



Satpura-Melghat Green Corridor Initiative

IORA Ecological Trust

March 2025



About The IORA Ecological Trust

IORA Trust is a registered public and charitable trust, established in 2014 aimed to conserve and restore India's natural ecosystems. Born from the urgent need to prioritize climate action and ecological conservation at a national level, we bridge the gap between science, policy, and grassroots action.

Driven by innovation, we empower communities, deploy cutting-edge technology, and unlock sustainable financing to restore ecosystems and amplify their societal value. Our work thrives on:

- High-impact interventions that heal landscapes and boost biodiversity.
- Inclusive partnerships with local communities, fostering stewardship.
- Data-driven solutions powered by advanced monitoring and AI-driven impact assessments.
- Actionable knowledge that shapes policies and accelerates scalable change.

As India's ecosystems face unprecedented threats, IORA Trust stands at the forefront—turning science into action, communities into allies, and challenges into opportunities for a resilient tomorrow.

Together, we're not just preserving nature—we're reigniting its pulse.



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Acknowledgement

We sincerely express our deepest gratitude to Cleanmax for their invaluable support and generous grant, which made the implementation of the Satpura Melghat Green Corridor project possible. This initiative stands as a testament to their commitment to sustainable development and environmental conservation.

Our heartfelt thanks to Principal Chief Conservator of Forests (PCCF), Madhya Pradesh, and Additional Principal Chief Conservator of Forests (APCCF), Madhya Pradesh, for their visionary guidance and unwavering support. We extend our thanks to the Field Director, Narmadapuram, Chief Conservator of Forests (CCF), Narmadapuram, and DFO Narmadapuram for continued support and guidance.

We acknowledge the insights of the Maharashtra Forest Department, Madhya Pradesh Agriculture Department, and Horticulture Department, whose expertise and cooperation were instrumental in bridging ecological and community needs. Our gratitude also extends to all other government departments involved for their administrative support and proactive participation.

Special thanks to Vertiver and Bhartodaya for their technical expertise, innovative solutions, and grassroots mobilization, which enriched the project's impact.

This project would not have succeeded without the trust and involvement of the local communities, panchayats, and grassroots volunteers. Their dedication to preserving their natural heritage and embracing sustainable practices has been the cornerstone of this endeavour.

Finally, we honor the collective efforts of every individual, institution, and stakeholder who contributed to this initiative. Together, we have taken a meaningful step toward ecological resilience and community empowerment.

Table of Contents

EXECUTIVE SUMMARY	3
1. BACKGROUND OF THE PROJECT	5
2. THE LANDSCAPE	7
2.1 THE LANDSCAPE SPREAD	7
2.2 FOREST COVER	8
2.3 CLIMATE VULNERABILITY	9
3. RATIONALE AND OBJECTIVES	10
3.2 INTEGRATION OF SUPPORTING ACTIVITIES	11
3.3 OBJECTIVES	12
4. ACTIVITIES	13
4.1 RECONNAISSANCE SURVEY & VILLAGE SELECTION	13
SELECTION CRITERIA	13
4.2 STAKEHOLDER MAPPING	15
4.3 FOCUS GROUP DISCUSSIONS WITH COMMUNITIES OF SELECTED VILLAGES	16
4.4 HOUSEHOLD SURVEYS	17
4.5 IDENTIFICATION OF FARMERS	17
4.6 SOIL SAMPLE TESTING	18
4.7 SELECTION OF SPECIES AND SAPLING PROCUREMENT	20
4.8 ESTABLISHMENT OF 'PRAKRITI NURSERY' IN MOHALA VILLAGE	21
4.9 SPACING, LAYOUT, AND PIT PREPARATION	24
4.10 BACKYARD FRUIT TREE PLANTATION INITIATIVE	2
4.11 TARGETED FARMER TRAININGS AND MEETINGS	3
4.12 DEVELOPING POTENTIAL AGROFORESTRY MODELS IN SATPURA-MELGHAT LANDSCAPE	5
4.13 BIOGAS IMPLEMENTATION & ADOPTION	7
4.14 QUALITATIVE (KAP) STUDY AND BEHAVIOUR CHANGE	10
LAYING THE FOUNDATION: UNDERSTANDING BEFORE INTERVENING	10
SHAPING THE NARRATIVE: AWARENESS AS THE FIRST STEP TOWARDS CHANGE THE INITIATIVE SOUGHT TO - (1) MAKE SUSTAINABLE PRACTICES MORE ACCESSIBLE THROUGH SIMPLE, LOW-COST SOLUTIONS; (2) FOSTER A SENSE OF OWNERSHIP BY POSITIONING COMMUNITIES AS ENVIRONMENTAL STEWARDS; (3) LEVERAGE LOCAL INFLUENCERS TO DRIVE BEHAVIOUR CHANGE; AND (4) CREATE BEHAVIOURAL NUDGES THAT REINFORCE LONG-TERM SUSTAINABILITY. THROUGH LIVE DEMONSTRATIONS OF CLIMATE-SMART AGRICULTURE AND ORGANIC FARMING, THE INITIATIVE ENCOURAGED PRACTICAL, COMMUNITY-DRIVEN SOLUTIONS TO ENVIRONMENTAL CHALLENGES	10
4.15 AWARENESS GENERATION WORKSHOPS THROUGH KNOWLEDGE TRAINING AND LIVE EXPERT DEMONSTRATIONS	18
COMMUNITY AWARENESS WORKSHOPS: AT A GLANCE	19
AWARENESS WORKSHOP 1: SUSTAINABLE / NATURAL FARMING	21
KEY FOCUS AREAS OF THE WORKSHOP	24
IMPACT AND OUTCOMES	24
THE WAY FORWARD	25
KEY FOCUS AREAS OF THE WORKSHOP	32
IMPACT AND OUTCOMES	32
THE WAY FORWARD	33
OUTCOMES	41
KEY OUTCOMES & IMPACT	30
INCREASED ACCESS TO HEALTHCARE SERVICES:	30
HIGH COMMUNITY ENGAGEMENT IN AWARENESS SESSIONS:	30
POSITIVE COMMUNITY FEEDBACK AND INCREASED USE OF BIOGAS	30
ENHANCED AGRICULTURAL PRODUCTIVITY AND ENVIRONMENTAL BENEFITS	30
STRENGTHENED COMMUNITY AWARENESS AND BEHAVIORAL CHANGE:	31
POSITIVE COMMUNITY FEEDBACK AND IMPROVED HEALTH-SEEKING BEHAVIOR:	31
STRENGTHENED COLLABORATION WITH LOCAL AUTHORITIES & FARMERS	31
INCREASED COMMUNITY PARTICIPATION AND LONG-TERM SUSTAINABILITY	31

List of figures

Figure 1. Statewise Area Coverage of Agroforestry	6
Figure 2. Satpura Melghat Landscape	7
Figure 3. Forest cover in Satpura Melghat Landscape	8
Figure 4. Climate vulnerability of Madhya Pradesh.....	9
Figure 5. Landscape within the state of Madhya Pradesh	13
Figure 6. Project locations.....	14

List of Tables

Table 1. Vulnerability Assessment of Project Districts.....	9
Table 2. Baseline Survey Results	14
Table 3. Soil Nutrient Assessment Report	19
Table 4. Agroforestry models developed by IORA.....	6

Executive Summary

The Satpura-Melghat Green Corridor Initiative, implemented through a strategic CSR partnership between CleanMax and IORA Ecological Trust, is a pioneering project aimed at restoring degraded ecosystems and enhancing rural livelihoods across a critical wildlife corridor in Central India. Launched between October 2024 and March 2025, the initiative is a response to escalating challenges—ranging from deforestation and soil degradation to climate vulnerability and energy insecurity—that imperil both biodiversity and the socio-economic fabric of rural communities.

Project Rationale and Objectives

In alignment with India's Nationally Determined Contributions and the United Nations Decade on Ecosystem Restoration (2021–2030), the project integrates agroforestry, biogas adoption, and health interventions to foster a resilient landscape.

The key objectives were to:

- Restore soil health and reduce deforestation through the promotion of agroforestry and natural farming practices.
- Enhance energy security and mitigate indoor air pollution by installing biogas units that also generate nutrient-rich organic slurry for sustainable agriculture.
- Empower rural communities with comprehensive training, capacity-building, and participatory decision-making processes, thereby ensuring the longevity and scalability of the intervention.
- Foster multi-stakeholder collaboration among local government bodies, forest departments, and community groups to catalyze a holistic, community-driven model of rural development.

Integrated Approach and Key Interventions

A robust, data-driven planning phase underpinned the project:

- **Reconnaissance and Village Selection:** In close coordination with the Forest Department, seven villages were carefully chosen based on proximity to forested areas, high tribal populations, and acute ecological degradation, ensuring that interventions yield maximum environmental and socio-economic benefits.
- **Stakeholder Engagement:** Detailed mapping of stakeholders—ranging from Panchayati Raj Institutions to local eco-development committees—ensured targeted engagement, conflict mitigation, and effective communication throughout the project lifecycle.
- **Community Consultations and Surveys:** Through focus group discussions and household surveys involving over 210 families, the project gathered vital insights on land use, agricultural practices, and energy needs, which informed the design of tailored interventions.
- **Soil Testing, Species Selection and Nursery Establishment:** Analysis of soil samples from 50 fields highlighted significant deficiencies in key nutrients. This led to the selection of nitrogen-fixing and drought-resistant species, with over 5,000 saplings procured and acclimatized at the newly established a Nursery in Mohala village.
- **Biogas Implementation:** Installation of 50 biogas plants has been instrumental in reducing firewood dependency, mitigating indoor air pollution, and providing organic fertilizer for agroforestry, thus closing the loop between renewable energy and sustainable agriculture.
- **Capacity Building and Awareness Workshops:** A series of thematic workshops—covering natural farming, clean energy, water conservation, agroforestry, and youth capacity building—employed live demonstrations, participatory games, and expert testimonials. These sessions not only enhanced technical knowledge but also instilled a sense of ownership among community members.

Outcomes and Future Directions

The integrated interventions have already started to yield tangible benefits, including improved soil fertility, reduced energy poverty, and a stronger community commitment to sustainable practices. By linking ecological restoration with rural development, the project serves as a replicable model that demonstrates how scientifically grounded, community-driven approaches can achieve large-scale environmental and social impact. The way forward involves scaling up agroforestry models, deepening multi-stakeholder collaborations, and continuously refining training modules to ensure that the benefits of this initiative endure well into the future.

Together, these efforts underscore a transformative vision: turning ecological challenges into opportunities for sustainable development and long-term climate resilience.

Number of beneficiaries during the project cycle

Sl no.	Intervention	No of direct beneficiaries	Number of Indirect beneficiaries
1	Agroforestry	70	280
2	Backyard Nutrition	450	1200+
3	Bio gas plants installation	50	200+
4	Workshops	150	
5	Establishment of nursery	45	
6	Saplings procurement	15	
7	Health camp	500	100+
8	Health awareness camp	550	100+
9	Umbrella for girl/female students and elderly women farmers	300	
10	Caps and bags for farmers	500	
11	Vermicompost distribution	450	
12	Others (vendors, local business, local mandays)	50	
	Total beneficiaries from the Project	2580	1880



1. Background of the Project

Corporate Social Responsibility (CSR) has emerged as a transformative force in India's development landscape, bridging economic growth with societal well-being. With 65% of India's population (over 900 million people) residing in rural areas (World Bank, 2023), villages are both custodians of biodiversity and disproportionately affected by ecosystem degradation. For instance, 30% of India's land is degraded, impacting 600 million people dependent on climate-sensitive sectors like agriculture (UNCCD, 2022). CSR projects targeting nature conservation can reverse this trend. Agroforestry initiatives, for example, have increased farmer incomes by 30–40% in Maharashtra while sequestering 2.5–4 tons of CO₂ per hectare annually.¹ Similarly, watershed management programs in Rajasthan improved groundwater levels by 4–6 meters, benefiting 150,000 households.² Such data underscores the multiplier effect of integrating ecological and social outcomes.

India's biodiversity supports livelihoods for 275 million people directly dependent on forests³, yet public funding for conservation remains inadequate. CSR can bridge the gap in a way that even if 5% of India's annual CSR funds (₹1,250 crore) were dedicated to nature and biodiversity, it could restore 500,000 hectares of degraded land or protect 25 critical wildlife corridors.⁴

The urgency to mainstream nature conservation in CSR is clear. As climate disasters intensify and rural vulnerabilities rise, businesses must pivot toward projects that deliver environmental, social, and governance (ESG) returns. India's villages offer a canvas for innovation—where renewable energy, agroecology, and eco-tourism can thrive alongside conservation. By prioritizing nature and biodiversity conservation, companies not only fulfil regulatory mandates but also future-proof their operations and contribute to a legacy of stewardship.

The CleanMax-IORA partnership is a beacon, illustrating that when ecology and economy converge, the possibilities for an equitable, sustainable future are indeed limitless.

Integrated Conservation and restoration

CleanMax's CSR partnership with IORA Ecological Solutions aims to holistically restore this ecologically vital landscape 'The Satpura-Melghat Corridor' by 2030, adopting a phased approach to reduce pressure on forests, rejuvenate degraded soil and agricultural lands, and empower farmers and forest-dependent communities. The initiative integrates agroforestry expansion, renewable energy adoption, soil and forest conservation, community-led nurseries, stakeholder awareness campaigns, and eco-enterprises for women's collectives, ensuring ecological resilience aligns with human well-being

This document outlines the progress and impact of the Satpura-Melghat Corridor Conservation Project, the CSR initiative funded by CleanMax and implemented by IORA Ecological Solutions between October 2024 and March 2025. It details the efforts towards production landscape restoration within critical wildlife habitat, community-led livelihood programs with long term outcomes in biodiversity recovery and carbon sequestration. By tracking ecological and socio-economic indicators the report underscores the transformative potential of integrating nature conservation with rural development. The findings aim to inspire

¹ <https://www.cifor-icraf.org/annualreport2021/>

² <https://www.undp.org/india/publications/drought-proofing-rajasthan-imperatives-experience-and-prospects>

³ <https://www.fao.org/interactive/forest-resources-assessment/2020/en/>

⁴ Church R, Walsh M, Engel K and Vaupel M. A Biodiversity Guide for Business. Berlin, Germany: WWF, 2022.

scalable, evidence-based CSR models that align corporate goals with India's climate and conservation priorities.

In the Nationally Determined Contributions submitted to the UNFCCC, India aims to create an additional carbon sink of 2.5 to 3 billion tonnes of CO₂eq. Importantly, agroforestry is one of the strategies envisaged to achieve this goal by increasing tree cover.⁵

This landscape was specifically chosen since Madhya Pradesh has one of the lowest proportions of farmland under agroforestry, indicating a large scope for improvement.⁶ By intervening in an area with significant potential for expansion, our project can have a substantial impact on both agricultural productivity and ecological benefits.

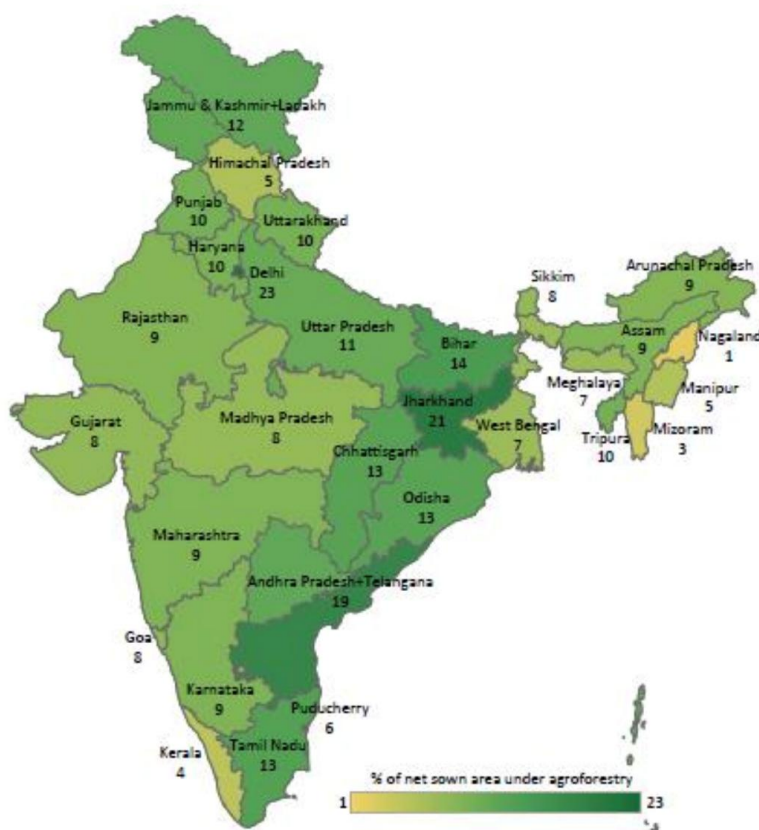


Figure 1. Statewise Area Coverage of Agroforestry

⁵ Ram Asha, Dev, Inder, Bhaskar S, and Chaturvedi O.P. 2018. Role of Agroforestry in Current Scenario. Scientific Publishers, Jhansi

⁶ Newaj R, Rizvi R.H, and Charurvedi O.P, et al. 2017. A Country Level assessment of Area under Agroforestry and its Carbon Sequestration Potential. Technical Bulletin 2/2017. ICAR-central agroforestry Research Institute, Jhansi, pg 48

2. The Landscape

2.1 The Landscape Spread

The Satpura-Melghat corridor, located in Central India, spans across Madhya Pradesh and Maharashtra, forming crucial linkages between the Satpura and Melghat tiger reserves. It is characterized by highly undulating terrain with dry deciduous forests interspersed with farmlands. This corridor is home to several endangered species such as tigers, dholes, and forest owlets. It serves as a critical biodiversity hotspot with extensive forest cover, acting as a significant carbon sink and contributing to climate resilience.

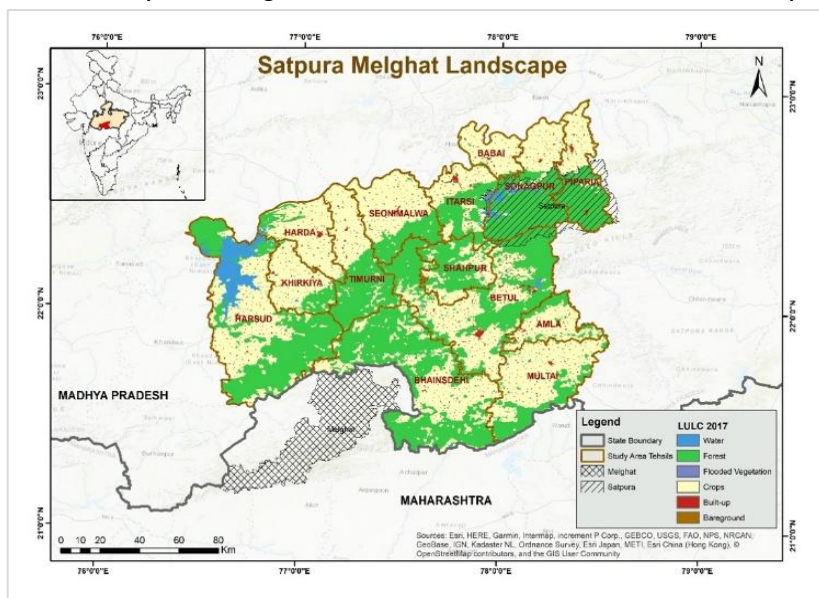


Figure 2. Satpura Melghat Landscape

The Satpura-Melghat forest landscape lies in the heart of the Satpura Mountain ranges, connecting two of the largest tiger reserves in Central India. It is a vital link for the tiger population of the Western Ghats of Maharashtra, where numbers are declining. According to the All-India Tiger Estimation, 2022, the Satpura-Melghat landscape, including its protected areas, has the potential to support a tiger population exceeding 100 adult individuals. The teak and miscellaneous-dominated tropical dry deciduous forests, interspersed with grassland habitats, provide suitable conditions for herbivores like chowsingha, sambar, and barking deer, ensuring a stable prey base for large carnivores.

Beyond its ecological significance, the corridor holds deep cultural value, evident through ancient rock paintings, historical sites, and indigenous tribal communities such as the Gond, Korku, and Bhil. These communities have lived in the region for generations, developing traditions and livelihoods closely intertwined with the forest and its resources. The landscape offers opportunities for scientific research, conservation education, and nature interpretation, fostering environmental awareness and sustainable livelihoods for local communities.

However, the corridor faces significant conservation challenges. Habitat fragmentation threatens genetic diversity, with 35 percent of the landscape degraded due to unsustainable agriculture and infrastructure. The interaction between forested areas and agricultural lands poses unique challenges for conservation and sustainable development. Between 2017 and 2022, the Satpura-Melghat landscape underwent notable land use changes. Water bodies expanded by 6,783 hectares, but forest cover decreased by 35,401 hectares. Flooded vegetation reduced by 220 hectares, while croplands and built-up areas increased by 18,676 and 11,051 hectares, respectively. Bare ground areas declined by 899 hectares, reflecting a shift towards intensified agricultural and urban development.

Another growing concern is human-wildlife conflict, as increased human activity in and around forests leads to frequent negative interactions between wildlife and local communities. Additionally, various human-induced pressures such as industrial pollution, mining, deforestation, road and railway infrastructure, and illegal logging contribute to habitat

degradation. These challenges highlight the urgent need for conservation efforts that balance ecological sustainability with community well-being.

To address these issues, the Madhya Pradesh Forest Department is committed to habitat recovery with the active participation of local communities, ensuring the survival of the tiger as the flagship species of the landscape. Conservation initiatives focus on habitat management, reducing human-wildlife conflict, and promoting sustainable land-use practices. The forests and corridors within this landscape play a crucial role in maintaining ecological balance, preserving genetic diversity, and supporting vital ecosystem functions. Strengthening conservation efforts in the Satpura-Melghat corridor will not only safeguard its rich biodiversity but also enhance climate resilience and improve livelihoods for local communities through a harmonious coexistence with nature.

2.2 Forest Cover

The Satpura Landscape Corridor is endowed with significant forest cover, playing a crucial

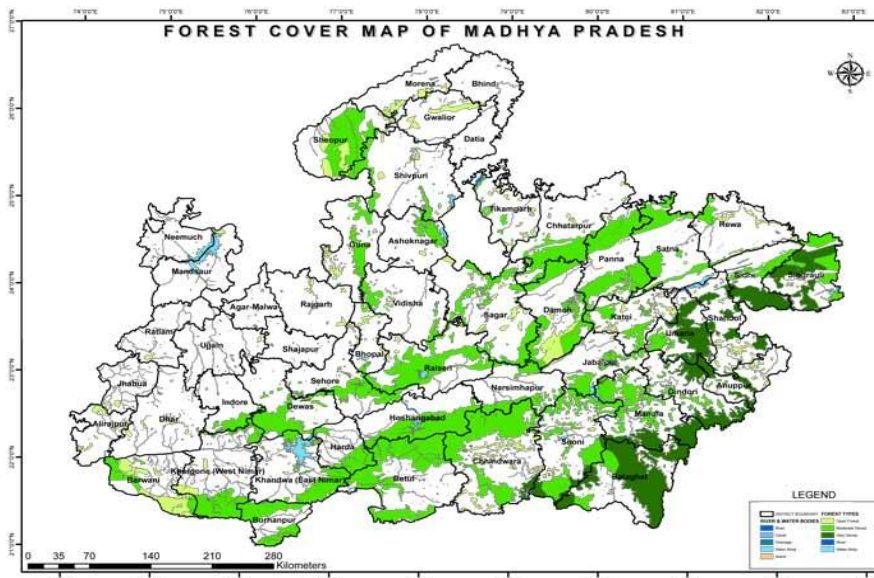


Figure 3. Forest cover in Satpura Melghat Landscape

role in maintaining ecological balance and supporting biodiversity. However, recent trends indicate a decline in forested areas, posing challenges to conservation efforts. Between 2019 and 2021, the total forest area in the landscape reduced by approximately 37 square kilometers. Additionally, there has been a notable shift from moderately dense forest to open forest, reflecting gradual forest

degradation.

According to the India State of Forest Report, 2017⁷, around 36 percent of the land in Narmadapuram and Betul districts and approximately 28 percent in Harda and Khandwa districts is under forest cover. While these forests serve as critical habitats for wildlife, including tigers and other endangered species, the loss of moderately dense forests impacts habitat quality, reduces carbon sequestration potential, and increases vulnerability to fragmentation.

The decline in forest cover can be attributed to multiple factors, including agricultural expansion, infrastructure development, and unsustainable land-use practices. This underscores the need for proactive conservation measures such as habitat restoration, afforestation, and sustainable resource management to mitigate further degradation and ensure the long-term ecological stability of the Satpura Landscape Corridor.

⁷ Ministry of Environment, Forest and Climate Change (MoEFCC). (2023). India State of Forest Report (ISFR) 2023. Forest Survey of India

2.3 Climate Vulnerability

Based on the Government of Madhya Pradesh's Climate Change Cell assessment, the Satpura Landscape faces significant climate vulnerabilities. Forest vulnerability across the landscape is classified as very high, indicating increased risks of degradation due to climate change. Water resource vulnerability and overall climate vulnerability vary across districts, ranging from moderate to high.

A district-wise climate vulnerability assessment for the period from 2021 to 2050, based on

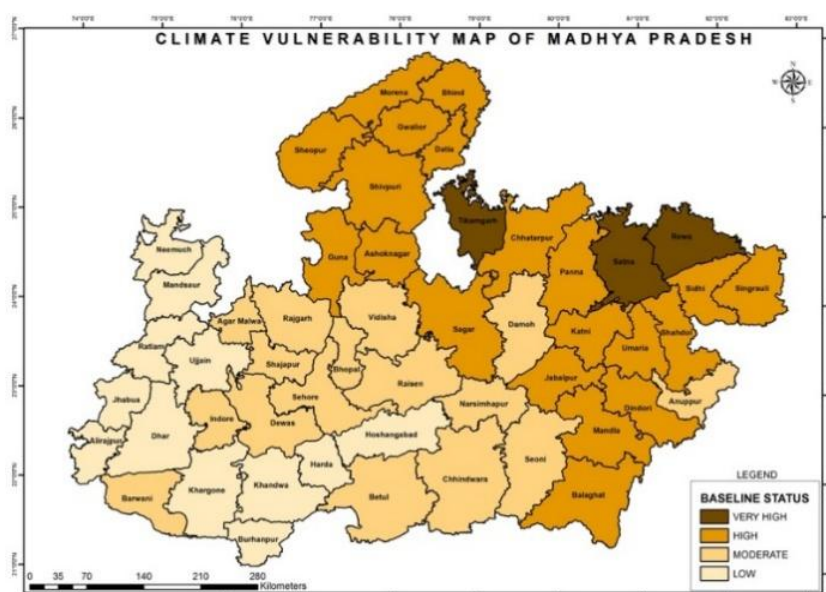


Figure 4. Climate vulnerability of Madhya Pradesh

the RCP 4.5 scenario, highlights varying levels of risk. According to the Climate Vulnerability Map of Madhya Pradesh, districts such as Chhindwara, Dindori, and Anuppur exhibit very high vulnerability, emphasizing the need for urgent climate adaptation strategies. Several other districts, including Betul, Harda, and Narmadapuram, fall under high vulnerability, while parts of western and southern Madhya Pradesh experience moderate vulnerability levels.

Table 1. Vulnerability Assessment of Project Districts

District	Composite Vulnerability	Climate Vulnerability	Water Resources Vulnerability	Forest Vulnerability	Agriculture Vulnerability
Narmada Puram	Low	Moderate	Moderate	Extremely High	Very Low
Harda	Low	Very High	Very Low	Very High	Very Low
Betul	Moderate	Moderate	High	Very High	Moderate
Khandwa / East Nimar	Moderate	High	High	Extremely High	Moderate

*Source: Madhya Pradesh Climate Change Knowledge Portal

2.4 People

The Satpura region is predominantly inhabited by indigenous tribal communities such as the Gond, Korku, Bhil, Baiga, Kol, and Mawasi, who have traditionally depended on agriculture, livestock rearing, and the collection of Non-Timber Forest Products (NTFPs) for their livelihoods. However, over the years, several challenges have emerged, significantly impacting their way of life and the surrounding environment. Declining soil fertility, shrinking water resources, and erratic climatic patterns have led to reduced agricultural productivity,

forcing many tribal members to migrate in search of alternative livelihoods. This shift disrupts traditional practices and weakens the social fabric of these communities.

Additionally, heavy dependence on firewood for cooking and unsustainable NTFP harvesting has contributed to deforestation and biodiversity loss, threatening both ecological balance and long-term resource availability. The degradation of forests not only affects the environment but also erodes the cultural heritage of these communities, whose identities and traditions are deeply intertwined with nature. For instance, the Bhil community has extensive ethnobotanical knowledge that has been passed down through generations. However, habitat destruction, deforestation, and environmental pollution have led to the loss of this traditional wisdom, further disconnecting younger generations from their ancestral practices.

In light of the numerous challenges present in the landscape, the project incorporates a multi-component intervention designed to:

Comprehensive Environmental Strategy



3. Rationale and Objectives

The project is deeply aligned with the United Nations Decade on Ecosystem Restoration (2021–2030), which calls for large-scale restoration efforts that enhance biodiversity, mitigate climate change, and improve livelihoods through sustainable practices. In response to these goals, this project has been designed as a multi-pronged intervention that integrates agroforestry, biogas, health initiatives and community development to restore landscapes while ensuring social and economic sustainability.

3.1 Biogas, Agroforestry and Health as Core Activities: A Unique Combination

Biogas, health and agroforestry serve as the three complementary core activities, offering a unique and synergistic approach to addressing both environmental and socioeconomic challenges.

The Satpura-Melghat Corridor faces high rates of deforestation due to firewood dependency, declining soil fertility, and limited livelihood options, all of which impact both forest conservation and local communities.

While biogas adoption reduces firewood dependency, mitigates indoor air pollution, and enhances household energy security, it also serves as a source of organic fertilizer—a critical link to agroforestry and sustainable agriculture.

Simultaneously, agroforestry promotes climate-resilient livelihoods by integrating tree-based farming systems that restore soil health, enhance biodiversity, and offer diversified income sources.

The project has also integrated health camps and awareness programs to improve access to medical services, respiratory health education (linked to clean cooking solutions), and maternal care.

Additionally, fruit tree distribution for backyard nutrition encouraged households to cultivate nutritious produce, improving food security and reducing dependence on external markets.

The combination of these interventions strengthens ecological balance, promotes regenerative agricultural practices, and empowers rural communities with access to healthcare and sustainable livelihood opportunities. Together, they mitigate deforestation, improve agricultural productivity, and foster long-term rural resilience.

3.2 Integration of Supporting Activities

Beyond biogas, health initiatives and agroforestry, a range of supporting activities has been instrumental in ensuring project success. Promotion of organic fertilizer, farmer workshops, nursery establishment, and youth engagement have collectively played a vital role in capacity building, trust-building, and community participation.

These interconnected activities have also strengthened collaboration among stakeholders, including local governing bodies, community members, and technical experts, making the project scalable and replicable.

The project thus seeks to tackle deforestation, soil degradation, energy poverty, health accessibility and livelihood insecurity in an integrated manner, embodying the core values of the Global Landscape Forum.

It fosters inclusion through community-driven solutions, equity by ensuring shared benefits, collaboration through stakeholder engagement, and innovation by integrating biogas and agroforestry for sustainable landscape restoration.

3.3 Objectives

The project aims to restore degraded landscapes, enhance rural livelihoods, and build climate resilience in the Satpura-Melghat Corridor through an integrated approach that links sustainable agriculture, renewable energy, and community well-being.

- To reduce deforestation and restore soil health by promoting agroforestry and organic farming, improving land productivity while ensuring biodiversity conservation.
- To enhance energy security and sustainable livelihoods by scaling biogas adoption, reducing firewood dependency, lowering carbon emissions, and providing organic fertilizer for farming.
- To strengthen community resilience by improving access to healthcare, fostering youth engagement, and building local capacity for long-term sustainability.
- To foster multi-stakeholder collaboration by engaging village communities, local governance institutions, and technical experts to create a scalable, community-driven model for rural development. (In this we propagated the project in many govt departments like agriculture, forest dept, horticulture, women and child health etc and fuelled the department officials to talk to the community members directly)\
- Through training and capacity-building programs, local communities will gain the skills needed to adopt and sustain eco-friendly practices like solar drying, water conservation, natural farming.



4. Activities

4.1 Reconnaissance Survey & Village Selection

To ensure strategic and high-impact interventions, a reconnaissance survey was conducted in collaboration with the Forest Department. This process involved field visits, socio-economic assessments, and community consultations to identify villages where interventions could deliver maximum environmental and livelihood benefits.

Selection Criteria

- **Proximity to Forests & Conservation Priorities:** The selected villages border or lie within the Satpura-Melghat Corridor, making them crucial for wildlife conservation and habitat restoration.
- **High Tribal Population & Economic Vulnerability:** The predominantly tribal communities face limited livelihood opportunities, forcing dependence on seasonal migration and daily wage labor.
- **Historical Dependence on Forest Resources:** Households rely on firewood for cooking and NTFPs (such as mahua, tendu leaves, chironji, and honey) for income, increasing forest degradation.
- **Declining Agricultural Productivity:** Formerly major soy-producing villages, these areas have seen declining crop yields due to soil degradation, overuse of chemical fertilizers, and water scarcity.



Figure 5. Landscape within the state of Madhya Pradesh

Based on these findings, seven villages across three Gram Panchayats were selected, ensuring a diverse mix of socio-economic and environmental challenges:

1. Pandu Khedi Gram Panchayat:

- **Pandu Khedi** – High firewood dependency, strong potential for biogas adoption.
- **Karkha Jamai** – Close to forests, making agroforestry a viable intervention.
- **Khirodpur** – Faces severe soil degradation and water scarcity, requiring sustainable farming solutions.

2. Nagpur Kalan Gram Panchayat:

- **Nagpur Kalan** – Previously a soy-producing hub, now suffering from reduced agricultural yields and migration.
- **Jamai Kalan** – Faces high out-migration due to limited livelihood opportunities.

- **Jamai Dhamami** – Fragmented landholdings and poor irrigation access, ideal for agroforestry and water conservation efforts.
- 3. Pandri Gram Panchayat:**
 - **Pandri** – Strong community participation in forest resource management, requiring sustainable alternatives to ease forest pressure.
 - **Mohala** – Traditional farming village highly vulnerable to climate variability

Table 2. Baseline Survey Results

Village	Panchayat	No. of HH	Total Land (ha)
Jamai Kalan	Nagpur Kalan	75	270
Nagpur Kalan	Nagpur Kalan	175	360
Jamai Dhamami	Nagpur Kalan	30	173
Naya Basti	Nagpur Kalan	220	380
Pandu Khedi	Pandu Khedi	130	220
Khirodpur	Pandu Khedi	115	200
Karkha Jamai	Pandu Khedi	43	180
Pandri	Pandri	200	1155
Mohala	Pandri	70	350



Figure 6. Project locations

The selection was finalized following consultations with key decision-makers, including the PCCF (Principal Chief Conservator of Forests), Additional PCCF, Chief Wildlife Warden, and Satpura Tiger Reserve officials. Their guidance ensured that village selection aligned with both conservation and community development priorities.

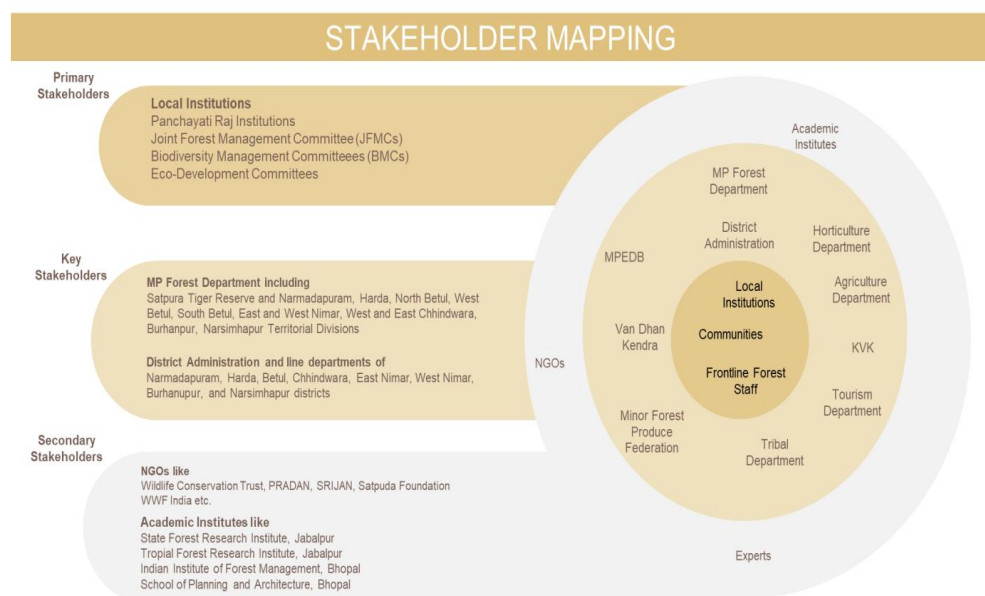
This scientifically guided, stakeholder-driven selection laid the foundation for a holistic intervention that integrates environmental sustainability, energy security, and rural livelihoods.

4.2 Stakeholder Mapping

Stakeholder mapping is a simple process of listing all the stakeholders of your project and working through a series of steps to build a strategic engagement and communications plan¹. Stakeholder mapping is a crucial process in any landscape-level initiative, particularly in a landscape such as Satpura-Melghat. It involves identifying and analyzing all individuals, groups, or institutions impacted by or interested in the landscape and its management. This visualization of relationships, influence, and interests forms the foundation for effective communication, collaboration, and conflict resolution—essential components of successful and sustainable landscape interventions. Stakeholder mapping is conducted to ensure no group's interests are overlooked, particularly those of vulnerable or marginalized communities. It helps understand the various interests and levels of influence held by different actors, providing insights into potential drivers of conflict or cooperation. This understanding enables the development of tailored communication strategies for targeted engagement and the building of strong partnerships for collective action towards shared goals. Ultimately, it facilitates informed decision-making by incorporating diverse perspectives into landscape management planning and enables effective conflict management by identifying potential sources of conflict and facilitating proactive mitigation strategies.

The Satpura-Melghat landscape includes key stakeholders like the MP Forest Department, responsible for forest management and wildlife conservation, and the District Administration and Line Departments, crucial for development planning and resource allocation. Primary stakeholders include local institutions like Panchayati Raj Institutions, JFMCs, BMCs, and Eco-Development Committees, which represent community interests in natural resource management. Forest-dependent communities, whose livelihoods and cultural practices are deeply connected to the forest, are also central. Other stakeholders, including the Minor Forest Produce Federation, Van Dhan Kendra, experts, various government departments, KVKs, value chain actors, and even mining companies, all play key roles with varying levels of influence and interest in the landscape. Secondary stakeholders, such as NGOs and academic institutions, contribute expertise and often bridge the gap between government agencies and local communities.

Understanding this complex web of actors is paramount for effective communication and collaboration, ultimately achieving sustainable outcomes in the Satpura-Melghat landscape.



4.3 Focus Group Discussions with Communities of Selected Villages

As part of the Satpura-Melghat Green Corridor project, focus group discussions (FGDs) were conducted across the selected villages to engage local communities in dialogue about their livelihoods, ecological challenges, and aspirations. These discussions, involving farmers, women's groups, and village leaders, revealed critical insights into landholding patterns, agricultural practices, and resource management. Participants highlighted the fragmentation of farmland due to inheritance laws, leading to reduced productivity as smallholder farmers (often owning less than 2 hectares) shifted from traditional millet and pulse cultivation to water-intensive cash crops like cotton and soybean for better market returns. In recent years, some farmers have experimented with horticulture, particularly orange cultivation, attracted by its higher profitability. However, challenges such as disease-prone local varieties and climate sensitivity have prompted interest in experimenting with disease-resistant, high-yield orange varieties to improve resilience and market competitiveness. Agroforestry, proposed as a sustainable alternative, faced mixed reactions: while communities acknowledged its potential to restore soil health and diversify income through timber or fruit trees, many feared losing existing crop yields to shade or competition for resources, demanding pilot demonstrations and assured buyback mechanisms to mitigate risks. Water scarcity emerged as a pressing concern, with erratic monsoons and overexploited groundwater forcing reliance on seasonal rivers and wells, while deforestation worsened catchment degradation. Communities also expressed frustration over rising costs of chemical fertilizers and pesticides, which strained finances and degraded soil health, though transitioning to organic alternatives remained challenging due to limited access to training and subsidies. Human-wildlife conflict, particularly crop raids by nilgai and wild boars, compounded economic stress, with inadequate compensation mechanisms exacerbating tensions. Despite these challenges, the FGDs uncovered community-driven solutions, such as reviving traditional water-harvesting structures like check dams, promoting mixed cropping, and advocating for solar fencing to deter wildlife. These discussions not only informed the project's conservation strategies but also strengthened community trust, emphasizing the need to align ecological restoration with socio-economic equity through targeted interventions in irrigation, sustainable farming, and conflict mitigation.



Household Survey

4.4 Household Surveys

To complement insights from focus group discussions, structured household surveys were conducted with 210 families across 12 villages, using a specially designed questionnaire to assess needs, preferences, and barriers related to agroforestry, biogas adoption, natural farming, and species selection. The survey revealed that 86% of the farmers own the land, however land size of around 60% farmers was between 1.5-2 acres. For majority (>60%) borewell is the source of irrigation. 62% of households expressed interest in agroforestry, particularly if native fruit trees like mango, cheeku, apple ber, oranges were prioritized, aligning with their cultural and economic preferences. More than 75% said that they need support with quality planting material.

A significant 86.48% of respondents expressed a need for a village nursery, highlighting its importance in supplying seedlings, promoting afforestation, and enhancing biodiversity. However, 52% cited land scarcity as a constraint, prompting the project to promote small-scale trials in Badas (backyard gardens) or along field bunds. For biogas, 93% of households reliant on firewood for cooking showed willingness to adopt, especially those with livestock, though upfront installation costs remained a hurdle. On natural farming, while 78% acknowledged the harmful effects of chemical inputs, only 12% had tried organic alternatives due to lack of training. The surveys also highlighted gender disparities, with women emphasizing biogas's time-saving benefits and men prioritizing agroforestry income. Data from these surveys is being used to tailor village-specific plans—for instance, prioritizing biogas in livestock-dense hamlets and creating localized agroforestry nurseries with in-demand saplings. Additionally, the findings will inform training modules on natural farming techniques, addressing gaps in knowledge and access to resources.



Door to door Survey by IORA team

4.5 Identification of Farmers

Following the focus group discussions, a targeted effort was made to identify progressive farmers in each village who demonstrated willingness to adopt sustainable practices aligned with the project's ecological goals.

For agroforestry initiatives, 55 farmers across the villages were selected based on their landholding size (minimum 1.5 hectares to ensure feasibility), proximity to forest edges, and expressed interest in diversifying income sources. Many initially hesitated, fearing crop yield

losses due to tree-shade or resource competition, but were reassured through workshops showcasing success stories of mixed systems (e.g., mango or neem trees with turmeric intercrops). To address skepticism, the project adopted a flexible approach, allowing farmers to select plant species of their choice and begin with small-scale trials—starting with planting along at least one field boundary or even in their *Badas* (backyard gardens). This low-risk strategy aimed to build confidence by demonstrating agroforestry’s benefits without requiring large-scale land conversion initially. Simultaneously, in the first phase, 22 households were identified for biogas plant installations, prioritizing families reliant on firewood for cooking and those with livestock to ensure a steady supply of organic waste. These households, primarily women-led, were incentivized with biogas units and training on maintaining biogas systems. Notably, farmers already practicing small-scale horticulture (e.g., orange growers) showed greater openness to agroforestry, viewing it as a complementary strategy to buffer against crop failures. The selection process emphasized inclusivity, with village councils and self-help groups nominating candidates to ensure community buy-in. This phase not only pinpointed early adopters but also laid the groundwork for peer-to-peer learning networks, where “model farmers” will mentor others, fostering a ripple effect in sustainable land-use practice.



Progressive Farmers of the project location

4.6 Soil sample testing

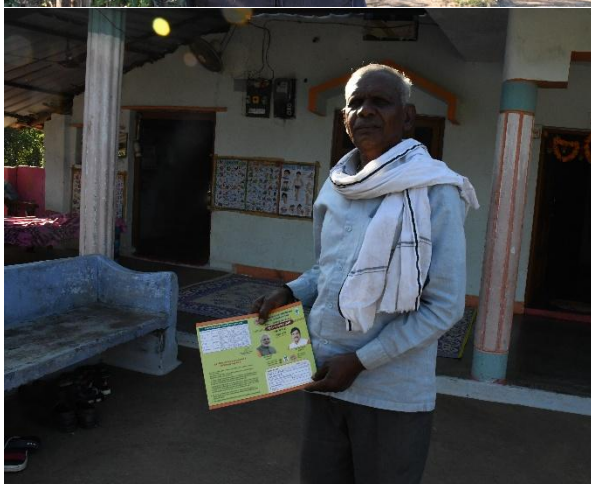
To ground agroforestry and natural farming interventions in scientific evidence, soil samples from 50 farmers’ fields across the intervention villages were analysed at government-approved soil testing laboratory. The initiative aimed to assess nutrient levels, soil health, and suitability for proposed agroforestry species while identifying region-specific degradation patterns. Results revealed alarming trends: 75% of samples showed critical deficiencies in nitrogen and organic carbon, directly linked to decades of excessive chemical fertilizer use and mono-cropping practices. Soil pH levels in 40% of fields were suboptimal (below 5.5 or above 8.0), limiting nutrient absorption and microbial activity. Additionally, micronutrient imbalances—particularly zinc and iron shortages—were detected in 60% of tested soils, exacerbating crop vulnerability to pests and climate stress.

These findings underscored the urgent need to transition to restorative practices. Fields with nitrogen deficits have been prioritized for nitrogen-fixing agroforestry species like *Moringa*, while low organic carbon levels prompted recommendations for vermicomposting, farmyard manure application, and mulching. Farmers received personalized soil health cards, alongside rapid workshops on interpreting results. By linking soil degradation to declining yields and rising input costs, the testing process helped farmers recognize the economic and ecological

value of transitioning to organic and agroforestry systems, fostering buy-in for the corridor's sustainability agenda.

Table 3. Soil Nutrient Assessment Report

S. No.	Parameter	No. of Beneficiaries	Assessment
1	pH	50	Low to Medium
2	EC	50	Low
3	Organic Carbon	50	Low
4	N	50	Low
5	P	50	Low to Medium
6	K	50	Low
7	S	50	Low to Medium
8	Zn	50	Low to Medium
9	B	50	Low to Medium
10	Fe	50	Low
11	Mn	50	Low to Medium
12	Cu	50	Low to Medium



Farmers with soil health card

4.7 Selection of Species and Sapling Procurement

The selection of tree species for agroforestry under the Satpura-Melghat Green Corridor project was a participatory process, integrating community preferences, ecological suitability, and technical expertise. Villagers prioritized fruit-bearing species such as mango, chikoo (sapodilla), orange, mausambi (sweet lime), and lemon for their nutritional and market value, while multipurpose trees like moringa (drumstick), amla (Indian gooseberry), and jackfruit were chosen for their medicinal benefits and adaptability to local soil conditions. Drought-resistant species such as apple ber (Indian jujube) and bamboo were included to address water scarcity concerns and provide fodder, fuelwood, or soil stabilization. These choices were refined through consultations with the State Forest Department, which emphasized native species to avoid invasive risks, and aligned with agroforestry models proposed by IORA Ecological Solutions (Details in next section).

For sapling procurement, the project team evaluated multiple nurseries across the region, assessing factors such as genetic quality, disease resistance, and alignment with the project's native species mandate. Ultimately, a nursery in Pandurna, near Nagpur, was selected due to its expertise in cultivating high-demand fruit and multipurpose saplings, adherence to organic growing practices, and proximity to the corridor villages, ensuring timely delivery. ~5,000 saplings—including mango, amla, bamboo, and moringa—were procured, with species prioritized based on household survey findings (e.g., bamboo for erosion-prone slopes, amla for nutritionally vulnerable households). To ensure survival rates, saplings were temporarily housed in a small, project-established local nursery, where they were acclimatized to regional conditions and monitored for health. This interim nursery also served as a training site for farmers to learn sapling care before distribution during the monsoon, maximizing establishment success. Accompanying training sessions covered pit preparation, organic manure use, and staggered planting in Badas (backyards) or field boundaries. This phase underscored the project's commitment to balancing ecological resilience with livelihood security, fostering ownership through community-driven species selection and partnerships with trusted local institutions.



Plant saplings procurement

4.8 Establishment of 'Prakriti Nursery' in Mohala Village

To decentralize sapling procurement and build local capacity, the project established 'Prakriti Nursery' in Mohala village, a participatory initiative designed to serve as a hub for agroforestry saplings and community training. Before introducing saplings, 12 community members from nearby villages were trained in nursery establishment and related processes through hands-on practical approach. The nursery's creation began with clearing a 0.5-hectare plot while preserving existing trees which were mainly teak in this case. Participating members learned to prepare mother beds using a mix of organic compost and soil, ensuring optimal germination conditions for seeds. Raised beds were constructed to prevent waterlogging, and a layered boundary system was implemented to address the rampant wild boar menace—a major threat to saplings. A 5-foot-high galvanized wire netting fence was installed, with its base buried 1 feet underground to deter boars from digging underneath, a technique recommended by local farmers familiar with wildlife behavior.

The nursery was divided into zones for fruit saplings (mango, lemon, mausambi), multipurpose species (moringa, amla), and bamboo, each labeled for easy identification. To safeguard the nursery, a rotational watch-and-guard system was established. Once operational, saplings procured from Pandurna were temporarily housed here for acclimatization, allowing farmers to practice maintenance techniques like pruning and pest control. The nursery also doubled as a demonstration site, where farmers experimented with grafting high-yield orange varieties onto hardy local rootstock. By involving communities in every step—from boundary fencing to bed preparation—the initiative not only secured a reliable sapling supply but also empowered villagers to replicate small-scale nurseries in their *Badas*, fostering long-term self-reliance in sustainable land-use practices.

To facilitate agroforestry adoption, the nursery supports cultivation of over 10,000 saplings of mango, guava, amla, jackfruit, drumstick, bamboo, and timber species.



Saplings at the Nursery





Nursery inauguration programme





Distribution of saplings and utilities at the event



Various workshops and dialogues

4.9 Spacing, Layout, and Pit Preparation

The agroforestry plantation process emphasized community collaboration and adaptive planning. Pit digging and staking were undertaken by farmers as their contribution, while the project supplied saplings based on their preferred agroforestry model—bund plantation (along field boundaries) or block plantation (clustered plots). Project also arranged a helping hand/daily wage labour to help farmers for the job. To accommodate soil quality and depth variations identified during soil testing, pits were standardized to 1.5 x 1.5 feet, a size optimized for root development in the region's nutrient-deficient soils.

Farmers prepared pits by layering them with vermicomposting, organic manure, and neem cake to address nitrogen and organic carbon deficiencies highlighted in soil health reports.

These enriched pits were backfilled and left to settle, ensuring nutrient integration before the monsoon planting window of June-July 2025. Spacing guidelines were tailored to agroforestry models: 3 meters between plants for bund plantations (to maximize boundary space without shading crops) and 6 meters for block plantations (to allow canopy growth and intercrop cultivation).

The participatory approach allowed farmers to align layouts with their landholding patterns—smallholders focused on bund systems, while those with larger fields experimented with block models. This phased preparation, combining farmer labour with project resources, not only reduced costs but also instilled ownership, ensuring readiness for timely and successful sapling establishment in 2025.



Preparing pits for agroforestry

4.10 Backyard Fruit Tree Plantation Initiative

To address hesitancy toward large-scale agroforestry while promoting nutrition and women's participation, the project introduced a backyard fruit tree program targeting households with small landholdings. Farmers reluctant to modify their main fields were encouraged to plant 2–3 fruit saplings—such as chikoo, mango, guava, or moringa—in their Badas (backyard gardens). These species were selected for their low maintenance and high nutritional value, with dwarf varieties prioritized to suit compact spaces. The initiative aimed to empower women, who often manage household diets, by providing direct access to vitamin-rich fruits and greens, reducing dependence on markets, and enhancing food security.

To expand the program's impact, saplings were also distributed to primary and secondary schools in the villages, encouraging backyard planting within school premises. This not only contributed to local greening efforts but also served as a hands-on learning opportunity for children, fostering awareness about nutrition, sustainable agriculture, and environmental conservation from an early age.

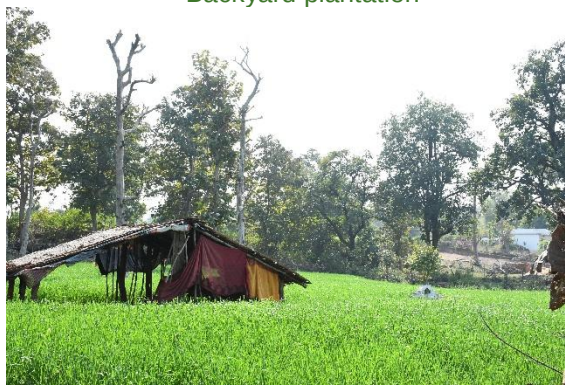
Technical guidance provided to participants covered seasonal care, pest management using neem-based solutions, and intercropping with vegetables like spinach to optimize space and resources. By aligning with existing practices and minimizing risk, the program fostered gradual acceptance of tree-based interventions, laying a foundation for future agroforestry adoption while addressing immediate nutritional needs.



Tree plantation at a Primary School



Backyard plantation



4.11 Targeted Farmer Trainings and Meetings

To ensure effective adoption of agroforestry practices, monthly village-level meetings and structured trainings were conducted, covering the following critical topics:

1. Sapling Handling and Planting Techniques

Farmers were trained in safe transportation practices to minimize root damage during sapling transit from nurseries. Emphasis was placed on gently removing plastic bags without disturbing root systems, proper pit orientation, and firm foot-pressing of soil around saplings to eliminate air pockets.

2. Post-Planting Care and Nutrient Management

Sessions focused on water management strategies, including ring basin preparation to prevent waterlogging, and balanced application of urea and DAP fertilizers. Farmers learned to prepare bio-manure and apply vermicompost to enhance soil fertility while avoiding over-reliance on chemicals.

3. Pest and Disease Control

Training included safe application of Fipronil 0.3% for termite prevention, integrated pest management (IPM) strategies, and green net installation to shield saplings from extreme heat, pests, and diseases.

4. Structural Support and Maintenance

Farmers adopted H-shape staking for wind resistance and stability. Workshops emphasized regular hoeing, weeding, and irrigation practices to maintain plant health.

5. Soil and Water Conservation

Techniques like mulching and drip irrigation integration with ring basins were taught to optimize water use. Special attention was given to protecting saplings from waterlogging through proper drainage design.

6. Fungicide and Biopesticide Application

Practical demonstrations covered the preparation and application of organic fungicides, alongside neem-based solutions to combat soil-borne pathogens and pests.

7. Community-Led Problem Solving

Farmers shared localized innovations, such as using bamboo poles as temporary tree guards against wild boars or intercropping with pest-repellent plants like marigold.

Community-led adaptations emerged, such as using bamboo poles as temporary tree guards to protect saplings from wild boars, a solution proposed during these meetings. By aligning technical guidelines with local knowledge, the project ensured that spacing and pit preparation balanced ecological resilience with practical farm-level feasibility, laying the groundwork for long-term agroforestry success.

To enhance soil fertility and support healthy sapling establishment, farmers were advised to apply vermi-compost at 300 grams per fruit plant (e.g., mango, chikoo) and 250 grams per timber plant (e.g., teak). These quantities were tailored to species-specific nutrient requirements, addressing organic carbon deficiencies identified in soil tests.

The project distributed vermi-compost to participating farmers during the initial plantation phase, ensuring they had access to high-quality organic inputs. Training sessions emphasized proper application methods: mixing compost into the pit before planting and reapplying a thin top layer during monsoon to boost microbial activity. Farmers were also guided on producing their own

vermi-compost using farm waste and cattle dung, promoting long-term self-reliance. This intervention aimed to reduce dependence on chemical fertilizers while restoring soil health for sustainable agroforestry outcomes.



Farmers training and meetings



Farmers with organic fertilizer

4.12 Developing Potential Agroforestry Models in Satpura-Melghat Landscape

The following table presents 6 buckets for developing agroforestry models for the different agro-climatic zones in the Satpura-Melghat Landscape.

- Bucket 1 & 2 are applicable for Satpura valley with Dry Deciduous Teak Forests (DDTF)/ Dry Deciduous Mixed Forests (DDMF) types,
- Bucket 3 & 4 are for the Narmada basin in Narmadapuram and
- Bucket 5 & 6 are for Chhindwara and Nimar region.

The primary crops are segregated into three elements: Grains, Oilseed, and Pulses.

Secondary crops (trees) are segregated into four elements: Fruit, Timber, NTPs, and Fodder.

In an ideal scenario, one primary crop and two secondary crops (tree) will be planted under each model.

The secondary trees can only be planted in the boundary.

A maximum 96 secondary trees can be planted in one hectare.

Farmers can choose any combination of primary and secondary trees within one bucket as per their requirements. Moreover, they can also choose their choice of species if they want.

Table 4. Agroforestry models developed by IORA

	Common name	Scientific name	Other local name / variety	Species Type (based on the primary usage)	Planting distance
	Bucket 1				
1	Wheat	<i>Triticum aestivum</i>	Gehu	Crop (Grain)	
2	Maize	<i>Zea mays</i>	Makka	Crop (Grain)	
3	Mango	<i>Mangifera indica</i>	Aam	Fruit	4X4 m
4	Amla	<i>Phyllanthus emblica</i>	Aaonla	Fruit	4X4 m
5	Khair	<i>Acacia catechu</i>	Khair	NTP	4X4 m
6	Teak	<i>Tectona grandis</i>	Sagon	Timber	4X4 m
7	Kachnar	<i>Bauhinia variegata</i>	Kachnar	Fodder	
	Bucket 2				
1	Wheat	<i>Triticum aestivum</i>	Gehu	Crop (Grain)	
2	Jowar	<i>Sorghum bicolor</i>	Jowar	Crop (Grain)	
3	Custard Apple	<i>Annona squamosa</i>	Sitaphal	Fruit	4X4 m
4	Mahua	<i>Madhuca indica</i>	Mahua	NTP	4X4 m
5	Shisham	<i>Dalbergia sissoo</i>	Sisoo	Timber	4X4 m
6	Bamboo	<i>Dendrocalamus strictus</i>	Bans	Timber	4X4 m
7	Anjan	<i>Hardwickia binata</i>	Anjan	NTP (Medicinal)	4X4 m
	Bucket 3				
1	Paddy	<i>Oryza sativa</i>	Dhan	Crop (Grain)	
2	Black gram	<i>Vigna mungo</i>	Urad	Oilseed	
3	Neem	<i>Azadirachta indica</i>	Neem	NTP	4X4 m
4	Sweet Lemon	<i>Citrus limetta</i>	Mosambi	Fruit	4X4 m
5	Sapota	<i>Manilkara zapota</i>	Chiku	Fruit	4X4 m
6	Amla	<i>Phyllanthus emblica</i>	Aaonla	Fruit	4X4 m
7	Arjun	<i>Terminalia arjuna</i>	Arjun	Timber/NTP (Medicinal)	4X4 m
	Bucket 4				
1	Wheat	<i>Triticum aestivum</i>	Gehu	Crop (Grain)	
2	Mustard	<i>Brassica juncea</i>	Sarso	Oilseed	
3	Pigeon Pea	<i>Cajanus cajan</i>	Arhar	Pulses	
4	Mango	<i>Mangifera indica</i>	Aam	Fruit	4X4 m
5	Custard Apple	<i>Annona squamosa</i>	Sitaphal	Fruit	4X4 m
6	Sisoo	<i>Dalbergia sissoo</i>	Sisoo	Timber	4X4 m
7	Axelwood	<i>Anogeissus latifolia</i>	Dhawra	Timber	4X4 m

	Bucket 5				
1	Soybean	<i>Glycine max</i>	Soybean	Oilseed	
2	Groundnut	<i>Arachis hypogaea</i>	Monngphali	Oilseed	
3	Green gram	<i>Vigna radiata</i>	Moong	Pulses	
4	Orange	<i>Citrus sinensis</i>	Santara	Fruit	4X4 m
5	Guava	<i>Psidium guajava</i>	Bihi/Amrut	Fruit	4X4 m
6	Lemon	<i>Citrus limon</i>	Nimbu	Fruit	4X4 m
7	Teak	<i>Tectona grandis</i>	Sagon	Timber	4X4 m
8	Siris	<i>Albizia lebbek</i>	Kala Siris	Timber/Fodder	
	Bucket 6				
1	Wheat	<i>Triticum aestivum</i>	Gehu	Crop (Grain)	
2	Chickpea	<i>Pisum sativum</i>	Matar	Pulses	
3	Bengal Gram	<i>Cicer arietinum</i>	Chana	Pulses	
4	Onion	<i>Allium cepa</i>	Piyaj	Crop	
5	Jackfruit	<i>Artocarpus heterophyllus</i>	Kathal	Fruit	4X4 m
6	Amla	<i>Phyllanthus emblica</i>	Aaonla	Fruit	4X4 m
7	Karanj	<i>Pongamia pinnata</i>	Karanj	Timber	4X4 m

4.13 Biogas Implementation & Adoption

Biogas adoption was a core intervention aimed at reducing firewood dependency, improving household energy security, and enhancing soil fertility through organic slurry use. Following the socioeconomic survey, biogas beneficiaries were selected based on household needs, land availability, and willingness to adopt the intervention.

The project facilitated the installation of 50 biogas units, providing households with a clean cooking alternative while significantly reducing exposure to indoor air pollution.

To ensure long-term adoption, both households and youth were trained in biogas plant operation, maintenance, and slurry utilization. The nutrient-rich slurry, a key byproduct, was promoted as an organic fertilizer to enhance soil fertility and reduce dependence on chemical inputs, supporting agroforestry and organic farming.

Regular village meetings and community interactions were held to address implementation challenges, troubleshoot biogas system issues, and ensure sustained engagement. Additionally,

monthly household visits and a self-reporting mechanism were introduced to track gas production, firewood reduction, and any maintenance needs, ensuring smooth operation of the units.



Setting up a bio gas plant



Beneficiaries with installed biogas plants

4.14 Qualitative (KAP) Study and Behaviour Change

Through this CSR initiative we aim to integrate community development and sustainable livelihoods using a balanced approach that aligns conservation with economic well-being. This nature-first strategy drives transformative action by addressing Biodiversity, Climate, and Livelihoods (BCL) while incorporating behaviour change, policy planning, and financial strategies.

Purpose of Qualitative (KAP) Study

Laying the Foundation: Understanding before Intervening

Effective intervention starts with deep listening. Through Rapid Ethnography, Visual Toolkits, Focus Group Discussions (FGDs), and Key Informant Interviews (KIIs), our team uncovered the motivations behind community livelihood choices and the barriers to sustainable alternatives. By engaging directly with local communities, we gained critical insights that shape targeted strategies. These findings drove the design of awareness workshops to shift perspectives—from resource depletion to regeneration and long-term resilience.

Shaping the Narrative: Awareness as the First Step towards Change
The initiative sought to - (1) make sustainable practices more accessible through simple, low-cost solutions; (2) foster a sense of ownership by positioning communities as environmental stewards; (3) leverage local influencers to drive behaviour change; and (4) create behavioural nudges that reinforce long-term sustainability. Through live demonstrations of climate-smart agriculture and organic farming, the initiative encouraged practical, community-driven solutions to environmental challenges.

Research Methodology

Approach

We employed a qualitative approach to facilitate open dialogue while capturing behavioural nuances. Methods such as semi-structured Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs), along with visual tools were used to uncover motivations, barriers, and behavioural patterns that influence farming choices, land use, and the adoption of sustainable practices.

By following the SAY vs. DO observational methodology, we observed community behaviours in the Satpura-Melghat corridor to identify discrepancies between stated beliefs and actual actions. FGDs and KIIs were conducted with 2 distinct groups of participants:

1. *Landowning Households*, who are aware of modern farming but hesitant due to financial risks and lack of incentives, and
2. *Forest-Dependent Households*, who recognize forest degradation but prioritize daily survival over conservation.

Key village influencers, such as the Sarpanch, SHG members, and youth, were also engaged to map their roles in shaping individual and community behaviour.

Sampling

The sampling strategy ensured representation from key respondent categories, including farmers (marginal, large landowners), SHG members, Gram Panchayat representatives, forest and labour-dependent communities, youth, and Forest Officials for broad community and institutional perspectives.

The fieldwork included 13 KIs and 8 FGDs against the planned 5 FGDs. Forest officials and NGO representatives were included in the sample to provide broader institutional perspectives. The final sample ensures a comprehensive understanding of local economic participation, market linkages, and sustainability practices across the study areas.

Areas of Investigation

The derived insights are crucial in shaping effective and relevant investigations into farming practices, sustainability adoption, and community-driven change.

- Modern vs. Traditional Farming – Assessing practices, perceptions and adoption barriers.
- Organic/Natural Farming – Current Practices, evaluating interest, feasibility and required incentives.
- Agroforestry & Regenerative Agriculture – Gauging awareness, adoption willingness and perceived risks.
- Generational Shift – Understanding youth perspectives, livelihood alternatives and sustainability potential.

Topline Findings of the Study

The research design and findings led to the identification of five interconnected knowledge clusters that informed the creation of the five Awareness workshop modules:

- 3.1. Agriculture – Crops grown, soil health, organic/natural farming and livestock.
- 3.2. Natural Resource Management – Non-Timber Forest Products (NTFP) and Agroforestry.
- 3.3. Market Processes – Linkages, pricing, and government influence.
- 3.4. Infrastructure & Its Impact on Education & Livelihood – Water/irrigation, energy and transportation.
- 3.5. Key Stakeholder Insights – Perspectives from village representatives and youth on awareness-building and training.

Agriculture: Crops Grown, Soil Health, Organic Farming, Livestock

Crop Cultivation

Low Interest in Non-Staple Crops

Farmers avoid growing *Kodo* and *Kutki* due to low market demand and poor pricing. The lack of consumer awareness about their benefits further discourages cultivation, as past attempts to sell them have been unsuccessful. As one farmer puts it, "*Sirf anaaj, gehu aur moong hota hai. Kodo kutki kisi ko samajh mein nahin aata hai, ki kyon achha hai sehat ke liye—so daam nahin milta... Log bechney ki koshish kar chukey hai pehle...*" (Only wheat and pulses sell. No one understands why *Kodo* and *Kutki* are good for health, so they don't fetch a price... People have already tried selling them before...).

Limited Market Knowledge

Farmers have little awareness of the market potential and health benefits of non-staple crops, leading to minimal cultivation and poor saleability.

Soil Health

Hardness of Soil is a Critical Barrier:

"Tight *Mitti*" - Farmers recognize soil degradation through its texture and the extra effort required for plowing, noting that older tractors struggle with hardened soil. They recognize changes in texture devoid of its softness can be assessed by hand as well as the upgraded, higher horsepower tractors needs to plough the land compared to earlier, as expressed in the statement, "*Chhuney se sakth ka pata chalta hai, aur pehle ka tractor kaam nahin kar paata, zaada zor lagana padta hai...*" (By touch, we can feel the hardness, and old tractors no longer work as they used to—we have to apply more force).

Acceptance of Quality Degradation due to Overuse/Yield

Continuous cultivation has led to declining soil quality, but farmers accept it as an inevitable outcome of long-term farming. The statement, "*Itney saalo se humein de rahein hai fasal, kuchh toh kamiya ho jaayegi (quality of soil)*" (The land has been giving us crops for so many years, some deficiencies are bound to happen), reflects a passive attitude toward soil health.

Organic Farming

Interest High yet Market Acceptance is Absent

Farmers are willing to invest in organic farming but struggle with market recognition. Despite their efforts, buyers fail to see the added value, making it difficult to justify the extra time and labour. They believe better marketing and premium positioning are essential to make organic crops commercially viable.

"Kar toh lengey, par jab bechtey hai toh kharidney waalon ko pata nahin chalta ki isme khaas kya hai..." (We will do it, but when we sell, buyers don't recognize what's special about it). This sentiment reflects a critical gap—not in willingness, but in perceived value by the buyer.

Risk Taking Gets Balanced for Affluent Farmers

Larger landowning farmers are more open to experimenting with organic farming, as they can absorb potential losses. In contrast, smaller farmers hesitate due to financial constraints and the inability to take risks with uncertain returns. (*"Jo chhotey kisaan who loss ka risk nahin jhel paatey..."*). This reality creates a dual-speed adoption challenge:

- Affluent farmers can take risks and experiment.
- Smaller farmers are cautious because they cannot afford failure.

For organic farming adoption to scale across all farmer groups, behaviour change efforts need to address this adoption imbalance.

Organic and Health Association

Organic manure is primarily used for household consumption due to its perceived health benefits, with farmers appreciating its impact on taste and quality. However, limited resources prevent many from scaling it for commercial sales, keeping adoption restricted to personal use. This behavior reflects a self-sustenance mindset where organic manure is used primarily for household consumption rather than commercial purposes.

Livestock (Cattle, Grazing)

There is the problem of abandoned cattle roaming around harming crops and fields - venturing into forested area and some instances of cattle death due to wildlife. There is the problem of abandoned cattle roaming around harming crops and fields - venturing into forested area and some instances of cattle death due to wildlife. Additionally, there is a noticeable lack of ownership and interest in cattle management, primarily due to economic constraints or reluctance to care for livestock beyond their prime milk-producing years.

Awareness workshop 1: The **Sustainable Farming** theme emerged from field insights, highlighting a critical knowledge gap among farmers regarding natural and low-risk agricultural practices. Farmers in the region lacked awareness of sustainable techniques that could enhance productivity while reducing environmental and financial risks. To address this, a workshop was designed to bridge this gap by providing practical knowledge and solutions. The session successfully equipped farmers with live demo into eco-friendly and resilient farming methods.

Practice of Homemade Fodder is prevalent

The fodder is apparently made at home (across mostly Landless, marginal & small farmers' community houses) as there are lesser number of cattle to cater to due to their lack of affordability.

Natural Resource Management:

Seasonality Constraints: NTFP collection is highly limited due to seasonality and lack of assured income, except for Tendu leaves, which offer a guaranteed purchase by the forest department at a fixed price during its one-month harvest season. Some collectors earn up to ₹12,000 but only for that brief period.

Perceived Threat from Law Enforcement (Mahua Collection): Law enforcement discourages *Mahua* collection due to its potential use in alcohol production, creating uncertainty and reducing participation. This impacts both household income and traditional livelihoods dependent on *Mahua*.

Agroforestry: Legacy, Hesitancy and its Premiumness

Agroforestry was introduced in the region by the state government, 10-12 years ago. A lot of affluent farmers had implemented it (including a very small section of "*chhoti kheti wale*"). Smaller farmers cannot manage the losses from the "Shadow effect" unlike the more affluent farmers ("*Chhotey kheti waale nuksan samhaal nahin paatey*").

Three challenges:

No Guarantee of Quality: Discrepancy between Demo Product versus Self Purchased

There is a significant gap between the demo saplings shown and the actual ones provided to farmers, leading to distrust. Farmers practicing agroforestry successfully prefer purchasing high-quality saplings from registered private vendors due to the lack of quality assurance in distributed saplings.

"The Shadow Effect":

Farmers incur losses as tree planting reduces plowable land and shades surrounding crops, which they see as a sacrifice to their existing crops impacting yields. To minimize this, they prefer planting trees along farm boundaries rather than within fields, preserving sunlight for main crops.

Willingness is High but with Hesitance: Risk of Time versus Profits

Adoption depends on conditions: Farmers need quality inputs and guaranteed prices to sustain their interest and efforts. While many are willing to try new agri-techniques and have tried agroforestry, lack of market linkage has led to disinterest. They will only grow crops with a government purchase guarantee at Minimum Selling Price (MSP).

Awareness workshop 4: The **Agroforestry** theme emerged as a critical need based on field observations and community interactions. While agroforestry has a legacy in the region, misconceptions about its risks and long-term benefits persist. A rigorous awareness recap was necessary to reinforce its value and address these concerns. The workshop effectively bridged this gap, providing clarity on sustainable agroforestry practices and their long-term advantages, successfully generating awareness among the community.

Market Process: Linkage, Prices and Government

Market Linkage Challenges and Impact on Entrepreneurship Hindering Economic Participation

Despite a strong willingness to engage in farming and entrepreneurship, the lack of market linkage has led to widespread disinterest and abandonment of income-generating activities.

Farmers prefer to grow only government-supported crops under MSP, as they struggle to sell other produce profitably. Similarly, women-led enterprises, including soap making, tailoring, and sanitary pad production, initially promoted through Self-Help Groups (shgs), were discontinued due to poor sales and lack of local demand.

While the community exhibits an entrepreneurial spirit and still holds hope, the absence of marketing knowledge and access to buyers remains a significant barrier. They are open to producing higher-quality crops or goods, but only if a reliable market can be established. Without solutions to bridge these market gaps, economic opportunities remain limited and unsustainable.

Infrastructural Inconsistencies and its Effects on Education & Livelihood

Water Availability

Water Scarcity and Availability Inconsistencies in Satpura Region Villages near the Satpura range grapple with severe water shortages and low groundwater, straining both daily life and agriculture. Meanwhile, those closer to Itarsi have water but suffer from erratic electricity, making access unreliable. While their struggles differ, both face the same underlying challenge - unstable water security. Without self-motivated water management and/or infrastructure improvements, their livelihoods remain at risk, underscoring the urgent need for sustainable water management solutions.

Energy

Discontinuation of Biogas and Willingness for Revival

Biogas systems were introduced in some village households but have largely been discontinued due to outdated models, lack of repair training, and complex operations the user has to go through. However, there is a willingness to restart if the process is simplified and made more user-friendly.

Education versus Livelihood

Daily Survival Takes Precedence over Long-Term Investments like Education

For wage labourers, daily survival takes priority over monitoring their children's education. Economic insecurity forces them to choose between earning a livelihood and ensuring school attendance, perpetuating a cycle where education remains secondary. The quote, "*Hum pata bhi nahin kar saktey ki humara bachha school jaata hain ya nahin... khaaye ye nazar rakhey...*", reflects the harsh trade-off they face between livelihood and oversight of their children's education.

New Livelihood Alternative: A Huge Ask from the Vulnerable Community Members

Lack of Guarantee and Stability in Agriculture:
Smaller farmers, struggling with unreliable electricity and water for agriculture, seek alternative livelihoods to supplement their income. Both men with limited land and women, including

Anganwadi workers and SHG members, express a strong demand for new opportunities.

Supplementary Livelihood

Small landowner with less than 10 acres (most respondents Vertiver spoke to, had up to 3 acres) are reliant on incremental agricultural output and wage labour in addition to their agricultural income (which is barely enough to sustain the household).

Wage and Factory Income equals Stability: *Mehnat se Mehenga*
The Adivasis mostly work as wage labourers in the panchayat as tenant farmers are in the more affluent households. Many of them want to avail factory jobs which are currently not available for the less educated or the uneducated community members. (*"Mehnat se Mehenga padta hai, Guarantee waali kaam chahiye, MNREGA mein gadda khodna padta hai aur paise bhi time se nahin aata hai – mazduri ke kaam mein har hafta paise mil jaata hai..."*)

Affluent Farmers have a Higher Capacity to Absorb Risk Despite Infrastructural Challenge

Imaandari ka haath : Compensating Risk with Multiple Income Sources

Large landholders (10+ acres) are entirely reliant on agriculture and some affluent ones earn supplemental income from local businesses/enterprises (Kirana stores/properties on rent),, as well as renting out farming equipment and machinery. The bigger land holding farmers can take risk and may try doing organic farming.

Awareness workshop 3: The importance of **Water Conservation** was a key focus of the workshop, emphasizing both new water management systems and traditional practices that can be effectively utilized. The extreme inconsistencies of water availability and its ramifications obstructing agriculture practice and its productivity was obvious from our community interactions. The session successfully highlighted how integrating modern techniques with traditional wisdom can enhance water security and resilience in the region.

Awareness workshop 2: The importance of **Clean Energy** was emphasized in the workshop, addressing both its benefits and the challenges in adoption due to process and system constraints. Despite these difficulties, the session showcased practical ways to integrate clean energy solutions. Through case studies and real-life demos, community members gained a deeper understanding of the long-term advantages. The workshop successfully reinforced the need to be feasible and necessity of clean energy adoption in the region.

Insights from Village and Public Representatives and Youth: Training and Awareness Building

"Feeling of Stability" amongst Youth

A lot of youth and semi-skilled, more educated community members have been working in the factory since there is a "guarantee" of income from there and a facility for schooling of their children in certain cases.

Current Employment Situation for Youth

The highly educated youth from families of retired ordnance factory officers are underemployed and doing jobs that were earlier taken up by high school educated or graduates from the

community. Therefore, the latter now face unemployment. Jobs like coaching and tuitions are also now taken up by women leaving more men unemployed.

Willingness to Learn New Skills Evident:

Willingness to learn and try new skills is evident, especially amongst the women. Willingness is evident, however, the lack/absence of proper skills training facilities given over the right period of time is demoralising for them.

Guarantee from Government is much wanted:

Government related schemes, as they symbolise government (and their initiatives) with "guarantee waali nahin hai" or "lacking timely remunerations". (*"MNREGA ka 100 din wala kaam mein sirf gadde khodney padey aur paisa time se nahin milta, aur labour ke kaam mein har haftey paisa mil jaata hain."*)

Awareness workshop 5: The theme on **Youth Capacity Building and Storytelling**: Field insights revealed that youth are actively seeking both stability and positive change, making them key agents for community transformation. Their desire for secure livelihoods, coupled with a willingness to embrace new opportunities, highlighted the need for targeted training that empower them with knowledge and skills. Recognizing this, an awareness workshop was designed to bridge the gap between aspiration and opportunity, equipping youth with practical knowledge on employment, entrepreneurship, and sustainable practices, foster informed decision-making, ensuring they can navigate challenges related to livelihoods, and environmental sustainability, and to encourage active participation, reinforcing their role in community development and resilience-building.

4.15 Awareness Generation Workshops through Knowledge Training and Live Expert Demonstrations

The awareness workshops on sustainability, water conservation, clean energy, and agroforestry were carefully designed to drive meaningful behaviour change at the community level. These workshops were shaped by experts from Vertiver and IORA, which uncovered key motivations, social norms, and barriers influencing local decision-making. The research provided critical insights that directly informed the structure and content of the workshops. As a result, five thematic workshops were developed, each leveraging local knowledge, visual storytelling, and participatory discussions to engage communities effectively and inspire long-term sustainable practices.

The Thought behind the Awareness Workshops

The workshops were designed to build on the community's existing knowledge, introduce practical solutions, and inspire collective action - ensuring that sustainability evolves as a community-driven initiative.

Rather than prescribing changes, the team collaborated with community members to explore and demonstrate alternative solutions in real time. These included integrating climate-smart agriculture and organic manure use, aligning with local practices and traditions while introducing new opportunities for sustainable growth.

Each session focused on three key objectives:

1. Make sustainable practices easier and more accessible – By making the local community aware of simple, low-cost natural techniques that fit into existing ways of life within the various socio-economic sects of the communities.
2. Foster a sense of ownership – By positioning communities as the stewards of their environment, rather than passive beneficiaries.
3. Leverage local influencers – By identifying and engaging village / youth champions who can drive adoption of new behaviour.

The pre-workshop fieldwork provided valuable insights into community behavior and highlighted the critical role of mindset shifts in achieving long-term sustainability. The workshops were structured around five key themes based on identified needs and challenges:

1. Agriculture practices – Crops grown, soil health, organic farming, and livestock.
2. Natural Resource Management – Relevance of Agroforestry, NTFP
3. Market Processes – Linkages, pricing, and government influence.
4. Infrastructure & Its Impact on Education & Livelihood – Water/irrigation management, energy consumption and other infrastructural aspects.
5. Key Stakeholder Storytelling and Reinforcement – awareness-building and capacity trainings on climate action especially for the youth.

Community Awareness Workshops: At a Glance

Awareness workshop 1: Sustainable / Natural Farming

Field insights revealed a key knowledge gap among farmers about natural and low-risk agricultural practices. Many were unaware of sustainable techniques that could improve productivity while minimizing environmental and financial risks.

To address this, the workshop was designed to provide practical knowledge and hands-on demonstrations of eco-friendly and resilient farming methods. Through live demonstrations, farmers gained valuable insights into sustainable practices that can enhance their livelihoods while protecting natural resources.

Awareness workshop 2: Importance of Clean Energy

The workshop highlighted the importance of clean energy, focusing on both its benefits and the challenges of adoption due to system and process limitations. Despite systemic challenges, participants explored practical ways to incorporate clean energy solutions. Case studies and live demonstrations helped the community understand the long-term advantages, making the concept more tangible and relevant. The session successfully emphasized the feasibility and necessity of clean energy adoption in the region.

Awareness workshop 3: Criticality of Water Conservation

The workshops focused on water conservation, highlighting both modern water management systems and traditional practices that can be effectively applied. Through pre-workshop discussions with the community, it had been evident that inconsistent water availability is a major challenge, impacting agriculture and productivity. The sessions successfully demonstrated how combining innovative techniques with traditional knowledge can improve water security and strengthen resilience in the region.

Awareness workshop 4: Agroforestry

This theme was identified as a key priority based on field observations and discussions with the community during pre-workshop fieldwork. Although agroforestry has a long history in the region, there are still misconceptions about its risks and long-term benefits. To address this, the workshop provided clear and practical information, helping community members better understand sustainable agroforestry practices. As a result, it successfully raised awareness and encouraged informed decision-making.

Awareness workshop 5: Youth Capacity Building and Storytelling

Field insights revealed that young people are eager for both stability and growth, making them vital contributors to community development. Their interest in secure livelihoods and openness to new opportunities underscored the need for focused training to equip them with relevant skills and knowledge.

Beyond Awareness: Enhanced Impact in the Workshops

A series of awareness workshops were designed and implemented that went beyond conventional training to create meaningful engagement and real-world impact. These sessions were carefully structured to align participants' aspirations with tangible opportunities, offering practical guidance on employment, entrepreneurship, and sustainable practices. By directly

addressing key livelihood challenges and promoting environmental sustainability, the workshops empowered youth to take an active role in building a more resilient and self-sufficient community.

To enhance engagement and ensure an immersive learning experience, we incorporated innovative tools such as the Kara Bhara Game, an interactive educational tool developed to help participants grasp key sustainability concepts in an engaging and thought-provoking manner and a special Water Brochure. Additionally, each workshop featured top subject matter experts, carefully selected to provide deep insights and contextualized knowledge relevant to the workshop themes. This strategic approach enriched discussions, facilitated impactful live demonstrations, and provided participants with actionable solutions tailored to their specific contexts.

At the conclusion of each workshop, certificates were awarded to all attendees as a recognition of their participation and commitment. This served not only as a motivator for the participants but also as an inspiration for their peers, encouraging wider community engagement in future workshops. By celebrating these achievements, the initiative fostered a culture of continuous learning, knowledge-sharing, and sustainable action within the community.

Awareness workshop 1: Sustainable / Natural Farming

Trainer - Mr. Roshan Patil, Master Trainer for Natural Farming in Madhya Pradesh Trained by Manage. 10+ Years of experience in Natural farming.

Line Department – Mr. Govind Meena, KVK Agricultural Scientist

Workshop on Sustainable Farming: A Step Towards Natural Farming Adoption

The workshop on sustainable farming, with a focus on transitioning to Natural Farming, brought together farmers, agricultural experts, and representatives from the relevant line department. The session provided a platform for knowledge exchange and hands-on learning, equipping farmers with practical tools to adopt more sustainable farming practices.

The workshop began by highlighting the research conducted beforehand, which helped identify key challenges faced by the community, including soil health degradation, water management issues, and difficulties in accessing markets for their produce. The experts and line department representatives outlined how Natural Farming could address these concerns and support long-term sustainability. The farmers showed keen interest in exploring new farming techniques that align with their needs and resources.

Key Focus Areas of the Workshop:

1. Soil Health and Climate Resilience

- The session emphasized the impact of climate variability on soil health and water resources, illustrating how these elements are interconnected.
- Farmers were introduced to practical strategies for improving soil fertility and moisture retention through Natural Farming techniques.

2. Introduction to Natural Farming

- The concept of Natural Farming, particularly the Zero Budget Natural Farming (ZBNF) model, was explained using real-life success stories from Madhya Pradesh and beyond.
- Common misconceptions about Natural Farming—such as concerns about yield reduction, cost implications, and market access—were addressed through evidence-based discussions.

3. Hands-on Training in Bio-inputs Preparation

- Farmers participated in live demonstrations of preparing and applying key bio-inputs such as *Beejaamrit*, *Jeevamrit*, *Neemastra*, and *Agniastra*.
- These organic alternatives help enhance soil fertility, control pests, and improve crop health without relying on synthetic chemicals.
- The session reinforced the feasibility of these methods by showcasing how farmers can easily source materials like cow dung and urine locally.

4. Market Linkages and Financial Support

- Farmers were introduced to policies, subsidies, and government schemes that support the transition to Natural Farming.

- The importance of forming farmer collectives and cooperatives was emphasized as a means to improve bargaining power and access better markets.
- Experts provided guidance on practical steps to strengthen market connections and ensure fair pricing for their produce.

Impact and Outcomes

- The workshop generated enthusiastic participation, with farmers actively engaging in discussions and demonstrations.
- Many farmers expressed their willingness to implement Natural Farming techniques on their land, recognizing both the environmental and economic benefits.
- Success stories served as a strong motivation, reinforcing confidence in adopting sustainable agricultural practices.
- The collaboration between experts, the line department, and the farming community showcased the power of community-led initiatives in fostering long-term change.

The Way Forward

This workshop marks a significant milestone in promoting Natural Farming in the region. By equipping farmers with knowledge, practical skills, and access to resources, the initiative lays the foundation for sustainable agricultural transformation. Continued engagement, training, and support will be essential in ensuring long-term adoption, leading to healthier soils, improved climate resilience, and sustainable livelihoods for future generations.

TESTIMONIALS

Rajesh Bhamoriya, Farmer from Nagpur Kalan:

"I had the opportunity to attend four workshops held here, and each one provided valuable insights and practical knowledge. On the first day, I learned about soil health and how to make it more productive. We discussed techniques to prevent soil tightening and ways to manage it for the benefit of our community. I also gained a deeper understanding of the harmful effects of chemical fertilizers on our land and health. The workshop included a detailed session on Natural Farming, where we were trained on how to prepare Beejamrit, Jeevamrit, Neemastra, and Agniastra—all of which are natural solutions that improve soil fertility and protect crops from pests."

Rekha Chimaniya, Farmer family:

"The knowledge shared in these workshops has equipped me with practical tools to contribute to a more sustainable and resilient agricultural community."



Preparation of Day 1 W'shop 1



Moderation of the
w'shop: Knowledge
Dissemination



Natural Farming
Training in progress
with the Expert



Beginning of Natural Farming Live Demo with
the Natural Farming Expert



Fertilizer Preparation
with Community



Pesticide Training



Certificate Distribution

Awareness workshop 2: Importance of Clean Energy

Trainer - Ms. Devshree Gupta, Zonal Project Manager, Raheja Solar Food processing

Line Department – Mr. Govind Meena, KVK Agricultural Scientist

Workshop on Clean Energy: Empowering Communities with Sustainable Solutions

The clean energy workshop aimed to educate and empower community members with practical solutions to improve health, reduce pollution, and enhance agricultural practices. With a focus on smokeless cook stoves and solar dryers, the sessions provided hands-on training and demonstrations to help farmers adopt sustainable energy alternatives. The workshop fostered engagement and knowledge-sharing, equipping participants with tools to improve indoor air quality and boost agricultural productivity.

Key Focus Areas of the Workshop

1. Addressing Indoor Air Pollution through Smokeless Cook Stoves

The first session focused on the harmful effects of indoor air pollution caused by traditional cooking methods. Participants were introduced to smokeless cook stoves (chulhas), which significantly reduce household air pollution, improving respiratory health and overall well-being. The session included:

- A demonstration of smokeless cook stoves, showcasing their benefits in reducing emissions.
- Video presentations illustrating the construction and use of the stoves, ensuring easy adoption.
- Interactive discussions where community members shared their experiences and interest in implementing this solution.

2. Sustainable Agriculture with Solar Dryers

The second session introduced solar dryers as an innovative solution for preserving agricultural produce efficiently. This technology enables farmers to dry crops in a cost-effective and eco-friendly manner, reducing post-harvest losses and enhancing market opportunities. Key highlights included:

- An introduction to solar drying technology and its advantages over traditional drying methods.
- A demonstration of solar dryers, emphasizing their role in improving food preservation and increasing farmers' income.
- Insights into the CleanMax project and collaboration with Raheja Solar Food Processing for training and implementation support.

Impact and Outcomes

- Increased awareness and understanding of the health risks associated with traditional cooking methods.
- High interest and willingness among farmers to adopt smokeless cook stoves for a cleaner home environment.
- Strong enthusiasm for solar dryers as a viable agricultural solution, with farmers recognizing the potential for improved income and food security.

- Strengthened collaboration between IORA, Raheja Solar Food Processing, and the local community to facilitate the implementation of solar dryers.
- A clear shift towards clean energy alternatives, demonstrating the community's readiness to embrace sustainable solutions.

The Way Forward

Building on the momentum generated by the workshop, the following steps may be taken:

- Facilitating the installation and use of smokeless cook stoves by providing necessary resources and training.
- Implementing the solar dryer unit in the village, ensuring farmers receive hands-on guidance for effective utilization.
- Strengthening partnerships with clean energy experts and organizations to expand outreach and support.
- Conducting follow-up sessions to monitor progress, address challenges, and encourage long-term adoption of clean energy solutions.

The workshop successfully laid the foundation for sustainable energy adoption in the community, creating a pathway for healthier homes and more resilient agricultural practices.

TESTIMONIALS:

Anita Patel, Farmer from Nagpur Kalan:

"I was fortunate to learn from fellow villagers about Natural Farming techniques and the use of solar dryers, which are innovative methods to improve farm productivity while reducing environmental impact. These workshops have not only expanded my knowledge but also helped me adopt practical solutions that will benefit my farm and community in the long term."

Rekha Chimaniya, Farmer family:

"The Clean Energy workshop introduced us to the potential of using solar dryers to process agricultural products, offering an eco-friendly and cost-effective way to improve our livelihoods."



Setting the context – Moderator 1



Community Taking in Knowledge



Expert and IORA Moderator



Clean Energy Expert Trainer



Community Explaining the current situation



Engaged Community Members



Expert Trainer Discussing successful case studies



Certificate Distribution

Awareness workshop 3: The Criticality of Water Conservation

Trainer - Alok Kumar and Dr N Manika (Water Brochure # was discussed during this session)

Line Department – Mr. Govind Meena, KVK Agricultural Scientist

Workshop on Water Conservation and Harvesting: Empowering Farmers for Sustainable Water Management

The workshop on water conservation and harvesting provided farmers with essential knowledge and practical tools to manage water efficiently in agriculture. Using a specially developed brochure by Vertiver, participants gained insights into water usage patterns, conservation techniques, and the environmental impact of inefficient water management. The workshop aligned with the "Mission LiFE" initiative, emphasizing how small, sustainable actions can collectively lead to significant environmental benefits.

Key Focus Areas of the Workshop

The workshop covered several critical aspects of water conservation:

1. Understanding Water Usage in Agriculture
 - Farmers were introduced to data on water consumption in Madhya Pradesh and across India.
 - The brochure highlighted key statistics, demonstrating how everyday farming practices impact water availability.
 - Discussions focused on how practices such as over-irrigation and poor water runoff management contribute to water wastage.
2. Practical Water Conservation Techniques
 - Participants learned about various water-saving methods suited to the region, including rainwater harvesting, percolation pits, and farm ponds.
 - The benefits of these techniques in improving soil moisture retention and reducing dependence on external water sources were discussed in detail.
3. Hands-on Learning Through Visual Demonstrations
 - Farmers were shown video training materials from sources like Paani Foundation, demonstrating real-life examples of rainwater harvesting systems, percolation pits, farm ponds, and stop dams.
 - These videos illustrated step-by-step methods for constructing and maintaining these structures, as well as success stories from regions that have effectively implemented them.
4. Encouraging Community Collaboration
 - Farmers engaged in group discussions, sharing their own experiences and brainstorming ways to apply water conservation techniques collectively.
 - The importance of long-term maintenance and collective action to sustain these practices was emphasized.



Impact and Outcomes

- **Increased Awareness:** Participants developed a deeper understanding of their water consumption patterns and the impact of conservation efforts.
- **Practical Knowledge:** Farmers gained hands-on knowledge of sustainable water management solutions tailored to their local landscape.
- **Empowered Decision-Making:** The workshop encouraged farmers to assess their water-related challenges and implement solutions using the provided brochure as a guide.
- **Community-Led Action:** Open discussions fostered a sense of collective responsibility, inspiring farmers to work together on water conservation initiatives.

The Way Forward

Moving forward, the workshop outcomes may be reinforced through:

- **Follow-up Engagements:** Continued training sessions and check-ins to support farmers in implementing and maintaining water conservation systems.
- **On-Ground Demonstrations:** Establishing demonstration sites in collaboration with local farmers to showcase best practices in sustainable water management.
- **Scaling Community-Led Initiatives:** Encouraging farmer groups to take collective action in adopting and promoting water conservation measures.

The workshop successfully laid the foundation for long-term, sustainable water management by equipping farmers with the necessary tools and knowledge to make a lasting impact in their communities.

TESTIMONIALS:

Rajesh Bhamoriya, Farmer from Nagpur Kalan:

"On the second day, we focused on Water Conservation and Harvesting. I learned how even small, collective efforts from the community can make a big difference in water conservation. We studied case studies from water-scarce areas where simple techniques like rainwater harvesting, percolation pits, farm ponds, and stop dams have made significant improvements. These practical approaches demonstrated how minimal effort can lead to better water harvesting and sustainable solutions in our farming practices."

Rekha Chimaniya, Farmer family:

"During the water conservation workshop, I learned the urgent need to save water and the reasons behind the declining water levels in our region. We were introduced to techniques like the stop dam, which helps conserve water on farms, and simple ways to capture rainwater at each home. These small steps can contribute to groundwater recharge, which is crucial for sustaining water resources."

K. Rajput, Farmer from Nagpur Kalan:

"I attended two workshops, one on Water Conservation and the other on Agroforestry, and I learned many useful techniques to improve my farming practices. In the water conservation workshop, I learned small yet effective ways to save water, such as using farm ponds and collecting rainwater from our own rooftops. I also discovered how even a small pond can help conserve water for long-term use on the farm."

Aarti Rajput, Farmer:

"In the water conservation workshop, we learned that the earth's surface water levels are declining, and we were introduced to practical solutions to help reverse this trend. One key takeaway was the



Setting the context



During Case study session - Watching a video



Knowledge session in progress

importance of small, collective efforts, like digging and maintaining wells, which not only conserve water but also contribute to groundwater recharge. Additionally, we learned about stop dams and how they, combined with agroforestry practices, can play a significant role in addressing water scarcity."



Engaged audience



Session in progress



Community members expressing opinions



Certificate Distribution by Vertiver Moderator



Community members with Certificates

Awareness workshop 4: Agroforestry: Relevance and Scalability

Expert Trainer - Mr. Ashwini Sahu, Madhya Pradesh-CM Facilitated Agroforestry expert, Awareness generation through using government schemes, Community plantation of Native tree species.

Workshop on the Relevance of Agroforestry

The Agroforestry workshop brought together farmers and experts to explore how integrating trees with agricultural practices can enhance productivity and contribute to climate resilience. The session provided practical insights into agroforestry techniques, soil health improvement, and water conservation strategies, emphasizing their role in sustainable farming. Farmers were introduced to innovative methods such as *Matka Plantation* and Miyawaki Forests, as well as an interactive learning tool, the Kara Bhara Game, which reinforced key concepts in an engaging way.

Key Focus Areas of the Workshop

1. Soil Health & Agroforestry Benefits
 - Understanding the role of soil in agricultural sustainability.
 - How agroforestry improves soil fertility and prevents erosion.
 - Practical strategies for integrating agroforestry into existing farming systems.
2. Types and Implementation of Agroforestry Systems
 - Introduction to Alley Cropping, Intercropping, and Forest Farming.
 - Selecting the right tree and plant species for local conditions.
 - The benefits of incorporating native and traditional crops.
3. Climate Resilience & Water Conservation
 - How agroforestry supports biodiversity and mitigates climate change.
 - Enhancing moisture retention and reducing water evaporation through tree-crop integration.
 - Introduction to *Matka Plantation* for water-efficient crop growth.
 - The Miyawaki Forest method for creating fast-growing, dense green spaces.
4. Interactive Learning & Community Engagement
 - The Kara Bhara Game: A fun, engaging way to learn about agroforestry and water conservation.
 - Encouraging knowledge-sharing and collective action among farmers.

Impact and Outcomes

- Increased awareness of agroforestry's role in improving soil health and water conservation.
- Farmers gained hands-on knowledge of implementing sustainable agricultural practices.
- Stronger community engagement through interactive and practical demonstrations.
- Enthusiasm for adopting climate-smart agriculture techniques, particularly *Matka Plantation* and Miyawaki Forests.
- Positive feedback on the *Kara Bhara Game* as an effective educational tool.

The Way Forward

Building on the momentum of the workshop, follow-up initiatives may focus on:

- Providing continued technical support for farmers adopting agroforestry.
- Facilitating peer learning groups to share experiences and best practices.
- Expanding the reach of the Kara Bhara Game to reinforce key agricultural principles.
- Encouraging collaboration between farmers, local authorities, and environmental organizations to scale up agroforestry practices.

This workshop laid a strong foundation for promoting agroforestry as a viable and sustainable farming solution, empowering farmers with knowledge and tools to create a more resilient agricultural landscape.

TESTIMONIALS:

Anita Patel, Farmer from Nagpur Kalan:

"In the Agroforestry workshop, we used the 'Kara Bhara' game, which allowed us to apply the knowledge we gained in a hands-on way. It was a fun yet educational experience that helped me understand how to integrate trees with crops for sustainable farming. Beyond these, I was fortunate to learn from fellow villagers about Natural Farming techniques and the use of solar dryers, which are innovative methods to improve farm productivity while reducing environmental impact. These workshops have not only expanded my knowledge but also helped me adopt practical solutions that will benefit my farm and community in the long term."

Rekha Chimaniya, Farmer family:

"In the Agroforestry workshop, I learned about the importance of soil health and how we can improve it through small, manageable steps at home and on our farms. By enhancing soil health, we can make it more resilient to the impacts of climate change. I also learned how agroforestry offers a solution to multiple challenges—improving agricultural production, conserving water, and restoring soil health. These practices not only help tackle climate change but also build a sustainable future."

Karan Singh Rajput, Farmer from Nagpur Kalan:

"In the agroforestry session, we focused on the importance of planting the right trees in the right places. I gained valuable knowledge on how to integrate trees into farming systems to not only improve water conservation but also enhance soil health and productivity. Overall, these workshops have taught me practical ways to make my farmland more productive and sustainable."

Aarti Rajput, Farmer:

"In the Agroforestry workshop, I discovered how integrating trees with farming systems provides multiple benefits, such as improving soil health, conserving water, and increasing farm productivity. I also learned about solar dryers and their potential to improve livelihoods by offering an efficient, eco-friendly way to dry agricultural products."



W4 – Felicitation by Vertiver Moderator – Ashini Sahu – Expert Trainer



Interactive Kara Bhara Game - Explaining the Game



Interactive Kara Bhara Game - Playing the Game



Playing the Interactive Game



During - Playing the Interactive Game – Kara Bhara



During session - Engaged Audience



Training session - Ashini Sahu – Expert Trainer on Agroforestry



Awareness workshop 5: Youth Capacity Building and Storytelling

Expert Trainer - Mr. Vyankat Chimaniya, influential youth farmer, educator, entrepreneur with good social media presence

Workshop on Youth Capacity Building and Storytelling: Empowering the Next Generation for a Sustainable Future

The youth capacity-building workshop aimed to equip young people with essential knowledge and skills to address key sustainability challenges, including climate change, water conservation, sustainable agriculture, and clean energy. Through expert-led sessions and interactive discussions, participants gained insights into practical solutions and the role they can play in fostering environmental resilience within their communities. Through an immersive **storytelling and capacity-building initiative**, young people from villages across Itarsi have been equipped with the knowledge and tools needed to protect their environment -where youth take the lead in **understanding, adapting, and acting** for a sustainable future.

At the conclusion of this workshop, **Varmmala**, a behaviour change game. As they played, the youth uncovered the interconnectedness of their daily lives with the bigger picture of **water conservation, soil health, and sustainable living**. They didn't just learn about climate change; they **experienced it** through the game's challenges and solutions on how water wastage today means drought tomorrow and how healthy soil is key to strong crops and food security.

Key Focus Areas of the Workshop

1. Climate Change and Its Impacts

- Experts provided an overview of climate change, its causes, and its effects on water availability, agriculture, and public health.
- Discussions explored how rising temperatures and shifting rainfall patterns contribute to environmental challenges such as soil degradation and the spread of vector-borne diseases.

2. Water, Food, and Energy Nexus

- The interdependence of water, food, and energy was explained, highlighting how resource management in one sector directly affects the others.
- Participants learned about sustainable water conservation methods and their role in maintaining food security and clean energy access.

3. Sustainable Agriculture and Traditional Knowledge

- The workshop explored indigenous agricultural practices, including organic farming, crop diversification, and soil regeneration techniques.
- Experts shared insights into climate-resilient crops, emphasizing their importance in adapting to changing environmental conditions.

4. Clean Energy and Climate Action

- The session introduced renewable energy solutions and their potential to reduce dependency on non-renewable resources.

- Youth were encouraged to explore innovative approaches to clean energy adoption in their communities.

5. Youth Engagement and Community Initiatives

- The “Youth for Life” initiative was introduced to inspire young people to participate in sustainability projects and volunteer-led climate action programs.
- Participants were encouraged to take an active role in promoting sustainable practices through advocacy and grassroots initiatives.

Impact and Outcomes

- The workshop sparked enthusiasm among participants, many of whom expressed a strong commitment to sustainability and climate action.
- Youth gained a deeper understanding of the interconnections between water, agriculture, and clean energy, equipping them with the knowledge to drive change.
- The interactive discussions and knowledge-sharing sessions helped bridge the gap between traditional practices and modern sustainability solutions.
- Several participants voiced their interest in implementing climate-smart agricultural techniques and exploring clean energy options in their local communities.

The Way Forward

- Encouraging participants to serve as ambassadors of sustainability, sharing their knowledge and mobilizing others toward collective climate action.
- As next steps for proactive action, the youth were introduced to the behaviour change game **"Varnmala"**, as a token assignment. This game helped them better understand sustainable development goals, Mission LIFE action points, and climate change issues. The participants were tasked with creating a "Hindi Varnmala" (alphabet) that reflects good lifestyle practices they engage in daily, which have a positive impact on the climate and human health. A WhatsApp group was created to share relevant information with the participants, and a timeline of 1.5 to 2 weeks was set for completion. The most outstanding contributions from the group will be rewarded.
- By building awareness, fostering collaboration, and empowering young leaders, the workshop successfully laid the foundation for a more resilient and sustainable future driven by the next generation.

Post Workshop Cta: "Varnmala" Game

Following the capacity-building training, youth participants were given a hands-on behavior change activity to reinforce their understanding of climate action and sustainable practices. They were introduced to "Varnmala," (refer to the image below), as a token assignment to deepen their engagement in alignment with Mission LIFE action points, and climate change issues.



What you can start with:

**Create a Varnmala on
Mission LiFE actions in
Hindi- The best creator
will win an award from
us!**

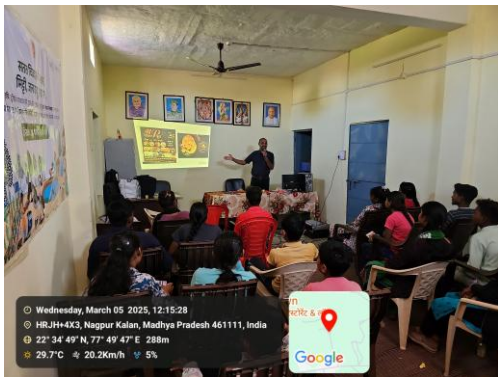
As part of the task, participants were encouraged to create a "Hindi Varnmala" (alphabet), where each letter represented a positive lifestyle practice they incorporate into their daily lives that benefits both the climate and human health. To facilitate collaboration and ongoing learning, a WhatsApp group was formed to share relevant information, updates, and progress. Participants were given a timeline of 1.5 to 2 weeks to complete the task, with the most outstanding contributions receiving a monetary prize as recognition for their efforts.



Introduction Knowledge session - Vertiver Moderator



Youth Expert Trainer



Knowledge Dissemination with the Youth Expert Trainer



Engaged Youth



Interactive Game Session in progress – Kara Bhara Gamification tool



Ongoing Knowledge Training



Watching a case study video



Certificate Distribution by the Youth Trainer



Certificate Distribution



Youth Workshop Group Photo

4.16 Health camp & Health Awareness Camp

Meeting with PRIs

Initially, the IORA team met with the PRI (Panchayati Raj Institution) representatives of Pandri, Pandukhedi, and Nagpur Kalan to share the details of the event. The discussions focused on the objectives of the health camp and awareness sessions, emphasizing how people could benefit from these initiatives. The PRI representatives played a crucial role in mobilizing community participation and ensuring the smooth execution of the program.

Site Selection

To maximize outreach and ensure accessibility, the project team conducted extensive surveys and discussions with PRI representatives to identify the most suitable locations for the health camp and awareness session. The selected sites were chosen based on factors such as ease of access, availability of space for setting up different counters, and the potential to accommodate a large number of attendees. The goal was to ensure maximum participation and benefit for the local community.

Resource Mobilization

Once the site was finalized, the team mobilized the necessary resources for the event. This included arranging medical equipment, medicines, seating arrangements, banners, and logistical support. Coordination with healthcare professionals, volunteers, and local authorities was also carried out to ensure a well-organized and efficient setup for both the health camp and awareness sessions.

Information Dissemination to the Community

To ensure maximum participation, the IORA team carried out an extensive outreach program. This involved visiting multiple locations within the villages and engaging with key individuals, including community leaders, self-help groups, and school representatives. Additionally, a door-to-door campaign was conducted in collaboration with the Panchayat to personally inform villagers about the upcoming health camp and awareness sessions. Announcements were also made through loudspeakers, posters were displayed in common gathering areas, and local influencers were engaged to spread the message effectively.

Event Organization

1. Awareness Session

- Two expert speakers were invited to educate the villagers on health and personal hygiene. They provided valuable insights into preventive healthcare, sanitation practices, and the importance of regular health checkups.
- To make the session more engaging, a magician was also invited to perform a thematic magic show that incorporated messages about health and hygiene. This interactive approach helped in capturing the attention of the audience and reinforcing key messages in a memorable way.

2. Health Camp

- A well-structured health camp was organized, with six medical professionals providing services:
 - One female doctor

- One male doctor
- Two nursing staff members
- Two eye specialists
- Multiple counters were set up for different health services to ensure an efficient flow of patients. Each counter was clearly labeled with signage for easy identification. The patient journey was structured as follows:
 1. Registration Counter – Patients provided their basic details and received a health card.
 2. Initial Health Screening – Checks for blood pressure (BP), blood sugar levels, and body weight were conducted.
 3. Doctor Consultation – Patients were directed to the respective doctors for diagnosis and medical advice.
 4. Medicine Distribution Counter – Prescribed medicines were provided to patients free of cost.
 5. Eye Check-up Counter – Patients with eye-related concerns were examined by the specialists, and necessary recommendations were provided.
- To ensure a comfortable experience for all attendees, every patient was given a snack packet after completing their treatment. This initiative was taken to provide some relief, especially for those who had to wait for long durations.

The entire event was conducted in a systematic manner to ensure smooth coordination, minimize waiting time, and maximize the benefits for the community. The participation of villagers was overwhelming, and the initiative successfully met its objectives of providing healthcare services and spreading awareness about health and hygiene.

Outcomes

The implementation of the health camp and awareness sessions yielded significant results, positively impacting the local community. The key outcomes of the initiative were as follows:

1. Increased Access to Healthcare Services

- A total of **398 individuals** from Pandri, Pandukhedi, and Nagpur Kalan received free medical check-ups and treatments from qualified healthcare professionals.
- The health camp provided essential diagnostic services such as blood pressure monitoring, blood sugar tests, weight checks, and eye examinations, ensuring early detection of potential health issues.
- Many patients received on-the-spot medical consultations and free medicines, addressing common illnesses and chronic conditions.

2. High Community Engagement in Awareness Sessions

- **550+ people** actively participated in the awareness sessions on hygiene and preventive healthcare.
- The sessions effectively conveyed crucial messages on personal hygiene, sanitation, nutrition, and disease prevention through expert talks and interactive methods like a magic show.
- Participants, especially women and children, showed keen interest in learning about daily hygiene practices such as handwashing, menstrual hygiene management, and safe drinking water practices.

3. Strengthened Community Awareness and Behavioral Change

- A noticeable shift was observed in community attitudes towards health and hygiene. Many villagers expressed a better understanding of disease prevention and the importance of regular health check-ups.
- The sessions encouraged the adoption of healthy habits, such as proper sanitation, timely medical consultations, and preventive healthcare measures.
- Special emphasis on women's health and child nutrition helped address critical gaps in maternal and child healthcare awareness.

4. Positive Community Feedback and Improved Health-Seeking Behavior

- Feedback from participants indicated a greater willingness to seek medical care rather than relying on home remedies or delaying treatment.
- The event helped establish trust between the community and healthcare providers, ensuring that people feel more confident in accessing medical services in the future.
- Many community members expressed interest in regular health camps, highlighting the need for sustained healthcare initiatives.

5. Strengthened Collaboration with Local Authorities

- The event reinforced strong partnerships with PRI representatives, who played a key role in mobilizing the community and ensuring smooth execution.
- The success of this initiative has opened avenues for future collaborations with local authorities and health departments to expand healthcare services in rural areas.

6. Enhanced Community Participation and Social Impact

- The inclusive approach, involving door-to-door campaigns and local influencers, helped ensure a diverse participation across different age groups and genders.
- The initiative created a platform for discussion on health challenges, encouraging people to prioritize their well-being and seek timely medical intervention.

The event was highly successful in bridging the gap between rural communities and healthcare services, fostering a culture of preventive healthcare and improved hygiene practices. The overwhelming participation and positive impact reinforced the need for sustained healthcare interventions in underserved areas.



संथा द्वारा आयोजित स्वास्थ्य शिविर से बहुत संतुष्ट हूँ। शिविर में मेरी जांच की गई, और मुझे यह जानकारी मिली कि मुझे शुगर (मधुमेह) है, जिसके बारे में मैं पहले बिल्कुल अवगत नहीं थी।

मुझे शिविर में उत्कृष्ट स्वास्थ्य सेवाएं और उपचार प्राप्त हुआ, और डॉक्टरों द्वारा दी गई जानकारी और जागरूकता से मेरी सेहत को सुधारने में मदद मिलेगी।

संथा का यह प्रयास हमारे जैसे ग्रामीण क्षेत्रों में स्वास्थ्य सेवाएं बेहतर बनाने के लिए बहुत महत्वपूर्ण है। मैं इसके लिए आभारी हूँ।

मैं वीरलाल उइके ग्राम पांडरी, संथा द्वारा आयोजित स्वास्थ्य शिविर से बहुत संतुष्ट हूँ। शिविर में मेरी आँखों की जांच की गई, और मुझे यह पता चला कि मेरी आँखों की पावर में बदलाव आया है, जिसके बारे में मैं पहले बिल्कुल नहीं जानता था। मुझे यहां बहुत अच्छा इलाज और सही सलाह मिली। अब मुझे अपनी आँखों का सही ख्याल रखने के बारे में जानकारी मिली है, जिससे मेरी सेहत में सुधार होगा।

मैं इसके लिए बहुत आभारी हूँ।



पहली बार ऐसा हुआ कि बड़े डॉक्टर पंचायत में आकर इलाज कर रहे थे। वरना, अस्पताल में पूरा दिन लाइन में लगने के बाद ही डॉक्टर से मिल पाते थे।

शिविर में मेरी जांच हुई, तब पता चला कि मुझे बीपी की समस्या है। सबसे अच्छी बात यह लगी कि मेरी बेटियों को पहली बार महावारी के बारे में सही जानकारी मिली। महिला डॉक्टर ने उन्हें समझाया कि साफ-सफाई कितनी जरूरी है और उन्हें सैनिटरी पैड भी दिए। यह हमारे लिए बहुत मददगार रहा।



रमेश - शिविर में मेरी जांच हुई, तब पता चला कि मेरा बीपी और शुगर बढ़ा हुआ है, जिसका मुझे पहले पता ही नहीं था। काफी समय से पेट की समस्या थी। डॉक्टरों ने उसकी भी अच्छे से जांच की और दवाई दी।

सबसे अच्छी बात यह रही कि गांव की 90% महिलाएं भी इस शिविर में शामिल हुईं। उन्होंने अपनी सेहत से जुड़ी कई जरूरी जानकारियां लीं और इलाज करवाया। महिला डॉक्टरों ने उन्हें साफ-सफाई और स्वास्थ्य से जुड़ी अहम बातें भी समझाईं।

संथा का यह प्रयास गांव के लोगों के लिए बहुत जरूरी है, और मैं इसके लिए आभारी हूं।

Sample Registration Form of Beneficiary

CleanMax Registration Sheet - Health Camp **Iora Ecological Trust**

Date: 12/12/25 Place: Pimpri

S.No.	Name	Father/Husband's Name	Age	Aadhar No.	Mobile No.	Signature
1	सुभा शिंदे	सुभा शिंदे	65	206563465885	911661459	
2	सुभा शिंदे	सुभा शिंदे	60	85152350219	—	
3	सुभा शिंदे	सुभा शिंदे	55	20612020191	91166146332	
4	सुभा शिंदे	सुभा शिंदे	58	52777836647	7500969367	
5	सुभा शिंदे	सुभा शिंदे	5	—	866209325	
6	सुभा शिंदे	सुभा शिंदे	5	—	—	
7	सुभा शिंदे	सुभा शिंदे	3	—	—	
8	सुभा शिंदे	सुभा शिंदे	37	—	—	
9	सुभा शिंदे	सुभा शिंदे	36	7477689278	—	
10	सुभा शिंदे	सुभा शिंदे	64	92170185276	769865240	
11	सुभा शिंदे	सुभा शिंदे	47	632301/105	782346242	
12	सुभा शिंदे	सुभा शिंदे	84	9558200646	835938362	
13	सुभा शिंदे	सुभा शिंदे	63	8767204303	769865242	
14	सुभा शिंदे	सुभा शिंदे	64	5122219287	891317754	
15	सुभा शिंदे	सुभा शिंदे	35	2808832345	782346242	
16	सुभा शिंदे	सुभा शिंदे	46	6347001626	769865242	
17	सुभा शिंदे	सुभा शिंदे	56	6574270086	769865242	
18	सुभा शिंदे	सुभा शिंदे	30	6347001626	769865242	
19	सुभा शिंदे	सुभा शिंदे	55	7332001516	769865242	
20	सुभा शिंदे	सुभा शिंदे	60	6765043833	769865242	
21	सुभा शिंदे	सुभा शिंदे	16	8349445110	769865242	
22	सुभा शिंदे	सुभा शिंदे	45	6347001626	769865242	
23	सुभा शिंदे	सुभा शिंदे	70	6347001626	769865242	
24	सुभा शिंदे	सुभा शिंदे	21	2929460426	769865242	
25	सुभा शिंदे	सुभा शिंदे	17	8765642815	769865242	

CleanMax Registration Sheet - Health Camp **Iora Ecological Trust**

Date: 13/12/25 Place: Pimpri

S.No.	Name	Father/Husband's Name	Age	Aadhar No.	Mobile No.	Signature
1	सुभा शिंदे	सुभा शिंदे	47	7152460832	769865242	
2	सुभा शिंदे	सुभा शिंदे	57	2010276232	822301/105	
3	सुभा शिंदे	सुभा शिंदे	25	6060166940	822301/105	
4	सुभा शिंदे	सुभा शिंदे	54	8082348105	782346242	
5	सुभा शिंदे	सुभा शिंदे	52	9455571818	911661459	
6	सुभा शिंदे	सुभा शिंदे	54	7064070015	769865242	
7	सुभा शिंदे	सुभा शिंदे	15	9165130970	769865242	
8	सुभा शिंदे	सुभा शिंदे	54	85152350219	891317754	
9	सुभा शिंदे	सुभा शिंदे	61	5069720363	810366242	
10	सुभा शिंदे	सुभा शिंदे	54	9555506606	911661459	
11	सुभा शिंदे	सुभा शिंदे	22	2587000807	911661459	
12	सुभा शिंदे	सुभा शिंदे	15	—	769865242	
13	सुभा शिंदे	सुभा शिंदे	57	9408160839	62602426	
14	सुभा शिंदे	सुभा शिंदे	—	8776845162	90835236	
15	सुभा शिंदे	सुभा शिंदे	58	6816215457	771180250	
16	सुभा शिंदे	सुभा शिंदे	76	6507119730	769865242	
17	सुभा शिंदे	सुभा शिंदे	33	2302055540	62602426	
18	सुभा शिंदे	सुभा शिंदे	51	9256397726	62602426	
19	सुभा शिंदे	सुभा शिंदे	58	5060600001	782346242	
20	सुभा शिंदे	सुभा शिंदे	38	53846026125	—	
21	सुभा शिंदे	सुभा शिंदे	21	7307180969	62602426	
22	सुभा शिंदे	सुभा शिंदे	32	7638435010	911661459	
23	सुभा शिंदे	सुभा शिंदे	48	6069150008	769865242	
24	सुभा शिंदे	सुभा शिंदे	46	7773540017	822301/105	
25	सुभा शिंदे	सुभा शिंदे	38	6378207853	811661459	

CleanMax Registration Sheet - Health Camp **Iora Ecological Trust**

Date: 13/12/25 Place: Pimpri

S.No.	Name	Father/Husband's Name	Age	Aadhar No.	Mobile No.	Signature
1	सुभा शिंदे	सुभा शिंदे	4	9433905304	911661459	
2	सुभा शिंदे	सुभा शिंदे	25	95829366352	782346242	
3	सुभा शिंदे	सुभा शिंदे	84	30313003057	755470523	
4	सुभा शिंदे	सुभा शिंदे	24	5459100145	62602426	
5	सुभा शिंदे	सुभा शिंदे	11	4123589421	—	
6	सुभा शिंदे	सुभा शिंदे	10	5136633657	911661459	
7	सुभा शिंदे	सुभा शिंदे	40	6285507056	830583003	
8	सुभा शिंदे	सुभा शिंदे	20	40084930357	777363057	
9	सुभा शिंदे	सुभा शिंदे	11	71644472515	930235626	
10	सुभा शिंदे	सुभा शिंदे	56	4066630033	831581003	
11	सुभा शिंदे	सुभा शिंदे	26	8600990100	930235626	
12	सुभा शिंदे	सुभा शिंदे	11	5843100335	877093130	
13	सुभा शिंदे	सुभा शिंदे	10	9557441300	890947100	
14	सुभा शिंदे	सुभा शिंदे	84	30313003057	—	
15	सुभा शिंदे	सुभा शिंदे	60	2062459700	782346242	
16	सुभा शिंदे	सुभा शिंदे	6	4302648671	782346242	
17	सुभा शिंदे	सुभा शिंदे	74	9302468680	777363057	
18	सुभा शिंदे	सुभा शिंदे	65	7467916657	782346242	
19	सुभा शिंदे	सुभा शिंदे	43	40605000180	62602426	
20	सुभा शिंदे	सुभा शिंदे	10	6715330050	62602426	
21	सुभा शिंदे	सुभा शिंदे	10	2851720057	769865242	
22	सुभा शिंदे	सुभा शिंदे	11	6445830710	—	
23	सुभा शिंदे	सुभा शिंदे	8	8125552448	—	
24	सुभा शिंदे	सुभा शिंदे	80	4700934804	930235626	
25	सुभा शिंदे	सुभा शिंदे	63	70141002935	62602426	

Few Glimpses of Health Camp





Health Awareness session





Challenges and Mitigation

Challenges Faced	Mitigation Strategies
Limited Awareness and Participation Some community members may lack awareness or be hesitant to participate in health camps and awareness sessions.	Conduct pre-event outreach using local leaders, community volunteers, and awareness drives.
	Distribute pamphlets and posters in key community areas and conduct door-to-door outreach to personally inform residents about the benefits of attending the health camps and awareness sessions.
	Engage self-help groups and local influencers to encourage participation.
Geographical and Transportation Barriers Remote locations may hinder access to health camps, especially for elderly or differently abled individuals.	Arrange transport facilities for those unable to travel.
	Collaborate with local stakeholders, health workers to extend post-camp medical support.
Shortage of Medical Professionals and Resources Limited availability of doctors, nurses, and diagnostic equipment.	Partner with PRIs and medical workers to secure additional manpower.
	Ensure advance procurement of medical supplies and diagnostic kits.
	Develop a volunteer network of healthcare professionals.
Follow-Up and Continuity of Care Ensuring sustained care for	Establish a referral system with local hospitals and clinics for continued treatment.

critical patients post-health camp.	Maintain a patient record database for tracking follow-up cases.
	Encourage community health workers to monitor and support patients in need.
Cultural and Social Barriers Traditional beliefs or stigma may prevent people from seeking healthcare, especially in cases related to women's health.	Conduct culturally sensitive awareness sessions tailored to community beliefs.
	Involve local influencers, religious leaders, and women's groups to promote positive health messaging.
	Ensure female healthcare providers are available for women-specific consultations.

Key Outcomes & Impact

The health camps and awareness programs yielded significant community benefits, leading to long-term improvements in public health. The key outcomes included:

Increased Access to Healthcare Services:

- A total of 398 individuals from Pandri, Pandukhedi, and Nagpur Kalan received free medical check-ups and treatments from qualified healthcare professionals.
- The health camp provided essential diagnostic services such as blood pressure monitoring, blood sugar tests, weight checks, and eye examinations, ensuring early detection of potential health issues.
- Many patients received on-the-spot medical consultations and free medicines, addressing common illnesses and chronic conditions.

High Community Engagement in Awareness Sessions:

- 550+ people actively participated in awareness sessions on hygiene and preventive healthcare.
- The sessions effectively conveyed crucial messages on personal hygiene, sanitation, nutrition, and disease prevention through expert talks and interactive methods like a magic show.
- Participants, especially women and children, showed keen interest in learning about daily hygiene practices such as handwashing, menstrual hygiene management, and safe drinking water practices.

Positive Community Feedback and Increased Use of Biogas

- Feedback from households indicated a significant reduction in firewood dependency, with women saving 2-3 hours daily that was previously spent collecting fuelwood.
- Families reported improved indoor air quality, leading to fewer cases of smoke-induced respiratory issues, eye irritation, and coughing.
- The initiative helped establish trust in biogas technology, as trained community members felt confident in operating and maintaining the units, ensuring long-term functionality.
- Many villagers encouraged neighbors to adopt biogas, demonstrating growing community acceptance and the potential for wider adoption.

Enhanced Agricultural Productivity and Environmental Benefits

- Farmers using biogas slurry as an organic fertilizer reported improved soil fertility, higher moisture retention, and increased crop yields.

- The transition to organic fertilizers reduced dependency on costly chemical inputs, lowering farming expenses and promoting eco-friendly practices.
- The 55 acres of agroforestry land now serve as a demonstration site for farmers, showcasing the benefits of tree-based farming systems in improving biodiversity, soil health, and climate resilience.
- Households integrating fruit-bearing trees in backyard farms observed improved food security, reducing their reliance on external markets for nutritious produce.

Strengthened Community Awareness and Behavioral Change:

- A noticeable shift was observed in community attitudes towards health and hygiene. Many villagers expressed a better understanding of disease prevention and the importance of regular health check-ups.
- The sessions encouraged the adoption of healthy habits, such as proper sanitation, timely medical consultations, and preventive healthcare measures.
- Special emphasis on women's health and child nutrition helped address critical gaps in maternal and child healthcare awareness.

Positive Community Feedback and Improved Health-Seeking Behavior:

- Feedback from participants indicated a greater willingness to seek medical care rather than relying on home remedies or delaying treatment.
- The event helped establish trust between the community and healthcare providers, ensuring that people feel more confident in accessing medical services in the future.
- Many community members expressed interest in regular health camps, highlighting the need for sustained healthcare initiatives.

Strengthened Collaboration with Local Authorities & Farmers

- The intervention reinforced strong partnerships with PRI representatives and agricultural extension officers, who played a key role in mobilizing communities and facilitating adoption.
- The success of agroforestry and biogas adoption has opened avenues for collaboration with agriculture and forestry departments to expand the model across more villages.
- Knowledge-sharing platforms have been established, enabling farmers to exchange insights on agroforestry techniques, slurry utilization, and climate-smart agriculture.

Increased Community Participation and Long-Term Sustainability

- The involvement of three village Kabaddi teams under the Green Champions program helped spread awareness on clean energy and agroforestry at block- and district-level sporting events.
- Regular village meetings and training sessions ensured continued knowledge transfer, enabling more households to embrace clean energy and sustainable agriculture.
- A community-led self-reporting mechanism was introduced to track biogas production, troubleshoot issues, and monitor tree survival rates, ensuring long-term impact and sustainability.
- Community enthusiasm for the initiative has positioned biogas and agroforestry as scalable models, demonstrating their potential to transform rural livelihoods while protecting natural resources.

4.17 Youth Engagement, Skill Development and Promotion of Local Sport

- A youth-focused training initiative was introduced to create local expertise in biogas plant maintenance, nursery management, and agroforestry models, ensuring that young community members play an active role in environmental conservation. As part of this initiative, three village Kabaddi teams were supported and trained under the "Green Champions" program. These teams were not only strengthened with resources and training in sportsmanship and leadership but were also equipped to serve as community ambassadors for sustainability initiatives.
- The Green Champions take their role beyond their villages, carrying the message of clean energy, sustainable agriculture, and climate resilience to a wider audience by participating in block- and district-level sporting competitions. Through their engagement in these tournaments, they spread awareness about biogas adoption, agroforestry benefits, and environmental stewardship to youth groups, spectators, and community leaders across different regions. Their participation in these events has helped build a sense of collective identity and responsibility, encouraging other young people to engage in environmental action and green livelihood initiatives.
- To further institutionalize this youth leadership model, future efforts will focus on recruiting Green Champions as Community Monitors, equipping them with GPS-based monitoring skills to track agroforestry growth, biogas system performance, and environmental impact. These trained youth monitors will play a key role in ensuring the long-term success and sustainability of the interventions by providing real-time data on tree survival rates, biogas efficiency, and soil health improvements. Their involvement will not only strengthen participatory governance but also create employment and skill-building opportunities, positioning them as future leaders in community-driven conservation efforts.
- By leveraging sports as a tool for environmental advocacy, this initiative has fostered leadership, teamwork, and sustainability awareness, empowering youth as key drivers of rural transformation. The integration of sports and environmental conservation ensures that awareness efforts are engaging, dynamic, and far-reaching, making sustainability a community-driven movement rather than just a project intervention.

5. Monitoring & Evaluation Framework

Track. Adapt. Scale.

IORA's M&E system will combine tech-driven precision with grassroots insights to ensure every intervention delivers measurable, lasting impact.

Core Components:

Baseline to endline Impact Snapshots: Pre- and post-project surveys will track shifts in biogas adoption, firewood use, soil health, and income generation. Data will guide scalable solutions.

Dynamic Agroforestry Mapping: GPS technology will map tree survival, growth trends, and replanting needs pre- and post-monsoon, capturing biodiversity gains and land restoration progress.

Farmer-Led Survival Audits: Quarterly field assessments and farmer self-reporting will identify sapling mortality causes, pest risks, and soil changes, enabling adaptive management.

Biogas Performance Dashboards: Household visits and user feedback will monitor gas output, firewood reduction trends, and maintenance needs to optimize system efficiency.

Soil Health Pulse Checks: Regular soil testing will analyze organic carbon, nutrient levels, and microbial activity. Farmers will receive updated "health cards" to refine agroforestry and biogas slurry use.

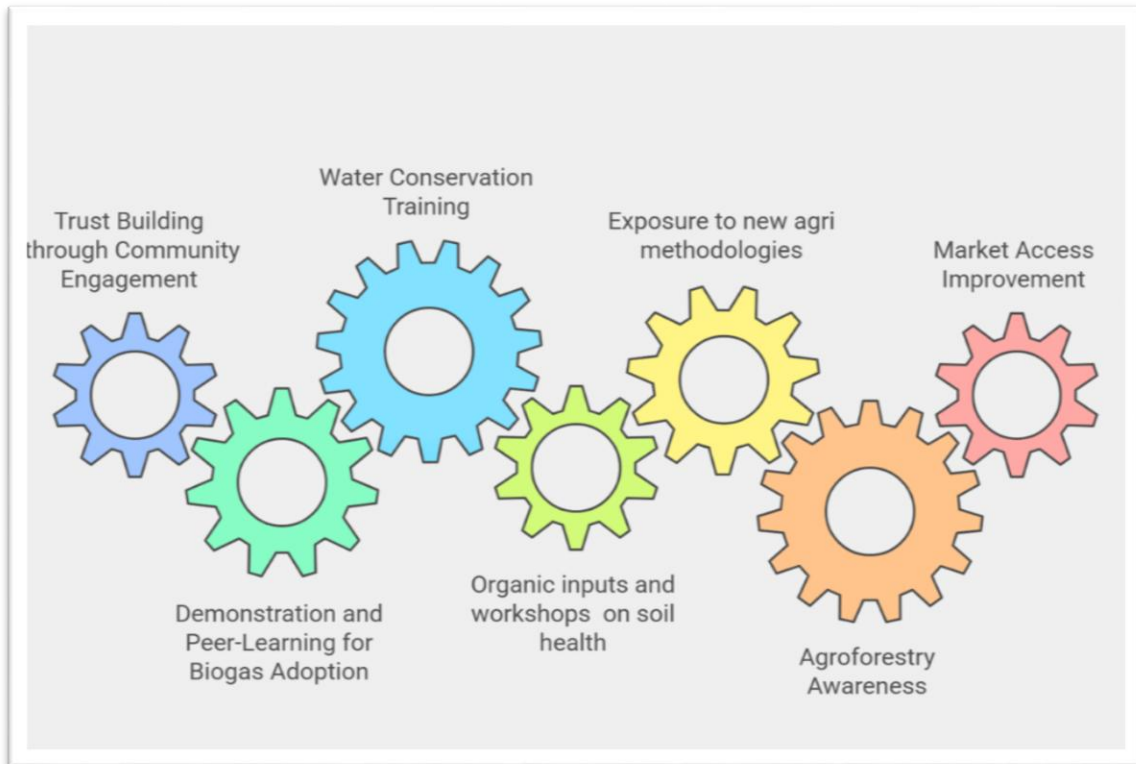
Community Impact Radar: Village committees will track health improvements, dietary shifts, and engagement through health camps, surveys, and participatory feedback loops.

7. Challenges & Key Learnings

A. Challenges

- **Trust Building & Awareness** – Initial skepticism about the program required consistent engagement through community meetings, field demonstrations, and participatory decision-making, leading to stronger buy-in over time.
- **Initial Reluctance Toward Biogas Adoption** – Households unfamiliar with biogas technology were hesitant to switch from firewood. Demonstration sessions and peer learning helped showcase the ease of use and benefits, increasing adoption.
- **Declining Water Availability for Agriculture** – In Nagpur Kalan, groundwater levels had dropped to 300-500 feet, making irrigation difficult. The project introduced mulching, and soil moisture conservation techniques and encouraged water-efficient crops like ginger as an alternative.
- **Soil Degradation Due to Chemical Fertilizers & Herbicides** – Excessive use of chemical fertilizers and Safaya herbicide led to soil depletion and health concerns. Farmers in Pandri were trained in organic inputs, biofertilizers, and composting to reduce dependency on chemicals.
- **Reluctance to Change Farming Methods** – Farmers were skeptical about new techniques like organic farming and intercropping. Practical training, exposure visits, and success stories from other regions helped shift mindsets.
- **Low Awareness & Adoption of Agroforestry** – Farmers feared reduced crop yields due to tree shade. Field visits and peer learning introduced successful agroforestry models, increasing willingness to integrate trees into farming systems.

- **Smallholder Farmers & Subsistence Farming** – Many farmers practiced small-scale subsistence farming, making it difficult to integrate into structured agroforestry models. The project focused on customized interventions such as bund model that aligned with their existing cropping patterns.
- **Limited Market Access & Livelihood Diversification** – Farmers lacked market linkages for alternative crops. Facilitation of value addition (e.g., via solar drying) and introducing alternative crops like ginger helped improve income opportunities.



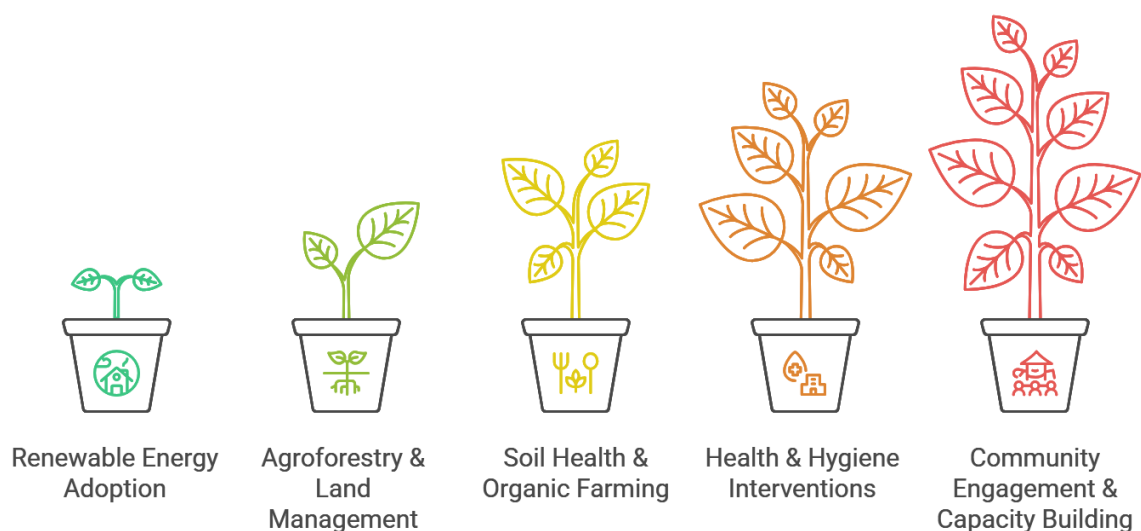
B. Key Learnings

The project provided valuable insights into best practices, adoption challenges, and strategies for long-term sustainability.

- **Community-Led Approaches Ensure Sustainability** – Early engagement with local leaders, Gram Panchayats, and self-help groups fostered trust and increased project ownership, ensuring smoother implementation.
- **Demonstration & Peer Learning Accelerate Adoption** – Farmers were more receptive to agroforestry and biogas after real-world examples, field visits, and peer-led discussions, reinforcing the importance of experiential learning.
- **Integrated Approaches Maximize Impact** – Combining renewable energy (biogas), soil restoration (agroforestry), and livelihood interventions created multi-sectoral benefits, making solutions more attractive to communities.
- **Continuous Capacity-Building is Key** – Follow-up training sessions and refresher workshops helped reinforce knowledge and sustain behavioral change among farmers and biogas adopters.
- **Addressing Water Access Improves Agroforestry Success** – Implementing rainwater harvesting, mulching, and soil moisture conservation techniques improved sapling survival rates and enhanced agricultural resilience.

These learnings will help inform **future interventions**, ensuring **scalability, long-term impact, and better alignment with community needs**.

Building Rural Resilience



8. Conclusion

The Satpura-Melghat Green Corridor Initiative has provided compelling empirical evidence that an integrated, multi-sectoral approach can significantly improve ecosystem health and rural livelihoods. Detailed soil analyses indicate that nearly 75% of sampled fields exhibit critical deficiencies in nitrogen and organic carbon, underscoring the adverse effects of prolonged mono-cropping and chemical fertilizer overuse. In response, the agroforestry component—emphasizing the incorporation of nitrogen-fixing species (e.g., Moringa) and multipurpose trees—has not only enhanced soil structure and nutrient cycling but also increased carbon sequestration. Concurrently, the adoption of biogas technology has demonstrably reduced household reliance on firewood, improved indoor air quality, and generated organic slurry that enriches soil fertility. Robust community engagement, through targeted capacity-building workshops and participatory decision-making, has further validated the scientific premise that combining renewable energy, sustainable agriculture, and ecological restoration yields synergistic benefits.

9. Way Forward

To build on these scientific and empirical foundations, the following strategic actions are recommended for the next phase:

Enhancement and Scaling of Agroforestry Systems:

Expand the integration of native, climate-resilient, and nitrogen-fixing species to restore soil health.

Utilize adaptive planting designs (e.g., bund and block plantation models) to optimize light penetration, moisture retention, and inter-species interactions that enhance ecosystem services.

Establish controlled experimental plots to monitor growth rates, soil nutrient recovery, and carbon sequestration dynamics, providing data for iterative refinement.

Expansion of Biogas Adoption:

Intensify technical training for households on biogas system operation and maintenance, ensuring long-term functionality and efficiency. Leverage the nutrient-rich slurry by-product as a bio-fertilizer within agroforestry systems, closing the nutrient loop and reducing dependency on synthetic fertilizers.

Strengthening Monitoring and Adaptive Management:

- Implement a comprehensive monitoring framework that continuously tracks soil nutrient profiles, biomass accumulation, and energy savings.
- *Feedback Mechanisms:* Integrate periodic stakeholder consultations to refine intervention methodologies based on real-time data and community feedback.

Broadening Collaborative Partnerships:

- *Interdisciplinary Research:* Foster partnerships with academic and research institutions to conduct longitudinal studies on ecosystem recovery, resilience, and socio-economic impacts.
- *Market Linkages:* Develop market access initiatives for agroforestry products, thereby improving economic returns for farmers and ensuring the sustainability of ecological investments.

By advancing these scientifically grounded strategies, the initiative is poised to expand its impact across additional villages, thereby catalyzing a resilient, sustainable rural ecosystem that harmonizes ecological restoration with socio-economic development.



Together, we're not just preserving nature—we're reigniting its pulse.