

# Women in agriculture and climate risks: Hotspots for development

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## Background: Climate risks and gender in agriculture



### CLIMATE CHANGE DOES NOT AFFECT EVERYONE EQUALLY

- ❖ Women comprise **60%** of the total female working population in agriculture in South Asia but...
- ❖ ...the gender gap in agriculture is likely to make them more vulnerable to climate risks than men

### NEED FOR PRIORITIZATION OF ADAPTATION INTERVENTIONS

- ❖ Emerging literature highlights the need to focus on women farmers for better gender integration
- ❖ Role in agriculture, socio-cultural and economic factors play a major role in understanding impacts and respective adaptation strategies

# Why hotspots ?

## **Socio-economic spatial targeting of climate change adaptation interventions**

- Linking with type of climatic risks experienced by women farmers, their social profile and their needs based on their role in agriculture

❖ **Prioritization of regions as a first step to integrate gender into adaptation projects**

❖ **Integrating gender in large scale adaptation in agriculture projects:**



# Research Objectives

1

- Methodology for identification of **hotspots for climate risks and women in agriculture** and illustrate it for India
  - *Regions where there is high concentration of women farmers impacted by high degree of climatic risks*

2

- Socio-economic profile of the hotspots for suggesting adaptation options

3

- Learning's from the not-so-hotspots

# Defining the hotspot parameters – Data and methods

## Women in agriculture

### *District level statistics*

Source: India Population Census 2011



## Climate risks

### *Gridded data aggregated at district level*

(last 30 years)

Source: Indian Meteorological Department



Very Low

Low

Medium

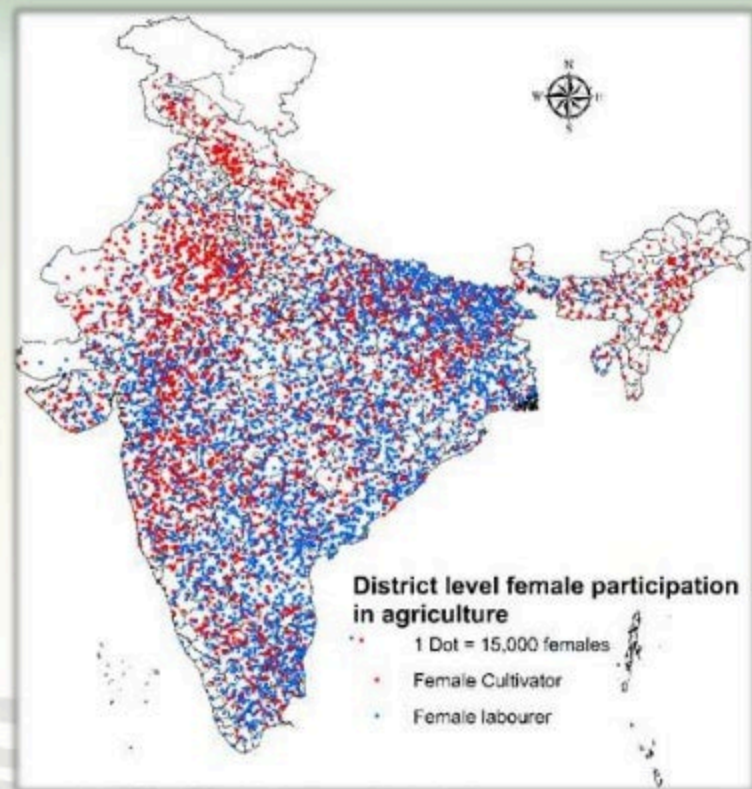
High

Very high

*Jenk's Natural breaks classification- based on the natural groupings within the data*

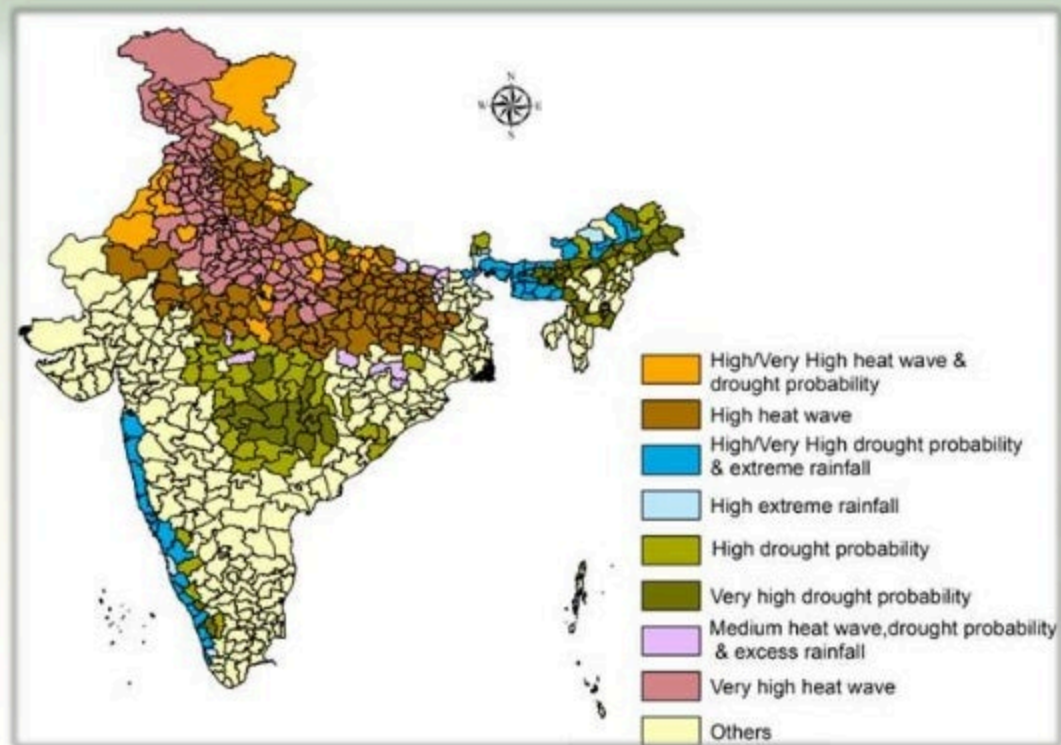
# Defining the hotspot parameters – Spatial mapping

## Women in agriculture



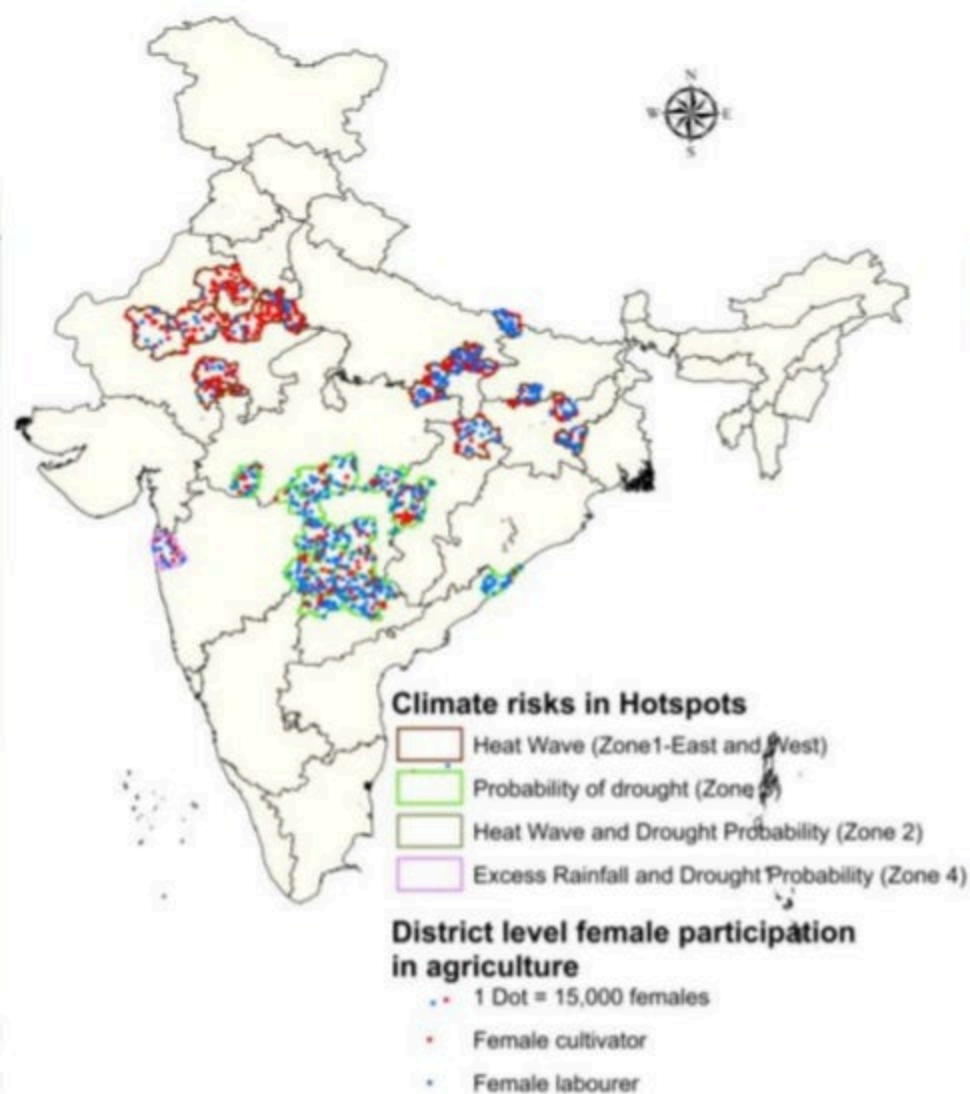
Overlay  
(High and  
Very High)

## Climate risks



# 1. What are these hotspots ?

## Identifying the locations and population



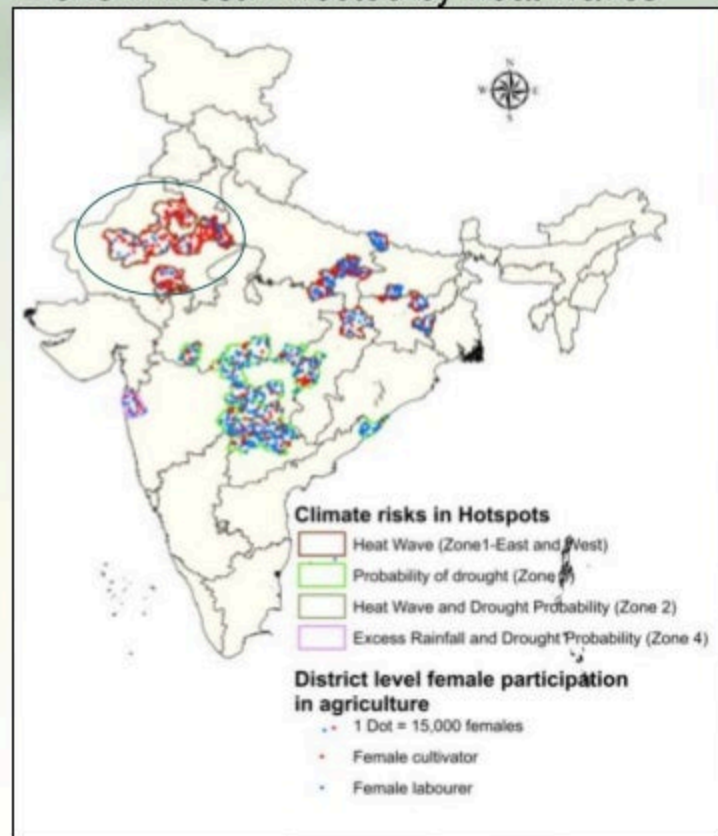
- **36 hotspot** districts across 10 states spread across the northern and central parts of the country
- **13.6 million** women in the hotspots, including 57.4% agricultural labourers
- **14.4%** of the total women involved in agriculture in the country

## 2. Who are the women in these hotspots ?

### Socio-Economic profile of hotspots

<u>Poverty (HCR)<sup>a</sup></u>	27%	
<u>Population category<sup>b</sup></u>	General	Scheduled groups
<u>Role in agriculture</u>		
<b>% female cultivators</b>	59%	16%
Cultivator constraints	<ul style="list-style-type: none"> <li>• Lower literacy levels</li> <li>• Limited decision making (socio-cultural norms)</li> <li>• Limited access to Credit, Information, and Markets</li> </ul>	<ul style="list-style-type: none"> <li>• Increased labour hours due to male outmigration</li> <li>• Smaller land holding and low income</li> </ul>
Suggested adaptation interventions	ICT-based agro-advisories, Contingent Crop Planning Livestock Management	Labour saving practices such as Direct Seeded Rice and System of Rice Intensification
<b>% female labourers</b>	15%	10%
Labourer constraints	<ul style="list-style-type: none"> <li>• Low and variable wage income</li> </ul>	<ul style="list-style-type: none"> <li>• Minimal asset endowments</li> </ul>
Suggested adaptation interventions	<ul style="list-style-type: none"> <li>• ICT for awareness and capacity building, Livestock management, improved seeds,</li> </ul>	

Zone 1 West: Affected by heat waves



(a) Poverty is represented by the district Head Count Ratio (Urban and rural combined) which has been taken from the study by Mohanty et al. (2016); (b) The classification is as per the Census of India (Census of India 2011). Scheduled groups comprise of Scheduled Caste and Scheduled Tribe



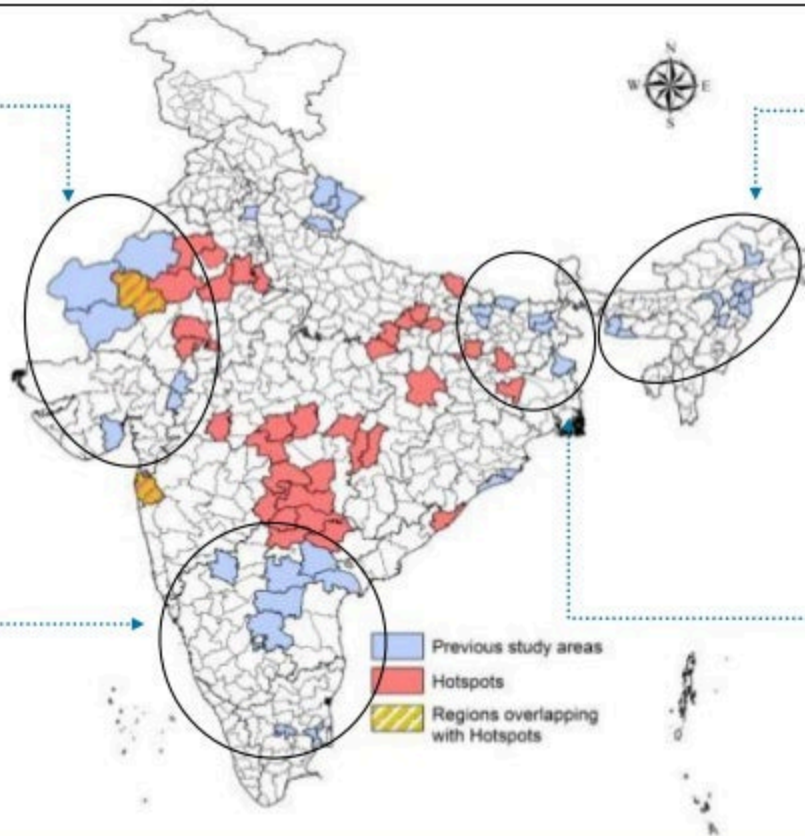
### 3. How do we move forward ?

#### Learning's from the not-so-hot spots

- Women's self-help groups (**SHGs**) for access to inputs, credit, community participation, and market, especially for poor cultivators
- **Agroforestry** for women labourers in tribal areas

- **SHGs** for livestock management, small-scale technologies related to soil moisture conservation, and capacity building for improved decision-making within household
- Strengthening of local **social networks**

Only 2 out of 23 studies conducted in hotspots in the last 10 years



- **Community-based** water initiatives
- **Site-specific** training programs
- Stress tolerant **seed** varieties (for flood)

- **Off-farm** opportunities
- Access to schooling & exposure to **training**,
- **Access** to irrigation

# Discussion

- Primary studies
  - Combining the top down approach with bottom up research
- Replication and usage
  - Based on secondary sources
  - Ideal to reach lowest possible level
  - Scope for integrating other parameters



# Integrating gender in a hotspot: The case of Betul

## About the project

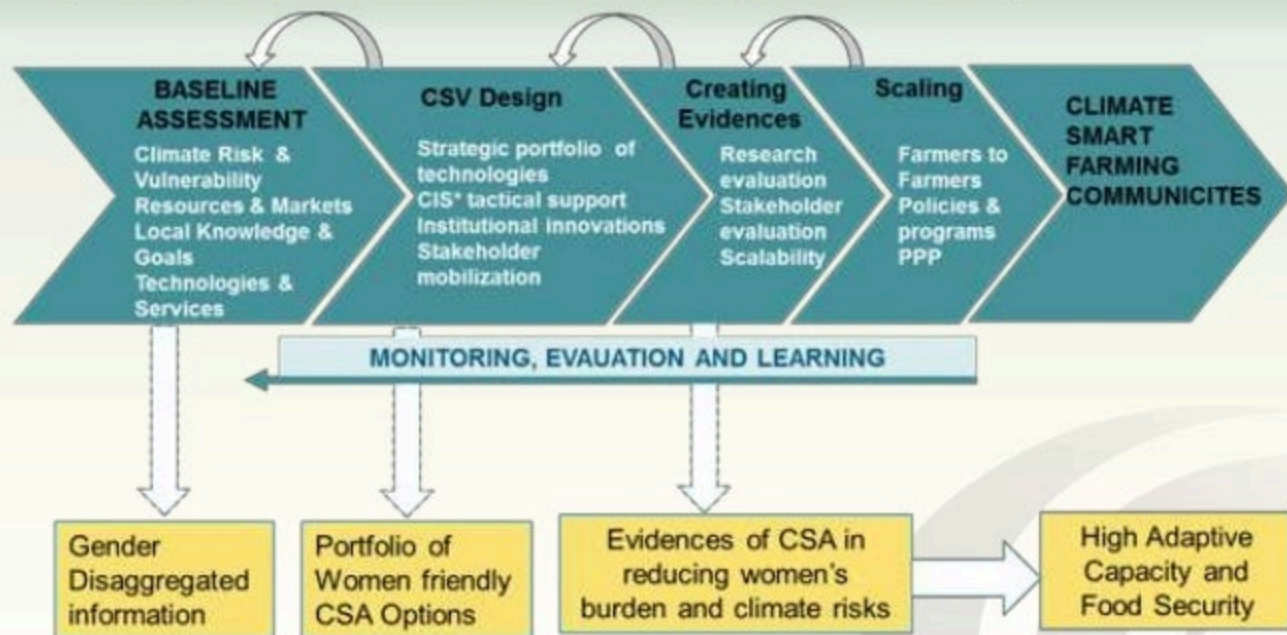
**Location:** Betul district  
(Madhya Pradesh)

**Climate risk:** High drought  
probability

### Socio-Economic profile:

- Agricultural population majorly comprised of Scheduled Castes and Scheduled Tribes
- Women constitute 47% of the agricultural workforce in the district

**Project objective:** Scaling out climate risk adaptation options through the Climate-Smart Village approach in India



# Integrating gender in hotspot: The case of Betul

## Project design

### Baseline: Participation in crop cultivation

Women spend more labour hours than men in transplanting, weeding, and harvesting of rice.

### Baseline: Energy access

Women spend 1-2 hours per day to access water for domestic purposes. Households spend 2-3 days a week to collect firewood for cooking

### Baseline: Capacity development

Women and men have limited knowledge about agricultural technologies, practices as well as market information

### Baseline: Social capital

Women are actively involved in self-help group

### Baseline: Information access

Most women do not own mobile phones nor regularly access those owned by their households



THANK YOU !!



We would like to acknowledge all CGIAR Research Programs and Centers for supporting the participation of their gender scientists to the *Seeds of Change* conference.



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Collaborative Platform for Gender Research



Photo: Neil Palmer/IWMI



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