

### Enabling forward looking and informed planning

#### Building collectives to carry out this planning

Village Development committees (VDCs) have been set up by the project in all 40 villages as there were no official consultation process at the village level. They are composed of 11 to 18 members. They are in charge of the community adaptation action plans (development, implementation and monitoring) supported by CARE and in consultation with the whole communities.

In villages where more important water infrastructure does exist, a Water User Association has been created to be in charge of water management (linked to the VDC). They are mandated to: monitor water quantity and quality throughout the year (1), manage the tradeoffs of ponds uses to ensure that water meets the demands in equitable manner (2), look after the installations' maintenance (3). VDCs constitute the intermediary between communities and local authorities.

#### Supporting Forward looking planning thanks to climate and water information

In each village, VDCs have developed Community Adaptation Plans for 3 years. Participatory assessments have been organized to identify vulnerabilities to climate change and identify adaptation strategies. Among them, promotion of an effective and sustainable surface water management has been raised as a key intervention (as detailed in section I).

### Using a right-based and equitable approach

#### Promoting a gender transformative approach

The right-based approach aims to prevent all types of discrimination based on age, gender, tribes, etc. Due to traditional tasks sharing and socio-cultural norms, climate vulnerabilities and capacities of Adivasi women are different from men. They face low access to information, low financial capital, limited participation to local governance or control over resources. To overcome these difficulties, Self Help Groups (SHGs) have been set up to support women to develop incomes-generating activities and thus reduce their dependence on natural resources-based livelihoods, but also to foster solidarity in the community.

#### Targeting the most vulnerable

VDC also ensure that the water management approach promotes accountability, non-discrimination, participation and transparency. For example, they identify direct beneficiaries of the 5% model according to vulnerability criteria such as: holding less than 2 acres of land in middle or up-land, suffering from crop failure for several years being an Adivasi woman or marginalized person.

<sup>8</sup> These will be based on tools already designed during the CAP process: resources and risks map, timeline, seasonal calendars, etc.

### Conclusion

The project is promoting a holistic approach to improve resilience of Adivasi people in changing climate. Indeed, if technical approaches are supporting the communities to improve their capacities to face droughts in the short run, the key of the intervention lies in the increase of their capacities to assess the risks, to manage uncertainty and to design flexible and appropriate strategies. By strengthening community structuration and leadership capacities, marginalized people become more vocal and involve local authorities to tackle the root causes of climate vulnerability. This is crucial in a context where climate uncertainty is growing.

**The planning process is key to enhance communities' capacities to analyze what are the risks and what are the possible and best answers at a point in time, a crucial component of adaptive capacity as risks and climate change impacts can change over time.**

To complement this medium term plan, communities are being trained in participatory scenario planning. Based on indigenous knowledge and local scientific forecasts, communities identify several likely climate scenarios for the next rainy season (for example: less rainfalls, more rainfalls, erratic rainfalls) and the associated effects on resources, livelihoods, human and animal health, as to identify best strategies: agriculture practices, seeds selection, vaccination, water uses, etc. This contributes to enhancing their anticipatory capacities.

Water being crucial, a particular focus has been put on accessing "water" information. Participatory water audits are being done in the villages<sup>8</sup>. WUAs will be trained to monitor regularly quantity and quality of surface water, groundwater and rainwater. For example, WUAs will settle rain gauges, monitor minimum thresholds in the water bodies, the pumping demand, etc.



# Where the Rain Falls

## Water management in a changing climate



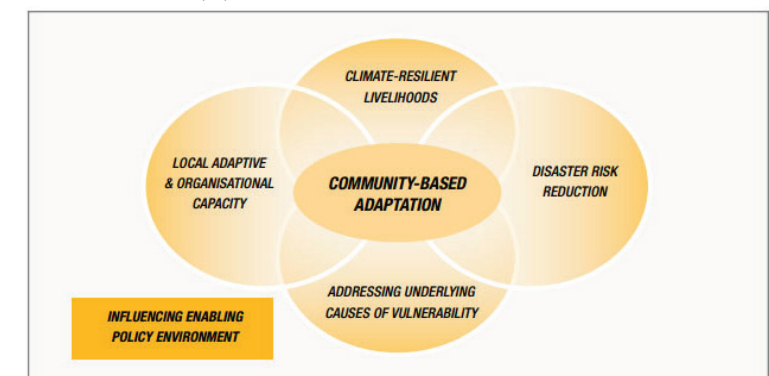
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Changing weather patterns are already causing weather extremes, including droughts and flooding, leading to food insecurity and displacement of people. Yet, these changing weather patterns, which include less predictable seasons and increasingly erratic rainfall, are some of the most important but least understood impacts of environmental change. While erratic weather has long presented serious challenges to people dependent on natural resources for their livelihoods, increasing variability due to climate change is making farming more difficult and precarious.

CARE France and the UN University's Institute for Environment and Human Security launched the "Where the Rain Falls" initiative in 2011 to better understand the linkages between changing weather patterns, food security and human mobility in 8 of the world's most vulnerable countries and communities<sup>1</sup>.

After the research phase (2011-2012), Community-Based Adaptation (CBA) projects were launched<sup>2</sup> focusing on adaptation interventions in the areas of agriculture

and integrated water resources management with the objective to deal with all the aspects of community based adaptation (see figure 1). The added-values of this strategy are: the strong sense of the process' ownership by the communities to generate appropriate adaptation strategies (1), enhancement of communities' capacities to understand uncertainty and thus to create responsive and flexible plans (2), integration of a new knowledge into existing community structures leading to a strengthening those structures as well as institutional mechanisms (3).



CARE Community-Based Adaptation Framework



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<sup>1</sup> Viet Nam, Thailand, Bangladesh, India, Ghana, Tanzania, Peru, Guatemala.

<sup>2</sup> CBA projects were implemented in Thailand, Peru, India, Tanzania, Bangladesh.




# Where the Rain Falls (WTRF) in India

The Where The Rain Falls (WTRF) project in India aims to increase resilience of Adivasi women to shocks and stresses. Particularly its purpose is to address food and water insecurity impacting their access, control, and management of natural resources.

**Location:**

- 40 villages of Bagicha and Pathalgaon Blocks, Jashpur District, Chhattisgarh State, India
- Direct beneficiaries: 3000 Adivasi women
- Budget: 735 534 €
- Donors: AXA
- Project Period: 2014- 2016



**Objectives of the Where the Rain Falls project:**

- Enhance capacities, capabilities and confidence of Adivasi women to adapt to climate change.
- Support inclusive and effective collectives to facilitate access of Adivasi women and girls to opportunities, entitlements, resources, services, and markets.
- Improve governance and resources management (especially water).

## Context in Chhattisgarh: climate change effects on natural resources based-livelihoods

Adivasi livelihoods are nearly completely dependent on natural resources with most of Adivasi land owners having less than 2 acres of area. Farmers mainly practice rainfed-based rice-growing in the Kharif season (May-November) and vegetables and pulses in the Rabi season (November-January).

### Poor Water Management

The intensive use of water by industries and the lack of water management mechanisms exacerbate communities’ vulnerability. This has implication on water availability and quality for agriculture and households consumption.

### Climate change, environmental degradation increasing water & food insecurity

During the 1951-2000 period, rainfall patterns recorded in Chhattisgarh have declined by 10-15% compared to 1901-1950 period. The Bagicha and Panthalgaon blocks are considered are drought priority areas of the Jashpur district<sup>3</sup>. The main climate change effects felt in the villages are a decrease of total amount of rainfalls, erratic rainfalls, an increase of average temperatures and a higher probability of heat waves. In addition, the forest cover has decrease in a sharp manner since many decades due to slash and burn farming, non-sustainable forest products harvesting, mining activities and urbanizing<sup>4</sup>.

**The consecutive crop failures, low access to safe water, low access to markets and fragile livelihoods exacerbate food insecurity risks<sup>5</sup>. To cope with the situation, people either seek external support, reduce food consumption or leave their households either for daily labour work or for several months to work in cities or mines<sup>6</sup>.**

### Chhattisgarh state in a nutshell

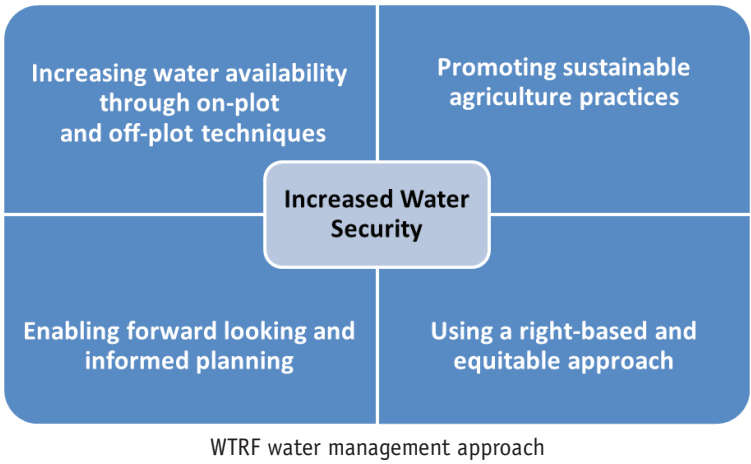
- Date of creation : 2000
- Population : 25,5M with a large majority of Scheduled Tribes (63% in Jashpur district), 80% is rural
- IDH : 0,358 (the lowest of India)
- Poverty level : > 50% for Adivasi
- Forest coverage : 42%
- Economy:
  - agriculture (22% of irrigated land in the state, 3% in district).
  - industry (steel, cement...)



Woman in a field, Kandhamal

## The Where The Rain Falls approach for water resilience

The WTRF water management approach is based on four pillars (see figure below).



Construction of 5% pit, Ambatoli



Vegetables cultivated on the 5% pit's borders, Jurudand

### Increasing water availability through on-plot and off-plot techniques

5% model is an in-situ rainwater harvesting model. This concept invites farmers in middle and up-land to dig a water pit with an average area of 5% of their field area. By capturing rainwater and reducing the spread runoff, 5% pits lead to a deeper percolation, refill of groundwater wells and reduction of scouring/eroding risks. The soil pulled out is to be used to build mound of earth around the pit or level the field.

Benefits for farmers:

- improved soil moisture and fertility;
  - additional source of irrigation for post monsoon paddy;
  - additional source of income and food: possibility to grow vegetables and pulses on the bund of the 5% model during the Rabi season and rear fishes from July to February<sup>7</sup>.
- Achievements: So far, 177 pits have been dug and the project targets at least 787 pits.

Lessons learnt:

- take into account the different levels of lands and excavate the pits in a staggered manner, so as to capture water flows from the uplands.
- work from top to bottom to maximize the benefits, preferably from December to June or after harvesting paddy.
- additional installations can be implemented to optimize water flows. In Bartoli, for example, 3 farmers have also constructed traditional check dams. *“The spells of rainfalls are more and more spaced further apart. I had not harvested any production for the last 2 years. Thanks to the new installations set up with 2 other farmers, I harvested in 2015 three quintal of paddy even though rainfalls were less important than last year”*, Ignestia Tigga.

The project also built percolation tanks where 5% model was not sufficient and restored some community ponds, hand pumps, etc.

### Promoting Sustainable agriculture practices

Water management cannot be thought in isolation. Forest, land, watershed management are to be associated to have a sustainable impact. The WTRF project has been promoting improved farming practices to ensure an optimized and sustainable use of resources to improve food security, preserve ecosystems and increase capacities to adapt to rainfalls variability For example, farmers have been trained to SRI (Sustainable Rice Intensification) techniques. Many farmers have noticed an average doubling of paddy yields thanks to this technique while reducing the need for water. Agroforestry has also been encouraged to enhance water conservation and provide alternative income and nutritious fruits. Finally, organic fertilizers and pesticides such as vermi-composting and bio-pesticides have been promoted to limit ground table contamination, protecting water quality being another priority.

<sup>3</sup> <http://www.moef.nic.in/sites/default/files/sapcc/Chhattisgarh.pdf>.

<sup>4</sup> The Chhattisgarh State is granted with minerals ores such as coal, bauxite and iron.

<sup>5</sup> Jashpur district is classified as « severely insecure » by the World Food Program.

<sup>6</sup> According to interviews in the villages, in average, miners are paid less than 100 Ruppies per day and have to work in difficult conditions.

<sup>7</sup> So far, only 10% farmers have adopted fisheries with local species: Rohu; Katata; Mangeur.