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مؤتمر الأمم المتحدة للتغير المناخي  
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# CLIMATE PROOFING WATERSHEDS & LIVELIHOODS IN SEMI-ARID INDIA

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# CLIMATE VARIABILITY: A “RISK” TO DEVELOPMENT PROCESS

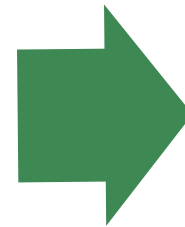
Climate variability has always been experienced ...

**However**

Its frequency and severity causes adverse effects on:

- Natural Resource Base
- Agricultural Productivity
- Livestock
- Livelihoods of communities *resulting in* ECONOMIC LOSSES

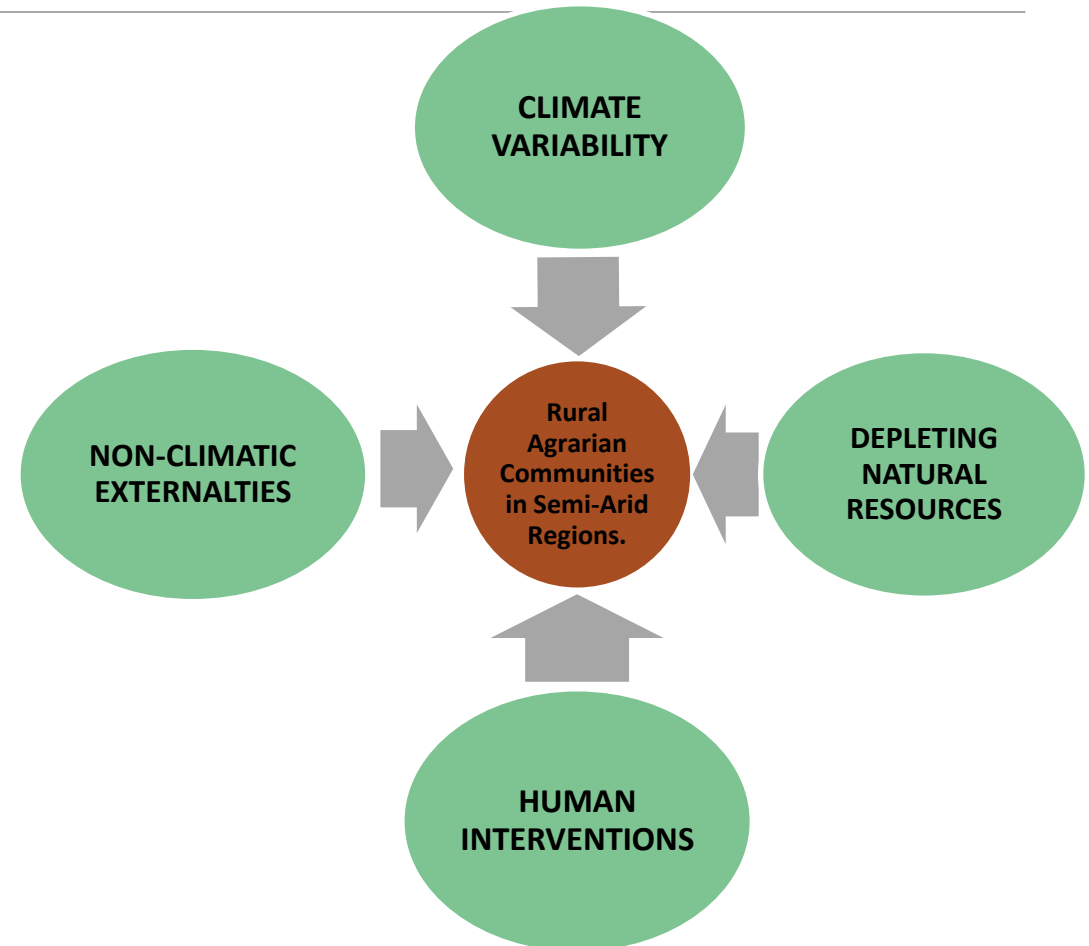
*Climate variability,  
Adverse non-climatic risks,  
Developmental deficits*



*Reduced resilience and adaptive  
capacity of communities.*

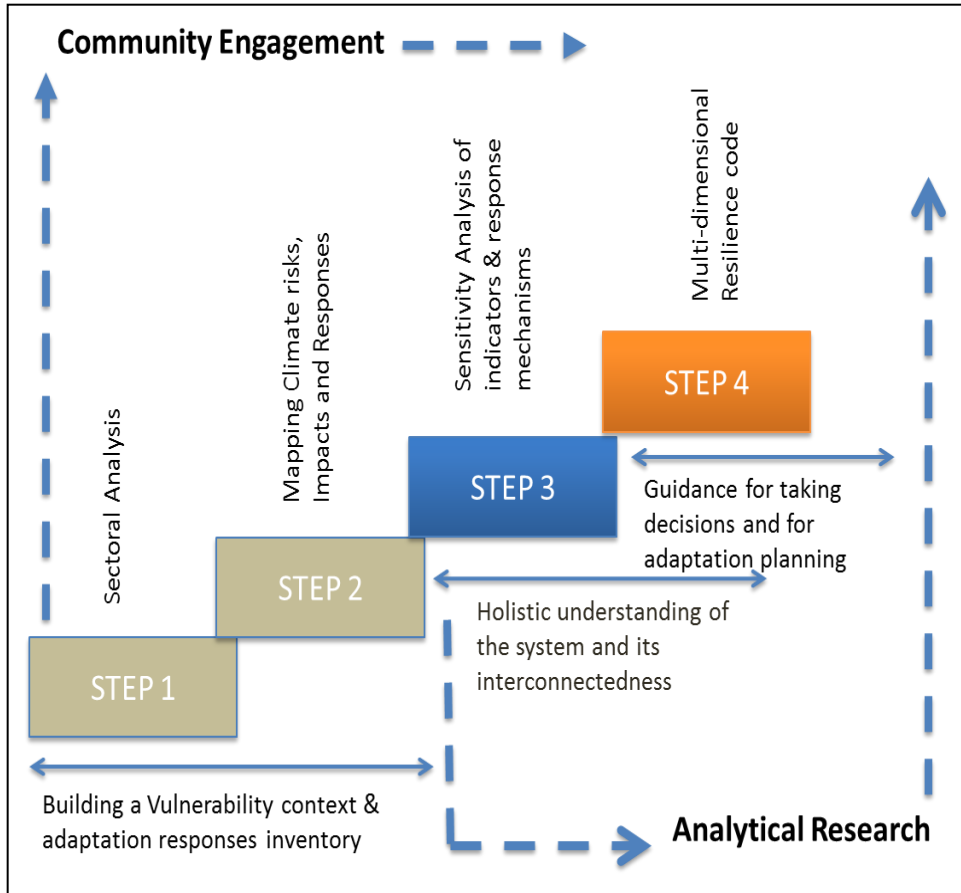
# WHY VULNERABILITY ASSESSMENT ?

- **Safeguard/insulate** against climate change and its impacts. Therefore:
  - **Target specific issues** and how these need to be addressed
- **Avoid developmental patterns** that may pose an additional risk to communities at a later stage.
- **Prevent wastage/failure** of investments if unnecessary or if they cause unintended negative consequences
- Ensure **sustainability** of project impacts in its design.



# Community Driven Vulnerability Evaluation-Programme Designer

## CoDrIVE-PD



Science based composite tool to make **quick but precise assessment of the climate risks and vulnerabilities** of an area through community engagement.

**Can be applied at multiple scales:** Communities, Watershed, Village, and landscapes

### What does it do?

- Reviews past and presents trends
- Examines externalities influencing community decisions
- Records perceptions of climate risk, its impacts and responses
- Generates multi dimension vulnerability code based on 5 capitals Human, Physical, Financial, Social, Natural.

**Step - 1: Sectoral Analysis**

**Step 1: Building a vulnerability context – “What is happening to the environment and why?”**

Rural poor are heavily dependent on the climate sensitive sectors and allied livelihoods, for their survival. With the increasing climate variability and sudden extreme events, now being faced their lives are further threatened. The first step in a vulnerability analysis is to gain a holistic view of the all the livelihood resources and related aspects in the area of study. This section of the software helps you organize and access just that. The sectoral analysis consists of analyzing information collected from 6 sectors and 3 cross cutting themes namely: Agriculture, Livestock, Forests, Fisheries, Allied livelihoods and Gender, Health and Transforming Structures. Each of these sectoral forms has 7-8 sub-sectoral forms that are based on the 5 livelihood capitals, for which data need to be collected from the communities and secondary sources.

**The Outputs:**

The parameters accessed across the sub-sectoral forms helps you gain an understanding of “What is happening to the environment and why?” And thus building a “Vulnerability Context”. The data entered into this step is available in the “Reports” section of the software as automatically generated as sectoral reports. While the parameters after analysis will automatically get fed into step 3 the “Sensitivity Analysis” for further analysis.

Agriculture Sector      Livestock Sector      Forest Sector  
 Fisheries Sector      Allied Livelihoods      Cross Cutting Themes

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Can be accessed at <http://codrive.wotr.in/CodrivePD/Forms/HomePage.aspx>

Applied in over 180 villages in 4 Indian states. Piloted in government programmes in India. Work initiated in Malawi



# SYSTEM OF CROP INTENSIFICATION (SCI)

## *A step towards Climate resilient Agriculture*

### A four pronged approach involving:

- Soil preparation and soil health management
- Crop geometry
- Systematic application of locally prepared organic inputs
- Micro-nutrient foliar sprays



*Enhanced productivity*

### Impacts on crops:

- Efficient use of agricultural inputs
- Enhanced productivity
- Improved quality of yield
- Reduced cost of cultivation
- Increased resilience to climate variability



*Preparation of organic and micro-nutrient foliar sprays*

# AGROMETEROLOGY

*Locale specific and farmer centric*

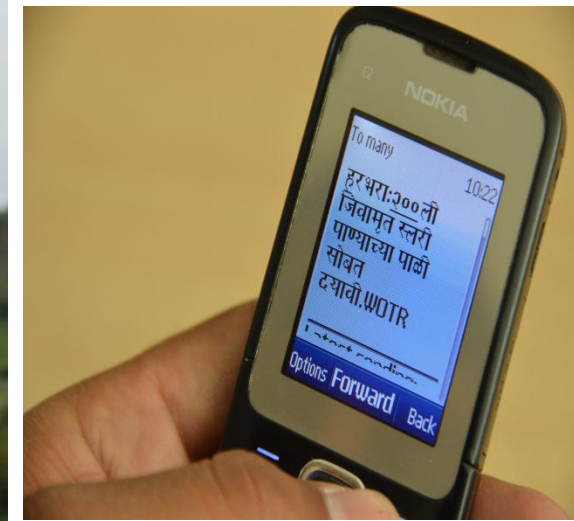
**Crop and locale specific agro-advisories** given to farmers, based on weather forecasts and growth stage of crops.

**Involves 4 components:**

- Acquisition of data from Automated Weather Stations (AWS), short ranged weather forecasts from IMD.
- Crafting Agro-advisories based on weather forecasts
- Multi-channel dissemination of information twice a week followed by feedback gathering
- Onsite Capacity Building.



**Automated Weather Station(AWS)**



**Dissemination of advisories**



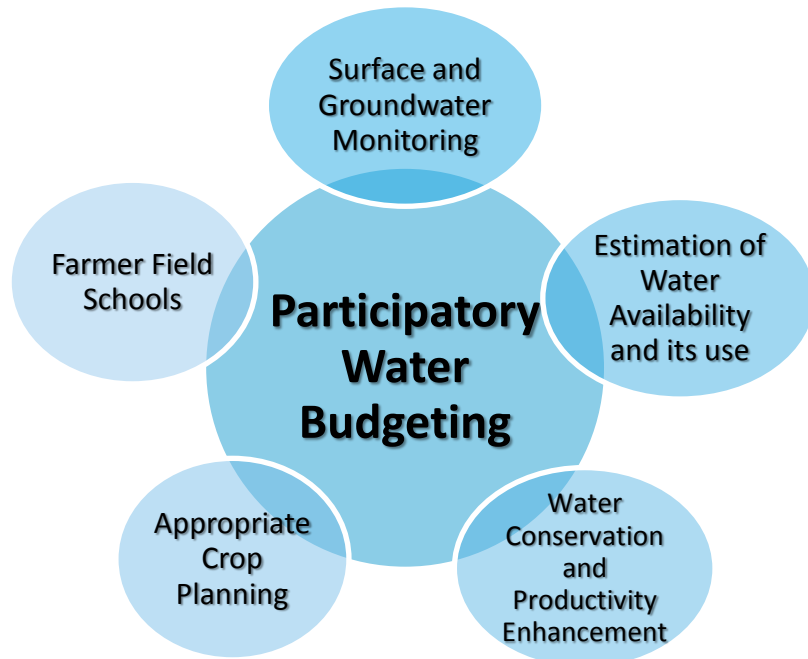
# PARTICIPATORY WATER BUDGETING

*“More Crop Per Drop”*

**Quantifies water availability** in a village, aiding its **equitable and judicious use** for all purposes, keeping in mind **climate variability**.

Communities capacitated to:

- Monitor groundwater levels
- Water budgeting matching crop-water requirement



*Quantifying water availability at village level*



*Water efficient systems*



# CAPACITY BUILDING

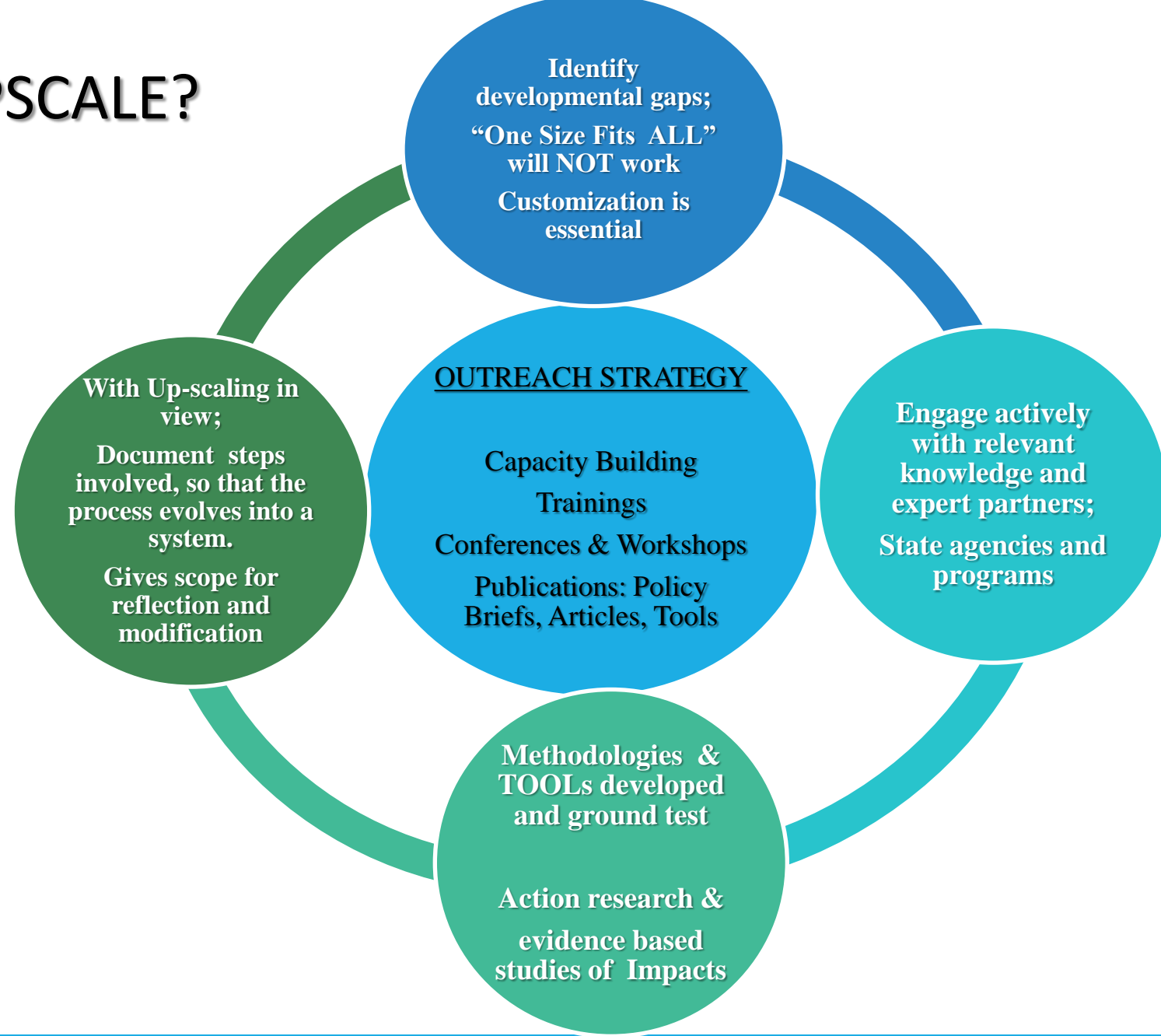
## *Scaling up WOTR's interventions*

- Successfully **facilitated 230 NGOs and government Project Implementing Agencies**
- Organized over **11,800** women's SHGs, micro-finance, trainings benefitting over 150,000 women.
- Over **380,000** people from **27** states in India & **63** countries have participated in training and Capacity Building events
- In **Malawi, Tanzania, Kenya and Somaliland:** Capacity building support given to **21** watershed projects



*Training international and national participants*

# HOW DOES WOTR UPSCALE?





# MULTI-AGENCY COLLABORATIONS

## DONORS AND ENABLERS



Government of Maharashtra



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## RESEARCH PARTNERSHIPS

ASSAR  
Adaptation at Scale in Semi-Arid Regions

DFID Department for International Development

IDRC | CRDI

International Development Research Centre  
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# THANK YOU!

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