The Weather No Longer Listens: Farmers at the Frontline of Climate Change: Ground-Level Evidence of a Changing Climate from Raah Foundation's Work in Maharashtra

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When the Weather Stops Listening

In the tribal belts of Maharashtra's Western Ghats — Palghar, Nashik, Raigad, Thane and Ahilya Nagar — the monsoon once had a rhythm you could set your life to. Farmers knew when to sow, when to rest, and when to harvest. That rhythm is breaking.

"Earlier we could look at the sky and know when to sow. Now, even the sky lies."
— Chandrakala, Jawhar

At Raah Foundation, we work with small and marginal farmers who depend almost entirely on the rain. What we're witnessing today in their fields is not an abstract crisis — it's the visible face of climate change.

The Changing Skies

In just the past few years, our field teams have observed major weather shifts:

- Delayed and compressed monsoons — the first rains often come 2–3 weeks late, followed by long dry gaps.
- Sudden downpours — 100 mm of rain in a single night, eroding topsoil.
- Unseasonal events — February showers destroy drying grain; hailstorms hit standing crops.
- Rising night temperatures — disturbing flowering in jasmine and marigold.

IMD data confirms a **10–15 percent rise** in rainfall variability across northern Maharashtra, but our farmers feel it far more acutely — in empty wells, failed germination, and shifting seasons.

What Happened This Year? Changing Climate & ENSO Effects

The 2025 monsoon saw climate change in action.

India's 2025 monsoon vividly reflected a warming world, shaped by oceanic forces like El Niño **and** La Niña—the two faces of the El Niño–Southern Oscillation (ENSO)**.**

- *El Niño* warms the Pacific, weakening India's monsoon.
- *La Niña* cools it, strengthening monsoon rains.

For most of 2025, ENSO stayed neutral, gradually shifting toward La Niña by late monsoon. This transition, coupled with a strong Indian Ocean Dipole (IOD), warming seas, and rapid Himalayan snowmelt, produced an early, intense, and prolonged monsoon.

The resultant was excess rainfall, repeated flooding, and erratic patterns of drought and deluge across states like Maharashtra. Palghar saw extended wet spells, fewer sunny days, and alternating floods and dry periods—upending rain-fed farming cycles.

Some of the immediate impacts on monsoon, rainfall & climate are:

- **Heavier Bursts:** Warmer air and oceans loaded the atmosphere with more moisture, leading to record downpours and waterlogging that disrupted sowing and harvests. Short-duration, high-intensity rainfall events became more common, overwhelming local drainage systems and eroding topsoil. In parts of Konkan and the Western Ghats, rivers breached banks multiple times in a single season, damaging infrastructure and washing away standing crops.
- **Erratic Frequency:** Dry and wet spells stretched longer, with rains often mistimed. Periods of heavy rain were followed by unexpected lulls, throwing agricultural calendars into disarray. Withdrawal was delayed into October, and forecasts now point to colder, drier winters under late-season La Niña effects. Irregular rhythms such as this would also alter pest cycles and humidity patterns, adding further uncertainty for farmers.
- **Patchy Distribution:** While some districts were inundated, others nearby saw rainfall deficits—creating uneven, unpredictable outcomes for farmers. Variability within short distances led to water stress in some villages, even as others struggled with flooding. Such spatial inconsistency in rainfall, intensified by local geography and land use changes, has made watershed management more challenging. The uneven distribution also affects aquifer recharge and surface reservoir levels, disrupting irrigation planning and widening disparities in agricultural productivity.

Soil, Crops, and Seasons Out of Sync

Erratic weather has thrown local ecologies off balance. Soils lose moisture faster, alternating between waterlogging and hard crusting, reducing their ability to breathe and retain nutrients. Research shows that large parts of India are seeing both excess soil moisture and deficits in the same season. The phenomenon of "flash floods" – rapid depletion of soil moisture following a break or delay in monsoon rain – has been identified and projected to increase in India.

Delayed rains disrupt sowing, while untimely downpours wash away topsoil and newly sown seeds. The extension or delay of monsoon rains into the harvest window (or beyond the normal withdrawal dates) has also been reported, putting crops at risk. Crops no longer align

with traditional planting calendars—flowering and fruiting phases get mismatched with moisture and sunlight, leading to poor yields and pest outbreaks. The shift in rainfall timing, onset and withdrawal phases of the monsoon has been flagged as disrupting the classical "rain → sow → grow → harvest" rhythm.

For farmers, the familiar rhythm of ***"rain–sow–grow–harvest"*** has broken down. The land that once responded predictably to seasons now demands constant adaptation and guesswork—each year rewriting what it means to farm in the monsoon. The combination of less predictable moisture, reduced sunlight (as a result of extended cloudy conditions) and heat / humidity extremes increase crop stress, reduce yields and favor pest / disease outbreaks.

This year we studied different crops that farmers supported by Raah Foundation grow and tried to calibrate the "climate change" impact on small and marginal farmers:

Paddy and Finger Millet: Crops at the centre of the Storm

This year, the two staples that shape farm livelihoods and local food security—**paddy (rice)** and **finger millet**—bore the brunt of the erratic and extended monsoon the most:

Rice: Emotion and Economy of the Monsoon

For farmers across the Western Ghats, **rice is not just food — it's faith.** Each monsoon, the rhythm of life begins with the first plough in the wet field and ends with golden stalks swaying under retreating clouds. Paddy farming defines community labour, celebration, and sustenance **—** a shared act that ties people to the land and to each other.

But this delicate cycle depends on predictable rain, and that rhythm is now breaking. Delayed monsoon onset, prolonged wet spells, and fewer sunny days are disrupting every stage — from transplantation to grain formation. Fields remain waterlogged for weeks, and lack of sunlight prevents the grain from ripening**,** while black rust and pest attacks further destroy yields.

***"When rain doesn't stop, we lose a lot of crop and lots from whatever remains turns black before it fills — the rice dies standing, and with it, our food security falls. Empty drums, empty hopes"* — Bhaskar, Vikramgad**

The loss of a paddy crop means a broken ritual, a season without harvest songs, and a community uncertain of its most sacred rhythm.

Paddy Damage:

- **Fields submerged for weeks:** Prolonged rainfall and poor drainage led to thousands of hectares of paddy standing in floodwater, especially in low-lying regions. This caused plants to lodge (fall over), roots to suffocate, and the critical grain-filling phase to be disrupted.
- **Increased fungal and bacterial attacks:** Persistent humidity fueled outbreaks of sheath blight, bacterial leaf blight, and grain rot, further reducing the quantity and quality of harvested rice.
- **Delayed and uncertain harvest:** October rains, floods, reduced light, and increased pest/disease outbreaks—especially around harvest, made field access nearly impossible in many blocks, causing panicles to sprout or rot before they could be gathered. The result—yield loss often between **20–50%** in the worst-hit districts, and sharp declines in marketable grain.

Traditional millets and pulses: They struggle to sprout; pests now appear twice a season.

Millets and pulses are the old wisdom of drylands — the crops that fed generations with little water, thriving on rocky soils where nothing else survived. In tribal regions like Palghar, they represent nutrition, seed sovereignty, and women's knowledge **—** stored in earthen pots and exchanged during village festivals.

Once considered the most climate-resilient crops, these traditional varieties are now showing signs of stress under erratic weather**.** Delayed rains delay germination**,** while sudden heavy showers waterlog the soil and rot the seed**.** When the sun returns, it often does so with intense heat that crusts the topsoil and scorches tender shoots**.**

Farmers now witness two pest cycles instead of one — fungal and insect attacks during both the vegetative and flowering stages. The delicate balance that once made these crops hardy is breaking down as temperature and humidity patterns shift unpredictably.

***"Our nachni and tur never failed before. Now, if the rain skips a week or comes all at once, the crop just collapses."* — Shantabai, Mokhada**

These shifts make traditional crops — once the foundation of nutrition, resilience, and cultural identity — increasingly vulnerable. The loss goes beyond yield; it erodes seed diversity, food security, and the confidence of small farmers who once trusted their land and seasons.

Protecting these crops is not just about saving food — it's about preserving a way of farming that honours the soil, the seasons, and the women who keep these seeds alive.

Finger Millet Damage

- **Waterlogging at flowering and grain formation:** Extended wet spells spelled disaster for finger millet stands. Waterlogging during grain setting disrupted nutrient flow, leading to "empty" grains and poor finger development.
- **Blast disease and hopper infestations:** High humidity favored the spread of blast fungus, turning pods and fingers brown, while hopper attacks sucked sap from developing grains. Farmers reported the formation of "false grains"—empty, shriveled seeds that further reduced yield.
- **Yield losses**: Waterlogging and persistent humidity increased blast and hopper outbreaks. Even in resilient communities, harvests fell by 10–40% (sometimes more in acute zones)where fields were badly affected, with some marginal plots experiencing almost total crop failure. False grains, shriveled seeds, and pod rot are common.

Cashew: Flowering too early

Cashew trees flower too early now — and too often, at the wrong time. Rising winter temperatures and erratic rainfall have confused the trees' natural rhythm. Warmer nights and unseasonal humidity trigger premature flowering, often weeks before pollinators are active or before soil moisture is sufficient to support fruiting. When the real summer heat sets in, these early flowers dry up or drop prematurely, wasting the tree's energy and reducing nut yield.

Farmers also observe a second, weak flush of flowering later in the season, producing small, poor-quality cashews. The once-synchronized flowering season that ensured abundant pollination and predictable harvests has become fragmented.

"The trees bloom too soon, then the rain hits again — flowers fall, and there's nothing left to collect," — *Raghunath, Jawhar*

Over time, this shift in phenology—nature's calendar—means lower yields, poor nut quality, and declining income. It also affects the wider ecosystem: pollinators lose their food timing, and soil nutrients are depleted faster, signalling how deeply climate change is unsettling perennial systems.

Mango: The lifeline of Konkan

Few crops carry as much emotional and economic weight in the Konkan as the mango (*Amba*). It is not just a fruit — it is memory, heritage, and livelihood intertwined. Generations of tribal and coastal farmers have tended to these trees, marking seasons by their bloom and community rhythms by their harvest.

The mango economy supports thousands of smallholders, providing income through fruit sales, local markets, and labour in grading, packing, and transport. Beyond its market value, it shapes local diets, culture, and identity — from summer feasts to traditional preservation practices like sun-dried *amba wadi*.

But climate change is unsettling this deep-rooted relationship. Warmer winters delay dormancy, while unseasonal rains trigger premature flowering, confusing pollinators and increasing fungal infections. Farmers now face fewer fruits, irregular harvests, and declining quality, leading to both emotional and economic loss.

"A good mango season meant joy for the whole village. Now we wait and worry — will the flowers hold or fall?" — Lakshmibai, Jawhar

Preserving *Amba* means more than protecting a crop — it means safeguarding a cultural anchor of the Konkan landscape. At Raah Foundation, we see such crops as living threads connecting ecology, economy, and emotion — all three now needing resilience in a changing climate.

Jasmine and Marigold — Fragrance and Livelihood at Risk

Flower cultivation has long provided small farmers—especially women—with steady daily income and a sense of pride. Jasmine and marigold, the most common choices in regions like Palghar, are more than aesthetic crops; they are integral to local rituals, markets, and women's entrepreneurship.

But the changing monsoon is quietly stealing their bloom. Prolonged rains and high humidity create ideal conditions for fungal infections that blacken buds and cause premature flower drop. The extended wet season leaves the plants constantly damp, blocking sunlight and weakening root systems.

"The buds rot before we can pick them — every rain takes away a day's income,"
— Manisha, Mokhada

In jasmine, **continuous moisture triggers leaf spot and bud rot**, reducing both yield and fragrance quality. Marigold faces **root rot and petal blight**, with heavy rain knocking down entire beds of flowers just before peak harvest. Because of the **extended monsoon**, the **window for flowering and harvest has shortened**, forcing farmers to sell quickly at lower prices or lose the bloom entirely.

The result is a double blow — **declining yields and shrinking incomes** — particularly hard on women, who depend on flower sales for daily household expenses. What was once a symbol of joy and self-reliance now mirrors the uncertainty of the skies above.

Trellis Crops: Fragile Frameworks in Fierce Weather

Crops like bitter gourd, bottle gourd, cucumber etc. depend on trellises — delicate frameworks of bamboo and rope that lift the vines off the ground and keep fruits dry, clean, and pest-free. But in recent years, strong winds and heavy downpours have turned these very structures into points of vulnerability.

When high-speed monsoon winds sweep through, they collapse trellises and snap climbers, leaving the plants sprawled across soaked soil. The tender fruits that come in contact with wet earth rot within days, while fungal infections spread rapidly through the tangled vines.

"The wind brought the whole structure down in one night. The vines lay flat in the mud — nothing we could save," — Lata, Vikramgad

Even when the trellises survive, extended cloudy days and humidity slow flowering and reduce fruit set. Pollinators stay inactive, and flowers drop before pollination. Excess moisture invites downy mildew, fruit rot, and bacterial wilt, turning once-profitable crops into high-risk ventures.

The rising cost of bamboo, rope, and labour to rebuild trellises after each storm adds further strain. For smallholders, each collapse means not just a lost crop but lost capital — pushing them to abandon vegetable cultivation altogether.

Trellis crops once symbolized **resourcefulness and nutrition diversity** in small farms; today, they stand as fragile reminders of how even the simplest structures can crumble under an unpredictable sky.

Impact of Unseasonal Rains on Raigad Farmers

The farmers in our Raigad cohort have been among the worst affected this season. Nearly all 120 farmers in the cluster faced severe crop damage due to incessant heavy rains. Normally, they are able to harvest their crops five times during the season, but this year, most could manage only one or two harvests before the fields were inundated and the crops destroyed.

Bitter gourd and cucumber—key income-generating crops—were the hardest hit. Despite repeated efforts, including replanting and gap filling where seeds failed to germinate, the continuous rains left little chance for recovery. Crop losses ranged between **50% and 80%**, depending on the farm's location and drainage conditions.

To estimate the economic impact, we assumed the income from the first or second (relatively normal) harvest as a reference and projected the loss based on the potential earnings from all five harvests. The resulting **financial loss per farmer is estimated at ₹50,000–₹70,000**, averaging around **₹60,000 per household**.

Across the cohort, this translates into a **total loss of approximately ₹7.2 million** to the local village ecosystem.

For smallholder farmers who live from hand to mouth and had pinned their hopes on this season's harvest, this has been devastating—both financially and emotionally. What was expected to be a season of prosperity has instead become a painful reminder of how vulnerable rural livelihoods remain to extreme and erratic weather events.

Kharif Vegetables: When the Monsoon Turns Against Its Own Season

The Kharif season was once the most dependable window for vegetable cultivation. With the onset of rains, farmers planted brinjal, okra, tomato, chilli, ridge gourd, and leafy greens, expecting a steady supply and income through the monsoon months. But climate change is rewriting that script.

Now, the same rains that once nourished these crops often destroy them through intensity, inconsistency, and inundation. Early or delayed monsoon onset disrupts sowing schedules; continuous downpours and waterlogging suffocate roots and invite fungal and bacterial rots. Even hardy crops like brinjal and okra are increasingly vulnerable to stem rot, fruit borer, and leaf blight under prolonged humidity.

"The rain doesn't stop long enough for the soil to dry. We replant again and again, but the plants don't survive," — Ramesh, Jawhar

Sunlight scarcity during extended cloudy spells slows photosynthesis and flowering, while sudden bursts of heat between rains scorch tender leaves. The erratic rhythm confuses both crops and pests — insects now breed faster, appearing in multiple waves within a single season.

Market dynamics worsen the blow. When too much rain destroys fields in one area but spares another, price crashes follow. Farmers already facing higher costs for seeds and pesticides earn less than before, making Kharif vegetable cultivation a risky investment.

These once-reliable crops—core to both household nutrition and women's income—now symbolize how even a "good monsoon year" can become a season of loss when the rains refuse to follow their rhythm.

- **Damage Extent: 30–50% of kharif crops in Maharashtra were damaged/destroyed** by submergence, waterlogging, and flooding, with 6.8–7 million ha of cropped land impacted. Nashik alone lost up to 80% of its kharif onion crop; paddy, soybean, pulses, and cotton losses are also severe. Palghar too the damage to Kharif crops is similar to Maharashtra average – 30% - 50%. For small tribal farmers this is a huge loss.
- **Causal Mechanisms:** October rains at crop maturity caused lodging, delayed harvest, sprouting, fungal rot, and total field loss in some districts.
- **Impacts on Livelihoods:** Farmers face income loss, rising debt, delayed Rabi sowing, and an urgent need for technical and financial support.

Dragon Fruit: A New Crop Facing New Climate Threats

Dragon fruit — once seen as a climate-smart, high-value crop — is now showing its own vulnerabilities to a changing monsoon. The plant thrives in semi-arid conditions with controlled watering, but excessive rainfall and prolonged soil wetness are turning its advantages into liabilities.

During extended wet spells, the soil around dragon fruit orchards remains soggy for weeks, creating perfect conditions for snails and fungal pathogens. In an unusual adaptation, snails climb up the concrete or iron rods that support the vines**,** feeding on tender buds and fresh leaves. Their feeding scars quickly turn into rot spots, leading to loss of branches and reduced fruit set.

“The rain doesn’t stop, and the snails climb up the poles at night — by morning, half the buds are gone,” — *Prakash, Vikramgad*.

Excess humidity also promotes anthracnose and stem rot, causing black lesions that spread rapidly across the fleshy stems. Fruits that survive often develop surface blemishes and soft rot, lowering their market value.

As rainfall patterns grow more erratic, orchard management becomes harder — farmers must constantly clear weeds, monitor drainage, and guard against pest surges. The dragon fruit, once a symbol of diversification and resilience, is now a reminder that even “climate-resilient” crops need microclimate management and adaptive design to truly withstand the new normal.

“We don’t need thermometers to know the soil has fever.” — Raah field coordinator, Mokhada

The intricate relationship between soil, crop, and climate is unraveling — and farmers are the first to notice.

Delayed Rabi Sowing: Wet fields slowed or prevented field preparation for jowar, wheat, and gram and other winter crops; some farmers are shifting sowing windows or changing crop plans.

Farmers’ Voices from the Frontline

Across 200 villages, farmers speak a new language of uncertainty:

“The wells that lasted till March now dry by January.” — Rukmini, Mokhada

“We planted twice — first the late monsoon onset killed it, then too much rain and flooding took the second.” — Bhaskar, Vikramgad

For women, the burden deepens. As water sources dry, they walk longer distances; when crops fail, they eat less so children can eat more. Yet they are also leading adaptation — experimenting with mixed crops, saving seeds, and nurturing small nutrition patches near home.

Behind these numbers are stories of heartbreak: families relying on a bumper monsoon to pay debts and feed children now find themselves salvaging what little is left—and seeking new ways to cope.

Building Resilience: Farmers Fighting Back

Despite adversity, hope sprouts in Raah Foundation's project areas. Here, climate-smart adaptation is not a buzzword—it's survival:

- Timely and synchronized sowing to dodge pest and flood peaks.
- Water conservation: check dams and bunds slow runoff, recharge wells.
- Crop diversification and intercropping help buffer against single-crop collapse.
- Integrated pest management and organic techniques reduce vulnerability.
- Women's groups lead in nutrition, and diet diversity through One acre food forest program.

Raah Foundation's work restores hundreds of acres, trains thousands of farmers, and demonstrates that local innovation matters.

Raah Foundation's Adaptive Response

Raah Foundation's approach integrates ecology, gender, and science:

- Water Security: Recharge wells, contour trenches, and aquifer mapping across 4,000 ha help rainwater seep into basalt aquifers. Water for People having a water use lens and creating and mapping water structures especially for agriculture such as farm ponds etc.
- Women-Led 1-Acre Food Forests: Over 500 women farmers now cultivate diverse agroforestry plots — fruit trees, vegetables, millets, and native grasses — creating year-round food and income security.
- Farmers practicing natural climate smart farming that is making them more resilient and improve preparedness for climate onslaughts.
- Collectives for Strength: Farmer Interest Groups and women's federations pool resources and market power.
- Restoration for Resilience: Re-greening degraded commons moderates micro-climates and restores biodiversity.

Each of these is a building block toward climate resilience — from acre to ecosystem.

Turning Observation into Science

Our teams now maintain rainfall diaries, soil-moisture logs, and crop phenology charts. Validated by partners like KVKs, these local records reveal patterns invisible to satellite averages — such as 20-day dry gaps that determine a crop's survival.

By treating farmers as citizen scientists, Raah Foundation transforms everyday observation

into climate intelligence — guiding sowing decisions, irrigation timing, and adaptive planning.

Adaptation and Management Approaches

In the face of erratic monsoons, prolonged humidity, and rising pest pressure, farmers need a mix of traditional wisdom and modern science. Raah Foundation promotes locally adaptable, low-cost, and climate-smart solutions that protect both livelihoods and ecosystems.

1. Cultural Practices

Simple agronomic adjustments can greatly reduce crop stress and pest outbreaks.

- Timely and synchronized sowing helps crops escape peak pest and flood periods.
- Crop rotation and intercropping with legumes, millets, or nitrogen-fixing species restore soil fertility and break pest cycles.
- Field sanitation and residue management minimize fungal and bacterial build-up.
- Raised beds and contour planting improve drainage and reduce waterlogging.
- Optimal spacing and pruning ensure aeration and light penetration, limiting disease spread.
- Use of healthy, climate-resilient seeds—especially community-saved and locally adapted varieties—enhances tolerance to erratic weather.

2. Soil and Water Management

Healthy soils are the first line of defense against climate extremes.

- Mulching with organic residues conserves moisture, suppresses weeds, and stabilizes soil temperature.
- Compost and biochar application improves soil structure, carbon content, and microbial activity.
- Rainwater harvesting, farm bunding, and trenching reduce runoff and recharge groundwater.
- Drainage channels and soak pits prevent crop loss from prolonged waterlogging.
- Moisture monitoring using simple tools helps time irrigation and sowing more effectively.

3. Biological Controls

Nature-based pest control is critical under changing climate regimes.

- Beneficial insects such as ladybird beetles, lacewings, and parasitoid wasps naturally suppress pest populations.
- Botanical extracts like neem, garlic, or chili sprays serve as bio-pesticides with minimal ecological impact.
- Trap crops and pheromone traps divert pests and help monitor infestations early.

- Encouraging bird perches and pollinator-friendly plants maintains ecological balance in fields.

4. Integrated Pest and Disease Management (IPM)

Under variable humidity and temperature, pest dynamics shift quickly. An integrated approach combines:

- Cultural and biological controls as the first line of defense.
- Use of selective, need-based chemical control only when thresholds are exceeded, minimizing resistance and residue.
- Regular field monitoring and pest forecasting using digital tools or local Krishi Sakhis trained for early detection.
- Community-level training on IPM through Farmer Field Schools and demonstration plots.

5. Crop and Livelihood Diversification

Diversification spreads risk and enhances resilience.

- Multi-layered cropping systems like the *1-Acre Food Forest* mix perennials, vegetables, millets, and fodder.
- Short-duration or flood-tolerant crop varieties protect incomes in erratic seasons.
- Home nutrition gardens and small livestock or poultry units strengthen food security.
- Collective marketing and value addition (drying, pickling, floriculture, compost) increase income stability.

6. Institutional and Knowledge Support

Adaptation succeeds when communities, institutions, and science work together.

- Partnerships with KVKs, ATMA, and agricultural universities for farmer training and validation of practices.
- Weather-based advisories shared via WhatsApp or village noticeboards for timely action.
- Women's federations and Farmer Interest Groups (FIGs) as local governance units for climate adaptation planning.
- Rainfall diaries, soil health cards, and crop calendars maintained by Raah-trained Krishi Sakhis to generate local climate intelligence.

Role of Ecological Restoration in Climate Change Adaptation

At Raah Foundation, our ecological restoration efforts show how nature-based solutions can build resilience against climate shocks while reviving local ecosystems.

In Nashik, our integrated **rewilding program** has restored **3,000 acres** of degraded land through a combination of ecological interventions:

- **2.6 lakh native saplings** planted to rebuild biodiversity and canopy cover.
- **Soil- and moisture-conservation structures**—loose boulder structures, contour trenches—to slow runoff and enhance groundwater recharge.
- **Protection measures** including removal of invasive species, fire lines, and conservation of native grasses to stabilize soil and improve habitat quality.
- **Regulated grazing and human activity** to enable natural regeneration.
- **Soil enrichment** through vetiver planting and organic humus.
- **Complete ban on grazing and wood felling** to revive rootstock and soil seed banks.
- **Community engagement** to build local stewardship and shared responsibility for forest protection.

These combined actions have turned once-barren hillsides into living systems that now regulate local hydrology. Runoff has reduced, water percolation has increased, and soil erosion has sharply declined.

Within two years, water tables in the adjoining **village of Dari** have visibly improved. Farmers who once managed only a single kharif crop now grow two to three crops a year—strengthening both **food and income security**.

When **Nashik district** faced severe waterlogging and widespread crop losses this year, Dari stood apart. The rewilded landscape acted as a natural sponge—absorbing excess rainfall and preventing floods.

"Every year, heavy rains used to mean lost crops," shared a farmer from Dari. "But this year, while others faced waterlogging, my fields stayed safe. The rewilding work on our barren hill has changed everything—our farms, our income, and our confidence in facing the rains."

The **Dari experience** underscores how ecological restoration is not peripheral to climate adaptation—it *is* adaptation in action. It reduces disaster risk, restores biodiversity, and strengthens rural livelihoods through community stewardship of natural resources.

From Uncertainty to Resilience

Climate change is no longer distant; it's etched in the soil cracks of Palghar and the flowering cycles of jasmine in Jawhar. Yet amid disruption, a quiet resilience is taking root.

"The weather may not listen, but we have started listening to the land again." — Woman farmer, Raah 1-Acre Food Forest

This is the new frontier of climate action — where science meets lived experience, and where small farmers, especially women, become the first responders in our shared struggle for sustainability. Climate resilience is not one intervention—it is a way of farming that listens to the land. Through soil care, seed diversity, and women's leadership, Raah Foundation is helping communities move from coping to thriving in a changing climate.

2025 stands as a warning and opportunity: La Niña-driven rainfall, layered atop broader climate change, produced both promise and peril—above-average moisture but catastrophic flooding and loss for millions of farmers in Maharashtra and beyond. For the future of Indian agriculture, adaptation strategies—anchored in science, policy, and community action—are now non-negotiable.