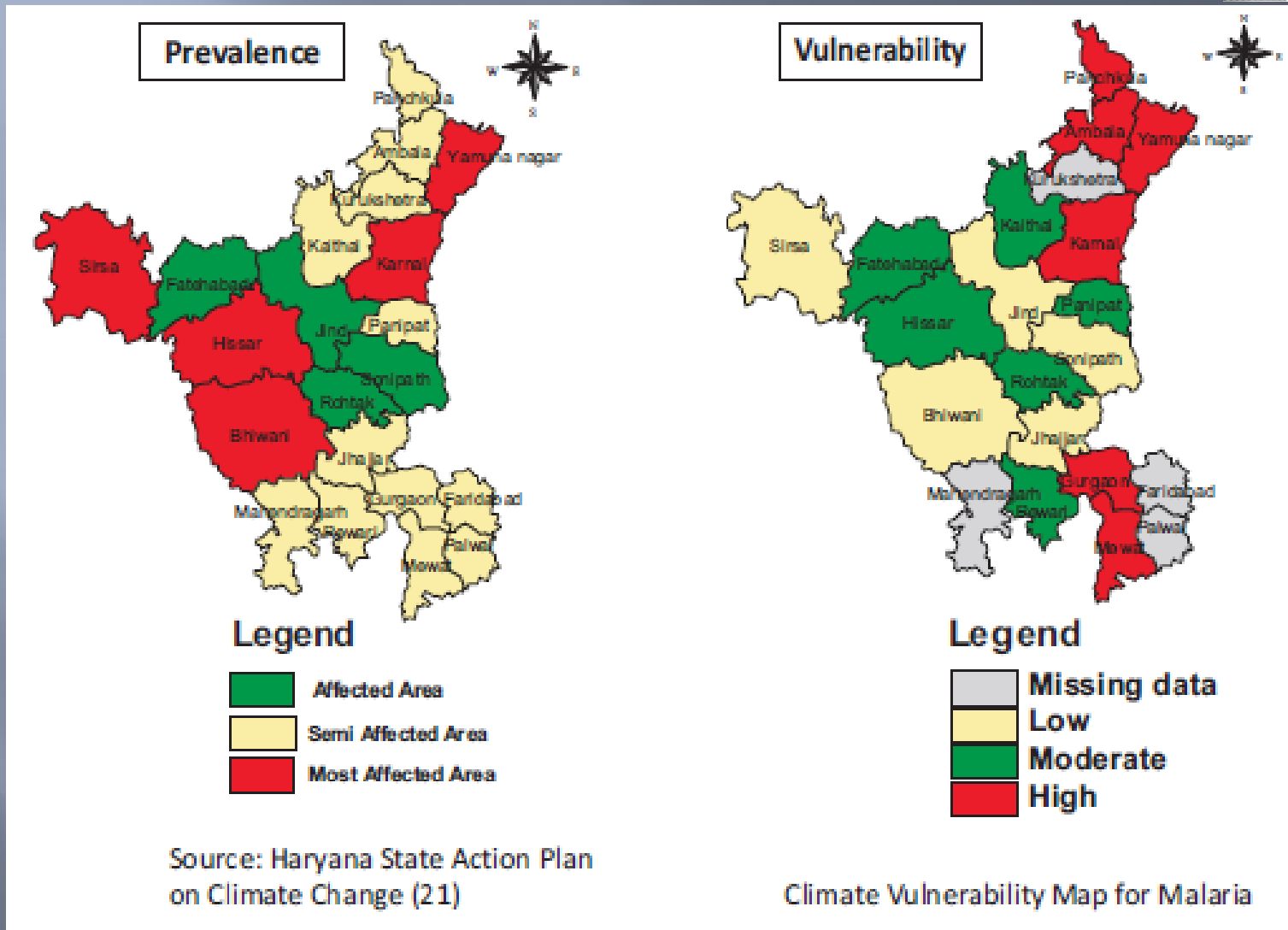
Exposure

- Annual rainy days (17%)
- Summer mean max. temp.(17%)\
- Forest area (17%)
- Water logging (25%)
- Flood risk zone (25%)

Sensitivity

- Population density (25%)
- Low income group (25%)
- Baseline cases of malaria (25%)
- Plasmodium falciparum (25%)

Adaptive Capacity

- Health provider/unit population (12.5%)
- Health facility access (12.5%)
- HR efficiency (25%)
- Past risk (50%)

Source: IIHMR, 2013

Site Selection

TWO ADJACENT DISTRICTS NEAR GURGAON (MEWAT AND REWARI IN NORTH INDIA)

Same climate zone (semi-arid)

Sensitivity differs radically (women, children, poor)

Barriers to adaptation are also markedly at variance

Hence best place to study how climate change impacts health

Source: all-free-download.com/free-photos/download/earth_dry_dehydrated_223112.html

Methods:Quantitative

- Time-series analysis

- Household survey

- GIS

Methods:Qualitiative

- Key informant interviews
- Focus group discussions (FGDs)
- Exit interviews
- Questionnaires for physicians knowledge
- Health facility inventory
- Prioritization exercise for adaptation options

Results:Quantitative

- *Time-series analysis*
  MEWAT: 1° rise in temp= 3.2% rise in diarrhoea
  REWARI: 1° rise in temp= 4.3% rise in diarrhoea

- *Household survey*
  Community based study with contrasting findings

Results:Qualitiative

- *Key informant interviews*
- *Focus group discussions (FGDs)*

o Both the above constitute additional evidence bringing out health access issues.

o Provide a clue to the apparently contradictory findings of the time-series analysis.

Discussion

- Prospective time-series studies required.

- Detailed household surveys may not be feasible.

- GIS methods need to be evolved.

- Qualitiative methods apart from FGD and KII.

- Mixed methods with community studies essential.

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▫Prospective time-series studies required.

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▫GIS methods need to be evolved.

▫Qualitiative methods apart from FGD and KII.

▫Mixed methods with community studies essential.

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Challenge1: Weather data validity

Health data from district will not coincide with historical station data

Solution1: Weather data validity

Collect data at CHC level

Challenge 2: Health data validity

Besides government health facility

- ➢ Private practitioners
- ➢ Indigenous system
- ➢ RMPs (quacks)
- ➢ Treatment at home

Solution 2: Health data validity

- Community based prospective cohort studies at each of India's climate zones
- Best to use existing sites like Vadu in Pune

Thank-You