IWMI
International Water Management Institute

Technical Brief

AI4WaterPolicy: AI-assisted qualitative framework for strengthening water governance in India

Background

Effective water governance requires more than infrastructure and quantitative monitoring—it depends on understanding behaviours, motivations, and barriers within communities. To understand if triggering socio-technical transformation in water governance can address these challenges, International Water Management Institute (IWMI) partnered with Centre for MicroFinance (CmF), Colectiv, and Institute of Development Studies (IDS) in Rajasthan.

Their Safe and Sustainable Drinking Water project provided the ideal context to understand the application of AI in qualitative data collection and feedback, reducing information asymmetry and enhancing vertical policy coherence. The Safe and Sustainable Drinking Water project is implemented across 350 villages in Sirohi and Pali districts of Rajasthan, India, aiming to encourage local leadership, strengthen water behaviour, and promote water-efficient agricultural practices through training *Pani Mitras* – community-level leaders championing water security.

However, not all *Pani Mitra* are equally successful in championing the cause. Existing evaluation methods rely heavily on quantitative indicators (e.g., number of trainings, beneficiaries, and adoption rates). This leaves critical gaps in understanding:

- Why some *Pani Mitras* become active leaders while others disengage
- What mid-course corrections are needed for stronger community mobilisation
- How short- and long-term behavioural change toward water security can be measured

AI4WaterPolicy responds to this gap by integrating AI-assisted qualitative interviews and data analysis into community-based water governance programs to ensure real-time response to emerging challenges.

Community consultation at Sirohi in Rajasthan to understand the applicability of the project. (*Photo*: Suchiradipta Bhattacharjee/IWMI)

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What is AI4WaterPolicy?

AI4WaterPolicy is an AI-enabled qualitative data framework co-developed by IWMI, CmF, Colectiv, and IDS to strengthen decision-making in water governance through continuous community feedback.

The primary objectives of the AI4WaterPolicy framework are:

- To institutionalise the integration of qualitative insights into formal data streams.
- To systematically diagnose behavioural drivers, constraints, and training gaps through a human-in-the-loop AI design.
- To facilitate responsive governance by providing real-time, actionable feedback.
- To generate robust evidence necessary for the adaptive management and refinement of large-scale groundwater programs.

Activities

- Co-design the proof-of-concept (Figure 1) by IWMI (lead), CmF (field partner), Colectiv (technology partner), and IDS (research partner).
- Identify community-level stakeholder cohorts for qualitative feedback.
- Facilitate field engagement with a panel of *Pani Mitras* and Panchayat leaders.
- Conduct two learning workshops—post-pilot and at project completion—to support adaptive programming.

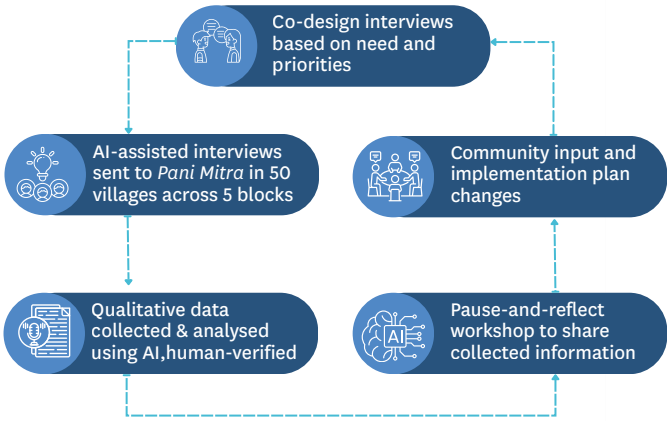

Figure 1. AI4WaterPolicy feedback cycle. (*Source*: Authors)

Outcomes

- Adaptive and responsive water security programs based on real-time insights.
- Improved performance of *Pani Mitras* through targeted, data-driven support.
- Enhanced understanding of behavioural barriers to adopting water-efficient practices.
- Strengthened community mobilisation for improved WSP implementation.
- Scalable AI-enabled framework that can be replicated across states and sectors.
- Successful 'proof-of-concept' for enhancing large-scale groundwater programs like Atal Jal (Figure 2).

Pause and Reflect session with the community and panchayat members at Pindwara, Sirohi in Rajasthan. (*Photo*: Suchiradipta Bhattacharjee/IWMI)

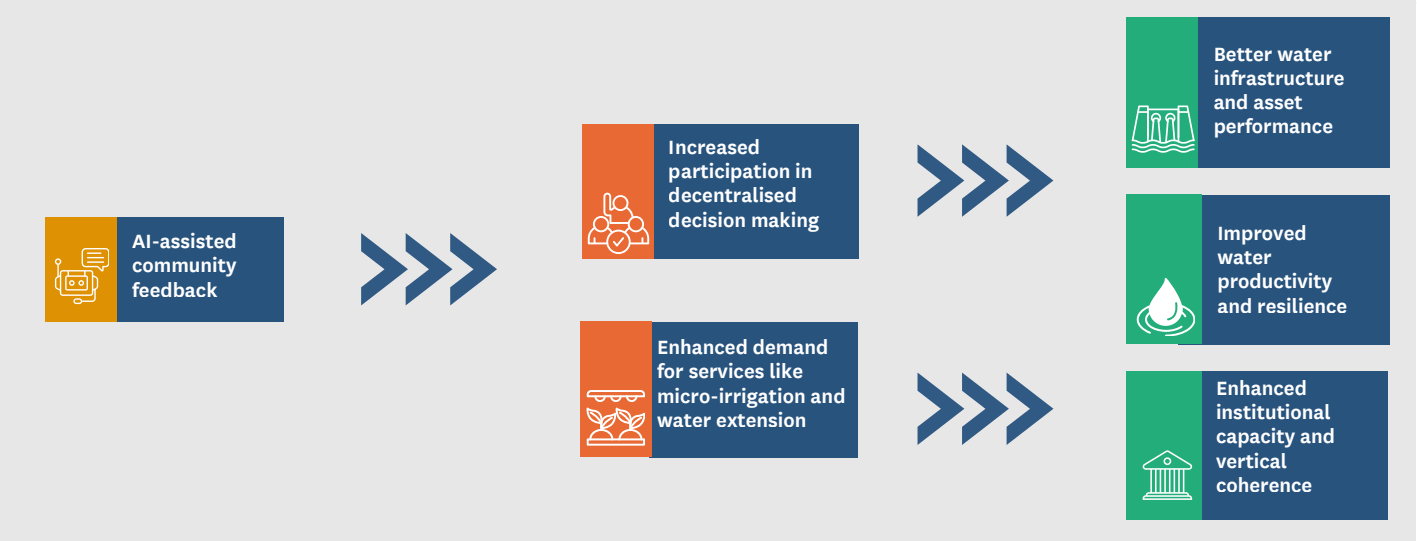

Figure 2. Immediate and long-term development impact. (*Source*: Authors)

Wall painting by CmF using mythological figures to communicate messages on groundwater conservation. (*Photo*: Suchiradipta Bhattacharjee/IWMI)

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Project

AI4WaterPolicy is an action-research pilot that uses AI-assisted, anonymised WhatsApp interviews to capture large-scale qualitative feedback from water actors in rural Rajasthan. It rapidly synthesises this feedback into themes and actionable insights to strengthen programme learning and improve the feedback-to-action pathway in water governance. The activity is implemented with Colectiv providing the AI-enabled feedback and analysis platform, Institute of Development Studies (IDS) supporting research design and learning, and Centre for MicroFinance (CmF) mobilising frontline participation and translating insights into programme action.

About the CGIAR Policy Innovations Program

The CGIAR Policy Innovations Program delivers evidence-based recommendations to strengthen policies, markets and institutions, thereby improving millions of lives in Bangladesh, Egypt, Ethiopia, India, Kenya, Malawi, Nigeria, Pakistan, Rwanda, Sri Lanka and 10+ other countries in the Global South.

Acknowledgements

This work was carried out under the CGIAR Policy Innovations Program. We would like to thank all funders who supported this research through their contributions to the CGIAR Trust Fund (www.cgiar.org/funders). The authors acknowledge the support provided by Tanmoy Bhaduri (Communications Specialist, IWMI, India) in designing the brief.

Citation

Bhattacharjee, S.; Nicol, A. 2025. *AI4WaterPolicy: AI-assisted qualitative framework for strengthening water governance in India.* Colombo, Sri Lanka: International Water Management Institute (IWMI). CGIAR Policy Innovations Program. 4p.

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