9TH INDIA INTERNATIONAL WATER WEEK 2026
SESSION PF-5 · BEST PRACTICES

From best practice to common practice

Water conservation lessons from Chhattisgarh, other States of India and the world

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Chitrakote Falls, Bastar, Chhattisgarh

Let me begin with Korea.

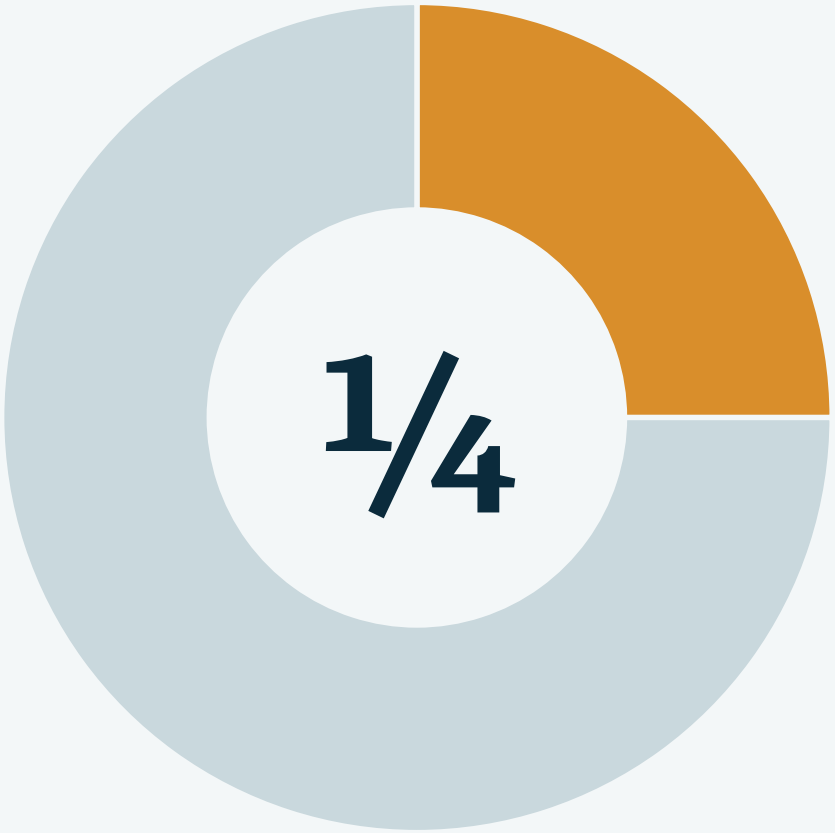
Not that Korea.

Korea district, northern Chhattisgarh: no K-pop, no Samsung. But 1,260 farmers who each gave 5% of their own field to water.





Recharge pits on farmers' own fields, seen from the air; and a field review, Korea district



One quarter of all the groundwater pumped on Earth is pumped in India.

60.63% national stage of groundwater extraction (GWRA 2025)

1 in 4 assessment units over-exploited, critical or semi-critical (1,689 of 6,762)

87% of the groundwater extracted goes to agriculture

WHERE THE THEME TOUCHES THE GROUND

Climate resilience is not built in conference halls. It is built in a village, a municipal ward, a hill slope. The same rain now falls in fewer days.

Source: CGWB & MoJS, Dynamic Ground Water Resources of India 2025 (PIB, Dec 2025)

Three questions to ask every speaker today, and every State, including mine

01

Does it show in the water level?

Not in the number of structures. Governments are very good at counting structures.

02

Can an ordinary district do it?

With ordinary money, ordinary officers and the schemes it already has.

03

Will it survive the transfer?

When the enthusiastic officer moves on, does the community keep it running?

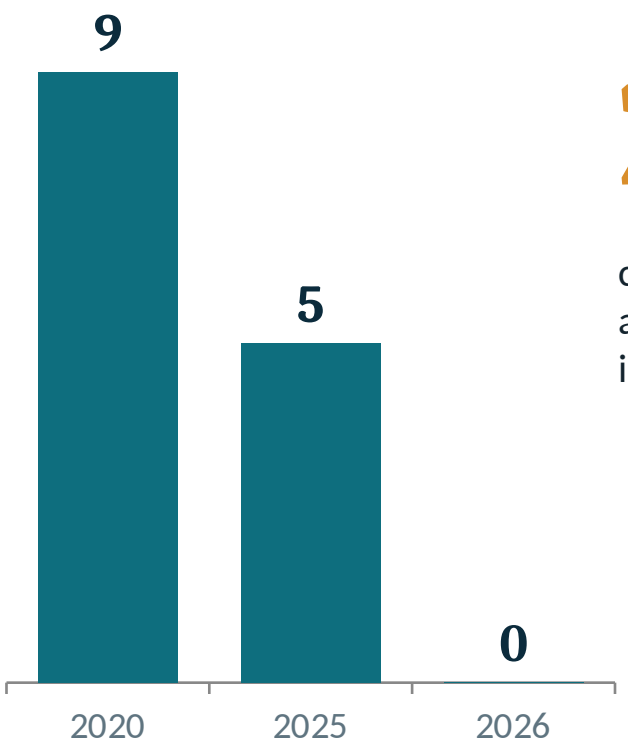
Three yeses make a best practice. Anything less is only a good photograph.

Built on NITI Aayog's four tests for a best practice (innovative · impactful · sustainable · replicable), **plus two we add for water: partnership beyond government, and climate resilience.**

Source: NITI Aayog & UNDP, Best Practices in Social Sector: A Compendium (2023)

Chhattisgarh: the groundwater curve has begun to bend

CRITICAL BLOCKS



ZERO

critical blocks in the 2026 assessment, down from 9 in 2020

6.21 BCM

extraction, down from 6.30 BCM: the first decline on record

14.65 BCM

annual recharge, an all-time high (11.57 BCM in 2017)

46.37%

stage of extraction (49.5% in 2022); India: 60.63%

NOT DONE YET

127 of 146 blocks are safe. 19 semi-critical blocks remain. Goal: no water-stressed block by 2030.

Source: Ground Water Resources Assessment 2026 (CGWB and State)

Korea's 5% model: farmers give 5% of their field to recharge. No land acquisition, full ownership.





Recharge pits from the air, and a field review, Korea district

1 Give 5%

Each farmer sets aside 5% of the field for recharge pits and ponds

2 Plan together

Gram Sabha approves; sited with micro-watershed maps

3 Build and own

VB-G-RAM-G labour; 'Neer Nayikas' and 'Jal Doots' lead upkeep

1,260+ farmers adopted it

2,000+ soak pits built

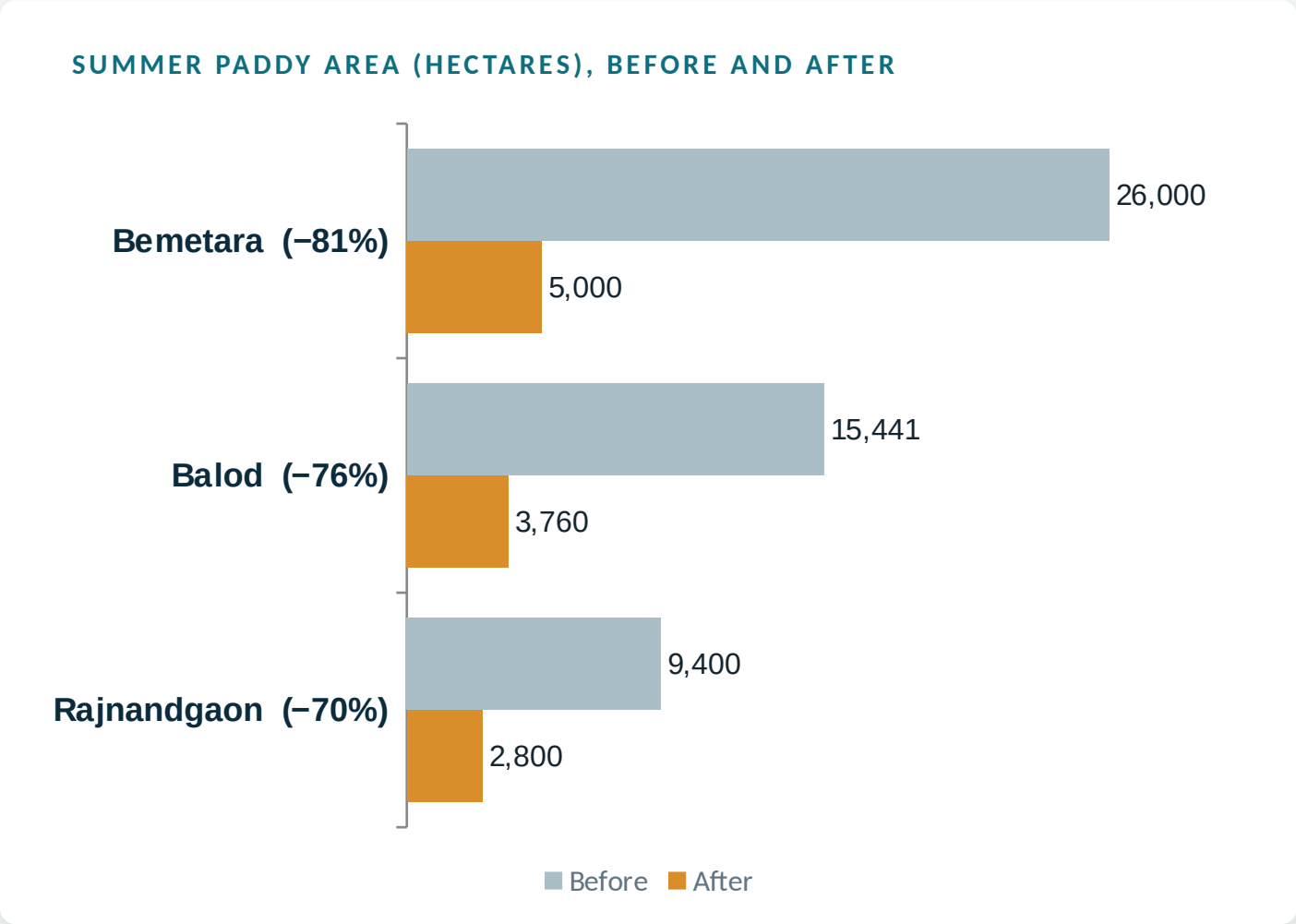
440+ traditional ponds revived

3–4 m rise in many villages

CGWB post-monsoon level: 6.60 → 3.89 m bgl (2024 → 2025) · springs revived in 17 tribal hamlets · seasonal migration down about 25%

WHY IT TRAVELS — No land acquisition · little capital · farmer-owned upkeep · fits any rain-fed, hard-rock block

The harder half: farmers chose to pump less



Recharge is the easy half. Asking a farmer to pump less is the hard half.

- ✓ **Bemetara** left the 'critical' category after four cycles; extraction about 20% below 2023
- ✓ **Rajnandgaon** block is now 'safe'; Mission Jal Raksha: about 2.04 m average rise
- ✓ **Kabirdham** water level improved from 32.12 m to 25.50 m bgl

From Hiware Bazar to Holland, the same six principles repeat

1 Science before structures

Site every structure with aquifer maps and micro-watershed plans

Mission Jal Raksha · Korea · APFAMGS (Andhra Pradesh)

2 People as co-owners

Gram Sabha approval, a named owner for every structure, women and youth in the lead

Korea · Mahasamund · Hiware Bazar · Wangmun

3 Blended finance

Employment and housing schemes, CSR, cooperatives, builders, pay-for-outcome grants

Banas Dairy · Raipur–CREDAI · Atal Jal · New York City

4 Demand before supply

Water budgets, crop diversification and smart rules cut pumping at source

Bemetara · Balod · Hiware Bazar · Punjab

5 Measure outcomes

Judge success by water levels and recharge, verified with geo-tags and sensors

GWRA 2026 · Atal Jal · Singapore

6 Institutions that outlast campaigns

Regulators, water boards and local agencies keep the gains when campaigns end

CG Authority · Dutch water boards · California (SGMA)

One question for each speaker, asked before they begin

SUSTAINABLE WATER CONSERVATION

Ms Chandni Chandran

Collector & DM, North Tripura

“How did Wangmun reach every household, and who keeps the systems running?”

CLIMATE CHANGE AND WATER RESOURCES

Shri Krishna Teja Mylavarapu

Commissioner, PR & RD, Andhra Pradesh

“How should conservation be redesigned for shorter, more intense monsoons?”

WATER GOVERNANCE

Shri Rajkumar Beniwal

Municipal Commissioner, Surat

“What governance and pricing let urban reuse and recharge pay for themselves?”

WATER CONSERVATION IN HILLY AREAS

Ms Himani Purohit

Principal Scientist, HESCO

“Korea revived springs in 17 tribal hamlets. What does it take to keep springsheds alive in the hills?”

WATERSHEDS: DROUGHT-FREE INDIA @2047

Shri Nitin Khade, IAS

Joint Secretary, Dept of Land Resources

“How can watershed programmes and Catch the Rain converge, so every drought-prone block has a ridge-to-valley plan?”

HOUSE RULES

12 minutes each

This is a water conference: the chair will be strict about overflow. Questions at the end. Questions, please, not statements in disguise.

Water Resources Department
Government of Chhattisgarh

Count water, not structures.

A best practice that stays in one district is a success story. One that travels is a policy.

हर बूंद का हिसाब, हर गांव का जल प्लान, हर नागरिक का योगदान।

Thank you

Contour trenches on a hill slope, Chhattisgarh

ANNEXURE

Reference material for delegates

Not part of the chair's opening remarks. For circulation, and for use in the open house if a question calls for it.

Every new layout and every new roof becomes a recharge asset

URBAN · MUNICIPAL CORPORATION + CREDAI + CITIZENS

Raipur–CREDAI recharge model

~32,000
recharge structures built in 2025

1%
of layout area kept for water and green space

No. 1
municipal corporation in JSJB 1.0

- Builders fit recharge wells, injection wells and shafts across colonies, complexes and campuses
- Permeable Eco Blocks on footpaths and parking; ₹30 crore Eco Bloc project on the Kharun river towards a 'Sponge City'

RURAL HOUSING · BALODABAZAR-BHATAPARA

PMAY-G rooftop rainwater harvesting

50,660
homes fitted with rooftop RWH (Apr 2026)

~22,000 L
harvested per home per year (estimate)

- Estimate: 25 m^2 roof × 1.1 m rain × 0.8 ≈ 22 m^3 per home
- About 1.1 million m^3 a year across 50,660 homes

Structures last when communities own them: the plan, the labour and the upkeep



Jal Chaupal: a village water dialogue



Contour trenches on a slope



Women's 'Har ghar soak pit' rally



Nukkad natak on saving every drop

Mor Gaon Mor Pani

A village-by-village campaign of water pledges, wall-writing and street plays; 10.79 lakh people reached in Balodabazar-Bhatapara alone

One Village – One WAT

Mahasamund prepared a Water Absorption Trench plan for 100% of its villages; every structure is handed to a named community owner

Women lead

Jal Sakhis and Mahila Commandos (Balod, Kabirdham) and Neer Nayikas (Korea) lead monitoring, desilting and upkeep

Yuva Shakti

Volunteers trained as 'Jal Mitras' drive outreach in every village; Korea's 'Jal Doots' carried the 5% model from village to village

Replicability: high. These models need mobilisation more than money.

Making the gains last: from field practice to institution

From: Korea & Raipur recharge

Law & regulator

State Ground Water Management & Regulatory Authority to protect recharge from over-pumping

From: gains seen in GWRA 2026

Measure yearly

Block-wise assessment with CGWB every year, approved by a State-level committee

From: summer-paddy shift (Bemetara, Balod)

Plan by block

A roadmap for each of 19 semi-critical blocks; Catch the Rain Plan 2026-27 targets

From: Jal Raksha geo-tagging

Verify assets

Every structure geo-tagged and verified; State MIS to be API-linked with the JSJB portal

From: Jal Sakhis, Jal Mitras, Gram Sabhas

Review & reward

Chief Secretary-led reviews and awards that keep community momentum alive



Every structure is geo-tagged

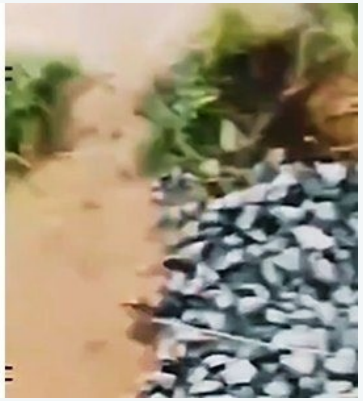
GOAL 2030

No water-stressed block in Chhattisgarh by 2030

19 semi-critical blocks in 11 districts are the next frontier. At the MoJS Departmental Summit (1–2 Sep 2026), the Hon'ble Chief Minister proposed a Catch the Rain Plan for every State, State Water Awards, BISAG-N mapping of structures and quarterly Chief Secretary reviews.

Across India, simple, community-owned structures are delivering at scale





BANASKANTHA, GUJARAT

30,000+ recharge soak wells

Each 4×4×6 ft soak well costs about ₹4,750. Of some 50,000 planned, 25,000 are co-funded by Banas Dairy, a farmers' cooperative.

Cooperative co-funding





MANCHERIAL, TELANGANA

400+ household soak pits

In Mudigunta village, almost every family built a soak pit for roof and greywater: recharge built into daily life.

Household saturation

WANGMUN, NORTH TRIPURA

100% rooftop harvesting

At about 3,000 ft in the Jampui hills, all 489 households harvest rooftop rain (2025); highlighted in Mann Ki Baat.

The full story comes from today's first speaker, the Collector of North Tripura.

How States scale: scientific data + incentives + rules

Practice (State, year)	What makes it work	Who partners
Mission Kakatiya (Telangana, 2015)	27,625 of 46,531 minor irrigation tanks revived; farmers carry the silt back to their fields	State + farmers + IIIT-H, ICRISAT
APFAMGS (Andhra Pradesh, 2004–09)	638 farmer committees measure rain and water levels, budget crop water and cut their own pumping	Farmers + 9 NGOs + FAO
Hiware Bazar (Maharashtra)	Gram Sabha sets a yearly water budget; no borewells for irrigation, no sugarcane or banana	Gram Sabha + district groundwater department
Atal Bhujal Yojana (7 States, 2020)	₹6,000 crore; 8,203 water-stressed GPs prepare Water Security Plans; incentives paid for outcomes	Centre + States + World Bank + GPs
Subsoil Water Act (Punjab, 2009)	Paddy transplanting only after a notified date, matched to the monsoon, cutting summer pumping	State regulation + farmers
Jyotigram (Gujarat, 2003)	Separate farm feeders give rationed, reliable power, curbing over-pumping (energy–water nexus)	Power utility + farmers

Source: Govt. of Telangana; India Today (2021); FAO; NITI for States; MoJS (Atal Jal); Punjab Preservation of Subsoil Water Act, 2009; Govt. of Gujarat

Global leaders close the water loop: reuse, efficiency and diversified supply

IL

Israel

REUSE & EFFICIENCY

~87%

of wastewater treated and reused, mostly on farms (Spain ~20%)

Soil-aquifer treatment at Shafdan filters effluent through sand dunes before reuse; drip irrigation was pioneered at home.

Lesson: plan reuse with every new sewage plant

SG

Singapore

DIVERSIFIED SUPPLY

40%

of demand can be met by NEWater, recycled water

'Four National Taps': local catchment, imports, NEWater and desalination; plants built through design-build-own-operate contracts.

Lesson: public utility + private operators, and public trust in reuse

AU

Australia

CAPS & MARKETS

1995

cap on diversions in the Murray–Darling Basin

Tradeable water entitlements move scarce water to its most valuable use; the 2012 Basin Plan sets sustainable diversion limits.

Lesson: cap and measure first, then allow trading

Source: Israel Water Authority survey (as reported); PUB Singapore; Murray–Darling Basin Authority

Nature-based solutions scale when institutions and finance are built around them

CN

China

SPONGE CITIES

70%

of rainfall to be absorbed and reused on 80% of urban land by 2030

Piloted in 30 cities from 2015 with permeable paving, wetlands and green roofs: the logic behind Raipur's 'Sponge City' goal.

NL

Netherlands

ROOM FOR THE RIVER

€2.3 bn

34 projects that let rivers flood safely

Rivers were given space instead of higher dikes; co-created with provinces, municipalities, NGOs and centuries-old water boards.

US

New York City

PAYING FOR THE WATERSHED

US$2.5 bn

invested in watershed protection since 1997

Partnerships with upstate farmers and towns keep source water clean, avoiding a filtration plant estimated at up to US$10 bn.

US

California

GROUNDWATER LAW (SGMA, 2014)

~20 yrs

for local agencies to make basins sustainable

Local Groundwater Sustainability Agencies must plan and act, with the State as a backstop if they fail.

Source: State Council of China (2015); Rijkswaterstaat; NYC DEP & NASEM review (2020); California DWR (SGMA)

What makes a practice 'best': NITI Aayog's benchmark, plus two tests for water

NITI AAYOG'S FOUR TESTS · COMPENDIUM 2023

TWO TESTS WE ADD FOR WATER

01

Innovative

Solves an old problem in a new, lower-cost way

02

Impactful

Results show in water levels and recharge, not just structures

03

Sustainable

Owned, maintained and financed locally after the campaign ends

04

Replicable

An ordinary district can adopt it with its own means

05

Partnership

Co-owned beyond government: people, markets, institutions

06

Climate resilient

Holds up in both drought years and extreme rain

HOW NITI AAYOG APPLIES IT

Best-practice selection: the 2023 compendium with UNDP picked 75 practices from 200+ initiatives for being innovative, sustainable, replicable and impactful, as a handbook for replication and scale-up.

Water benchmarking: the Composite Water Management Index scores States on 28 indicators across 9 themes, from groundwater augmentation to policy and governance.

Source: NITI Aayog & UNDP, Best Practices in Social Sector: A Compendium (2023); NITI Aayog, Composite Water Management Index (2018, 2019)

Turning the six principles into a partnership agenda

	PRINCIPLE	WHAT WE PROPOSE TOGETHER	CONCEPT-NOTE OBJECTIVE
1	Principle 05 · Measure outcomes	**Learning circuits, not just compendiums** Peer visits to working sites and a living case library with measured outcomes; Chhattisgarh invites State teams to Korea's 5% model.	KNOWLEDGE EXCHANGE
2	Principles 02 + 06 · Co-owners, institutions	**Every structure has an owner** Gram Sabha-approved village water budgets, O&M duties written into every sanction, and an annual social audit.	ROLES & ACCOUNTABILITY
3	Principle 03 · Blended finance	**Pay for outcomes, not outlays** Results-based grants as in Atal Jal; land-as-contribution (5%) and 1% layout norms; pooled CSR and cooperative funds; pilot 'water credits' for verified recharge.	INNOVATIVE FINANCING
4	Principle 01 · Science before structures	**One water-data protocol** API-linked State and national portals, open water-level data, and satellite and AI checks on geo-tagged assets.	DATA & TECHNOLOGY
5	Principle 04 · Demand before supply	**Drinking water and small farmers first** Drinking-water sources get the first claim in every water budget; crop-diversification support in stressed blocks.	EQUITY & CONFLICT RESOLUTION