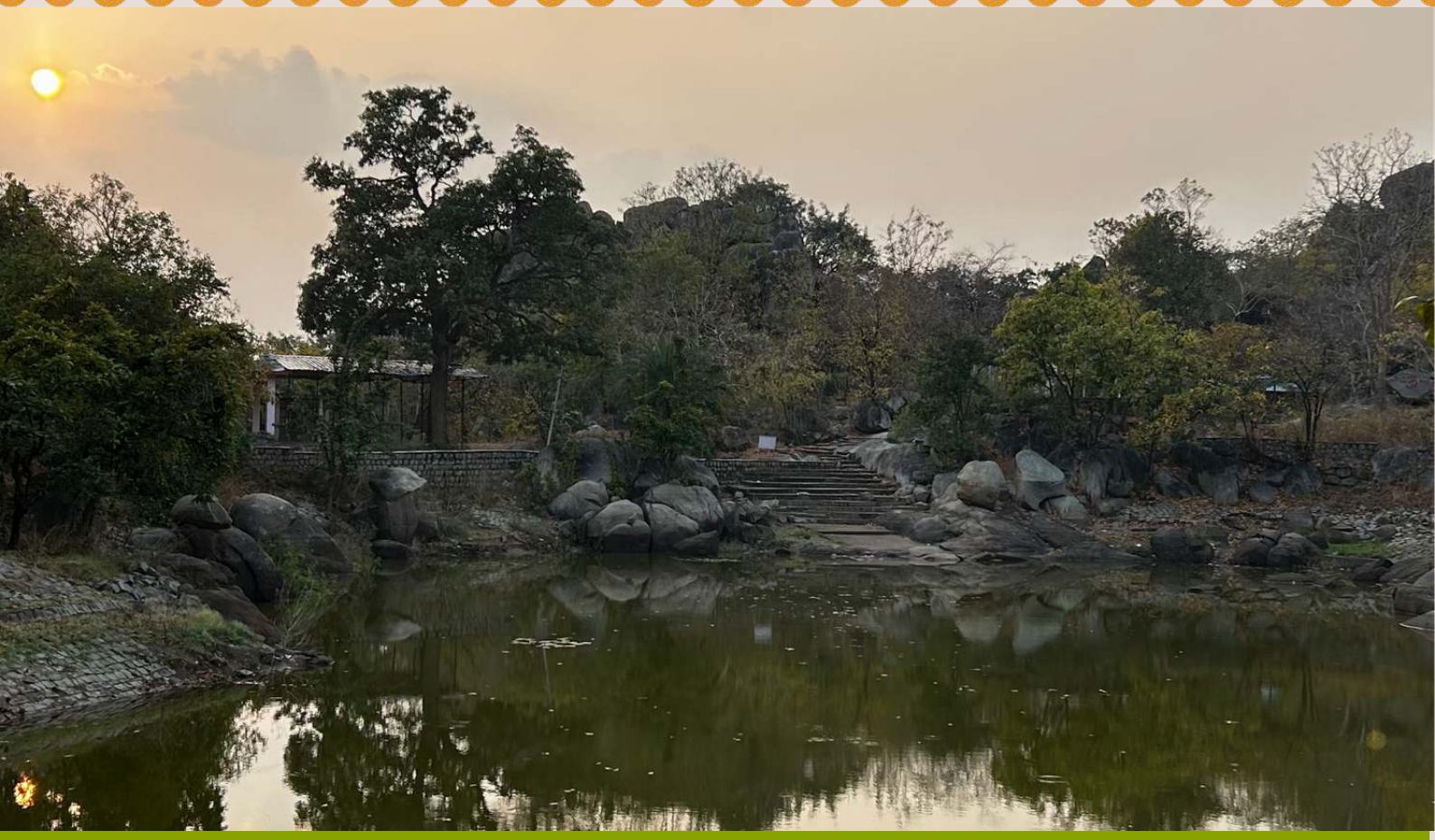
Transform Rural India

Reading the Landscape

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UTTAR PRADESH



Executive Summary

In 2026, twenty villages across ten districts of Uttar Pradesh participated in the Community-Led Landscape Assessment Tool (LCAT), developed by Transform Rural India (TRI). The expanded assessment covers four distinct landscape regions: the Terai, the middle Ganga plain, the Vindhyan uplands and Bundelkhand. Examining eight interdependent life-elements (Jeevan Tatva), the assessment brings together community memory, resource mapping, trend assessments and locally identified priorities to understand how environmental changes affect village landscapes and livelihoods.

The additional assessments highlight how these pressures vary across landscapes. In Bahraich, communities reported both monsoon flooding and summer water scarcity, increasing demands on women's time. In Hamirpur, Kaimokhar and Alragoura reported declining water availability and loss of soil life, alongside differences in collective decision-making. In Mirzapur, water stress was linked to changes in hill catchments and disrupted drainage routes. In Varanasi, communities reported declining ponds and groundwater, alongside biodiversity loss and the disappearance of traditional crop varieties, even as community institutions showed signs of improvement.

FINDINGS

The expanded assessment points to recurring concerns around water insecurity and biodiversity loss, while infrastructure and community institutions show varied trajectories. The findings underline the need for landscape-specific planning rather than uniform interventions. Priorities include floodwater storage in riverine areas, hill-catchment and drainage restoration, pond rejuvenation, soil regeneration and equitable access to water, shaped by the conditions and priorities of each community.

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Aligarh· Baharaich· Banda· Basti· Hamirpur· Lakhimpur Kheri · Mirzapur· Prayagraj · Sultanpur · Varanasi

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Acknowledgements

This report is, first and foremost, a record of what the assessed villages chose to say about their own landscape. It exists because the women, men, youth and elders of these villages gave their time, their memory and their trust to each assessment. They sat through the discussion circles, walked the transects, debated the direction of every trend and set down their commitments before the Gram Sabha. The knowledge, observations and priorities in these pages are theirs; our task has been to carry them faithfully onto the page, and we are deeply grateful to every community that took part.

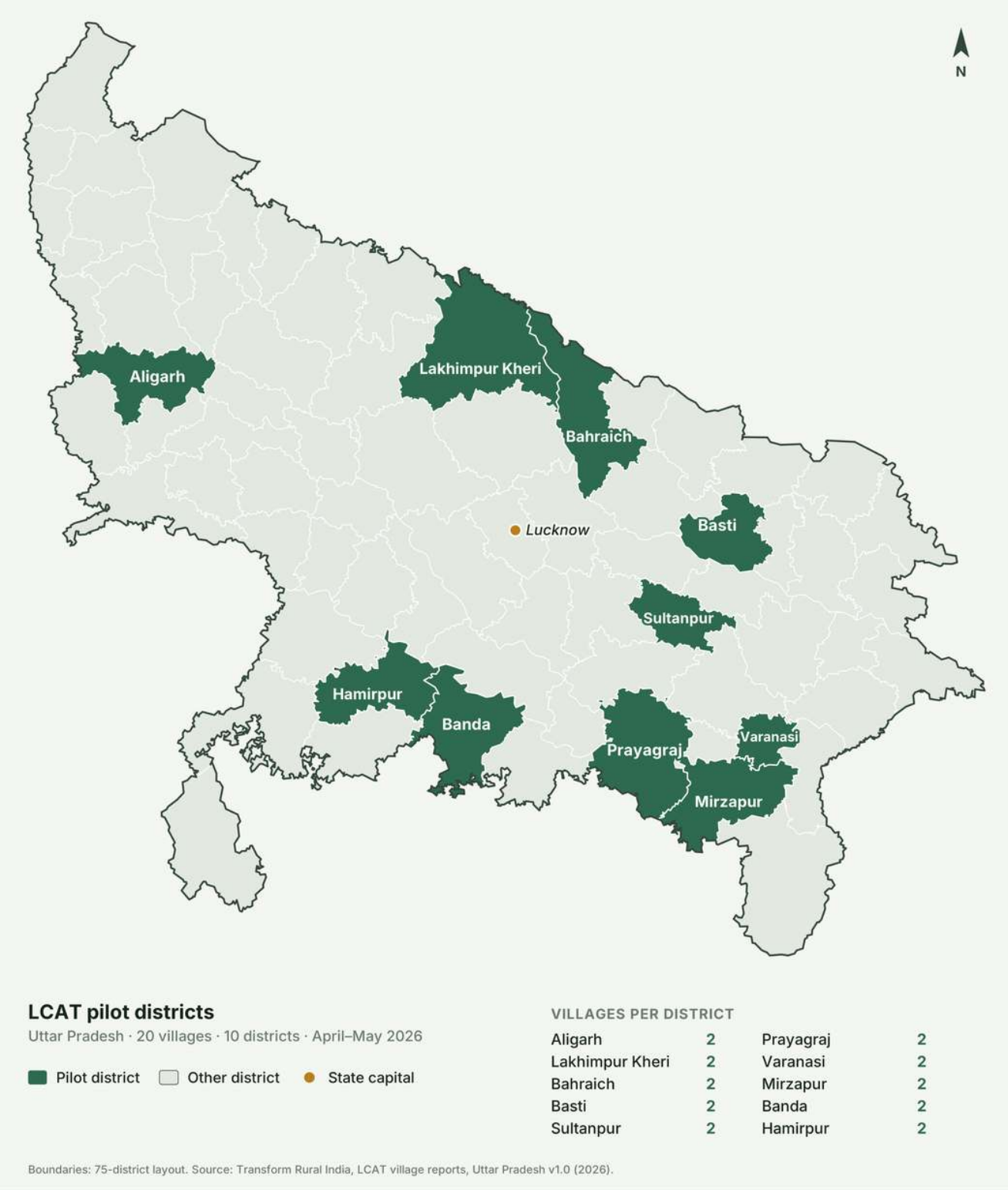
We thank the ground staff and field teams of Transform Rural India who facilitated each two-day assessment. They built the trust on which the exercise depended, guided the groups across the landscape, and translated between local dialects so that every voice could be recorded in its own words. We are also grateful to the Billion Next team for their partnership and support in bringing the assessement to completion.

This report is offered in gratitude to everyone, named and unnamed, who contributed to it, in the hope that it returns something useful to the villages whose testimony fills its pages, in keeping with the spirit of Transform Rural India Foundation's work with rural communities.

Finally, we thank the Rainmatter Foundation for its generous financial support and for the flexible, learning-oriented approach it brought to this work, which has enriched the assessment and this report considerably.

> *"This is the first time we have looked at our village, and all that has changed in it, together — as one community."*
>
> A SELF-HELP-GROUP MEMBER · LCAT FIELD CONVERSATIONS

Assessment Sites



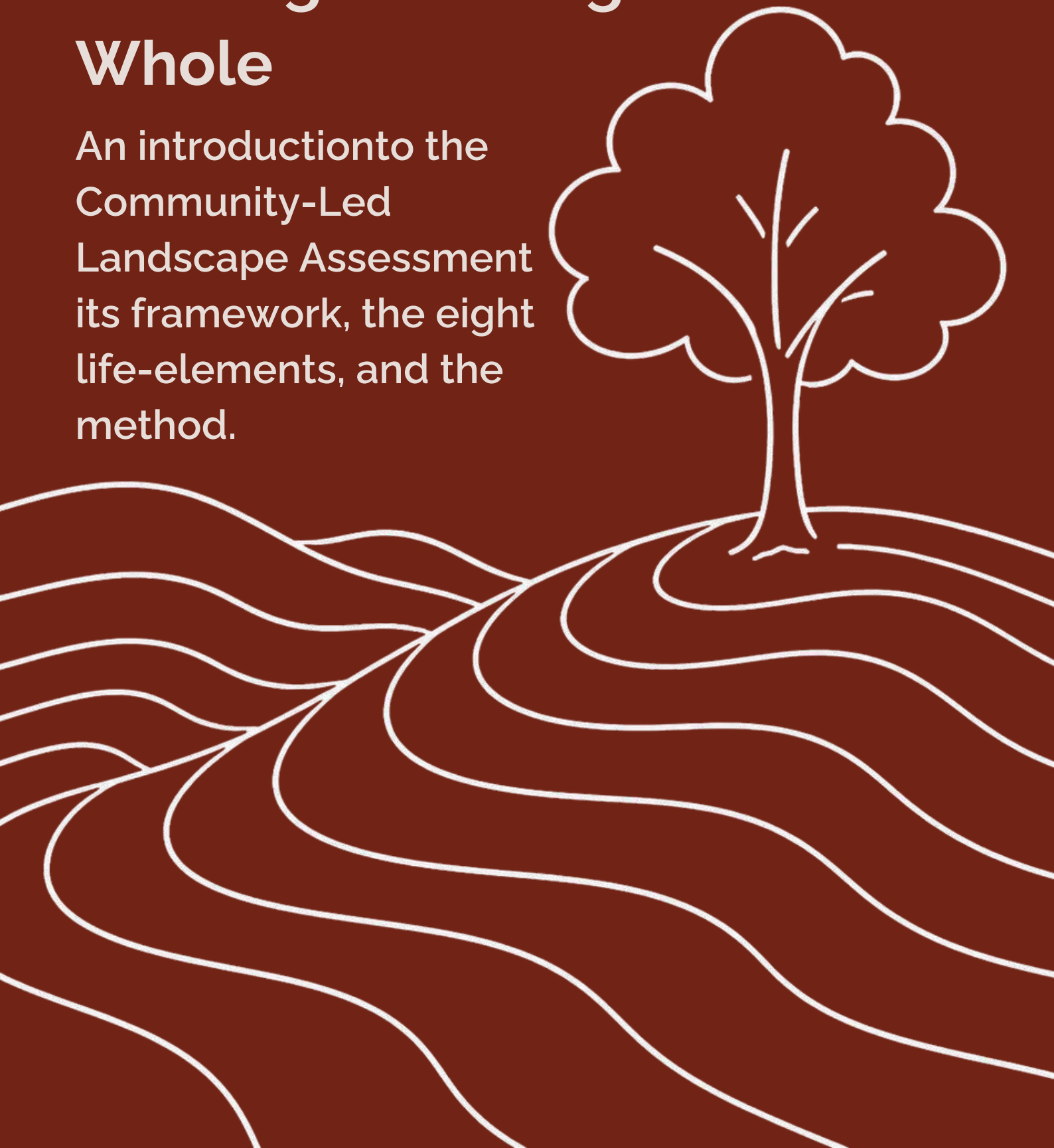
Assessed villages of the Community-led Character Assessment Tool in Uttar Pradesh. The map shows the 25 villages analysed in this report; hollow markers show locations approximated to the block or district headquarters.

Transform Rural India

03

Reading the Village Whole

An introductionto the Community-Led Landscape Assessment its framework, the eight life-elements, and the method.



3.1 Reading the Village Whole

The environmental philosopher Glenn Albrecht coined the term solastalgia (Albrecht, 2005) to describe the distress of watching your home landscape change around you while you still stand within it — a homesickness felt without ever leaving home. Unlike nostalgia, which mourns a place you have left behind, solastalgia describes the grief of a place that has changed beyond recognition, taking with it familiar surroundings, environmental rhythms, and a sense of belonging.

For a long time, climate work in rural India has treated accounts of these environmental changes as soft data — anecdotal observations, background colour, the poetry quoted before the "real" numbers begin. This document takes the opposite view. Carefully documented, solastalgia can become a valuable source of evidence for understanding a warming landscape, precisely because it records what satellites cannot: the disappearance of a familiar fragrance, the absence of a once-dependable cool wind, or the silence where a bird's call used to be. These are early-warning signals of systemic stress, preserving the environmental knowledge embedded in long-term memories of the landscape.

> *"Ten years ago, when the rain fell, the soil would give off that earthy fragrance after the first shower. Now even that is gone."*
>
> AN ELDERLY FARMER · LCAT FIELD CONVERSATIONS

To understand why a lost fragrance matters, we take the bond between people and place seriously. The human geographer **Yi-Fu Tuan** called this attachment *topophilia* — and in rural India, it is not sentiment but infrastructure. A farmer's sowing calendar, a pastoralist's grazing route, a household's instinct for when to plant — all are tuned to the rhythms of one particular landscape. Climate change, at its most intimate, is the breaking of that fluency. Three thinkers converge on one lesson.

TUAN · 1974

Topophilia

Why place holds people. The affective tie between human beings and their physical environment.

ALBRECHT · 2005

Solastalgia

What it feels like when place lets go. The grief of a home that changes while you still stand in it.

LEWIN · 1936–51

Field theory · B = f (P, E)

Why no planworks without the place. Behaviour is a function of the person *and* their environment together.

Figure 1 — Three thinkers, one lesson: the people–place bond is where climate planning must begin.

3.1.1 The changing climate in brief

Where the southwest monsoon weakens, the decline concentrates in June and July — the precise weeks when kharif crops must be sown — even as many places see more days of heavy, compressed downpour. The water is arriving in the wrong shape: too little when the seed needs it, too much all at once when it does not.

≈ 3/4	>80%	>40%	>50%
Indian districts prone to severe floods, droughts & cyclones	**of Indians live in districts highly vulnerable to climate extremes**	**of districts now swap between flood and drought**	**of India's net sown area is rainfed—the monsoon is destiny**

Source: CEEW (2020, 2021, 2023). Proportions approximate.

THREE GAPS BETWEEN CLIMATE PLANNING & THE VILLAGE

Between the science of climate change and the lived reality of a village stand three stubborn gaps — which is why the connection has never made itself.

01 · The Normative Gap

No rule asks a village plan to look at climate. The VPRP and GPDP formats contain no requirement for a structured reading of the landscape or its vulnerability.

02 · Distant Science

Robust analysis needs decades of local data that is largely absent below the district. Risk maps stop at the boundary; the process marginalises the very people affected.

03 · Thin Services

Extension advice, warnings, credit and insurance thin toward the last mile — and the infrastructure meant to absorb shocks fails in the same weather.

Figure 2 — The three gaps that leave village planning climate-blind.

THE DOUBLE DISCONNECTION

On one side, **people are severed from the places that hold their knowledge** — the farmer who can no longer read his sky. On the other, **planning has disconnected from that lived reality**, organising itself around schemes rather than the living landscape they are meant to serve. The two feed each other — and healing them is the central problem this framework exists to address.

3.2 The Eight landscape themes

The exercise often begins not with a form but with a circle. The facilitator draws a large circle and says: *this is your village — the whole.* Around it she writes eight words — the village's eight life-elements, the parts that make up the whole — and offers an image that does more work than any definition: the eight elements are like the parts of a body. Each one matters for the health of the whole, and none can be hurt without the others feeling it.



1 **Landform & Topography**
hills, slopes, soils

2 **Hydrology**
rivers, springs, wells, table

3 **Land Cover & Agriculture**
fields, crops, pastures, yield

4 **Wildlife & Biodiversity**
forests, birds, bees, wild kin

5 **Infrastructure & Economy**
roads, markets, power, work

6 **Cultural & Historical**
groves, festivals, shrines

7 **Visual & Sensory**
seen, heard, smelled, felt

8 **Community & Governance**
institutions, panchayat, rules

Figure 3 — The eight life-elements: the village read as one living body. Read together, they describe a single working system — to read any one in isolation is to misread it.

This insistence on the whole is forced by the nature of climate stress itself. An erratic monsoon, intensifying heat and a multi-hazard exposure that swings a district between flood and drought do not respect the tidy boundaries between water, soil, forest, crop and culture. Climate change travels along the connections — so reading the village as one system is simply reading it the way the climate already acts on it.

Consider the sacred grove whose canopy quietly cools the three fields beside it. On a conventional inventory it appears, if at all, as a heritage line item. But trace the cascade — a single quiet failure propagates across five of the eight life-elements at once.

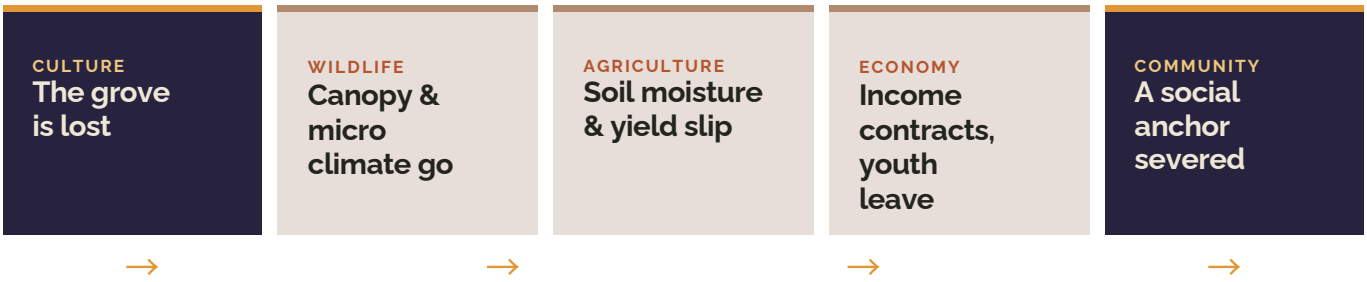


Figure 4 — The grove cascade: how one loss travels across the life-elements. The chain runs the other way too — and faster under climate stress.

THREE COMMITMENTS

Ground-up

It begins with memory, not a form — the lived knowledge of people who walk the land daily.

What has changed in the last five, ten, twenty years?

Narrative

Testimony is treated as evidence. Each element gets a trendline — past, present, future.

We are not writing a summary; we are building evidence.

Community-led

An assessment led by the village, not done to it. A plan handed down is ignored; a reading produced together is owned and defended.

3.3 How the assessment was carried out



Figure 5 — Overview of the LCAT assessment process

In Uttar Pradesh, community members assessed changes in their landscape through discussions, group activities and field observations. They examined the eight Jeevan Tatvas, drawing on their experiences and knowledge of local environmental conditions.

The assessment helped communities identify changes over time, discuss their causes and impacts, and agree on priorities for action. The findings were compiled into village profiles and tiered action plans to support local planning and decision-making.

Something remarkable happens when a village looks at itself through deliberately different eyes. The LCAT's crucial move is to treat the friction between these vantage points as evidence in its own right — not a disagreement to be smoothed away.

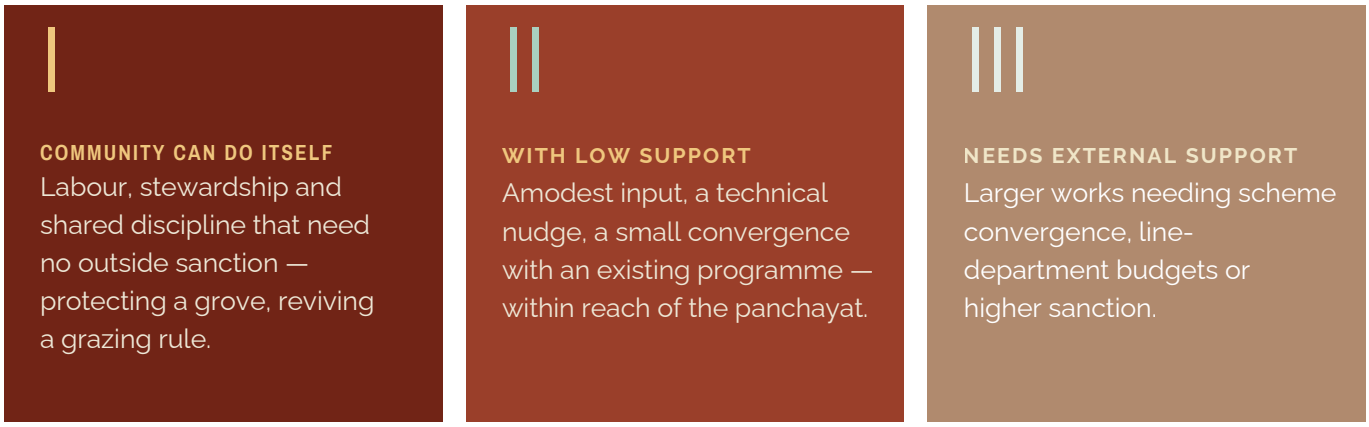


Figure 7 — Three tiers of action: agency first, precise demands after.

[1] Readers interested in learning more about the LCAT process, facilitation approach or assessment methodology may contact the LCAT team at Transform Rural India.

3.4 What each village takes away, and where it goes

How a village's reading of itself becomes the way it is administered.

The LCAT does not run parallel to government planning; it brings a climate lens into it. By the end of the two days the village holds three concrete things — and each feeds directly into the existing planning cycle, reversing the direction of fit so the schemes bend around the village's reading, rather than the village around the schemes.

Landscape Character Profile
the village's own reading, in its own words

Element-wise Scorecard
what is declining, holding or improving

Tiered Action List
what the village will do, and what it will demand

→

THE GPDP–VPRP CYCLE

The profile becomes the **situation analysis**; the tiered list feeds the **community & departmental action plans**; the climate & biodiversity priorities enter the **Gram Sabha's vision**.

Convergent, climate-resilient works negotiated with line departments — MGNREGA, watershed, forestry, agriculture.

Figure 8 — From assessment to administration: LCAT outputs entering the GPDP–VPRP cycle.

> *"This is the first time we have looked at our village, and all that has changed in it, together — as one community."*
>
> A SHG MEMBER · LCAT FIELD CONVERSATIONS

What the tool ultimately does is heal the double disconnection: by treating memory and grief as legitimate data, it reconnects people to the places that hold their knowledge; by reading the village as one living system and carrying that into the administrative machinery, it reconnects planning to lived reality. The grief becomes a map; the map becomes a plan.



Transform Rural India

Uttar Pradesh

What Villages Read in Their Own Landscape

Findings from the assessed villages of the Tarai, the eastern and north-eastern plains, the south-western semi-arid tract, the Vindhyan uplands and Bundelkhand.

4.1 The Agro-Ecological Tapestry

Every landscape in Uttar Pradesh is, in one way or another, the work of rivers.

The Ganga and the Yamuna, the Ghaghara and the Gandak, the Rapti and the Betwa — descending from the Himalaya and the Vindhyan uplands, they built the great alluvial plain on which nearly a quarter of a billion people now live. No state has more people exposed to climate risk, and no state's exposure is more intimately tied to water: where it arrives, when it arrives, and — increasingly — whether it arrives as gift or as flood.

It is tempting to picture this as one vast, uniform plain. It is anything but. The state's agricultural planners read Uttar Pradesh through **nine agro-climatic zones**, nested within three of India's national planning regions — the Upper Gangetic Plains in the west, the Middle Gangetic Plains in the east, and the Central Plateau and Hills in the south. Along the Nepal border runs the Bhabhar and Terai belt, a moist, spring-fed fringe beneath the Himalaya. The west holds the intensively farmed Western, Mid-Western and South-Western plains, thinning from sugarcane country into semi-arid tracts around Agra and Mathura. The centre and east carry the Central, North-Eastern and Eastern plain zones — the state's rice-and-wheat heartland, crowded, fertile and flood-visited. And in the south the land rises out of the alluvium altogether, into the Vindhyan zone's forested plateau and the granite austerity of Bundelkhand.

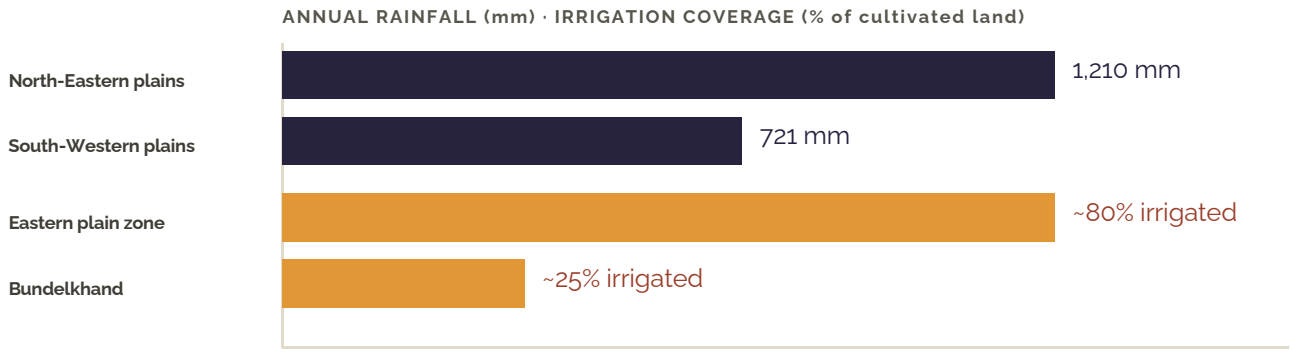


Figure 1 · The water gradient across the sub-zones, from TRI's compilation of state agro-climatic zone profiles. Indicative planning values.

For generations, the plain's deep soils and the monsoon's rough reliability made this the most forgiving farmland in India — forgiving enough to sustain the country's largest rural population on some of its smallest farms. That bargain is now being renegotiated. Over the past two decades the state has recorded more prolonged spells of extreme heat and more intense rainfall, and it stands exposed to the full register of extreme events — heat waves, cold waves, floods, droughts and lightning (UPCCCE, n.d.).



Figure: Agro-climatic zones of Uttar Pradesh, with indicative rainfall and irrigation for each zone and the ten assessment districts outlined. District assignments follow the TRI zone map (TRI, 2026k), except that the colours for the Mid-Western and South-Western zones in the source map appear to be swapped and are shown here as described in the zone profiles; zone figures are from TRI's compilation of zone profiles (TRI, 2026k). District boundaries are from open-source data and are indicative.

State planning documents estimate that around **30 per cent of Uttar Pradesh's geographical area is flood-prone**, and project annual rainfall rising by roughly 15–20 per cent and maximum temperatures by about 1.8–2.1°C by the 2050s, with the Bundelkhand and Vindhyan districts singled out as highly vulnerable (Government of Uttar Pradesh, n.d.; these projection figures should be treated as approximate).

An independent reading points in the same direction. CRAVIS — the Climate Resilience Analytics and Visualisation Intelligence System launched by CEEW in April 2026, which combines more than forty years of historical data from institutions including the India Meteorological Department and IITM Pune with district-level projections to 2070 (CEEW, 2026) — shows the state's average annual temperature climbing under the high-emissions RCP 8.5 pathway. And where most states carry one headline hazard, the platform's risk profile for Uttar Pradesh names two at once: **flood, rated high, and heat, rated high**. This is the state's defining climatic condition — a double-fronted crisis, water and heat advancing together.

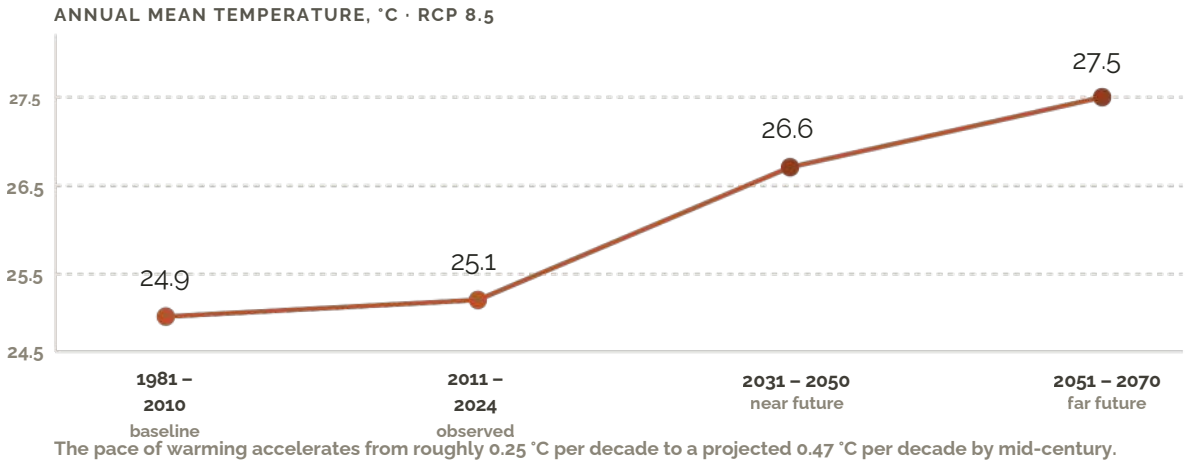
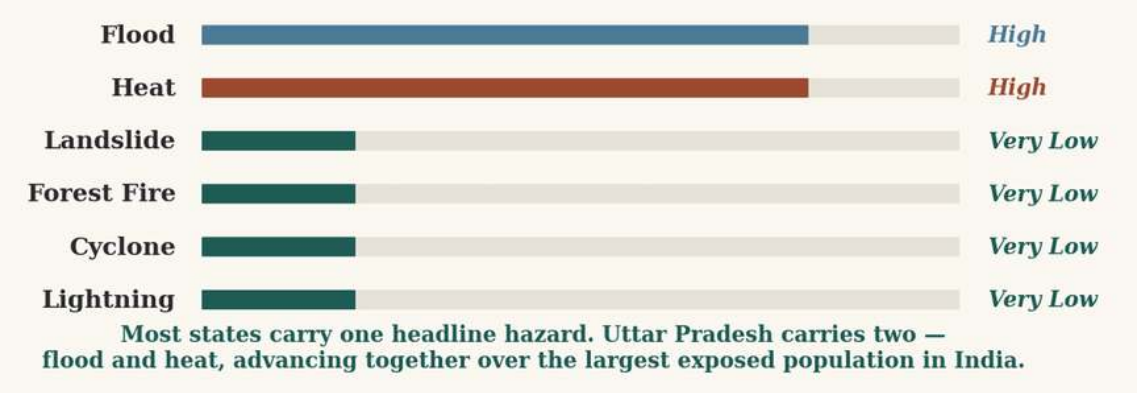


Figure 2 · Temperature trajectory for Uttar Pradesh, redrawn from the CRAVIS (CEEW) state dashboard under RCP 8.5. Values are unweighted district averages as displayed; exact values to be re-confirmed at source.

Extreme-events risk profile



The ground already testifies to it. In the north and east, excess rain in the Himalayan foothills and transboundary flows from Nepal drive recurrent flooding across the Terai and the eastern districts. In the south, Bundelkhand — sharing its drought belt with Madhya Pradesh — endured a long decline in rainfall and repeated multi-year droughts (IndiaSpend, 2023), until 2025, when a record monsoon arrived weeks early and drowned the same parched fields, destroying the kharif crop (Down To Earth, 2025). **A drought region drowning is the clearest possible evidence that the old seasonal certainties have broken.** A state built by rivers is discovering that the rivers no longer keep the old appointments.

4.2 Climate variability and the outlook

If water decides everything in Uttar Pradesh, one would expect the state's village-level planning to begin with a careful reading of water — and of the land, forest and life that hold it. It does not. What we find instead is a lens that has gone missing at exactly the level where the change is felt first: the village itself. Two ruptures, working quietly together, explain why so much well-intentioned effort misses its mark. We have come to call them **the double disconnection**.

FIRST RUPTURE

People disconnected from place

In the eastern floodplains, elders can date the year the river began arriving differently — earlier, higher, less announced. In Bundelkhand the disconnection has become literal: repeated crop failure has driven cyclical out-migration, hollowing villages of their working generation. Those who remain describe a home changing around them while they still stand in it, which the grief scholarship calls *solastalgia*. When the sky can no longer be read for the sowing date, and the migration bus takes the very people who once read it, a village's inherited ability to understand its own landscape begins to erode.

SECOND RUPTURE

Planning disconnected from place

Every village in Uttar Pradesh prepares an annual development plan through its panchayat, and women's collectives prepare their own poverty-reduction plans alongside it. Yet these are typically assembled without any structured reading of the village's landform, water, biodiversity or climate exposure. The village enters the plan as a list of habitations, works and beneficiaries — not as a living floodplain, a recharge zone, or a heat- stressed labour pool.

Figure 3 · The double disconnection: people estranged from a changing place, and plans prepared without the place.

Put the two together and the result is quietly devastating: **the people who know the landscape best are grieving it or leaving it — without a forum, while the forums that decide the village's future are planning without the landscape.**

The repair is not another scheme but a re-integration — of four strands that in a healthy village were never separate. *People* hold the longest, finest-grained climate record available anywhere: which year the flood first crossed the old high-water mark, which field turns saline after the waters recede, which well held through the worst Bundelkhand summer. *Institutions* — the gram panchayat, the self- help groups and their federations — hold the legitimacy and the planning mandate to act. *Ecology* is the stage on which everything else stands. And *culture* is the connective tissue — the ghat and the grove, the fair timed to a harvest that no longer arrives on schedule. A village pond that recharges ten wells finds no column in a scheme; a boatman's knowledge of the river fits in no form; yet these are load-bearing structures of resilience. Most climate interventions pick one strand and pull. What Uttar Pradesh needs is a way of seeing that braids all four back together, village by village. **That is the missing climate lens.**

4.3 Systemic Hurdles

Why has this lens not simply been supplied from above? Because three systemic hurdles stand in the way, and in Uttar Pradesh each arrives at maximum scale. **First, a normative gap in how adaptation is imagined.** Reviews of India's State Action Plans on Climate Change have found them short on granular, place-specific vulnerability assessment and poorly converged across the line departments that must act on them (Rattani et al., 2018). In a state where one region needs drainage and another needs recharge, that coarseness is the difference between a plan that fits and a plan that misfires. Heat, meanwhile, is still largely treated as an episodic emergency rather than a structural condition to be designed against.

Second, the difficulty of applying rigid scientific practice to dynamic local contexts. The state's flood management has long been built on a confident engineering logic — embank, drain, repeat — yet rivers on this plain shift course, and a structure that protects one village can deepen the flood in the next. A district-scale model cannot see that one village sits on a natural recharge zone while its neighbour sits on a drainage line. The problem is not science; it is science that has forgotten to ask.

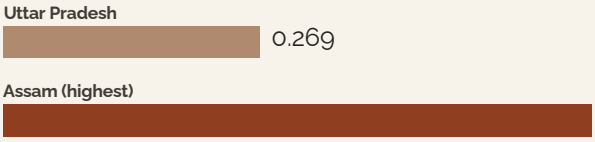
Third, the plainest: the communities most exposed are those with the least cushion. Around **92 per cent of the state's cultivators are small and marginal farmers** (UPCCCE, n.d.), holding parcels too small to absorb a single failed season. Outdoor workers — farm labourers, brick-kiln hands, construction crews — work unprotected through lengthening summers, and occupational law still does not account for outdoor heat stress. With male out-migration heaviest in regions like Bundelkhand, women increasingly run the farms and carry the water and fuel burden of drought while holding a small fraction of land titles. And a national assessment places more than half of Uttar Pradesh's districts in the high category for climate hazard bearing on the health sector (CEEW, 2025). Each hurdle compounds the others; the result is adaptation always slightly out of focus — and in a state this large, 'slightly' means millions of people.



4.4 · Triangulating Vulnerability

How vulnerable is Uttar Pradesh — really? No single number can say, and in this state the numbers appear at first to disagree. **That disagreement is not a flaw in the evidence; it is the evidence.**

PANEL A · CLIMATE VULNERABILITY INDEX



Rank 17 of 35 states and UTs — a mid-table score.
Yet the same body of work, extended to the health sector, finds more than half the state's districts in the **high** hazard category (CEEW, 2025). Both are true: the CVI weights acute disaster events, while much of UP's burden arrives as chronic, high-frequency stress.

PANEL B · THE IPCC LENS

92%

OF CULTIVATORS SMALL & MARGINAL

Vulnerability is not a property of the weather but of the society beneath it — the propensity to be adversely affected, arising from sensitivity to harm and the lack of capacity to cope (IPCC, 2014). Hazard tells you where the flood will strike; vulnerability tells you who will still be recovering five years later. A failed monsoon here does not need to be record-breaking to be devastating; it only needs to meet a household with no buffer.

PANEL C · MULTI-DIMENSIONAL POVERTY



≈3.43 crore people exited — the largest decline of any Indian state.
And its remainder: nearly one in four residents still lives with overlapping deprivations, and rural incidence runs at roughly twice the urban rate (NITI Aayog, 2023).

PANEL D · WHO LIVES IN THESE LANDSCAPES

78%

0.6%

SCHEDULE TRIBE — THARU,BUKSA, ON THE EXPOSED EDGES

20.7%

SCHEDULE CASTE — ≈4.1 CRORE, INDIA'S LARGEST

912

SEX RATIO

The 2011 Census population of 19.98 crore — now estimated around 24 crore. Female literacy trails male by twenty percentage points, and where migration has taken the men, women are left to farm, fetch and cope with the least formal claim on land or credit.

Figure 5 · Triangulating vulnerability: four independent frameworks read together. Panel A: CEEW Climate Vulnerability Index (report year to be verified) and CEEW (2025). Panel C: NITI Aayog (2023). Panel D: Census of India (2011).

Lay the four lenses over one another and the apparent contradictions resolve into a single, sobering geography. The mid-table index and the high-hazard map are describing the same state from different altitudes; the poverty progress and the poverty remainder are counting the same villages; the demographic scale is the multiplier under all of it. The tangible impacts are already legible: eastern floodplain villages that rebuild a little less each time the river comes; Bundelkhand fields sown twice and lost twice in a single year, and the buses that leave fuller after each loss; brick-kiln and farm workers labouring through summers their bodies were never asked to survive before; and women managing all of it with the thinnest claim on the resources it requires. **Vulnerability in Uttar Pradesh is not a score. It is an address — and there are more addresses here than anywhere else in India.**

4.5 · Conclusion

Uttar Pradesh is a river-built tapestry of nine agro-ecologies, stretched between a flooding east and a thirsting south, facing a double-fronted crisis of water and heat. The lens that should catch this is missing from the very plans that decide what gets built and grown there. The hurdles are systemic: adaptation norms too coarse for a state this varied, science that measures without asking, and services stretched across the largest exposed population in the country. And the evidence, triangulated across four independent frameworks, resolves its own apparent contradictions only when read at finer resolution — which is itself the finding.

WHAT EVERY STRAND OF THE DIAGNOSIS CALLS FOR

A way for a village to read its own landscape as one interdependent, living system — its landform and water, its fields and forests, its wildlife, its built assets, its culture and memory, and the community institutions that hold it all — and to turn that reading into a shared, locally owned baseline that feeds directly into the formal plans the village already makes every year.

This is precisely what the Community-Led Landscape Assessment Tool offers. It does not arrive with answers; it arrives with questions, and it begins where the double disconnection began — with memory. It treats the flood-marks on a wall and the year a well failed not as anecdote but as data: the earliest, finest-grained warning system a river state possesses. And because its outputs slot into the village's existing planning cycle, it converts that seeing into collective climate action calibrated to the place itself — drainage where the village floods, recharge where it thirsts, and livelihoods that can survive both.

The chapters that follow tell the story of what happened when this tool was carried into villages of Uttar Pradesh — from the flood-visited plains of the east to the hard country of Bundelkhand — and what those villages, reading themselves whole for the first time, discovered about the state of their own vital signs. In the most populous and most internally varied state in India, we will argue, such village-scale, community-led assessment is not a supplement to adaptation planning. **It is the only resolution at which adaptation can actually meet the people who need it.**

Transform Rural India

05

Uttar Pradesh: State summary

20 Villages across 10 Districts

5.1 The Villages Speak First

> *"Once the village had a great pond and fifteen to twenty smaller ones, and wells from which the women drew water. Now the ponds have shrunk and turned foul, the wells are filled in, and house after house has its own handpump, borewell and motor."*
>
> ELDERLY GROUP, GANGAURI, BASTI

Landscape Element	20 Years Ago	Today
Diet & Health	Mahua, jowar, millet; taller stature; no diabetes	Wheat, chemical rice; height loss; widespread chronic illness
Water Supply	3 clean wells + 7 functional taps	2 low, "stony" wells remaining
Biodiversity	Abundant vultures (Gidh), songbirds (Neelkanth)	Key species extinct; lost agricultural songs (Kajri-Alha)
Agriculture	Natural pollination by insects	Forced hand-pollination by farmers

Voices of the Village

- On Soil & Ecology: *"In Belhat, even the smell of the soil has changed."*
- On the Future: *"There is nothing to do here — either farm, or leave the village." — Youth, Ranjit Gadhi*

And yet these are not despairing communities. They are, by their own account, communities that have gained enormously — and know exactly what the gains cost. **Bailha** (Lakhimpur Kheri) celebrates something few climate reports record: caste discrimination, once enforced even in temples and shared seating, has visibly reduced — people of all communities now sit, eat and live mixed together — while wages rose from ₹50–60 a day to ₹500. **Singha Kala** remembers when a single cooking fire could burn a whole thatched neighbourhood, and when going to the fields at night meant snakes and scorpions — the pucca house and the toilet are named as *safety*, not vanity. **Karapithiya** (Basti) speaks with open pride of its filled roads, its inter college, its twelve community-run enterprises. And **Pakhodna** (Aligarh) offered the pilot's most modern diagnosis: asked what most loosened the village's social fabric, elders, women and youth alike named — the smartphone.

THE DEEPEST FINDING

Rural climate stress is systemic and cascading — when the pond goes, the well follows; when the orchard goes, the bird follows; when the grain goes, the body follows — and the people who see the whole cascade first are the people living inside it.

5.2 Landscape and Climate Context

Five belts of one state — from the water-rich Terai under the Himalayan foothills to the drought-scarred granite country of Bundelkhand.

The pilot spans a far wider ecological range than a single label can hold.
The table below illustrates the 5 belts

BELT	DISTRICTS (BLOCKS)	VILLAGES	WHAT THE LAND IS LIKE
The Terai - Saryu / Ghaghara influence zone	Lakhimpur Kheri (Nighasan); Bahraich (Mihinpurwa)	Bailha; Singha Kala; Manjhra; Ram Nagar Kanda	Fertile alluvial plain below the Himalayan foothills, with riverine flood exposure, canal and tubewell irrigation and seasonal water stress. Manjhra records recurring monsoon flooding alongside summer scarcity; Ram Nagar Kanda reports ponds and wells drying earlier.
The Doab and western plain - Yamuna–Ganga country	Aligarh (Tappal)	Pakhodna; Ranjit Gadhi	Productive Gangetic loam on the Kali Nadi catchment edge, increasingly shaped by private submersible irrigation, land conversion and the expanding Jewar economy.
The Awadh–Purvanchal seam and middle Ganga plain	Sultanpur (Dubepur); Basti (Bankati, Banka); Varanasi (Arajilines)	Emiliya Khurd; Bandhua Kalan; Karapithiya; Gangauri; Dindaspur; Bhedaha	Alluvial plains with a mix of smallholder agriculture, ponds and artisan livelihoods. Varanasi's urban-facing villages add a distinct middle-Ganga setting: weaving and wage work, shrinking pond commons, deepening groundwater and, in Bhedaha, erosion-prone white soil and lost seed varieties.
The Vindhyan edge - Belan / Karnawati terraces	Prayagraj (Koraon); Mirzapur (Chhanvey)	Devghat; Belhat; Balapur; Bagheda Khurd	Rocky uplands and hill-to-plain drainage systems. The Mirzapur assessments describe a filled hill pokhra and catchment disturbance in Balapur, and an interrupted historic route to the Karnawati in Bagheda Khurd.
Bundelkhand - the semi-arid heart	Hamirpur (Muskara); Banda (Naraini)	Alragoura; Kaimokhar; Pathra; Rehunchi	Black cotton soils, long hot summers and an uncertain monsoon. The two Hamirpur assessments report 80–150 ft groundwater depth, soil-life decline and a community priority to restore surface-water and canal systems, including linkage to Maudha Dam.

The wider pattern, read carefully

Two features distinguish the UP pilot's climate story. First, **the state's diversity is the finding**: the same twenty-year modernisation produced water-*mixed* outcomes in the Terai, a submersible-driven "deepening of water" (*jal ki gehraai*, Pakhodna's own phrase) in the Doab and Awadh, and outright hydrological emergency in Bundelkhand and the Vindhyan hamlets. Climate stress in UP is not one story; it is one *mechanism* — extraction outrunning recharge as the rainfed calendar breaks — expressed at five different speeds.

Second, the community accounts are directionally consistent with the tehsil-level research used in this project: a monsoon that keeps its volume less reliably than its schedule, more short intense events, and hazard patterns that can swap within a district. District-level vulnerability values for these seven districts should be read directly from the CEEW reports before citation; they are not quoted here. Forward projections at village scale cannot be verified — but none of the twenty communities asked for a projection. Their question is why the plans made in their name do not yet treat the landscape as one connected system.

5.3 Groundwater: the fastest-moving signal

> **All figures below are community-reported approximations from participatory recall** — they should be verified against IMD rainfall records and CGWB groundwater data before being used as data. Their consistency across seven districts is, however, itself a finding.
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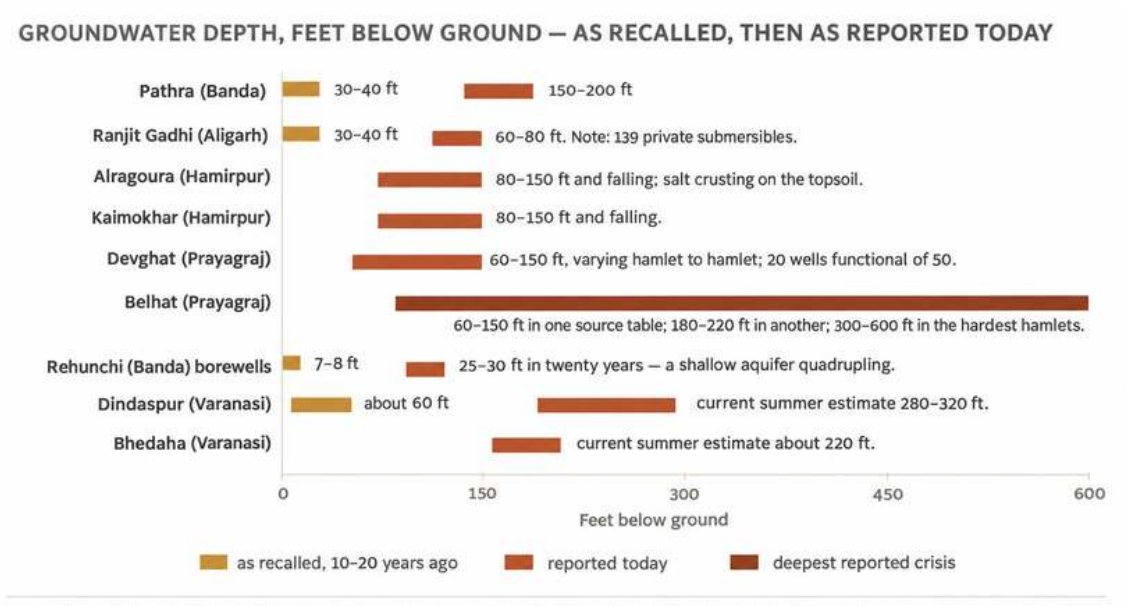


Figure 6 · The depth race, village by village. Community-reported approximations from participatory recall — verify against CGWB data before citation. Note that the Belhat range is reported inconsistently in the source (60–150 ft in one table, 180–220 ft in another); both are shown as the source gives them.

SIGNAL	WHAT COMMUNITIES REPORT	WHERE
The monsoon arriving late	Monsoon arrival shifted by about fifteen days; the rainfed calendar broken — *"when rain does not come on time, farming does not happen"*	Alragour (Hamirpur); Emiliya Khurd (Sultanpur)
Rain at the wrong moments	Unseasonal October rain disrupting festivals and harvest (the Oct 2025 Chhath event); hailstorm (Olavrishti) every 2–3 years and a November locust (Haritiddi) cycle; last year's flood prompting a DRR demand	Belhat, Devghat (Prayagraj); Ranjit Gadhi (Aligarh)
Heat extremes	Summers reported approaching 47°C; heatwaves "almost every year"	Pakhodna (Aligarh); Karapithiya (Basti)
Surface water disappearing	Ponds from 18 → 6 (Bandhua Kalan); a great tank plus 15– 20 ponds silted, buried or lost (Gangauri); the village's only pond farmed over until none remains (Karapithiya); the central Talab silted and encroached, four community wells dry (Pakhodna); the Run Nadi fallen from ~2 m to ~0.5 m and the seasonal pond dry even in the rains (Rehunchi); the Bagh Nadi dry in summer (Pathra)	Sultanpur; Basti; Aligarh; Banda
A river turned drain	The Belan — once clean enough for Mahashivratri puja — receiving household nali discharge since around 2012	Devghat (Prayagraj)

5.4 · Trends accross the Eight -life elements

The assessment across twenty villages reveals one particularly consistent signal: the decline of Wildlife & Biodiversity. Hydrology also shows widespread deterioration, with eighteen of twenty villages reporting decline in the working assessment. Other life-elements reveal more varied trajectories, with mixed, stable and improving conditions alongside ecological degradation. These differences show why landscape change must be understood through individual village experiences rather than a single statewide narrative.

VILLAGES REPORTING DECLINE, OF TWENTY

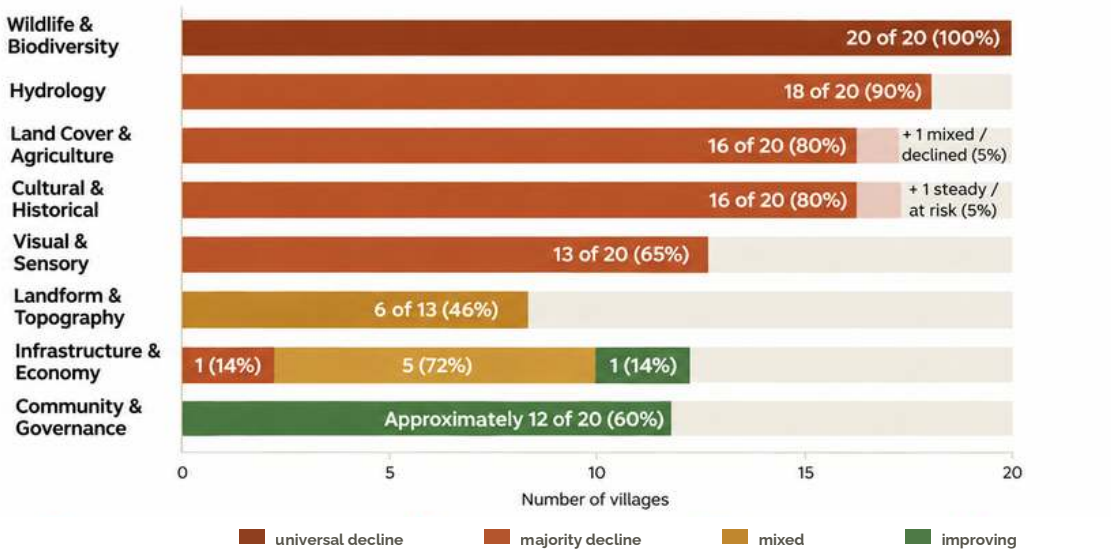


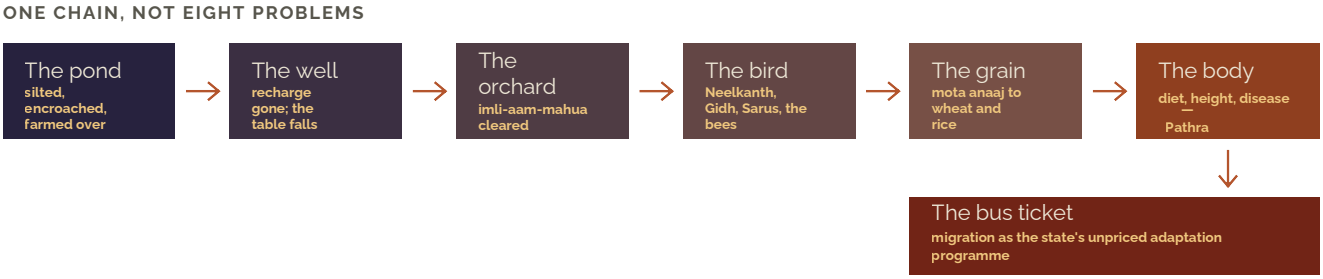
Figure 7 · The state-wide reading across the eight Jeevan Tatva, based on twenty village assessments. Counts are provisional working updates from the expanded assessment set; mixed and qualified classifications are shown separately from definite declines.

LIFE-ELEMENT	STATE-WIDE READING	WHY IT IS MOVING THIS WAY
Landform & Topography	▼ Declining in about half; mixed/stable in the rest	The plain itself endures; its micro-geography does not. Teelas (hillocks) levelled for cultivation and housing (Emiliya Khurd); khal — natural drainage channels — swallowed by fields and sealed under RCC roads (Gangauri); rocky pathar levelled into farmland (Belhat); slope quarrying and tractor-levelling removing micro-drainage (Devghat). In Mirzapur, Balapur's hill was fractured by blasting and its slope cultivated, while Bagheda Khurd's natural drainage route to the Karnawati river was severed by unculverted roads and levelling. In Varanasi, Bhedaha records machine soil-quarrying alongside fragile white reh earth across 40% of its area, while Dindaspur's grazing commons and natural drainage lines have almost vanished under settlement expansion. Flat land is physically intact in Kaimokhar and Alragoura, but degraded at the soil surface.
Hydrology	▼ Declining in 18 of 20 — sharply in Bundelkhand, the Vindhyas and parts of Awadh; mixed in the Terai	The signature UP paradox is the private solution to a common decline: 100% private-submersible irrigation in Pakhodna, 139 private machines in Ranjit Gadhi, 45 private tubewells against one government machine in Bandhua Kalan. In Hamirpur, Kaimokhar and Alragoura report groundwater down to 80–150 ft with silted ponds receiving direct sewage. In Varanasi, Dindaspur's table fell from a remembered 60 ft to 280–320 ft in summer with two of four ponds dead, while Bhedaha reports four of five ponds dry and summer groundwater near 220 ft. In Mirzapur, Balapur's hill pokhra was filled with earth and individual borings replaced shared wells, while Bagheda Khurd's traditional mot, nar and chua systems vanished. In Bahraich, Manjhra experiences annual monsoon river flooding alongside severe summer scarcity, while Ram Nagar Kanda's ponds and wells dry earlier each season.
Land Cover & Agriculture	▼ Declining in 16 of 20 (plus 1 mixed/declining)	The same arc in five dialects: mixed grain — kodo, sawa, mejhuma, tisi, mahua, jowar, bajra — narrowed to wheat-paddy-sugarcane-mustard-potato; bullock, dhekuli and bedi replaced by tractor and motor; angrezi dawaayein (chemical inputs) adopted partly because migration created labour scarcity (Gangauri's explanation); and the soil turning into what villagers call zameen banjar — barren earth. Salt crusts black kali mitti and earthworms have vanished across both Hamirpur villages (Alragoura and Kaimokhar). In Mirzapur, Bagheda Khurd's cropping intensity dropped from three harvests to two solely due to water constraints, while Balapur reports field stubble burned rather than composted. In Varanasi, Bhedaha lost heritage seeds (sanwa, kalanamak, mansuriya, arhar, tisi), and Dindaspur's pump-set farming yields moderately at mounting energy cost. In Bahraich, sugarcane locks water-scarce ground into high extraction.
Wildlife & Biodiversity	▼ Declined in all 20 — the state-wide universal red line	The communities name the missing like a census: vulture, Neelkanth and Saale (Emiliya); giddha, jatayu, hiran, water birds and bees (Devghat); otter, fox and jackal (Gangauri); Sarus crane down to 2–3 sightings a year (Belhat). In Hamirpur, Kaimokhar and Alragoura have no forest within village limits; sparrows, koyal, fireflies (jugnu), and bees have sharply declined, while Parthenium and water hyacinth spread. In Varanasi, Bhedaha notes a 90–95% disappearance of vultures and dawn pigeon-flocks alongside dying pond frogs and dragonflies, while Dindaspur reports wildlife encroaching on settlement edges as tree cover fell ~65%. In Mirzapur, Balapur catalogs the loss of 20 named species (from vultures and peacocks to frogs and snails) with mosquitoes multiplying, while Bagheda Khurd completely lost its field-edge tree lines and wild pollinators. In Bahraich, forest dependency remains intense as firewood and fodder thin.

LIFE-ELEMENT	STATE-WIDE READING	WHY IT IS MOVING THIS WAY
Infrastructure & Economy	Genuinely mixed — improved services across most districts, offset by livelihood distress and out-migration	Roads, taps, schools, electrification and mobile networks are real and celebrated. But UP's charts refuse the simple "up" reading: services rose while livelihoods thinned. Pathra's score reads "↑ services / ↓ livelihoods"; Emiliya Khurd's infrastructure register declined outright; Bandhua Kalan's veterinary clinic was converted into the Panchayat Bhawan. In Hamirpur, 80% pucca housing and tap water coexist with ₹1,500–3,000 monthly incomes, peak-season power cuts, an unused RRC, and substantial seasonal migration (48 HHs in Alragoura, 32 in Kaimokhar). In Varanasi, Dindaspur enjoys 24-hour electricity but carries ~350 landless households and waterlogged low-lying bastis, while Bhedaha lacks a health sub-centre with 50% wage-labour dependence. In Mirzapur, 100% electrification and CSCs sit beside 40% youth migration in Bagheda Khurd. In Bahraich, Manjhra faces annual road washouts.
Cultural & Historical	▼ Declining in 16 of 20 (with Dindaspur steady / at risk and two heritage-rich exceptions)	The Kajri-Alha at Panchami has stopped (Emiliya); Sohar-Kajri-biah wedding songs are falling silent (Bandhua Kalan); Nautanki, Hurdanga, Chamarauwa and Videshiya give way to the DJ (Karapithiya); the joint family splinters (Ranjit Gadhi). In Mirzapur, Bagheda Khurd reports birha and kajri silenced as field labour mechanized, while dispute resolution migrated from panchayats to courts; Balapur records the end of the Sawan swing and Ramleela as leisure moved to mobile phones. In Hamirpur, traditional orchards and water structures dried up, while puja waste is dumped into canals. In Varanasi, Bhedaha notes temples are better built in brick but worship is ritualized, even as a traditional Kharif grazing restriction survives; Dindaspur retains two sacred sites and its heritage weaving craft despite drying ancestral tanks. Yet Belhat's 400-year Kushti/Dangal still draws cross-state crowds, and Devghat's Mela calendar endures.
Visual & Sensory	▼ Declining in 13 of 20; mixed in 7	Field-boundary tree lines vanished (Ranjit Gadhi, Bagheda Khurd); October–November stubble smoke is the new season-marker (Aligarh); the Belan is odorous with household nali discharge (Devghat); soil smells have altered (Belhat); birdsong is replaced by the pump and rotavator. In Hamirpur, Kaimokhar and Alragoura report white salt crusts on cracked black soil, pesticide smells during paddy and wheat sprays, lost gauraiya calls, and changed crop taste. In Varanasi, Bhedaha reports silent skies without vultures or pigeon flocks, missing fireflies, and chemical spray drift, while Dindaspur registers the persistent summer bore-whine, cracked pond beds, and dust. In Mirzapur, Balapur reports parched, blasted hill slopes and brick-kiln smoke suppressing fruit set. In Bahraich, intense summer heat leaves settlements without shaded commons to assemble in past midday.

The cascade the villages describe

The communities narrate these not as eight problems but as one chain — with a distinctly UP ending in the body and the bus ticket. Emiliya Khurd's charts spell out the failure sequence in their own words: drinking-water shortage → farming destroyed → birds and animals dying → plants withering. Rehunchi names the terminus: an *"outsourcing of daily life"* — 70% of households preferring bought outside food, 80%+ of working-age people gone to the cities.



AND THE CHAIN RUNS BACKWARD TOO

Out-migration → labour scarcity → weedicide and chemicals → *zameen banjar* → deeper distress → more migration

Gangauri's own causal chain — the pilot's clearest statement that the labour market and the soil are one system. Any organic transition plan that ignores where the hands went will fail.

Figure 8 · The cascade, as the thirteen communities describe it — and its reverse.

SURFACE WATER LOST — AS THE COMMUNITIES COUNT IT

Bandhua Kalan	18 ponds → 6 ponds
Gangauri	1 great tank + 15–20 ponds →silted, buried or lost
Karapithiya	1 pond →none at all — farmed over
Devghat	50 community wells →20 functional
Rehunchi	3 wells → 2, both stony · Run Nadi ~2 m → ~0.5m· 28 taps standing, supply failing
Pakhodna	4 community Kuas → dry or debris-filled ·theTalabsilted and encroached

Figure 9 · The surface-water ledger. Community-reported counts from participatory recall.

5.5 The Core Demands

The UP plans convert each village's findings into tiered works feeding two instruments: the **Community Action Plan (CAP)** — what the Gram Sabha adopts and does itself — and the **Departmental Action Plan (DAP)** — the named convergence asks. Read across thirteen villages, the demands sort into a strikingly consistent core, with a fringe of remarkable one-village asks.

#	DEMAND	THE PATTERN, WITH VILLAGE EXAMPLES
1	**Restore the ponds, tanks, canals, and wells (talab ki khudai evam punarudhdhar)**	Near-universal and prioritized first across landscape belts: Bandhua Kalan wants its ponds back "toward the remembered 18"; Gangauri its 15–20 ponds and great tank; Pakhodna its silted talab and four dry kuas; Belhat and Devghat their well networks (23 and 20 survivors); Karapithiya seeks excavation for fish rearing. In Varanasi, Dindaspur submits a written panchayat petition to revive its two dead water bodies, while Bhedaha prioritizes desilting four dry ponds. In Mirzapur, Balapur calls for re-excavating the filled hill pokhra and Bagheda Khurd for desilting silted ponds alongside stone-pitching bank protection on the Karnawati. In Hamirpur, Kaimokhar and Alragoura explicitly demand deepening ponds, protecting them from direct sewage dumping, and repairing the 2–3 km broken canal route linked to the Maudha Dam. In Bahraich, Manjhra and Ram Nagar Kanda demand pond rejuvenation and deepening to recover residence time between flood and dry seasons.
2	**Recharge the ground, map the flows, and discipline the machines**	Soak pits, rooftop harvesting on public buildings, and greywater diversion — paired with groundwater governance to register, meter, or space private submersibles. Pakhodna's flagship borewell ceiling; Gangauri's "borewell-expansion regulation"; Alragoura and Belhat recharge architecture. In Mirzapur, Balapur demands soak pits, check dams, and contour trenches to arrest hill runoff, while Bagheda Khurd prioritizes re-establishing the historic drainage line to the Karnawati with road culverts and converting disused wells into recharge shafts. In Varanasi, Dindaspur and Bhedaha seek household soak-pits and lane recharge to eliminate monsoon waterlogging in low-lying bastis. In Bahraich, recharge pits beside hand pumps are paired with public water-level monitoring.
3	**Return to organic / natural farming (jaivik, prakritik kheti, desi khaad)**	Across the twenty villages: Phased substitution of synthetic fertilizers with farmyard manure, jeevamrit, and cluster-level vermicomposting. In Hamirpur, Kaimokhar and Alragoura center this on recovering collapsed black-soil biology and bringing back the vanished earthworm (kenchua). In Varanasi, Bhedaha targets reclamation of its erosion-prone white soils (reh/usar) through organic matter and green manuring, while Dindaspur integrates compost units to rebuild the broken manure cycle. In Mirzapur, Balapur demands an end to chemical hardening through field penning of cattle (chauki) and crop-residue composting pits. Supported everywhere by soil-health card testing and demonstration plots.
4	**Plant the trees back — orchard belts, bunds, lanes, and commons**	Across the twenty villages, with native species identified from living memory: Imli-aam-mahua (Emiliya's signature belt); neem-jamun-desi mango (Pakhodna); mahua-jamun-barhar-imli (Gangauri); neem-mango-peepal-banyan (Karapithiya). In Hamirpur, both Alragoura and Kaimokhar specify rebuilding the lost orchard layer (citrus, mango, guava) with mandatory iron fencing and monsoon-timed planting to ensure survival against free grazing. Bagheda Khurd (Mirzapur) calls for reinstating boundary trees along every field edge to restore windbreaks and free fuel, while Balapur demands revegetating bare, quarried hill slopes. In Bahraich, Manjhra and Ram Nagar Kanda demand fodder and firewood blocks sited close to settlements to reduce collection journeys for women.

#	DEMAND	THE PATTERN, WITH VILLAGE EXAMPLES
5	**Bring back heritage grains and pulses (mota anaaj) with seed banks**	Reviving climate-resilient agrobiodiversity through community seed banks managed by elder custodians. Kodo, sawa, mejhuma, jowar, bajra, and traditional pulses revived across Pathra, Rehunchi, Gangauri, Karapithiya, and Ranjit Gadhi. In Varanasi, Bhedaha demands the recovery and seed-banking of lost traditional varieties — sanwa, mansuriya, traditional arhar, tisi, and heritage aromatic rice (kalanamak). In Hamirpur, Alragoura and Kaimokhar emphasize expanding low water-consuming zaid pulses (moong and urad) and indigenous oilseeds beyond the current 5% margin. In Mirzapur, Bagheda Khurd links pulse and traditional crop revival directly to recovering its lost third cropping season.
6	**End the burning — parali and residue value chains**	Transition from field burning to economic utilization: Zero-burning pledges and Gram Sabha resolutions in Pakhodna and Ranjit Gadhi; residue-to-fodder aggregation in Bailha. In Hamirpur, Kaimokhar and Alragoura propose baling, fodder aggregation, and vermicompost incorporation to clear fields rapidly without fire. In Mirzapur, Balapur outlines a cluster-level composting pit mechanism to rot stubble into bio-manure, while Bagheda Khurd couples residue management with mulch and organic substrate for its emerging floriculture crop. In Bahraich, sugarcane trash and crop residues are directed toward livestock fodder blocks and organic compost.
7	**SHG-led green enterprise to slow distress migration**	Mobilizing the state-wide network of over 300+ SHGs, VOs, and CLFs to generate local livelihood assets: Vermicompost production, decentralized community nurseries, pulse processing, pond fisheries, and small-livestock enterprise. Convergence with CM Yuva Udyami, RSETI, and DDU-GKY for youth skilling to provide alternatives to seasonal out-migration. In Varanasi, Dindaspur targets skilling, design upgrades, and market aggregation for its traditional weaving trade alongside vegetable value chains. In Bahraich, Manjhra leverages 43 SHGs and its CLF for melon/horticulture marketing and nursery management. In Mirzapur, Bagheda Khurd scales SHG-led apiculture to provide critical pollination services for commercial floriculture.
8	**Livestock revival and scheduled veterinary care**	Rebuilding the herd, securing local fodder, and restoring the dung-nutrient economy: Bandhua Kalan demands restoring converted veterinary clinic facilities. In Hamirpur, both Kaimokhar and Alragoura demand scheduled, reliable veterinary doctor visits to arrest rising domestic animal mortality and relieve grazing pressure on agricultural fields. In Mirzapur, Balapur connects animal husbandry directly to field fertility through supervised cattle penning, while Bagheda Khurd pairs dairy/poultry support with fodder security along restored field edges. In Varanasi, Bhedaha preserves traditional Kharif grazing regulations along its 25 mapped grazing routes, and Dindaspur promotes stall-fed fodder plots to revive its depleted livestock base.
9	**Solar and clean energy with clear extraction limits**	Solar pumping and clean energy access balanced with water budgets: Solar irrigation pumps against falling water tables and 4–8 hour power cuts (Pathra, Rehunchi, Alragoura, and Kaimokhar); solar electrification on schools, Anganwadi centers, and Panchayat Bhawans (Karapithiya, Belhat, Bandhua Kalan, Dindaspur); scaling household rooftop solar installations in Bhedaha. Deepened LPG access under PM Ujjwala to eliminate remaining firewood dependency and halt forest-fringe felling in Emiliya, Devghat, Belhat, Balapur, and Bahraich's forest-dependent settlements.
10	**Revive the culture and governance commons — as named, planned demands**	Living cultural practices and collective decision-making as operational planning instruments: Staging Nautanki and Videshiya (Karapithiya); reviving Kajri-Alha at Panchami with five-year sankalps (Emiliya); re-establishing the chaupal, regular khuli baithak, and Elder–Youth Knowledge Circles (Pakhodna, Ranjit Gadhi, Balapur, Bagheda Khurd). Formalizing women's voice from SHG membership into statutory Gram Sabha resolutions on natural resources (Alragoura, Kaimokhar, Dindaspur). In Mirzapur, Bagheda Khurd demands re-establishing local Gram Adalat mediation circles to resolve land disputes before litigation. Anchoring community plantation and pond desilting drives to the seasonal festival calendar (Hariyali Teej in Bundelkhand; Sawan in Purvanchal and the Vindhyas).

5.6 The Ten Most Unique Demands — Signals Worth Probing

#	UNIQUE DEMAND	VILLAGE	WHY IT DESERVES PROBING
1	Restore the veterinary sub-centre — the clinic was converted into the Panchayat Bhawan	Bandhua Kalan	The pilot's sharpest single grievance: one building conversion quietly disabled a whole livestock economy. A cautionary tale about infrastructure accounting.
2	Settle the forest-land compensation on the ~700–800 bighas the Van Vibhag replanted	Pathra	The series' only upward ecological trend — bought at an unresolved economic and procedural cost to the very community now asked to protect it.
3	Protect farmland from airport-driven speculation	Ranjit Gadhi	With Jewar rising, the community estimates 8–12% of farmland converted or earmarked in a decade — and asks for a land register and Gram Sabha deliberation to slow it.
4	A Community Conserved Area for the migratory "Kashmiri Chidiya" — with the Sarus crane's return as a five-year indicator	Belhat	50–100 wintering birds the village affectionately calls Ram Pyari as a conservation and eco-tourism asset; species-return adopted as a public success metric.
5	Activate the Koldihwa rice-heritage site	Devghat	Among the earliest documented evidence of rice cultivation in the subcontinent sits unmarked in the panchayat — no signage, no livelihood. Heritage as an unclaimed climate asset.
6	Link the village water bodies to the Maudha Dam canal and reconstruct the damaged 2–3 km branch line	Alragoura & Kaimokhar	An explicit joint inter-panchayat engineering priority across Muskara block: treating perennial canal supply as the only surface buffer independent of a 80–150 ft falling black-cotton aquifer.
7	Cross-border UP–MP convergence	Rehunchi	A village bordered by Madhya Pradesh on three sides asks for dual-state SHG networks, joint riparian restoration of the Run Nadi, and inter-state scheme coordination — turning a boundary into an asset.
8	Re-establish the severed drainage corridor to the Karnawati with retrofitted road culverts (Replaces #8 Battery Vehicles)	Bagheda Khurd	The village diagnosed that road-building without culverts and orchard felling broke its historic flow line to the Karnawati — causing monsoon waterlogging and shrinking the cropping calendar from three seasons to two.
9	Freeze slope conversion and restore the blasted hill catchment and hill pokhra (Replaces #9 Reinstate Khal)	Balapur	Blasting in the hills fractured the hard-rock aquifer and cracked house walls. The community demands a Gram Sabha freeze on slope cultivation, revegetating blasted faces, and re-excavating the filled common pokhra.
10	Procedural written petition for pond revival to arrest acute 280–320 ft aquifer collapse (Replaces #10 Sankalp Indicators)	Dindaspur	Rather than drilling deeper or resorting to informal grievance, the community used its SHG–CLF civic maturity to file formal, written GPDP demands to desilt two dead ponds, tackling severe May–June scarcity at institutional roots.

5.6.1 · Barriers to Change

The rainfed calendar broke first, and the tubewell filled the gap

"When rain does not come on time, farming does not happen" (Emiliya), every household's private submersible became individually rational — and collectively ruinous. No village authority currently has the mandate to meter, space or discipline private machines; Pakhodna's flagship demand is precisely to create one.

Organic farming lost its raw materials and its labour

The gobar base collapsed with the herds (grazing land shrank; the vet clinic closed in Bandhua Kalan; animal husbandry "collapsed" in Emiliya's account), and — Gangauri's crucial insight — **chemicals and weedicide were adopted because out-migration created labour scarcity.** Organic methods need hands the villages no longer have; migration is both cause and consequence of the chemical turn.

The lost grains lost their infrastructure

Mota anaaj has no local chakki (milling), no seed stock outside elders' memory, and — in Rehunchi — a demand-side wall: 70% of households now *prefer* bought outside food. Reviving millets means rebuilding a full chain: seed bank → field → mill → kitchen → market.

Electricity rations the water race

A 4–6 or 6–8 hour daily supply (Rehunchi, Pathra) makes solar pumps irresistible — and, without water budgeting, solar simply makes deeper extraction cheaper. The communities themselves pair the solar ask with drip, sprinkler and low-water cropping.

Trust deficits stall the willing

Pathra's unsettled plantation compensation, Belhat's Census-versus-field population discrepancy, Emiliya's missing village profile — where the data or the dues are unresolved, communities hesitate to invest labour in assets they may not be credited for.

The institutions that would carry the work are themselves the casualty

The Chaupal is down to a handful of elders; the Khuli Baithak thins; the smartphone (Pakhodna's own diagnosis) pulls attention out of the village square. The SHG platform is strong — but its mandate is credit and enterprise, not yet water, soil and forest.

Infrastructure was built across the hydrology, not with it

Linear rural infrastructure—specifically paved roads, khadinjas, and land levelling—was built without hydrologic alignment or cross-drainage culverts. In Bagheda Khurd (Mirzapur), roads laid without culverts severed the historic flow corridor to the Karnawati river, simultaneously causing monsoon waterlogging and cutting off aquifer recharge. In Manjhra (Bahraich), kutcha-khadinja infrastructure is rebuilt to pre-flood specifications each year without raised alignments or drainage, trapping the village in recurring washouts. Communities cannot hold or recharge water when the state's own concrete grid blocks the natural flow lines.

5.7 · The financial narrative

Every village plan splits its works between what the community adopts into its **Community Action Plan** at no external cost, and what it forwards — by scheme name — into the **Departmental Action Plan** for convergence.

CHANNEL	WHAT IT FUNDS IN THESE VILLAGES	THE CATCH
MGNREGA	The universal engine: pond deepening (*talab ki khudai*), recharge pits, plantation, bund stabilisation, drainage, canal-feeder works	Builds assets faster than it maintains them; the 28 government taps of Rehunchi stand while the supply behind them weakens
Mission Amrit Sarovar / PMKSY-Watershed / Atal Bhujal / Jal Jeevan Mission	Pond re-excavation, watershed treatment, groundwater discipline, piped supply	Delivers water *works*; the demand-management half (metering submersibles, water budgeting) has no established village mandate yet
DAY-NRLM (UPSRLM)	The ~280+-SHG network's enterprises — vermicompost, nurseries, dairy and goat, millet processing, metalcraft, leaf-plates, fisheries	Finances enterprise readily; finances *ecological restoration as enterprise* only where a plan connects the two — which is precisely what these GPDPs do
PM-KUSUM & MNRE solar / Ujjwala 2.0 / GOBARdhan biogas	Solar pumps and rooftops, LPG, biogas on the dung base	The pilot's sharpest double edge: solar pumping without water budgeting subsidises deeper extraction; the plans repeatedly pair the two
RKVY / Shree Anna (millet mission) / PKVY-NMNF / Soil Health Card / PMKSY-Per Drop More Crop	Millet revival, natural-farming clusters, soil testing, micro-irrigation	Transition finance for the lean first organic seasons remains the thinnest link
CM Yuva Udyami / RSETI / DDU-GKY / PMKVY / PMFME-ODOP	Youth skilling, e-rickshaw and micro- enterprise, artisan-cluster upgrades (Bandhua Kalan's metalcraft and bangles)	The artisan economy fits awkwardly in "green" finance boxes — yet it is Bandhua Kalan's actual livelihood base
CAMPA / Green India Mission / State afforestation / PWD-NHAI compensatory plantation	Forest-patch restoration, orchard-belt blocks, iron-fenced plantation, roadside replanting	Compensatory obligations lag: Rehunchi reports 70–80% of road-corridor trees felled without replacement; Pathra's plantation compensation is unsettled
NHM / NSAP / SC Sub-Plan / PMFBY / SDMA / DLSA	Health outreach where sub-centres are absent, scheme saturation for widow-, PwD- and BPL-households, crop insurance, DRR plans, legal-aid camps	Equity-first infrastructure (Badhghat's electricity, Baansghaat's water in Devghat; Belhat's 580+ Kol families) depends on convergence nobody owns by default

Source note. All scheme mappings are indicative, as the source plans themselves state — guidelines, ceilings and eligibility change over time and by district, and must be verified with block and district administration.

5.7.1 · Where it falls short — the four gaps

Gap 1 : The maintenance gap

Rehunchi's 28 standing taps with failing supply are the UP emblem: capital creates assets; nothing recurring keeps them alive. The plans respond with maintenance calendars and network-repair framings (Belhat's 23 wells "as one network").

Gap 2 : The demand-management gap

Money flows readily to *supply* (ponds, pipes, pumps) and hardly at all to *restraint* (metering, spacing, budgeting the aquifer). Pakhodna's submersible-regulation flagship is, in financial terms, an ask for a kind of governance no current scheme prices.

Gap 3: The transition gap

No mainstream channel bridges a household across the lean first seasons from chemical to natural farming, or from wheat back to mota anaaj without a mill or a market. The Koraon plans' answer — anchor transitions on hamlets that never left organic practice (Koldihwa, Nayi Basti) and on visible large-farmer demo plots (Belhat's Mahajan farmers) — is a way of lowering the risk the finance system won't underwrite.

Gap 4: The compensation and trust gap

Pathra's unsettled dues on the replanted 700–800 bighas, and the felled-but-never-replaced road corridors of Rehunchi, teach communities that ecological obligations owed *to* them go unpaid — an expensive lesson to unteach when their own labour is next requested.

Gap 5: The household squeeze

Bailha's arithmetic — wages up from ₹50–60 to ₹500, costs risen faster — plus input debt, bought food (70% preference in Rehunchi), private water infrastructure and festival inflation: climate stress is already a monthly line item, and the coping finance is the bus ticket. **Migration is the state's unpriced adaptation programme.**

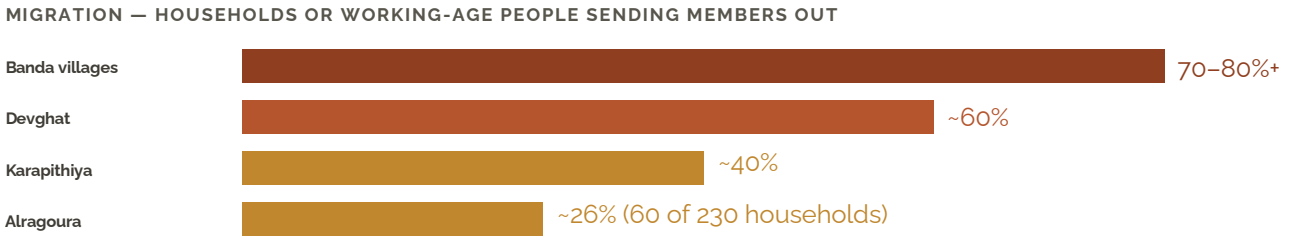


Figure 11 · Where the coping finance goes. Community-reported shares.

THE REFRAME THE CAP–DAP STRUCTURE OFFERS

The quiet radicalism of these plans is that Tier 1 is free. Every village's first column — shramdaan desilting, no-burn resolutions, seed banks from elders' stores, two trees per household, bird censuses run by schoolchildren, women-only pre-meetings before the Gram Sabha — needs no sanction letter. The CAP makes the community the first financier of its own resilience; the DAP then turns the remainder from grievance into a named, scheme-mapped, department-addressed ask.

5.8 Green value chains & rural bioeconomy

"The Village That Measures Loss in Inches"

PATHRA, BANDA

A community that read its decline in its children's height now leads the reclaim through *mota anaaj*: a seed bank under elder custodians, chakki milling revived, coarse grains back on the plate — nutrition, water-thrift and identity in one intervention.

"Where Rice Was First Grown, Farming Begins Again" DEVGHAT, PRAYAGRAJ

Beside the Koldihwa site — among the earliest documented evidence of rice cultivation in the subcontinent — two hamlets that never abandoned vermicompost farming become the demonstration anchor for the panchayat's natural-farming transition.

"The Khal Remembers" GANGAURI, BASTI

A village asks engineers to reinstate the natural drainage channels its own fields and roads erased — with culverts under the concrete, so the rain can find its old ways home.

"The River Margins Pay First" Manjhra, Bahraich

Rather than treating annual monsoon floodwaters solely as destruction, farmers cultivate watermelons and muskmelons on the freshly replenished, sandy river margins. The community links this short-cycle, low-water fruit production directly to the Girgitti Chauraha and Gud Mandi trade, creating an indigenous climate-buffer that earns income without stressing the falling groundwater.

DISTRIBUTED RENEWABLE ENERGY

"Sunlight Against the Depth Race" PATHRA & REHUNCHI

Solar pumps and Run Nadi lift irrigation to beat both the falling table and a 4–8-hour electricity day — deliberately paired with drip, sprinkler and low-water crops so the sun doesn't simply drill deeper.

"Solar Roofs for the Water Bank"

Bhedaha & Dindaspur, Varanasi

Expanding on Bhedaha's initial 5–6 rooftop solar adopters and Dindaspur's 24-hour electric infrastructure, the villages install institutional rooftop solar on Anganwadis, schools, and Panchayat Bhawans. The power drives low-draw aeration for restored community fisheries ponds and powers village digital service centres without grid interruption.

"An E-Rickshaw on a Good Road" KARAPITHIYA

Green mobility as youth enterprise, built on the village's proudest asset — its repaired roads and the twice-weekly market 200 metres away.

"Ram Pyari's Winter Address"

BELHAT, PRAYAGRAJ

Every winter, 50–100 migratory birds the village calls *Ram Pyari [kingfidher]* settle on its two ponds. The community proposes a Community Conserved Area around them — with the Sarus crane's return as its public five-year indicator.

"Seven Hundred Bighas Return — at a Price"

PATHRA, BANDA

The series' only upward ecological trend: Van Vibhag plantation has brought ~700–800 bighas back under forest — on land whose compensation is still unsettled. Restoration and justice, the village insists, must be financed together.

"Two Trees, Every House, This Monsoon" RANJIT GADHI, ALIGARH

A whole-village pledge to rebuild the vanished field-boundary tree lines — neem, ber, mahua, peepal, imli — one bund at a time.

CIRCULAR ECONOMY

"Smoke Becomes Mushrooms" RANJIT GADHI

Baled paddy straw as substrate for mushroom cultivation, fodder and mulch — the October smoke season converted into an SHG income line.

"Pellets from the Parali" PAKHODNA

A youth-led biomass pelletisation unit compressing residue into fuel — burning displaced by business, alongside the village's Compost Sthal scaling toward certified organic manure.

"The Leaf-Plate Comeback" KARAPITHIYA & BANDHUA KALAN

One village already runs a pattal-donā plant; the other proposes reviving leaf-plate production to replace bought crockery — biodegradable commensality as SHG enterprise.

"The Stubble That Feeds the Rock"

Balapur, Chhanvey Block, Mirzapur

To end field burning and repair soil that "has gone hard and lost its strength," the community revives an old reciprocal agreement: cluster composting pits combined with seasonal cattle folding (penning) directly on harvested plots. Waste stubble is rotted in designated pits, replacing purchased inputs with organic matter that allows the shallow rocky soils to retain rainwater.

VALUE CHAIN	WHERE IT RECURS	WHY IT ANCHORS THE PORTFOLIO
Vermicompost & bio-inputs (Jeevmrut, Beejamrit, neem pesticide)	Effectively all 20	Turns the organic demand into women's enterprise; substitutes purchased chemicals
Plantation, native nurseries & agroforestry	All 20	Orchard belts, bund trees and fodder silviculture; Emiliya proposes bulk sapling supply to neighbouring panchayats
Millet & pulse (mota anaaj) revival with SHG processing	14+ villages	Water-thrifty, culturally loved, Shree Anna-mission-ready; ties to Anganwadi and school feeding
Livestock, dairy & goat enterprise	19 of 20	Income plus the gobar base organic farming needs; Rehunchi's retained indigenous breeds a genuine strength
Pond fisheries in restored waters	Most	Income designed to arrive only when restoration succeeds
Crop-residue value chains (compost, fodder, mulch, pellets, mushroom)	13+ villages	Makes the no-burn norm pay
Solar irrigation & rooftops	Most	Cost and emissions relief — always paired with water discipline in the plans
NTFP processing (mahua, tendu, chironji, gond, ber, imli)	Vindhyan & Bundelkhand villages, 7+ villages	Re-monetises the standing and returning forest

MOST UNIQUE — ONE VILLAGE EACH

Metalcraft & bangle circular craft economy · Bandhua Kalan
Kushti heritage tourism · Belhat
Koldihwa heritage eco-trail · Devghat
Migratory-bird eco-tourism · Belhat
Juda-banana micro-industry · Gangauri
E-rickshaw mobility enterprise · Karapithiya
Battery-vehicle cluster · Emiliya Khurd
Banana & sugarcane value addition · Bailha
Biomass-to-power · Gangauri
Community Fodder Banks
Cross-border SHG enterprise networks · Rehunchi
Peri-Urban Handloom Textile & Eco-Design Aggregation
River-Margin Agro-Horticulture & Floodplain Melon Aggregation
Apiculture & Bio-Pollination Value Chain for Commercial Floriculture

5.9 Sentinel indicators and sensory findings

Of the eight JeevanTatva, Visualand SensoryExperience declined in thirteen of the twenty villages — and it is the theme where Uttar Pradesh's testimony is most exact. These communities did not describe climate change in millimetres of rainfall; they described it in the colour of a pond, the silence at Panchami, the taste of well water, the smell of a river, and — in Pathra's extraordinary account — the height of their own sons. **The sensory record is the community's continuously updated dataset, kept without instruments**, and the thirteen villages read from it with a precision the secondary data cannot match.

SENSE	WHAT HAS CHANGED	WHERE THE COMMUNITIES SAID IT
Sight	The field-boundary tree lines that once framed every plot have all but vanished; the teelas — the small hillocks that gave one village its geography — stand levelled; ponds have "shrunk and turned foul"; white salt crusts the black kali mitti; Parthenium and water hyacinth spread where native cover was; October–November stubble smoke is the new season-marker in the Doab sky; the Neelkanth and the Gidh are gone from the skyline.	Ranjit Gadhi (tree lines, smoke); Emiliya Khurd (teelas, skyline birds); Gangauri (foul ponds); Alragoura (salt crust, invasives); Pakhodna (smoke); Devghat, Belhat (the surviving sights), Bhedaha, Dindaspur, Balapur, Bagheda Khurd
Sound	The state's musical registry, falling silent by name: the Kajri-Alha no longer sung together at Panchami; the Sohar, Kajri and biāh̃ songs fading from weddings; Nautanki, Hurdanga, Chamarauwa and Videshiya giving way to the DJ and loudspeaker; the Haryanvi folk song displaced in the Jat villages; the koyal heard only occasionally; bird call and water-song replaced by the pump and the rotavator.	Emiliya Khurd; Bandhua Kalan; Karapithiya; Ranjit Gadhi; Alragoura; Devghat, Kaimokhar, Bagheda Khurd, Bhedaha, Dindaspur
Taste & the plate	Grain the elders describe as once *shuddh* — pure; the mahua-jowar-millet plate turned to wheat, gram and chemical-grown rice; well water that now comes up *stony*; water whose taste differs house to house; a village that asks for water-quality testing "where taste changes"; and the endpoint — 70% of households in one village now preferring bought outside food.	Devghat; Pathra; Rehunchi; Belhat; Emiliya Khurd
Smell	The Belan — once clean enough for Mahashivratri puja — now odorous with household nali discharge; a blocked panchayat naali producing village-wide odour; the annual smoke of the parali season; and Belhat's quietly devastating observation: *the smell of the soil itself has changed*.	Devghat; Rehunchi; Aligarh villages; Belhat, Kaimokhar, Bhedaha, Balapur
Touch & heat	Summers reported approaching 47°C and heatwaves "almost every year" (community-reported figures — verify against IMD records); the kali mitti cracking open; and the farmer's oldest tactile indicator gone from the hand — the earthworm (kenchua, keechua) absent from soil in at least three villages' accounts.	Pakhodna; Karapithiya; Alragoura; Gangauri, Kaimokhar, Ram Nagar Kanda, Manjhra, Balapur

The body keeps the record

Uttar Pradesh's communities carried the sensory account further into the body than any other part of the pilot. Pathra's elders link the diet shift from mota anaaj to chemical-grown staples with a fall in average male height — from a remembered five-to-six-foot norm to four to five-and-a-half feet — and with the arrival of diabetes, blood pressure and cancer, illnesses their generation "did not name." Singha Kala flags refrigerator- and machine-supplied water as harmful to health in its own charts. Bailha reports illness rising in step with pollution; Gangauri's prognosis names rising *bimari* and a fear of *mahamari* (epidemic); Karapithiya's recent memory holds a dengue outbreak and COVID-19 in a village with no health sub-centre.

> **A NOTE OF CARE**
> These are community-attributed links between environmental change and health — testimony, not clinical or anthropometric findings. The Pathra height account in particular is of extraordinary rhetorical force but is not a measurement, and it should not be quoted as data. The right response is the one the plans themselves route: NHM health outreach, screening and water-quality testing, treating the community's account as a serious signal for public-health verification.

Grief with a name — and its honest counterpoints

The word for what runs beneath this section is **solastalgia** (Albrecht, 2005) — distress caused by environmental change experienced while still at home. UP's version is distinctively cultural: the grief attaches as much to the *soundscape* as to the landscape. But no state in the pilot balances the ledger more honestly. Singha Kala remembers the chappar era, when one cooking fire could burn whole neighbourhoods, and the daily snake-and-scorpion threat of open defecation — the pucca house and the toilet are named as *safety and dignity*, especially for women. Bailha's proudest finding is social: caste discrimination visibly reduced, all communities now sitting and eating together. Karapithiya speaks of its filled roads with open pride. The senses have not only recorded loss; they have recorded liberation. **The honest UP synthesis is the one the communities themselves offer: the *household's* sensory world has improved while the *landscape's* sensory world has emptied.**

Why the senses belong in the plan

Here Uttar Pradesh is ahead of the argument — its plans have already institutionalised sensory monitoring. Emiliya Khurd's five-year **Sankalp** makes the return of the Neelkanth and the revival of Kajri-Alha its public success indicators; Belhat adopts the Sarus crane's return as a five-year metric and proposes an annual community bird count with the school and Anganwadi; Bandhua Kalan's Sankalp is ponds back "toward the remembered 18"; Karapithiya proposes a People's Biodiversity Register built from elders' species memory; women-led Jal Chaupals monitor water monthly. These are monitoring systems any village can run without an instrument or a budget — the bird on the wire, the song at the wedding, the taste at the tap. A landscape plan the whole village can *hear and see* succeeding is a plan the Gram Sabha can hold to account.

5.10 · A Tiered action plan

Assembled from the thirteen CAP–DAP plans, organised by what each action needs to begin.

PRIORITY	A · NOW — COMMUNITIES CAN DO THIS THEMSELVES (SHRAMDAAN, SHG CAPACITY, GRAM SABHA NORMS — NO EXTERNAL FUNDS)	B · WITH A LITTLE SUPPORT (GP/15TH-FC & NRLM SEED FUNDS, MGNREGA LABOUR, LIGHT TECHNICAL GUIDANCE)	C · ONLY WITH SIGNIFICANT EXTERNAL SUPPORT (SCHEME CONVERGENCE — INDICATIVE ROUTES)
1 · Water restoration & the machine question	Shramdaan desilting of ponds, tanks and surviving wells; household soak pits; pond-edge protection from dumping, encroachment and idol immersion; women-led Jal Chaupal monitoring; no-open-tap discipline	Mechanised pond de-silting and bund repair (MGNREGA + GP funds); rooftop harvesting on schools, Anganwadis and Panchayat Bhawans; drainage and waterlogging works; water-quality testing where taste changes	Pond and tank rejuvenation missions (Amrit Sarovar, PMKSY-Watershed, MGNREGA); khal reinstatement with culverts (Gangauri); the Maudha Dam canal repair and pond linkage (Alragoura); submersible registration and groundwater demand management (Atal Bhujal); Belan greywater diversion (Devghat); sustained O&M of standing infrastructure (Rehunchi's 28 nal)
2 · Soil & the organic transition	Revive gobar and desi khaad on willing plots; household and SHG composting; community seed banks with elder custodians; no-burn resolutions and pledges	Vermicompost and bio-input units (NRLM seed funds, ATMA/KVK); soil-health cards; demonstration plots — anchored on organic-surviving hamlets (Koldihwa, Nayi Basti) and visible large-farmer plots (Belhat)	Natural-farming clusters at scale with transition support (PKVY/NMNF); mota-anaaj value chains with milling, market and school-feeding linkage (Shree Anna/RKVY, ODOP, ICDS-POSHAN); integrated pest management (Singha Kala)
3 · Trees, forest & the biodiversity comeback	Two trees per household pledges; SHG nurseries from local seed; Gram Sabha bans on cutting and hunting (Singha Kala's own five-point plan); sacred- grove and commons protection; school and Anganwadi bird censuses with species-return Sankalps (Neelkanth, Sarus)	Native nurseries as enterprise; iron-fenced plantation blocks; orchard-belt demonstration (imli-aam-mahua); riparian and pond-edge planting; buffer hedges against nilgai and wild boar	Silvopastoral and forest-patch restoration at scale (CAMPA, Green India Mission, MGNREGA); the migratory-bird Community Conserved Area (Belhat); compensatory roadside plantation and settlement of plantation- land dues (Pathra; PWD/NHAI, Forest, Revenue); structured nilgai/boar management per state guidelines
4 · Green livelihoods & migration mitigation	Pool production on existing enterprise bases (Karapithiya's ~12 enterprises, Gangauri's juda-banana); SHG induction of widow-, single-women and excluded households; youth committees and skill mapping	SHG enterprise upgrades — processing, dairy, nursery, metalcraft design and market linkage (NRLM-SVEP, RSETI, PMFME/ODOP); paddy-straw enterprises (mushroom, pellets); skilling for returnees	FPO formation (Karapithiya); artisan-cluster finance (Bandhua Kalan); heritage and eco-tourism activation (Koldihwa, Kushti, Ram Pyari — State Tourism, ASI/State Archaeology); e-rickshaw and battery-vehicle enterprises (MSME, MNRE); cross-border enterprise coordination (Rehunchi)
5 · Livestock, energy & the gobar economy	Stall-feeding and grazing norms; return dung to fields; herd care rotas; improved-chulha adoption where LPG is unreliable	Para-vet and mobile-vet arrangements (Bandhua Kalan's interim fix); dairy and goat aggregation via SHG–FPO; biogas where herd size supports it; fodder on bunds	Restore the veterinary sub-centre (Bandhua Kalan — Animal Husbandry/Gokul Mission); livestock insurance; solar pumps and rooftops paired with water budgeting (PM-KUSUM, MNRE); LPG saturation (Ujjwala 2.0); GOBARdhan biogas at cluster scale

THE GOVERNANCE INVENTION WORTH CARRYING EVERYWHERE

The through-line sits in the first column — but UP's plans add the measurable Sankalp. A village that commits, publicly and on a five- year clock, to the return of the Neelkanth, the revival of the Kajri- Alha, ponds back "toward the remembered 18," or the Sarus landing again beside the Ram Pyari, has done something no budget line can: it has made the landscape's recovery a promise the whole village can hear, see — and hold its plan accountable to.

5.11 Gender and the Changing Landscape

In the thirteen Uttar Pradesh villages, the gender question begins with an absence. Men have left — for Noida, Delhi, Surat, Mumbai — in numbers large enough to reshape the village's demography, and the women who remain have become the de facto managers of land, water, livestock and fuel. Yet the institutions that govern those resources have not caught up with that fact: management has shifted to women while title, standing and entitlement largely have not. Meanwhile the water commons that once organised village life — shared ponds, wells that were also women's gathering places — has been replaced by privately owned depth, available to those who can afford a submersible. The Gender at Work framework allows these to be read together, across the individual–systemic and informal–formal axes, rather than as unrelated problems of migration, water and voice. The figure below places the LCAT's findings and community voices in each of the four arenas.

Uttar Pradesh

Where the LCAT gender findings sit across the four arenas of change: a feminised village, water re-made as commons, the ghunghat line — and the corrective that worked.

Gender at Work framework (Rao & Kelleher) — change mapped across the Individual–Systemic and Informal–Formal axes. Corner quotes are verbatim community voices from the village LCAT reports.

Individual

Informal — *Formal*

Systemic

Consciousness and capabilities

Women hold the village's agrarian memory and its water watch.

- Elder women are custodians of the seed collection — six local varieties lost in a decade in Ranjit Gadhi.
- Rehunchi: the smallest SHG base (9 groups) carried the highest female share of voice (51%).
- Women-led Jal Chaupals for monthly water monitoring — proposed in at least five village plans.

Access to resources

Access to secure water and entitlements stops tracking the private submersible.

- Pakhodna and Ranjit Gadhi independently find SC, landless and women-headed households excluded from secure water.
- Migrant-household women manage land and livestock without title, standing or entitlements.
- Taps are a real gain — restore ponds, wells and canals so relief is common, not private.

Social norms and deep structure

The ghunghat line divides membership from authority — and it can be crossed.

- Belhat & Sadar Devghat: agency built incrementally — women once silent now speak most articulately.
- Out-migration reshapes the village: Ranjit Gadhi counts 2,841 women to 1,894 men.
- Alragoura: ~80% of women are SHG members — yet most decisions rest with men and elders.

Policies and rules

Make the deliberation corrective structural — pre-meetings, reserved places, first access.

- Women-only sub-meetings before every Gram Sabha — proposed by three villages themselves.
- Reserved places for women in resolutions on water and commons; first-access rules for restored water.
- Carry SHG didis into formal decision roles; formalise elder women's seed custodianship.

> *If this continues, women will achieve equal standing in every kind of work.*
>
> **— Governance discussion, Belhat (Prayagraj)**

> *Earlier women had to walk far to fetch water; now we have taps in the home — but cultural togetherness was greater before.*
>
> **— Community discussion, Singha Kala (Lakhimpur Kheri)**

> *Most decisions are still taken by men and elders — women are consulted mainly on household and minor matters. The change has begun, but it is not yet complete.*
>
> **— Governance discussion, Alragoura (Hamirpur)**

> *Now we attend every meeting and speak our mind.*
>
> **— SHG women, Ranjit Gadhi (Aligarh)**

About this figure. Quadrant statements synthesise the state gender narrative derived from the village Landscape Character Assessment reports; corner quotations are verbatim (English translations as given in the reports), attributed to the speaker or group context recorded there. Figures are as stated in the reports; several are community-reported approximations requiring primary-source verification before publication.

The four quadrants together describe a genuine shift and a conspicuous lag. The shift is real and, importantly, incremental rather than engineered: in Belhat and Sadar Devghat, women who once sat silent under ghunghat came over time to speak most articulately; girls in Bargaon now leave the village for higher education; roughly 280 self-help groups anchor collective life, and in Alragoura most women belong to one.

The lag is equally clear. Membership has outpaced authority — most decisions still rest with men and elders — and the women who actually run the fields hold neither the land's title nor a secure place in the Gram Sabha that allocates its water. Climate change sharpens every part of this. Rainfall is growing more erratic across these districts, groundwater is falling as private borewells replace the commons, and the 2026 cooking-fuel disruption showed how quickly a supply shock can send households back to fuelwood and re-lengthen women's working day.

Each of these lands first on the household that is already managing alone. Adaptation in Uttar Pradesh therefore cannot be designed for a village that has partly departed; it must be designed for the one that is actually present. That means recognising women as the managers they have become, restoring water as a commons rather than a private asset, and making the deliberative corrective structural — pre-meetings, reserved places, first access — so that agency continues to accumulate rather than stalling at the threshold of decision.

Transform Rural India

SECTION SIX

06 Districts *Deepdive*



01 Aligarh
02 Baharaich
03 Banda
04 Basti
05 Hamirpur
06 Lakhimpur Kheri
07 Mirzapur
08 Prayagraj
09 Sultanpur
10 Prayagraj

DISTRICT 01

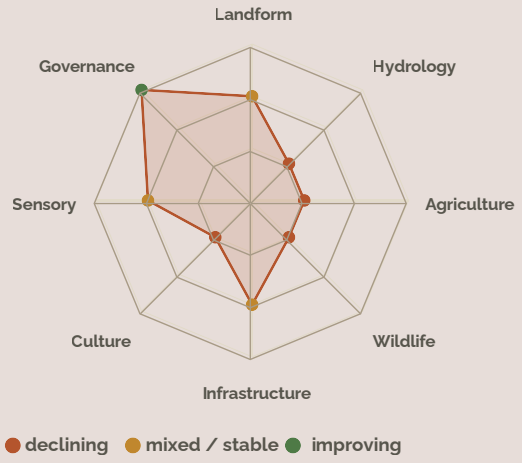
Aligarh

Two villages · Pakhodna & Ranjit Gadhi (Tappal block) · Ehe Doab, in the shadow of Jewar

139	100%	1.0/3	50/58%
PRIVATE SUBMERSIBLES, RANJIT GADHI	OF IRRIGATION PRIVATE, PAKHODNA	WILDLIFESCORE — URGENT IN BOTH	COMPOSITE RESILIENCE

> *"There is nothing to do here — either farm, or leave the village."*
>
> YOUTH GROUP, RANJIT GADHI

THE EIGHT LIFE-ELEMENTS



Inner→ outer: declining · mixed/stable · improving. Ordinal encoding, not a measured index.

ALIGARH'S DISTINCTIVE INSIGHT

Modernity is not arriving *to* this landscape; it is arriving *through* it — the airport, the smartphone, the submersible — and the communities have named each precisely, along with what each is costing them.

THE VILLAGES SPEAK FIRST

Pakhodna and Ranjit Gadhi sit on some of the most productive farmland in India — the Doab country between the Yamuna and the Ganga, on the catchment edge of the Kali Nadi — and they are the pilot's clearest look at what happens when a booming modern economy lands on a depleting rural water table. Less than a district away, the **Jewar International Airport** is rising, and Ranjit Gadhi can feel the pull: by the community's own estimate, 8–12% of its farmland has been converted or earmarked for non-farm use in a decade, and the young leave for Noida and Delhi — so steadily that the village now counts 2,841 women against 1,894 men, a female majority the report attributes to male out-migration (a figure the source itself flags for verification).

Pakhodna's story is told through its water fabric, rewritten in twenty years. The community's own phrase is *jal ki gehraai* — the deepening of water. The biological endpoint is the pilot's most startling detail: pollinator loss in Ranjit Gadhi has gone so far that **some cucurbit farmers now pollinate their crops by hand.**

COMMUNITY-REPORTED SIGNAL	VILLAGE
Groundwater halving in reach: ~30–40 ft a decade ago → 60–80 ft today, on 139 private submersibles	Ranjit Gadhi
A fully privatised water economy: 100% of irrigation on private submersibles; 4 community wells dry; the Talab silted and encroached	Pakhodna
Extreme heat: summers reported approaching 47°C; Yamuna-overflow Kharif years; winter potato frost	Pakhodna
Flood shock: last year's flood prompting field bunding and a GP-level DRR demand	Ranjit Gadhi
The smoke season: paddy-stubble burning filling the October–November sky — named as a defining seasonal marker	Both
Land conversion: ~8–12% of farmland converted or earmarked for non-farm use in a decade (community estimate)	Ranjit Gadhi

UNIQUE & WORTH PROBING	WHY IT DESERVES PROBING
Agricultural-land protection RANJIT GADHI	A GP resolution and community land register to slow airport-driven speculative conversion — a village asking to govern its own land market.
The two-trees pledge RANJIT GADHI	Every household plants a minimum of two native trees (neem, ber, mahua, peepal, imli) this monsoon; restoration as universal household duty.
The 30% natural-farming target PAKHODNA	A village that set itself a measurable transition goal before any department asked.
Eco- and heritage tourism beside the airport RANJIT GADHI	Restored-pond bird tourism and Jat heritage (Hukka circle, Chaupal, Haryanvi folk song) as income for elder artisans, positioned deliberately near Jewar's passenger flows.
The Jat cultural register RANJIT GADHI	Documenting Hukka protocols, Dhoti-Kurta-Pagdi, folk songs, mud-vessel craft and local seed names, elder men and SHG women co-leading.
Youth Committee under the GP RANJIT GADHI	Formalising the cohort most likely to leave as a governance constituency.

MONEY & THE GAPS

The characteristic gaps: **no scheme prices restraint** (submersible regulation is governance, not works); compensatory obligations for felled road-corridor trees lag; and the airport economy generates land windfalls that no current mechanism channels toward the landscape absorbing its costs.

THE SENSES' RECORD

The district's natural monitoring indicators: the first unassisted cucurbit set, a smoke-free November sky, water standing in the Talab, and a Chaupal with more than three voices.

GREEN STORIES

"Two Trees, Every House, This Monsoon"

RANJIT GADHI · Nature based solutions

The household pledge rebuilding the vanished field- boundary canopy — neem, ber, mahua, peepal, imli.

"The Compost Sthal"

PAKHODNA · CIRCULAR ECONOMY

The village's existing compost ground scaled toward certified organic manure, with neem-and-jamun leaf- extract bio-pesticide as the SHG product line.

"Sunlight Instead of Submersibles"

BOTH · Decentralized renewable energy

Community-managed solar micro-irrigation cooperatives paired with low-water cropping — the plans' answer to the depth race.

"Heritage Beside the Runway"

RANJIT GADHI · CULTURE / LIVELIHOOD

Hukka-circle and Chaupal heritage, Haryanvi folk song and restored-pond birdlife positioned as tourism income in Jewar's shadow.

GREEN VALUE CHAINS

Solar micro-irrigation cooperatives | **Vermicompost & bio-inputs** | **Paddy-straw chains — pellets, mushroom, fodder, mulch**

Community seed banks — moong, bajra, millets, local vegetables | **Agroforestry income on bunds**

Household-plastics recycling (Pakhodna) | **SHG agro-processing — paddy, mustard, vegetables**

Eco- & heritage tourism (Ranjit Gadhi)

TIERED FIRST MOVES FOR ALIGARH

A · community alone	B · minor support	C · convergence
Shramdaan desilting of the Talab and the four community Kuas; zero-burn Gram Sabha resolution; the two-trees household pledge; a Youth Committee under the GP	Mechanised de-silting and bund repair; SHG vermicompost and bio-pesticide lines; straw baling for mushroom and fodder; rooftop harvesting on public buildings	Submersible registration and groundwater demand management (Atal Bhujal); the community land register against airport-driven conversion; solar micro-irrigation with water budgeting (PM-KUSUM); biomass pelletisation at enterprise scale

DISTRICT 02

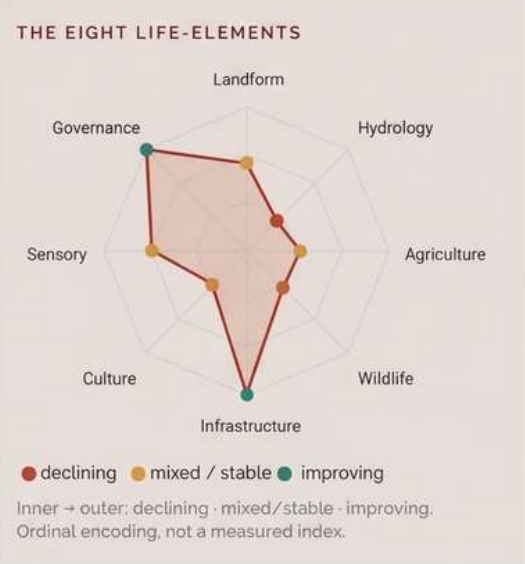
Baharaich

Two villages · Manjhra and Ram Nagar Kanda · Mihinpurwa block · the Bahraich Terai

43	85%	51%	35+
PRIVATE SUBMERSIBLES, RANJIT GADHI	Monsoon Flood-Inundated Land, Manjhra	94: Women Participants (	SHG Members Engaged, Ram Nagar Kanda

[Once there was more forest and more water, both. Now both are becoming less.]

— Community statement, Manjhra



Bahraich's distinctive insight

FLOODING AND SUMMER SCARCITY ARE CONNECTED

The Bahraich assessments should not be presented as a simple flood-risk story. Manjhra reports recurring monsoon flooding and, at the same time, declining water availability in the dry months. The community accounts link this pattern to the loss of forest and absorptive common land, weak drainage and the reduced capacity of the landscape to hold water between seasons.

THE VILLAGES SPEAK FIRST

Bahraich's two supplied assessments are from Mihinpurwa block: Manjhra and Ram Nagar Kanda. Both describe a landscape in which water availability is becoming less dependable, but the local expression differs. Manjhra sits in a river-influenced setting where monsoon flooding affects fields and connectivity, while the community also reports falling groundwater and summer shortages. Ram Nagar Kanda's central observation is about duration: ponds and wells that once remained full for longer now dry earlier in the year.

The assessments also describe a shrinking natural-resource base. In Manjhra, residents report the decline of forest cover and common resources, with consequences for fuelwood, fodder and the time women spend collecting them. Ram Nagar Kanda records similar pressure on forest-dependent resources and identifies women's increasing water, fuel and household workload as a major impact. Youth migration and limited local employment appear in both assessments.

COMMUNITY-REPORTED SIGNAL	VILLAGE
Flooding and summer scarcity occur in the same landscape: Manjhra reports almost annual monsoon flooding and declining water availability through summer; a severe event around 2024 affected fields and connectivity.	Manjhra
The Manjhra baseline records no ponds, grazing routes or community land; drainage is weak or absent in several areas, reducing the landscape's capacity to hold monsoon water.	Manjhra
Water leaves earlier than it used to: Ram Nagar Kanda residents report that ponds and wells dry sooner; hand pumps are the main drinking source and irrigation depends on private borewells.	Ram Nagar Kanda
Water access is unequal and labour-intensive: private borewells shape irrigation access, while women report longer journeys for water, fuelwood and fodder.	Both villages
The crop mix pulls in two directions: Manjhra grows water-intensive sugarcane alongside paddy, watermelon and muskmelon; melons are grown on sandy river margins and sold through local market routes.	Manjhra
Forest and traditional knowledge are under pressure: both reports describe declining vegetation or forest resources, rising migration and weakening transfer of seed, rainfall and medicinal-plant knowledge.	Both villages

UNIQUE & WORTH PROBING	WHY IT DESERVES ATTENTION
Flood and scarcity are one system MANJHRA	The assessment describes near-annual river flooding alongside summer water stress. It links both to the loss of absorptive land, forest cover, ponds and drainage. Planning should therefore join flood management and recharge rather than treating them as separate projects.
Melons as a locally fitted crop MANJHRA	Watermelon and muskmelon already grow on sandy river margins, while sugarcane anchors the cash economy despite the weakening water base. The report identifies horticulture as an adaptation already visible in the cropping pattern.
The uncounted water workload BOTH VILLAGES	Manjhra records 52 women among 98 participants; Ram Nagar Kanda records 42 among 86. Both reports describe longer water collection and growing household burdens. The reports recommend making saved time and collection distance explicit planning measures.
A baseline still to be completed RAM NAGAR KANDA	The village report contains no completed population, household, landholding or cropping-area profile. Its priorities can be identified from community evidence, but works cannot yet be costed or accurately targeted.

THE SENSES' RECORD

The assessment describe rising heat, waterlogging and waste alongside green fields and bird sounds that remain in some parts. Ram Nagar Kanda reports harsher summers and water bodies that empty earlier.

GREEN STORIES

"From Farm Residue to Soil and Livelihood"

Manjhra and Ram Nagar Kanda

Manjhra proposes vermicompost and organic-input production through SHG clusters, alongside the use of agricultural residues and sugarcane trash for composting. Ram Nagar Kanda identifies vermicomposting as an SHG enterprise, using material that is currently wasted or burned, to reduce dependence on purchased agricultural inputs.

"Give Water More Time in the Landscape"

Ram Nagar Kanda, NbS

Community-managed solar micro-irrigation cooperatives paired with low-water cropping — the plans' answer to the depth race.

"The Fodder and Manure Cycle"

Ram Nagar Kanda, CIRCULAR ECONOMY

The proposed fodder blocks and small-livestock enterprise would support livestock-based livelihoods while reconnecting manure production with agricultural soil restoration.

"Melons on the River Margins"

MANJHRA, NbS

Manjhra already cultivates watermelon and muskmelon on sandy river margins. The proposed opportunity is to strengthen this existing cropping practice through nursery support, aggregation and improved market connections with Girgitti Chauraha and the gud mandi.

GREEN VALUE CHAINS

- River-margin melon and vegetable horticulture
- Vermicompost and organic inputs
- Community nurseries and agroforestry
- Fodder blocks and fuelwood plantation
- Fisheries on restored ponds
- Kitchen gardens through SHGs
- Residue and sugarcane-trash composting

TIERED FIRST MOVES FOR ALIGARH

A · community alone	B · minor support	C · External Support
Map remembered ponds, low points, drainage routes and forest-use paths with elders; place women's water-collection time on the Gram Panchayat agenda; record the seasonal flood routes and the households affected; complete Ram Nagar Kanda's missing village baseline.	Support community nurseries, fodder blocks, composting and kitchen gardens; strengthen melon and vegetable aggregation; create shaded spaces for meetings and public use; organise local maintenance of recharge and plantation works.	Converge pond and farm-pond creation or rejuvenation, bunding and recharge pits with MGNREGA; raise and strengthen flood-affected road sections with correctly sized culverts and drainage; establish a written flood protocol; link SHG/VO/CLF groups to skills and local markets.

DISTRICT 03

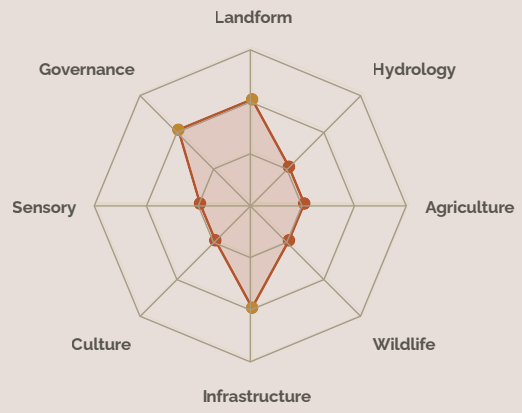
Banda

Two villages · Pathra & Rehunchi (Naraini block) · the Bundelkhand heart

150 - 200ft	80%+	700–800	51%
WATER TABLE, PATHRA — FROM ~75 FT	WORKING-AGE MIGRATION, REHUNCHI	BIGHAS REPLANTED, PATHRA — DUES UNSETTLED	WOMEN'S SHARE OF CHART VOICE, REHUNCHI — THE HIGHEST

> *"Twenty years ago there were three wells in the village for drinking water, and six or seven taps too. Now only two wells remain — the water table is low, the water is stony."*
>
> ELDER, HYDROLOGY GROUP, REHUNCHI

THE EIGHT LIFE-ELEMENTS



Inner→outer: declining · mixed/stable · improving. Ordinal encoding, not a measured index.

BANDA'S DISTINCTIVE INSIGHT

The district shows both ends of the restoration bargain at once. Pathra proves trees *can* come back at scale — and that restoration without settled compensation corrodes the trust every future work will need. Rehunchi proves that the smallest institutional base can still carry the loudest female voice — and that a border can be an asset if convergence is designed for it.

THE VILLAGES SPEAK FIRST

Banda is where the pilot's cascade reaches the body. Pathra and Rehunchi hold the series' steepest reported water declines, its heaviest migration, and its most arresting testimony — a community that measures environmental change in the height of its men.

Pathra's Decadal Timeline is unsparing. Twenty years ago the wells supplied drinking and irrigation; the historical canal watered the fields; the Bagh Nadi flowed enough to drink from; the diet centred on mahua, jowar and millet; **the average male height, by the community's account, was five to six feet, and serious illness was rare.** Today the table stands at 150–200 feet; the canal is gone from cultivation; the Nadi runs dry in summer; **the community reports the average male height as four to five-and-a-half feet**, and diabetes, blood pressure and cancer are now common. Even the village's founding grove is a parable: the original *Patra Bagh* has been built over by a pucca temple and dharmshala.

There is one counter-trend: the **Van Vibhag has become active, and sagoun, sheesham, aam and amrud plantations have brought roughly 700–800 bighas back under forest** — the only upward ecological trend in the series. And the community framed it carefully: the plantation stands on land they once cultivated, **and compensation for that land has not been received.**

Rehunchi is the border village — Madhya Pradesh on three of its four sides. Borewell depths have gone from 7–8 feet twenty years ago to 25–30 feet today; the Run Nadi from about two metres to half a metre; 28 government taps stand while the supply behind them weakens yearly. Mota anaaj has fallen from the majority of cropping to 10–15%; 70% of households now prefer bought outside food; more than 80% of working-age people migrate — the community's own name for it is an *"outsourcing of daily life."* And yet Rehunchi's assessment carried the strongest female voice in the entire series, on the smallest SHG base (9 groups), with retained indigenous livestock breeds and a functioning CHC counted deliberately among its strengths.



UNIQUE & WORTH PROBING	WHY IT DESERVES PROBING
Settle the plantation compensation PATHRA	The ~700–800 bigha Van Vibhag gain sits on once-cultivated land with dues unpaid; the plan routes settlement through district administration alongside community land records and stewardship rights.
The diet–body–disease reclaim REHUNCHI	Mota anaaj revival framed not as agriculture but as public health, with the community's height-and-illness testimony as its charter.
Cross-border UP–MP convergence REHUNCHI	Dual-state institutional design: joint SHG enterprise networks with adjacent MP villages, cross-border riparian restoration of the Run Nadi with downstream actors, inter-state scheme coordination.
Sand-mining (balu-khanan) regulation PATHRA	Formal Gram Sabha and district oversight of informal riverbed extraction.
Festival and material reclaim PATHRA	End open-space idol immersion, return to clay idols and palash-leaf food culture at community feasts; ritual practice redesigned to protect the tank being restored.
The 28-nal O&M demand REHUNCHI	Sustained operation and maintenance of standing infrastructure named as a Tier-3 work in its own right; the maintenance gap given a line item.
Elder-knowledge documentation with a dye REHUNCHI	Seed, food, song and the beri-tree dye recorded before the knowledge goes; cultural archiving as climate work.
A DRR plan to replace migration-as-default BOTH	GP-level flood, heat and drought planning framed explicitly as the alternative to the bus ticket.

MONEY & THE GAPS

The gaps: **the compensation gap** — the district's flagship ecological gain doubles as its flagship grievance; **the O&M gap**; **the border gap** — schemes stop at the state line the village's economy crosses daily; and **Bundelkhand's drought-shaped finance**, calibrated to crisis relief rather than to the standing works that would blunt the next crisis.

Banda's own indicators: a well without stones in its water, a metre back on the Run Nadi, jowar on a wedding plate, and a compensation cheque that finally clears.

GREEN STORIES

"The Village That Measures Loss in Inches"

PATHRA · NBS / PUBLIC HEALTH

The mota anaaj reclaim — seed bank, chakki, home cooking — as the community's own remedy for the diet– body–disease arc its elders testified to.

"Seven Hundred Bighas Return — at a Price"

PATHRA · NBS / JUSTICE

The series' only upward ecological trend, and the demand that its unsettled compensation be financed as part of the restoration, not apart from it.

"A River With Two States"

REHUNCHI · NBS / GOVERNANCE

Run Nadi check-dams and riparian buffers designed with downstream Madhya Pradesh actors — the pilot's first cross-border restoration proposal.

"Twenty-Eight Taps, One Promise"

REHUNCHI · GOVERNANCE

Sustained operation and maintenance of standing infrastructure elevated to a named plan line — maintenance treated as the work it is.

"Clay Idols and Palash Leaves"

PATHRA · CIRCULAR / CULTURE

Festival materials reclaimed — immersion discipline, leaf-plate feasts — so ritual stops costing the tank its water.

"The Breeds They Kept"

REHUNCHI · CIRCULAR ECONOMY

Indigenous livestock retained through the decline become the base for SHG dairy and goat enterprise — and the gobar the soil reclaim needs.

GREEN VALUE CHAINS

- **Solar-pump cooperatives & Run Nadi solar lift**
- **Mota anaaj — seed banks, SHG milling, school-feeding linkage**
- **Vermicompost & bio-inputs (gobar khaad, Jeevamrit, Beejamrit)**
- **Indigenous livestock, dairy & goat enterprise**
- **NTFP processing & plantation nurseries with the Van Vibhag**
- **Invasive-biomass (lantana) removal and use**
- **Run Nadi check-dams & riparian plantation**
- **Native bund and NTFP species**

TIERED FIRST MOVES FOR BANDA

A · community alone	B · minor support	C · convergence
Shramdaan desilting; the elder-custodian seed bank; immersion and festival- material discipline; herd care rotas returning dung to the fields	Solar pumps with drip and sprinkler in Rabi; SHG milling for mota anaaj; dairy and goat aggregation; lantana clearance cycles	Run Nadi check-dams with formal UP–MP convergence design (inter-state coordination, Jal Shakti); settlement of the plantation-land compensation; sustained O&M finance for the 28 standing taps

DISTRICT 04

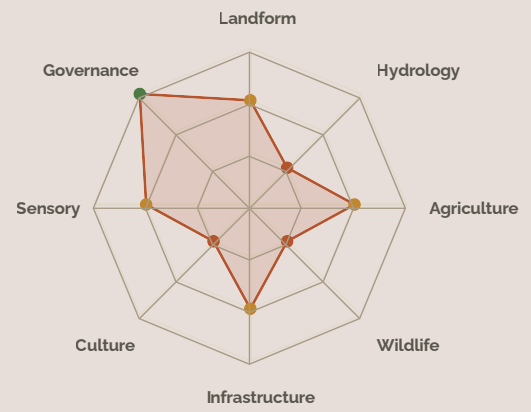
Basti

Two villages · Karapithiya (Bankati) & Gangauri (Banka) · the Awadh–Purvanchal seam

0	15–20	12	~40%
PONDS LEFT IN KARAPITHIYA	PONDS LOST IN GANGAURI, PLUS A GREAT TANK	COMMUNITY-RUN ENTERPRISES, KARAPITHIYA	HOUSEHOLDS MIGRATING, KARAPITHIYA

> *"Once the village had a great pond and fifteen to twenty smaller ones, and wells from which the women drew water. Now the ponds have shrunk and turned foul, the wells are filled in, and house after house has its own handpump, borewell and motor."*
>
> ELDERLY GROUP, GANGAURI

THE EIGHT LIFE-ELEMENTS



Inner→outer: declining · mixed/stable · improving. Ordinal encoding, not a measured index.

BASTI'S DISTINCTIVE INSIGHT

Gangauri's causal chain — out-migration → labour scarcity → weedicide and chemicals → zameen banjar → deeper distress → more migration — is the pilot's clearest statement that the labour market and the soil are one system. Any organic transition plan that ignores where the hands went will fail.

THE VILLAGES SPEAK FIRST

Basti's two pilot villages tell the same eastern-UP story at two different volumes. **Karapithiya**, a small panchayat of about 1,135 people, tells it quietly — a genuinely two-sided account in which a decade of gains is named with visible pride: filled roads (*"the potholes in the road were filled; the village got ease of movement and the village developed"*), a piped water tank, a community toilet, a playground, and a new inter college. Its economic base is remarkable for its size: around twelve community-run enterprises — a cooperative fertiliser godam, an RO water unit, a pattal-donā plant, a brick works — with full 4G coverage, some 23 SHGs (253 members) under the Satyam CLF, and a community-scored resilience of about 56%.

And yet the same charts record, without drama, a complete category of loss: **the village no longer has a pond.** Its pond land was farmed over until nothing remained — and the surface water, the pond fauna, the recharge and the fish went with it.

Gangauri tells it at full volume. A Purvanchali landscape that within one generation travelled from a self-sustaining mosaic — a great tank, fifteen to twenty ponds, wells, khal, a half-forest ring, and a careful weave of kodo, sawa, mejhuma, tisi, chana, arhar, matar, bajra and til — to a borewell-driven monoculture. The community's own vocabulary carries the diagnosis: soil turning to *zameen banjar*; a projected *jal-sankat* they call *diwaliya* — water bankruptcy; and a prognosis, *agar aisa hi chalta raha* — if this continues — of rising *bimari* and a feared *mahamari*. Crucially, Gangauri explains *why* the chemicals came: **weedicide and fertiliser were adopted in response to acute labour scarcity from out-migration.**



UNIQUE & WORTH PROBING	WHY IT DESERVES PROBING
Reinstate the khal — with culverts under the RCC roads GANGAURI	The community identifies that its drainage geography was engineered away and asks for it back as designed infrastructure; participatory hydrology at its most literal.
Employment as the first-ranked demand KARAPITHIYA	The only village in the series to rank livelihoods above water; scale the existing 12-enterprise base, explore an FPO, and add e-rickshaw green mobility as a youth enterprise on the good-road base.
A People's Biodiversity Register KARAPITHIYA	Elders' species memory of the lost pond and forest fauna recorded to guide what to restore.
Girls' monsoon access to school KARAPITHIYA	All-weather road connectivity to schools named as an education demand with a gendered monsoon barrier; plus a library at the new inter college and a youth gym.
First-priority water retention for the elevated Gadauna hamlet KARAPITHIYA	Intra-village water equity named by terrain.
Biomass-to-power GANGAURI	Decentralised energy from sugarcane and wheat residue, replacing field-burning with an income stream.
The juda-banana micro-industry GANGAURI	The existing mop-and-broom craft named as the shock absorber to strengthen, not replace.
Health outreach for a sub- centre less village KARAPITHIYA	The heat, dengue and COVID experience converted into a standing advocacy demand.

FINANCIAL GAPS

The gaps: **land beneath the water** — no scheme line reclaims a farmed-over pond footprint without a resolution-and-records process nobody funds; **the drainage nobody owns** — khal reinstatement crosses MGNREGA, PWD and private fields at once; and **prevention again** — Karapithiya's 56% resilience and shallow table make it the cheap-to-save village that crisis-calibrated finance reaches last. Monitoring indicators the district can read unaided: water standing where the pond was, a Nautanki staged at the inter college, madua back on one kitchen's plate, and a lane in shade again.

GREEN STORIES

"The Village That Wants Its Pond Back — Fish and All"

KARAPITHIYA · NBS

A community with no pond left asks for one to be re-excavated on common land, protected by resolution, and stocked — the single highest-leverage intervention its plan names.

"The Khal Remembers"

GANGAURI · NBS

Reinstating the natural drainage channels the fields swallowed, with culverts under the concrete so the rain can find its old ways home.

"Brooms Against the Shock"

GANGAURI · CIRCULAR ECONOMY

The existing juda-banana micro-industry — already absorbing agrarian distress — strengthened with aggregation and market access.

"The Leaf-Plate Plant Next Door"

KARAPITHIYA · CIRCULAR ECONOMY

A pattal-donā¯ plant already running; the plan simply scales a biodegradable enterprise the village built itself.

"An E-Rickshaw on a Good Road"

KARAPITHIYA · DRE

Green mobility as youth enterprise, two hundred metres from a twice-weekly market.

"The Elders' Seed List"

BOTH · NBS / AGROBIODIVERSITY

Community seed banks built from what the oldest kitchens remember — sawa, kodo, madua, mejhuma, tisi — paired with SHG processing.

GREEN VALUE CHAINS

- Pond rejuvenation & fisheries
- Native plantation & nursery
- Millet and pulse chains with SHG processing
- Composting & crop-residue utilisation
- Dairy & goat aggregation
- NTFP processing — mahua, jamun, imli
- Leaf-plate enterprise
- Juda-banana and allied crafts
- Solar on civic assets
- E-rickshaw green mobility
- Biomass-to-power
- Agri-residue recycling

TIERED FIRST MOVES FOR BASTI

A · community alone	B · minor support	C · convergence
Gram Sabha resolution protecting the common land for the new pond; the elders' seed list compiled; SHG production pooling; women's voice carried toward the Gram Sabha	Pond re-excavation and stocking; khal survey and culvert design; juda-banana aggregation; leaf-plate plant scale-up; SHG nursery from local seed	Khal reinstatement with culverts under the RCC roads; decentralised biomass-to- power; all-weather road connectivity for girls' monsoon school access; an FPO and e-rickshaw enterprise finance

DISTRICT 05

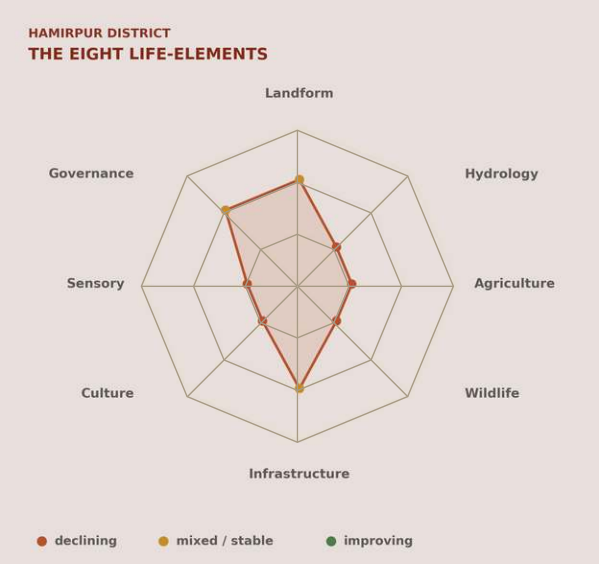
Hamirpur

Two villages · Alragoura, Kaimokhar · the forestless village

1,521	₹3,000	80–150ft	21
People in 230 households	Average monthly household income	Water table, and falling	SHGS+1PG — ~80% OF THEVILLAGE'S WOMEN

"Earlier the village had orchards, gardens and ponds, and the rains came as they should. Now all this is slowly disappearing."

ELDERLY GROUP, ALRAGOURA



HAMIRPUR'S DISTINCTIVE INSIGHT

Across Alragoura and Kaimokhar, the same ecological pattern recurs: black soil hardening and earthworm loss, groundwater reported at 80-150 feet and weakening, and the disappearance of orchards and traditional water structures.

The institutional picture is more varied. Roads and basic services are present, and women's collective organisation is substantial; however, livelihood, sanitation and decision-making gaps remain.

THE VILLAGE SPEAKS FIRST

Hamirpur's assessment rests on a single village — Alragoura, in Goura Gram Panchayat of Muskara block, a 626- square-kilometre block in the heart of Bundelkhand, where the *kali mitti* cracks open in the long summer and farming has always ridden on one uncertain monsoon. It is a small, poor and precisely self-aware community: about 36% SC and 56% OBC, with the smallest plots held by the SC families; average landholding 1.5 acres; 778 persons reported BPL; and 60 households (about 26%) migrating seasonally or permanently.

Across both villages, the most consistent physical findings concern soil, groundwater and vegetation. Black soil predominates and cracks in summer; earthworms have disappeared; and both assessments connect soil change with chemical fertiliser use. Kaimokhar also identifies machinery as a factor affecting soil structure. Groundwater is reported at 80-150 feet and weakening under extraction. Orchards and gardens present about a decade earlier have disappeared, and neither village reports forest within its boundary. Farming is mostly rainfed and monsoon-dependent; both records describe erratic rainfall, a shift of about 15 days in monsoon timing and rising temperatures affecting crop production.

The surface-water accounts are not identical. Alragoura records declining ponds and traditional water structures that now stand dry, while canals remain available for rabi irrigation. Kaimokhar records ponds that do not retain water, direct kitchen-waste and sewage discharge, disused wells used for rubbish, and a damaged 2-3 km canal route. Its community asked for canal repair and a connection to Maudha Dam.

Both village profiles report an average landholding of 1.5 acres per household. The crop calendar is similar: wheat, gram and mustard in rabi; paddy and groundnut in kharif; and zaid largely fallow, with around 5% growing moong and urad. Kaimokhar reports mono-cropping as dominant and intercropping with orchards at about 2%. It also records 80% pucca housing and 75% LPG use; Alragoura lists two schools, an anganwadi, a tap-water tank, hand pumps, a CSC and shops. These service gains sit alongside employment and migration concerns in both villages.

UNIQUE & WORTH PROBING	WHY IT DESERVES PROBING
The Maudha Dam canal–pond linkage	The community's own named #1 intervention: formal Irrigation Department engineering to make surface water a genuine alternative to the borewell spiral.
Founding a forest where none exists	Iron-fenced plantation blocks as the village's "single most important ecological action," with the inactive forest committee revived around the new asset rather than mourned for the old one.
Earthworm recovery as a monitored indicator	Periodic testing of salt crusting and *kenchua* return with Agriculture-department lab support; soil biology as a formal metric.
Invasive species shramdaan rotation	Parthenium and jalkumbhi removal organised as a seasonal community labour cycle so the invaders never re-establish.
Festival puja-waste discipline	A designated immersion and disposal point, with awareness during Hariyali Teej; ritual practice adapted to protect the very ponds being restored.
Compensatory roadside plantation	Replanting for the 100+ trees felled for the new road, financed through Forest/PWD convergence; an unpaid ecological debt named precisely.

MONEY & THE GAPS

The gaps: **Bundelkhand's finance is drought-relief-shaped**, calibrated to crisis years rather than the standing works that would blunt the next crisis; **fencing is the orphan line** — plantation schemes fund saplings more readily than the iron that keeps them alive; and **a ₹3,000 household economy cannot co-pay** — every Tier-B and Tier-C work here must arrive with its full cost, or it will not arrive. Alragoura's indicators, chosen by its own assessment: a worm in the kali mitti, a koyal in the morning, water standing in a deepened pond fed by a repaired canal, and a jugnu-lit June night.

GREEN STORIES

"The Earthworm Comes Home"

NBS / SOIL

A village that diagnosed its soil's death by the kenchua's absence proposes to certify its recovery the same way — vermicompost at cluster scale, residue to the compost pit instead of the flame, and the worm's return as the monitored metric.

"A Canal to the Maudha Dam"

NBS / ENGINEERING

The community's own flagship — deepened ponds linked to a dam's canal, surface water restored as the alternative to the borewell spiral.

"Founding a Forest"

NBS

Iron-fenced plantation blocks on commons, roadside, school and panchayat land — afforestation in a village with no forest to restore, and a forest committee revived around the new asset.

"The Orchard Returns as Enterprise"

NBS / VALUE CHAIN

Citrus, mango, guava and amla on commons and bunds, with SHG-led pickle, candy and dried-fruit processing turning the six-year wait into a business plan.

"Congress Grass Meets Its Rotation"

CIRCULAR / NBS

Seasonal shramdaan cycles removing Parthenium and jalkumbhi before they re-seed — invasion management as community calendar.

"Sun on the Rainfed Plots"

DRE

Solar pumps explicitly paired with low-water cropping — the plan's own phrase is "ecological coherence" — so Bundelkhand's sun eases the water budget rather than draining it.

GREEN VALUE CHAINS

- **Orchard revival & fruit processing — pickle, candy, dried fruit**
- **Vermicompost & bio-input enterprise on wheat-paddy residue**
- **Low-water crop chains — moong, urad, gram, mustard, millets**
- **Pond fisheries on deepened, canal-linked ponds**
- **SHG enterprise — tailoring, knitting, beauty parlour, micro-shopkeeping**
- **Solar irrigation**
- **Crop-residue chains — fodder aggregation, mulch, biomass feedstock**

TIERED FIRST MOVES FOR HAMIRPUR

A · community alone	B · minor support	C · convergence
Seasonal shramdaan rotation against Parthenium and jalkumbhi; residue to the compost pit by resolution; stall-feeding and grazing norms returning dung to the fields	Cluster-scale vermicompost; iron-fenced plantation on commons and school land; orchard planting on bunds; SHG fruit- processing lines	The Maudha Dam canal repair and pond linkage — the community's named first engineering ask; solar pumps with water budgeting; pond deepening at scale

DISTRICT 06

Lakhimpur Kheri

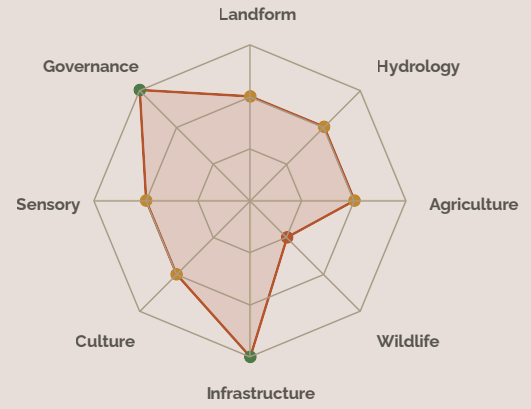
Two villages · Baliha and Singha Kala

₹50–60→ ₹500 Daily wage over twenty years, Bailha	48 SHGS IN BAILHA	⚖ HYDROLOGY MIXED —	5 POINTS IN SINGHA KALA'S OWN CONSERVATION PLAN

Gobar khad gave less yield but a healthy, disease-free crop; chemical fertiliser gives more yield but disease-prone crops.

THE COMMUNITY'S OWN DIAGNOSIS, SINGHA KALA (PARAPHRASED FROM THE LCAT REPORT)

THE EIGHT LIFE-ELEMENTS



The least declined readings in the UP series — which is precisely what makes them valuable: the same cascade at an earlier stage.

THE DISTRICT'S DISTINCTIVE INSIGHT

Singha Kala presented its **own five-point conservation framework** — wildlife sanctuaries and national parks, tree planting, a ban on hunting, awareness raising, and a ban on forest cutting — unprompted. **The Terai is not waiting to be convinced; it is waiting to be resourced.**

THE VILLAGES SPEAK FIRST

Lakhimpur Kheri is the pilot's counterweight — and its conscience. Bailha and Singha Kala, on the Terai's fertile alluvium under the Saryu's influence, are the two most water-secure villages in the UP series, and the two most emphatic about what modernisation has genuinely given them. **Their testimony forbids any simple story of decline.**

Singha Kala remembers what the old village actually was: houses of *chappar* (thatch), where one cooking fire could burn entire neighbourhoods; night trips to the fields for defecation under constant threat of snake and scorpion bites — a daily reality that fell hardest on women; kachha roads that turned to mud; a bigha of land yielding about one quintal behind a bullock team. The pucca house, the toilet, the road and the tractor are named in the charts as *safety and dignity*, not luxury. **Chakbandi** — land consolidation — gets its own grateful mention. Bailha adds the pilot's most striking social finding: **caste discrimination (bhed-bhaav), once enforced even in temples, gurudwaras and shared seating, has visibly reduced — people of all communities now sit, eat and live mixed together**, where fifteen or twenty years ago they could not. And then, with the same striking honesty, both villages read out the bill. Forest cover has thinned until wild animals now enter the village and damage crops — intrusion has become *aam baat*, a common matter. Soil once soft and fertile under gobar khad is hardening under *angrezi dawaayein*. Pollution and illness have risen sharply (Bailha); groundwater is declining and ponds drying (Singha Kala); refrigerator- and machine-supplied water is flagged — in the community's own words — as a health concern; and the ₹500 wage arrived with living costs that outpaced it for many households.

The Terai's message to the rest of the pilot: the gains are real, the communities want to keep every one of them — and they can see, earlier than the water table forces them to, exactly which systems the gains are drawing down.

UNIQUE & WORTH PROBING	WHY IT DESERVES PROBING
The community's own five- point conservation plan SINGHA KALA	Including the demand for wildlife sanctuaries and a local protected zone; a village asking to formalise habitat protection.
Road safety on the bigger roads SINGHA KALA	The pilot's only such demand: pucca-road expansion has brought a new accident risk, and the village asks for signage, speed-calming and safe crossings.
Water-quality testing of the modern systems SINGHA KALA	The community flags refrigerator- and machine-supplied water as a health concern and asks that tap/RO water be tested to standard; scepticism of modernity's plumbing, stated as a testable claim.
Sustain the social-equality gains BAILHA	Mixed-community participation and inclusive seating norms written into the plan as a deliverable to *protect*, not just celebrate.
Banana and sugarcane value addition BAILHA	Cleaner processing on the Terai's high-value crop base, via FPO and food-processing schemes.
Pollution control on factory and machinery emissions BAILHA	Regulatory coordination with the Pollution Control Board on local sources.

MONEY & THE GAPS

The Terai's characteristic gap is **preventive finance**: schemes are calibrated to crisis, and these villages are asking for investment *before* the crisis — recharge while water is still adequate, transition demos while soil still responds, habitat work while the forest still stands. **The cheapest climate money the state could spend in this pilot is here, where the curve has not yet steepened.**

THE SENSES' RECORD

Monitoring indicators the Terai can read without instruments: the softness of a handful of soil, a season without a burning field, an animal seen at the forest edge rather than in the cane, and every community still sitting together.

GREEN STORIES

"The Village That Wrote Its Own Conservation Act"

SINGHA KALA · NBS / GOVERNANCE

A five-point community framework — sanctuaries, planting, hunting ban, awareness, felling ban — two points of which need nothing but a Gram Sabha resolution to begin.

"Everyone at the Same Table"

BAILHA · SOCIAL RESILIENCE

The caste-equality transformation written into the plan as infrastructure — the trust on which every collective work below depends.

"The Gobar Verdict"

SINGHA KALA · NBS / AGRICULTURE

The community's own controlled comparison — disease- free crops under gobar, disease-prone under chemicals — turned into demonstration clusters and jeevamrut production.

"Straw to the Byre, Not the Sky"

BOTH · CIRCULAR ECONOMY

Residue baled for fodder and compost under Gram Sabha no-burn resolutions.

"Cleaner Cane, Better Banana"

BAILHA · VALUE CHAIN

Value addition with cleaner processing on the crops the Terai already grows well.

"Sun on the Diesel Line"

BOTH · DRE

Solar irrigation pumps to cut diesel cost and emissions — before, not after, the water table forces the issue.

GREEN VALUE CHAINS

Vermicompost & gobar khad via SHGs · **Natural / regenerative farming clusters** · **Plantation & agroforestry on bunds and roadsides** · **Livestock & dairy** · **Pond, well and drainage restoration as works** · **Crop diversification — millets, pulses, traditional vegetables** · **Bio-input production — jeevamrut, neem-based pesticide** · **Banana & sugarcane value addition** · **Solar irrigation** · **SHG plastic, waste and residue management** · **Water-quality & household water-safety services**

TIERED FIRST MOVES FOR LAKHIMPUR KHERI

A · community alone	B · minor support	C · convergence
The five-point conservation framework's resolution points — hunting and felling bans; no-burn resolutions; residue baled for the byre; the shared table maintained as social infrastructure	Demonstration clusters for gobar and jeevamrut; SHG vermicompost; bund and roadside planting; household water-safety testing	Banana and sugarcane value addition with cleaner processing; solar irrigation at scale; pond, well and drainage restoration as convergent works

DISTRICT 07

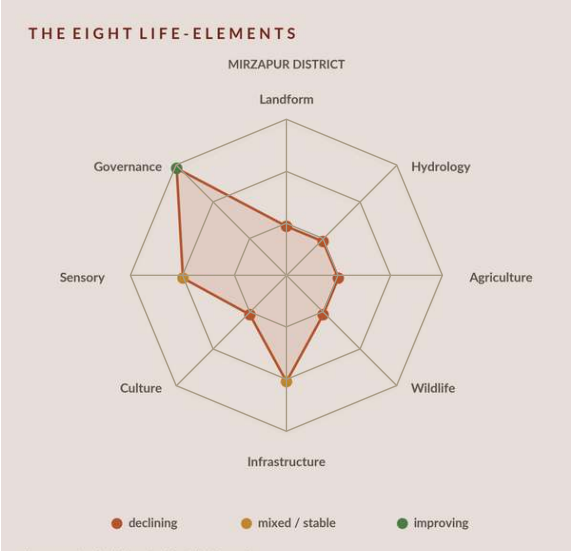
Mirzapur

Two villages · Balapur and Bagheda Khurd · Chhanvey block · the Vindhyan uplands and the Karnawati drainage system

10%	82%	3 to 2	1000
Forest Remaining, Balapur	Recorded as Irrigated, Bagheda Khurd	Cropping Seasons (Water Shortage)	Community Saplings Planted & Watered

[Eight or ten years ago the quarry ran in the hills. Blasting was done, for the development of the village. Cracks would open in the walls of the houses, and the house would be weakened by it.]

Community, Bhu-Aakriti evam Sthalakriti (Landform and Topography) chart



Mirzapur's distinctive insight

THE CATCHMENT AND THE DRAINAGE LINE

Balapur and Bagheda Khurd show two forms of landscape re-engineering. In Balapur, the hill catchment and its storage pond were altered. In Bagheda Khurd, the route that carried village water to the Karnawati was interrupted. Restoring water security therefore requires both catchment treatment and the repair of the drainage network that connects fields, ponds and the river.

THE VILLAGES SPEAK FIRST

The two Mirzapur assessments describe different parts of the same broader landscape problem: the loss of the landforms and water routes that once stored, slowed and directed runoff. Balapur's community links quarrying and blasting on the hill above the settlement to damage to houses, reduced fertility and a falling water source. The hill pokhra that once served the village was filled with earth and the surrounding trees were cut. Bagheda Khurd's account focuses on a historic drainage route: water that once flowed through village nalas towards the Karnawati no longer follows the same path after roads, levelling and changes in field boundaries altered the route.

The villages also demonstrate why physical development indicators must be read beside ecological evidence. Bagheda Khurd reports substantial gains in electricity, roads, housing, digital facilities and institutional participation. Balapur also records improvements in roads, schools, health access and other public services. These gains coexist with declining water storage, loss of tree cover, fewer pollinators and shrinking biodiversity.

COMMUNITY-REPORTED SIGNAL	VILLAGE
Quarrying and blasting in Balapur's hills, reported from 8–10 years ago, are linked by residents to cracked house walls, reduced soil fertility and a falling water source.	Balapur
The hill pokhra was filled and surrounding trees cut; forest cover is estimated by the community at roughly 10% of its former extent, with trees also cut for housing.	Balapur
Bagheda Khurd's historic drainage to the Karnawati no longer functions; roads without the old culverts, cleared orchards and levelled low ground have broken the flow route.	Bagheda Khurd
Bagheda Khurd's traditional water systems—mot, nar and chua—have disappeared; wells, ponds and canals are depleted or of limited use, while borewells and submersibles dominate.	Bagheda Khurd
Bagheda Khurd reports a fall from three cropping seasons to two because of water shortage, despite 82% of its 805.99 hectares being recorded as irrigated.	Bagheda Khurd
Field-edge trees are now absent in Bagheda Khurd; the community reports planting and watering around 1,000 saplings as a counter-measure. Balapur also reports declining forest and tree cover.	Both villages

UNIQUE & WORTH PROBING

ISSUE TO PROBE	WHY IT DESERVES ATTENTION
The hill was a water tower BALAPUR	Balapur links blasting, conversion of the slope and the filling of the hill pokhra to a falling water source. The community's proposed response—protect the slope, restore the pokhra and treat the catchment—addresses the sequence it has identified.
The Karnawati route is severed BAGHEDA KHURD	The village remembers its runoff reaching the Karnawati through field bunds, nalas and pokhars. Roads without culverts and the levelling of low ground are recorded as breaks in this drainage chain.
Irrigation coverage is not water security BAGHEDA KHURD	The baseline records 82% of land as irrigated, yet the community says cropping has fallen from three seasons to two because of water scarcity. The coverage figure should not be used as proof that water is secure.
A thousand saplings, with aftercare BAGHEDA KHURD	The community reports that about 1,000 saplings have been planted and are being watered. The next question is survival and maintenance: the report specifically stresses care after planting, not just planting counts.
Kiln pollution beside a depleted tree cover BALAPUR	Balapur residents identify brick kilns as a newer source of air pollution and report effects on crop yield and fruiting near the units. This concern needs regulatory follow-up, not a generic plantation response alone.

THE SENSES' RECORD

Balapur contrasts hills remembered as green with slopes now described as dry, and records brick-kiln pollution affecting air, crops and fruiting. Bagheda Khurd's chart recalls wells and bullock-ploughed fields that are no longer part of everyday farming; its field boundaries have also lost their former tree line and shade.

GREEN STORIES

"From Stubble to Soil"

BALAPUR, CIRCULAR ECONOMY

The community's proposal for composting pits and vermicompost production would convert crop residue that is currently burned into a useful agricultural input. The proposed revival of livestock and dairy activities would further reconnect manure production with soil restoration.

"The Hill That Holds Water Again"

BALAPUR, NbS

The proposed restoration of the hill catchment through contour trenches, staggered check-dams and plantation, alongside the re-excavation of the filled hill pokhra. The initiative addresses both land degradation and declining water retention.

"The Soil and Livestock Nutrient Cycle"

BAGHEDA KHURD, CIRCULAR ECONOMY

The proposed crop-residue composting and vermicompost units would reduce purchased-fertiliser dependence and rebuild the nutrient cycle between crops, livestock and soil.

Green Energy at the Pump

BAGHEDA KHURD, DRE

The community has asked for improved irrigation technology using green energy. Solar pumping paired with an agreed or metered limit on groundwater extraction is the proposed intervention. The assessment does not establish that such a system is already operational.

GREEN VALUE CHAINS

- **Floriculture with apiculture and honey**
- **Fruit and fodder agroforestry**
- **Pond fisheries after restoration**
- **Vermicompost and crop-residue compost**
- **Dairy and small-livestock enterprises**
- **Tendu and medicinal-plant cultivation**
- **SHG/FPO aggregation and processing**

TIERED FIRST MOVES FOR ALIGARH

A · community alone	B · minor support	C · External Support
Protect the planted saplings through a named maintenance group; map the historic Karnawati drainage and the Balapur hill-pokhra catchment; adopt Gram Sabha resolutions against further slope conversion; maintain a village record of borewells and shared water sources.	Support compost pits, field-boundary nurseries, fruit and fodder trees, flowering bunds and apiculture pilots; record sapling survival; document the old drainage route and locations where culverts are missing.	Converge catchment treatment, contour trenches, check dams and hill-pokhra re-excavation with MGNREGA; restore the Karnawati flow path and road culverts; strengthen SHG/FPO floriculture and honey aggregation; seek regulatory action on brick-kiln emissions.

DISTRICT 08

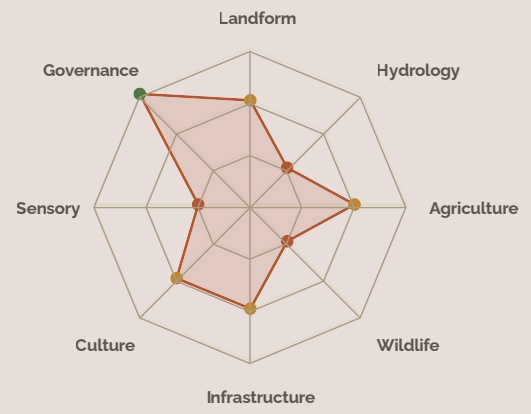
Prayagraj

Two villages · Devghat & Belhat (Koraon block) · the Vindhyan edge and Koldihwa

~84%	20/50	300–600ft	50–100
FOREST LOST IN DEVGHAT — ~2,500 TO ~400 BIGHA	COMMUNITYWELLS STILL FUNCTIONAL, DEVGHAT	REPORTED IN BELHAT'S HARDEST HAMLETS	RAM PYARI WINTERING ON BELHAT'S TWO PONDS

> *"Production has grown, but the soil has weakened."*
>
> ELDER FARMER, MIXED PLENARY, DEVGHAT

THE EIGHT LIFE-ELEMENTS



Inner→outer: declining · mixed/stable · improving. Ordinal encoding, not a measured index.

PRAYAGRAJ'S DISTINCTIVE INSIGHT

Heritage is this district's unspent capital. A subcontinental first (Koldihwa's rice), a 400-year sporting tradition (the Kushti), a winter flyway (Ram Pyari), and a Mela calendar that still assembles everyone — **four assets that could finance and legitimise the landscape's repair, all currently earning nothing.**

THE VILLAGES SPEAK FIRST

Prayagraj's pilot sits where the lower Vindhyan slope meets the Gangetic plain — Koraon block, on the terraces of the Belan river — and it holds the series' deepest time and its starkest arithmetic in the same two villages.

The deepest time belongs to **Devghat**. Within this panchayat lies **Koldihwa — among the earliest documented evidence of rice cultivation in the subcontinent** — a heritage of world significance that today stands without signage, recognition or a single livelihood attached to it. Around it, one of Koraon's largest panchayats (27.89 sq km, 18 hamlets, 43 SHGs with 609 members under the Shikhar CLF) has run the modern arc at full speed: forest fallen from a remembered ~2,500 bigha to ~400 bigha in twenty years, 20 functional community wells left of 50, groundwater at 60–150 feet varying hamlet to hamlet, and the Belan itself, once clean enough for Mahashivratri puja, receiving household nali discharge since around 2012. The elders' summary is the district's epigraph: production up, soil down. And the grain, they add, was once *shuddh* — pure.

The starkest arithmetic belongs to **Belhat**, a compact seven-hamlet panchayat where cultivated land has roughly doubled in twenty years as rocky *pathar* was levelled into fields — and groundwater now sits at 180–220 feet in the better hamlets and **300–600 feet in the hardest.** Yet Belhat also holds the pilot's two most distinctive living assets: every winter, 50–100 migratory birds the village affectionately calls **Ram Pyari** descend on its two ponds; and for 400 years, the village's **Kushti/Dangal** at Naag Panchami and Teras has drawn wrestlers and spectators from across state lines.

Both assessments carry a governance detail worth the whole pilot's attention: the sessions opened with a "4 J's" facilitation — *Jal, Jungle, Jameen and Jeev*, held together by *Jan* — staged as a court case, and it was this that **cleared the ghunghat-bound silence**: SHG women who began the meetings veiled and quiet became vocal participants.

UNIQUE & WORTH PROBING	WHY IT DESERVES PROBING
Activate Koldihwa DEVGHAT	An interpretation centre, a Belan-side eco-cultural trail, SHG Mela stalls and homestays at one of the subcontinent's earliest rice-cultivation sites; heritage as an unclaimed climate asset.
A migratory-bird Community Conserved Area BELHAT	The two ponds and their buffer kept undisturbed for the Ram Pyari's winter visitation, with an annual school bird count and the Sarus crane's return adopted as the five-year indicator.
The Kushti as livelihood BELHAT	State-tourism positioning of the 400-year Dangal, with SHG homestays, akhara-themed stalls and a heritage trail linking the wrestling grounds, the Deshawari temple, the winter-bird ponds and the Kapoori Kali Mata Chabootara.
An inter-panchayat MoU on hunting BELHAT	Coordination with neighbouring Para GP on Musahar livelihood alternatives to airgun hunting; conservation designed as poverty policy, not prohibition.
Pre-season pest management on a known calendar DEVGHAT	Training before the November Haritiddi and a DRR roster for the 2–3-year hailstorm cycle; climate shocks treated as schedulable.
Legal aid against court dependence BOTH	DLSA camps and revived mediation, because dispute-resolution costs are draining the same households the landscape's decline squeezes.
The herbal-garden and jadi-buti revival DEVGHAT	Documenting elders' medicinal-plant knowledge before it is lost, with a medicinal-plant cluster via the Ayurvedic Clinic (Belhat).

MONEY & THE GAPS

The gaps: **heritage finance has no village door**; **equity works fall between schemes** — one hamlet's electricity and another's drinking water are exactly the convergence orphans the plans' "equity-first" framing exists to catch; and **the deep aquifer outruns village works** — Belhat's hardest hamlets need watershed-scale investment that soak pits alone cannot deliver. Monitoring indicators the district chose itself: the Sarus landing, a clear Belan at Mahashivratri, the smell of soil after rain, and a Gram Sabha where the ghunghat stays lifted.

GREEN STORIES

"Where Rice Was First Grown, Farming Begins Again"

DEVGHAT · NBS / HERITAGE

The natural-farming transition anchored on Koldihwa — hamlets that never left vermicompost farming, beside a site documenting rice's earliest subcontinental history.

"Ram Pyari's Winter Address"

BELHAT · NBS

A Community Conserved Area for the 50–100 wintering "Kashmiri Chidiya," with schoolchildren as census-takers and the Sarus crane's return as the public five-year indicator.

"Four Hundred Years of Grip"

BELHAT · CULTURE / LIVELIHOOD

The Naag Panchami Kushti positioned as heritage tourism — homestays, akhara stalls, a trail from the wrestling ground to the winter-bird ponds.

"Giving the Belan Back Its Puja"

DEVGHAT · NBS

Soak-pit greywater diversion across eighteen hamlets so the river that carried Mahashivratri worship stops carrying drains.

"The 4 J's Court Case"

BOTH · GOVERNANCE

The facilitation that put Jal, Jungle, Jameen and Jeev on trial before Jan — and cleared the ghunghat from the room; participation itself as the first restoration.

"Ninety Percent Keep Animals — So Build the Biogas"

BOTH · CIRCULAR ECONOMY

Cluster digesters and fuel-efficient chulhas on the district's near-universal livestock base, easing the fuelwood pressure that felled the forest.

GREEN VALUE CHAINS

- Vermicompost & bio-inputs anchored on Koldihwa / Nayi Basti, via the Parivartan CLF
- NTFP through the Shikhar CLF — tendu, chironji, gond, ber, imli
- Decentralised biogas & fuel-efficient chulhas
- Agroforestry & plantation
- Koldihwa heritage eco-trail
- Kushti heritage tourism
- Migratory-bird eco-tourism
- Pond fisheries on restored waters

TIERED FIRST MOVES FOR PRAYAGRAJ

A · community alone	B · minor support	C · convergence
Household soak pits diverting greywater from the Belan; the annual community bird count with school and Anganwadi; Gram Sabha protection of the five Devsthal and the wrestling ground; the 4 J's facilitation carried into the Gram Sabha itself	Cluster biogas digesters and improved chulhas; SHG vermicompost through the CLFs; herbal garden and NTFP aggregation; well-network repair across the 20 survivors	The Community Conserved Area for the wintering birds; Koldihwa site activation with signage and livelihood (State Tourism, Archaeology); the well and pond network restored as one system; equity- first infrastructure for Badhghat and Baansghaat

DISTRICT 09

Sultanpur

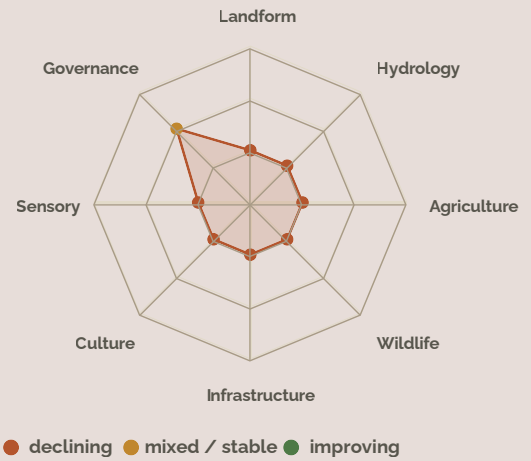
Two villages · Emiliya Khurd & Bandhua Kalan (Dubepur block) · the Awadh plain

18→6	45 : 1	~42%	54
PONDS, BANDHUA KALAN	PRIVATE TO GOVERNMENT TUBEWELLS	EMILIYA KHURD RESILIENCE — THE SERIES' WEAKEST	SHGS IN BANDHUA KALAN THE SERIES' DENSEST

"In place of the veterinary clinic a Panchayat Bhawan has come up, so when the animals fall ill, vaccination cannot be done on time."

LIVELIHOODS CHART, BANDHUA KALAN

THE EIGHT LIFE-ELEMENTS



The series' heaviest declines — including the only village where Infrastructure & Economy itself scored a sharp decline.

SULTANPUR'S DISTINCTIVE INSIGHT

The district pairs the pilot's weakest village with its densest institutional fabric — and both plans reach the same governance invention: a panchayat-level **Landscape Committee** anchored on the SHG platform, with **measurable five-year Sankalps**. Species and songs as key performance indicators.

THE VILLAGES SPEAK FIRST

Sultanpur's two pilot villages, both in Dubepur block on the Awadh alluvium near the Gomti's southern reach, are a study in contrast — one small and data-thin, one large and institution-rich — converging on the same diagnosis from opposite ends.

UNIQUE & WORTH PROBING	WHY IT DESERVES PROBING
Restore the veterinary sub- centre BANDHUA KALAN	The village's first and most-named demand: reverse the clinic-to-Panchayat-Bhawan conversion through a sub-centre or para-vet and mobile-vet arrangement, with livestock insurance and SHG–FPO dairy aggregation.
Battery vehicles for internal mobility EMILIYA KHURD	The community's own forward-looking air-quality ask, paired with cluster solar, biogas and improved-chulha support.
Bird recovery as a public five-year indicator EMILIYA KHURD	The Neelkanth, Saale and Gidh adopted as the village's success metric, with a school/Anganwadi bird census as the measurement system.
The verified village-profile exercise EMILIYA KHURD	A Tier-3 demand *for data itself*: a baseline survey to close the gap the assessment exposed, so every action can be costed.
Metalcraft and bangle cluster upgrade BANDHUA KALAN	Design, market linkage and FPO aggregation for a heritage artisan economy asking to be treated as a green value chain.
Leaf-plate (pattal-donā) revival BANDHUA KALAN	Biodegradable commensality restored as SHG enterprise against bought crockery.
Water-quality testing where taste changes EMILIYA KHURD	The community's own sensory trigger converted into a testable, fundable protocol.
Native nursery as a supply-hub EMILIYA KHURD	An SHG nursery raising the named species for bulk supply to other Dubepur panchayats; one village proposing to green its neighbours.

MONEY & THE GAPS

The gaps: **the institutional-conversion gap** — no scheme line exists to *undo* a building repurposing, which is why the vet demand must be argued as a livestock-economy restoration; **the data gap as a finance gap** — Emiliya's missing profile blocks costing, making the baseline survey itself a Tier-3 ask; and **the artisan gap** — a heritage craft economy that fits no green-finance box despite being the village's actual circular economy.

THE SENSES' RECORD

The district's monitoring indicators, chosen by its own villages: a Neelkanth sighted, a Kajri sung, a seventh pond holding water, and a vaccination done on time.

GREEN STORIES

"The Return of the Neelkanth"

EMILIYA KHURD · NBS / MONITORING

A village adopts a bird's homecoming as its public five-year indicator, with pond and orchard restoration as the habitat work and schoolchildren as the census-takers.

"Toward the Remembered Eighteen"

BANDHUA KALAN · NBS

Pond restoration counted against living memory — six survivors desilted first, lost footprints reclaimed, the canal as the recharge backbone.

"The Vet Comes Back"

BANDHUA KALAN · CIRCULAR ECONOMY FOUNDATION

Restoring animal healthcare as the keystone of the gobar–dairy–biogas economy the whole organic transition rests on.

"Copper, Brass and a Second Life"

BANDHUA KALAN · CIRCULAR ECONOMY

The heritage tambe-pital and bangle clusters reorganised as a repair-and-remake craft economy with design and market linkage.

"The Village That Asked for Battery Vehicles"

EMILIYA KHURD · DRE

A small Awadh panchayat's own clean-mobility pilot, alongside solar rooftops and improved chulhas to cut the fuelwood draw that fells the trees.

"A Nursery for the Neighbours"

EMILIYA KHURD · NBS / ENTERPRISE

An SHG native nursery scaled to supply saplings across Dubepur block — restoration as an export product.

"The Song Comes Back to Panchami"

BOTH · CULTURE

Kajri-Alha and Sohar-Kajri revived by mela and cultural committees, senior singers paired with youth, deshi gaane given space alongside the DJ.

GREEN VALUE CHAINS

LPG adoption & improved chulhas | **Solar rooftop & battery-vehicle cluster** | **Vermicompost & bio-input enterprise** | **Crop-residue & greywater reuse** | **Orchard-belt restoration — mahua, mango, tamarind** | **Pond fisheries after talab ki khudai** | **Native nursery enterprise** | **Bird habitat as eco-asset (Emiliya Khurd)** | **Metalcraft & bangle enterprise** | **Leaf-plate revival** | **Biogas & clean cooking**

TIERED FIRST MOVES FOR SULTANPUR

A · community alone	B · a little support	C · convergence
The five-year Sankalp adopted publicly — the Neelkanth's return and the Kajri-Alha revived as its metrics; mela and cultural committees convened; shramdaan desilting of the six surviving ponds	SHG native nursery scaled for block supply; vermicompost lines; orchard planting on commons and bunds; para-vet and mobile-vet arrangements as the interim fix	Restore the veterinary sub-centre (Animal Husbandry); the canal as recharge backbone with pond linkage; artisan- cluster finance for metalcraft and bangles; the battery-vehicle and solar rooftop cluster

Emiliya Khurd is the pilot's most anxious voice. Its assessment was a short, intensive exercise: eight handwritten chart sheets across five themes, with the village-profile tables that normally accompany an LCAT absent — a **secondary-data gap the plan itself flags for a follow-up profile exercise** before anything is costed. But the chart-paper voice needs no tables. Ten years ago the wells were full; the imli, aam and mahua of the signature orchard belt stood tall; the *teelas* were uncut; and the Neelkanth, the Saale and the Gidh were part of the village skyline, as the Kajri-Alha was part of Panchami. Today the orchards are cleared for homes, the teelas levelled, the named birds *"ab lupt ho gaye"* — vanished — and the DJ stands where the deshi gaane were. The community's refrain recurs across the charts: *agar aisa hi chalta raha to* — if this continues — drinking water will fall short, farming will be destroyed, birds and animals will start dying, plants will wither.**Bandhua Kalan** is the series' outlier by livelihood: a large panchayat of roughly 8,988 people whose economic centre of gravity is not the plough but the **artisan's bench** — jewellery, bangle-making and copper-brass (tāmbe-pītal) utensil work, with women carrying much of the bangle and utensil labour. Only about 200 of its 1,358 households farm as a primary occupation. Its institutional fabric is the series' densest: 54 SHGs, five Village Organisations, 590 SHG women and a 46-family FPO. And yet its charts are anything but comfortable: ponds fallen from 18 to 6; the water table "sinking into the ground"; the copper-brass and lāī trade thinning; the Sohar-Kajri-biāh song tradition falling silent at weddings; the joint family splintering. And one grievance sharper than all the rest — the epigraph above.Between them, the two villages give Sultanpur's pilot its theme: **what one institution's absence costs, and what another's presence could repair.**

DISTRICT 10

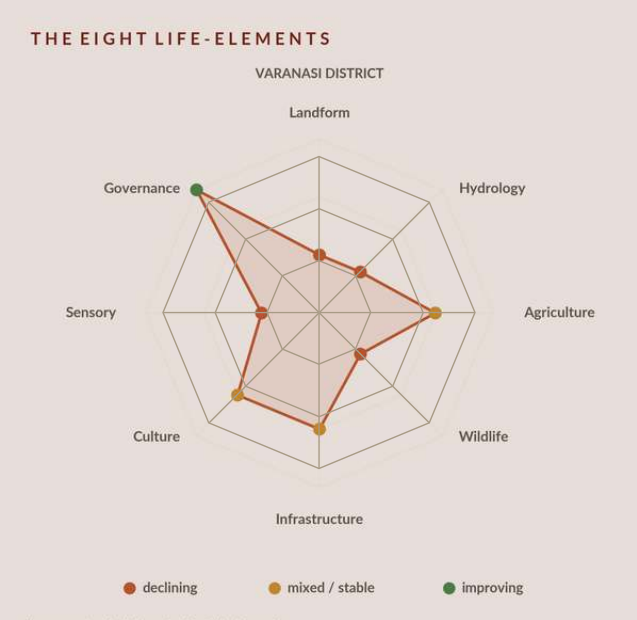
Varanasi

Two villages · Dindaspur and Bhedaha · Arajilines block · the middle Ganga plain and its urban-facing rural economy

350	280-320	2 of 4	1 of 5
Landless Households (Dindaspur)	Summer Water table in ft (Dindaspur)	Active historic ponds (DIndaspur)	Surviving ponds (Bhedaha)

[Eight or ten years ago the quarry ran in the hills. Blasting was done, for the development of the village. Cracks would open in the walls of the houses, and the house would be weakened by it.]

Community, Bhu-Aakriti evam Sthalakriti (Landform and Topography) chart



Varanasi's distinctive insight

WATER ACCESS FOLLOWS THE SOCIAL MAP

In both villages, the loss of ponds and deepening groundwater have increased dependence on private sources. Dindaspur makes the distributional effect explicit: waterlogging affects particular settlements, while households without the means to drill or share a borewell are more exposed to scarcity. At the same time, the village institutions that can organise collective action are becoming more active.

THE VILLAGES SPEAK FIRST

The two Varanasi assessments describe villages where shared water resources have contracted while private borewells and wage labour have become more important. Dindaspur reports a fall from water available at around 60 feet in community memory to current estimates of approximately 250–320 feet, with two of its four historic ponds no longer functioning and no natural drainage channels remaining. Bhedaha reports that only one of five community ponds still holds water and that the summer water table is around 220 feet by community estimate.

The social and livelihood picture is equally important. Dindaspur combines agriculture with a weaving economy and records around 350 landless households, waterlogging in Harijan and Muslim settlements, and uneven access to private borewells. Bhedaha reports a large landless population, a high dependence on wage labour and outmigration, and declining access to heritage seeds. Both assessments record stronger community organisation and greater participation by women, even as the ecological base is under pressure.

COMMUNITY-REPORTED SIGNAL	VILLAGE
Groundwater is far deeper than remembered: Dindaspur records a summer estimate of about 280–320 ft against a memory of around 60 ft; Bhedaha estimates about 220 ft in summer.	Dindaspur; Bhedaha
Pond commons have contracted: two of Dindaspur's four old ponds are completely dry; in Bhedaha, only one of five community ponds is reported to still hold water.	Dindaspur; Bhedaha
The cost of water insecurity is uneven: Dindaspur reports monsoon waterlogging in Harijan and Muslim settlements and around 350 landless households; Bhedaha records 195 landless households.	Both villages
Bhedaha's soil and seed base is weakening: white, erosion-prone soil covers about 40% of village land; farmers report the loss of sanwa, mansuriya, arhar and tisi, alongside declining earthworms.	Bhedaha
Dindaspur's livelihoods span the field and the loom: vegetables and weaving products are sold in markets about 2–5 km away, while wage labour and seasonal migration remain important.	Dindaspur
Wildlife and sensory losses are pronounced in Bhedaha: vultures and dawn pigeon flocks are reported absent; fish, frogs, dragonflies, bees, butterflies and fireflies are also declining.	Bhedaha

UNIQUE & WORTH PROBING

ISSUE TO PROBE	WHY IT DESERVES ATTENTION
A water crisis with a settlement map DINDASPUR	The report locates recurring waterlogging in Harijan and Muslim settlements and identifies unequal access to private borewells. Water infrastructure and drainage therefore need to be planned with settlement-level equity in view.
The loom is a low-water livelihood DINDASPUR	Dindaspur's existing weaving trade sits alongside vegetable production and wage work, with markets two to five kilometres away. The report identifies design, skills and aggregation—not a new craft—as the route to strengthening this livelihood.
One pond still holds water BHEDAHA	Of the five ponds remembered by the community, only one is reported to retain water. The assessment places restoration of the four dry ponds and protection of the remaining one at the top of the village's priorities.
A seed list held in memory BHEDAHA	The assessment names sanwa, mansuriya, arhar and tisi among varieties farmers say they can no longer find. Elders' knowledge and a community seed bank are therefore practical adaptation resources, not only heritage records.

THE SENSES' RECORD

Dindaspur records the summer borewell whine, cracked pond beds, dust where drainage ran and the May–June loo without shade. Bhedaha describes silent skies without the old vulture and pigeon flocks, fewer fireflies at night and the smell of spray in the fields.

GREEN STORIES

"The Soil Regains Its Nutrients"

DINDASAR & BHEDAHA, CIRCULAR ECONOMY

Both assessments identify compost and bio-input production as opportunities to rebuild the organic manure cycle. Dindaspur proposes a compost and bio-input enterprise, while Bhedaha specifically identifies SHG-led vermicomposting to address the reported loss of soil organisms and organic matter.

"The First Rooftops, the Next Generation"

BHEDAHA, DRE

Five to six households already have rooftop solar installations. The proposal is to expand adoption and develop installation and maintenance skills among village youth.

"From Grazing Routes to a Livestock Economy"

BHEDAHA, CIRCULAR ECONOMY

The proposed strengthening of dairy and small-ruminant activities along the village's 25 grazing routes, supported by fodder plantation, would reconnect livestock livelihoods with manure production and soil health.

"Restoring the Four Water Bodies"

DINDASAR, NbS

The proposed cleaning, deepening and restoration of the village's four historic ponds, alongside rainwater harvesting and recharge structures. Pond-edge horticulture is also identified as a potential livelihood opportunity.

GREEN VALUE CHAINS

- **Weaving, design and market aggregation**
- **Vegetable plots with drip/sprinkler irrigation**
- **Heritage grains, pulses and local milling**
- **Pond fisheries after restoration**
- **Vermicompost and bio-inputs**
- **Dairy, small ruminants and fodder**
- **Solar installation and maintenance skills**

TIERED FIRST MOVES FOR VARANASI

A · community alone	B · minor support	C · External Support
Submit and track the written pond-restoration demand; map waterlogged settlements and pond sites; record seed names and cultivation knowledge with elders; protect Bhedaha's remaining pond and sacred grove; place drainage needs in the affected Dindaspur settlements on the Gram Panchayat agenda.	Establish community seed-bank and demonstration plots; support vermicompost and water-thrifty vegetable plots; train local youth in rooftop-solar upkeep; strengthen weaving skills, design support and producer aggregation; plan fodder for livestock.	Converge pond desilting, deepening and recharge works; repair drainage in Market Para and the Dindaspur settlements affected by waterlogging; extend solar systems and efficient irrigation where water budgets allow; strengthen market links and local health/disaster-preparedness services.

Conclusion

What Twenty villages, across 10 districts, taught one state about itself.

THE CASCADE, IN THE COMMUNITIES' OWN SEQUENCE

When the pond goes, the well follows; when the orchard goes, the bird follows; when the grain goes, the body follows. And where the body has followed — Pathra's elders reading their decline in their sons' stature, Rehunchi naming an "outsourcing of daily life" — the last link in the chain is a bus ticket. Migration is this state's unpriced adaptation programme, and it is also the constraint on every labour-intensive repair the plans propose.

WHAT THE PILOT ESTABLISHES

In the most populous and most internally varied state in India, village-scale, community-led assessment is not a supplement to adaptation planning. It is the only resolution at which adaptation can meet the people who need it — and, on the evidence of these thirteen villages, the people are already there, waiting with the diagnosis written out.

Source note. This conclusion synthesises only material contained in the thirteen village assessments and the district and state summaries compiled from them. No figure, quotation, place name or scheme name appears here that does not appear in those sources. Scheme mappings throughout the report are indicative and must be verified with block and district administration.

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“This is the first time we have looked at our village, and all that has changed in it, together — as one community.”

A self-help-group member, LCAT field conversations

ABOUT THIS REPORT

Reading the Village Whole —a state report on the Community-Led Landscape Assessment (LCAT) pilot in Uttar Pradesh.

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