



## **Project VRIKSHA - Tech Enabled Afforestation**

VRIKSHA : Value-based Regeneration through Integrated Knowledge, Sustainability, Holistic Action & Agroforestry.

## **1. Executive Summary**

VRIKSHA introduces a revolutionary blockchain-powered approach to afforestation, delivering unprecedented transparency and impact verification in environmental regeneration. This innovative initiative aims to expand India's green cover and uplift vulnerable tribal and indigenous communities in rural areas through advanced digital solutions and sustainable agroforestry practices.

Our project distinguishes itself through a unique, integrated technology ecosystem:

- **Blockchain-Verified Impact**: Each tree planted is registered with a unique digital certificate on our secure blockchain, creating an immutable record of environmental action and enabling tokenized carbon credits
- Advanced GIS Monitoring: We use satellite imagery verifies growth progress and environmental changes
- Field-to-Dashboard Mobile Application: Our custom mobile technology enables community participation, real-time data collection, and transparent benefit distribution
- Interactive Impact Visualization: A live analytics dashboard provides real-time project metrics to all stakeholders, ensuring complete transparency from planting to maturity.
- Through this technology-first approach to agroforestry and agricultural diversification, we create measurable ecosystem restoration while increasing livelihoods for local communities. The project integrates sustainable farming practices with soil conservation, rainwater management, and organic methods to support long-term environmental and socio-economic transformation. By strengthening community collectives and Farmer Producer Organizations (FPOs) through our digital infrastructure, Green Impact Forests builds genuine resilience and self-sufficiency in marginalized communities.

Our technology platform ensures that every tree planted is verifiable, traceable, and linked directly to measurable environmental and social outcomes, creating a new standard for transparency and accountability in environmental initiatives.





## 2. Offerings to CSR & Impact Investors: Impact You Can Measure

At Project VRIKSHA, we are committed to delivering measurable environmental regeneration and socio-economic upliftment. Our technology integration enhances our capabilities, ensuring transparency, accountability, and alignment with global sustainable development goals.

## 2.1 Transparent Carbon Offsetting

- Strategic Planning: We develop tailored carbon offset strategies aligned with your business objectives.
- Real-Time Tracking: Monitor the impact of your contributions through our advanced dashboard.
- Legacy Building: Invest in projects that not only offset carbon but also promote biodiversity and community development.

## 2.2 Advanced Analytics & Reporting

- Business Dashboard: Gain deep insights into the sustainability metrics of your investments.
- Customizable Reports: Receive detailed reports tailored to your strategic environmental commitments.

#### **2.3 Empowerment through Technology**

- Mobile Application: Engage with our initiatives via a user-friendly app for data management and tree tagging.
- GIS Integration: Ensure traceability and transparency by accurately mapping plantation locations.
- Blockchain Verification: Benefit from immutable digital ledgers that authenticate your contributions.

#### 2.4 Alignment with Global Goals

- SDG Integration: Your investments directly contribute to multiple UN Sustainable Development Goals, including Climate Action (SDG 13), Life on Land (SDG 15), and No Poverty (SDG 1).
- ESG Compliance: Our projects are designed to meet Environmental, Social, and Governance (ESG) criteria, enhancing your company's sustainability profile.





## **2.5 Community-Centric Impact**

- Income Diversification: Support agroforestry models that provide sustainable income sources for local communities.
- Capacity Building: Strengthen local capacities through the Farmer Producer Organizations (FPOs) and community collectives.

#### 2.6 Recognition & Branding Opportunities

- Impact Showcasing: Leverage our platforms to highlight your contributions and commitment to sustainability.
- Stakeholder Engagement: Enhance brand reputation among customers, employees, and investors through visible impact stories.

# **3.** Addressing Critical Challenges: The Problem & Our Solution Rural and tribal communities in India face:

Rural and tribal communities in India are currently trapped in a cycle of environmental degradation and socio-economic vulnerability, presenting a truly destructive situation:

- Environmental Devastation: Land Degradation, Erratic Rainfall, and Soil Fertility Loss. These communities, heavily reliant on agriculture and natural resources, face an accelerating environmental crisis. Widespread land degradation has diminished their productive capacity, turning fertile grounds into barren patches. Compounding this, unpredictable and erratic rainfall patterns lead to devastating cycles of drought and floods, destroying crops and homes. Furthermore, continuous soil fertility loss due to unsustainable farming practices and erosion means that even when rain falls, the land cannot yield enough to sustain families. This environmental collapse directly threatens their food security and traditional way of life.
- Crisis of Livelihoods: Lack of Sustainable Opportunities. Beyond the environmental pressures, these communities are battling a pervasive lack of sustainable livelihoods. Traditional economic avenues are dwindling, and access to new, diversified income streams is severely limited. This forces many into precarious daily wage labour or unsustainable resource extraction, trapping them in a persistent cycle of poverty and economic insecurity.





• Escalating Climate Vulnerability: Depletion of Green Cover. A critical and alarming issue is the rapid depletion of green cover across these regions. Deforestation and environmental degradation directly contribute to an alarming increase in their vulnerability to the impacts of climate change. This means more frequent and intense extreme weather events, reduced ecological resilience, and an amplified struggle for survival, creating a fragile and uncertain future for generations to come.

All these problems can be catered with the help of Project **VRIKSHA** and climate mitigating solutions can be implemented.

## 4. Project Rationale

#### **Project VRIKSHA addresses these challenges through:**

- **Restoration of Degraded Land:** We directly intervene to revitalize and restore degraded land through targeted afforestation and agroforestry initiatives, aiming to bring vitality back to barren or unproductive areas.
- Soil Health Improvement: Our project implements sustainable farming practices, including the use of organic methods and soil conservation techniques, to significantly improve and maintain long-term soil health.
- **Sustainable Income Generation:** We provide long-term income sources for communities by planting fruit-bearing trees, which offer consistent yields for consumption and sale, thereby diversifying and stabilizing household incomes.
- **Capacity Building and Technology Access:** Project VRIKSHA focuses on offering essential skill training in agroforestry, and other sustainable practices. We also facilitate access to crucial water and Agri-technology to empowering communities with modern tools for efficiency and resilience.
- **Transparent Monitoring and Accountability:** We leverage cutting-edge digital tools, including blockchain verification, GIS mapping, and a community-centric mobile app, to ensure transparent and real-time monitoring of all project activities and outcomes. This commitment to transparency builds trust and enables verifiable impact.
- **Strategic Alignment:** The project is meticulously designed to align seamlessly with corporate social responsibility (CSR) objectives and national sustainability priorities, making it an ideal partnership for organizations committed to measurable environmental and social impact.





## **5. Project Objectives**

- **Ecosystem Restoration:** We actively revitalize degraded lands through afforestation and agroforestry, re-establishing green cover and improving soil health.
- **Income Diversification:** We introduce organic farming and sustainable agricultural practices, creating varied and stable income sources for local communities.
- **Community Empowerment:** We strengthen Farmer Producer Organizations (FPOs) and local collectives, building their capacity for self-sufficiency and collective action.
- Sustainable Land Management: Our focus includes rainwater harvesting and soil conservation techniques, ensuring long-term ecological balance and resource preservation.
- **Ecological Impact:** By expanding green cover and promoting biodiversity, we enhance the climate resilience of the local environment.
- **Economic Impact:** We directly improve livelihoods by providing fruit-bearing trees for income, and skill training for sustainable economic activities.
- **Social Impact:** Our project specifically aims for women and tribal empowerment, fostering greater equity and inclusion within marginalized groups.
- **Environmental Impact:** We promote climate-resilient agriculture, building sustainable practices that mitigate environmental risks and adapt to changing climate conditions

## 6. Complementary Interventions

Our project integrates several complementary interventions to ensure holistic impact:

## 6.1 Organic & Natural Farming

- Promote low-input farming, compost, and bio-fertilizers
- Conduct awareness campaigns and practical demonstrations.
- Facilitate organic certification processes for increased market access.

#### 6.2 Soil Health Management

- Promote the use of vermicompost and green manure.
- Implement soil testing and provide health cards to farmers.
- Introduce effective soil conservation techniques like mulching and bunding.





## 6.3 Drip & Micro-Irrigation

- Promote water-efficient irrigation systems.
- Mobilize support from government schemes like PMKSY (Pradhan Mantri Krishi Sinchayee Yojana).
- Provide comprehensive training for proper system maintenance.

#### **6.4 Government Convergence**

- Link communities to relevant government schemes such as MGNREGS, PM-KISAN, PMFBY, and NRLM.
- Collaborate with various government departments for optimal resource utilization.

#### 6.5 Skill Development

- Provide specialized training in agroforestry, beekeeping, mushroom farming, and livestock care.
- Partner with Krishi Vigyan Kendras (KVKs), Agricultural Technology Management Agency (ATMA), and National Skill Development Corporation (NSDC).

## 6.6 Community Capacity Building

- Facilitate participatory planning processes to ensure community ownership.
- Train local "Green Champions" to lead and sustain initiatives.
- Conduct workshops on long-term environmental sustainability.

#### **6.7 FPO Integration**

- Link with Self-Help Groups (SHGs), Farmer Producer Organizations (FPOs), and cooperatives.
- Support leadership development and governance structures within these groups.
- Enable enhanced access to markets, credit, and agricultural inputs.

## 7. Technology-Driven Approach: Our Unique Value Proposition

Our technology-driven approach sets Project **VRIKSHA** apart, representing a paradigm shift where every action is verifiable, every outcome measurable, and every participant recognized.

#### 7.1 Blockchain-Secured Verification

- **Digital Tree Certificates:** Each tree receives a unique digital certificate on the blockchain.
- **Immutable Audit Trail:** All project data and transactions are recorded on an immutable ledger, ensuring tamper-proof accountability.





## 7.2 Advanced Geospatial Intelligence

- **AI-Powered Analytics:** Utilizing AI to analyse satellite imagery and project data for deeper insights.
- Environmental Change Detection: Identifying and tracking changes in land use, green cover, and water bodies.
- Climate Impact Modelling: Assessing and forecasting the project's contribution to climate change mitigation and adaptation

## 7.3 Community-Centric Mobile App

- Offline Data Collection: Enabling data entry even in areas with limited connectivity.
- **Geo-Tagged Verification:** All data collected is geo-tagged, verifying the exact location of activities and trees.
- Knowledge Exchange Platform: A platform for community members to share best practices and learn.

## 7.4 Real-Time Analytics Dashboard

- **Multi-Stakeholder Views:** Customizable views for different stakeholders (e.g., donors, community leaders, project managers).
- Live Impact Metrics: Displaying key metrics such as tree counts, survival rates, carbon sequestration estimates, and livelihood improvements in real-time.
- Interactive Visualization: Engaging data visualization tools for easy understanding of complex information.

## 8. Plantation Target FY 2025–26

- Total Trees: 50,000
- **Regions:** Jharkhand, West Bengal, Odisha, Telangana
- **Timeline:** Fiscal Year 2025–26
- **Species:** Primarily fruit-bearing native trees (e.g., mango, guava), chosen for ecological fit and economic benefit

**Carbon Offsetting**: Based on preliminary estimates, planting 50,000 fruit-bearing trees integrated with sustainable agroforestry practices, has the potential to sequester approximately **800-1,000 metric tons of CO2 annually** as the trees mature. This estimate can be further refined through a detailed carbon assessment, which would be part of the project's further development phase.





## **Expected Benefits:**

- Economic: Sustainable income generation from produce sales.
- **Biodiversity:** Support for local flora and fauna, enhancing ecological balance.
- Environmental: Improved soil health, water retention, and significant carbon sequestration.

## 9. Targeted Beneficiaries

Our primary beneficiaries are vulnerable, tribal and indigenous communities in rural India, along with other marginalized groups who face limited access to:

- Employment opportunities
- Education
- Essential resources

## **10. Alignment with UN Sustainable Development Goals (SDGs)**

Project VRIKSHA directly and significantly contributes to several UN Sustainable Development Goals:

- **SDG 1**: No Poverty
- SDG 2: Zero Hunger
- **SDG 5**: Gender Equality
- SDG 13: Climate Action
- **SDG 15**: Life on Land

## **11. Alignment with ESG Matrix**

Project VRIKSHA is designed for strong alignment with Environmental, Social, and Governance (ESG) criteria:

- **Environmental:** Directly contributes to ecosystem restoration, carbon sequestration, and biodiversity enhancement.
- **Social:** Focuses on empowerment and building resilience in vulnerable tribal and indigenous communities, promoting gender equality.
- **Governance:** Ensures unparalleled transparency through blockchain, GIS, and real-time dashboards, upholding high standards of accountability.





## serveDev Supports the Sustainable Development Goals 12. Implementation Strategy (FY 2025–26)

Component	Details	Additional Insights / Actions	
Site Selection	- Identification of suitable plantation sites- Prioritization of degraded and vulnerable lands	- Engage Gram Panchayats and local stakeholders - Use GIS for suitability mapping and risk assessment	
Species Selection	- Native, and fruit-bearing species (e.g., mango, guava, jamun, jackfruit) - Prioritise to include nitrogen-fixing and pollinator-attracting trees to enhance biodiversity and soil fertility		
Community Mobilization	- Engage Self Help Groups (SHGs), youth clubs, schools, and tribal collectives- Conduct awareness drives	- Conduct community planning sessions- Identify and train local 'Green Champions'	
Sapling Procurement	- Procure high-quality saplings from verified nurseries- Ensure disease resistance and proper age	- Enter procurement agreements with impaneled nurseries to ensure quality	
Plantation Activities	- Plant during monsoon for optimal survival- Proper pit digging, spacing, and soil preparation	- Follow best practices: use of organic manure, water retention gels, and community planting events	
Maintenance & Care	- Local caretakers responsible for watering, mulching, and protection- Use of tree guards/fencing	- Create community-level maintenance teams with incentives- Promote / Use drip/micro-irrigation where feasible	
Monitoring & Reporting	- Physical verification at regular intervals- Use geo-tagging and blockchain data for digital ledgers	- Mobile app-based data input- Periodic photo documentation, beneficiary feedback, and dashboard integration	





## **Additional Recommendations for Strengthening Implementation**

#### 1. Capacity Building:

- o Organize seasonal training on agroforestry, pruning, and disease management.
- o Collaborate with Krishi Vigyan Kendras (KVKs) and agricultural universities.

#### 2. Technology Integration:

- o Leverage mobile-based training modules.
- 3. Livelihood Linkages:
  - o Train communities in value addition (e.g., jam, pickle from fruit produce).
  - o Establish market linkages through FPOs for long-term income stability.

#### 4. Gender and Inclusion Focus:

- o Involve women-led SHGs in nursery operations and monitoring roles.
- o Conduct special workshops on gender-sensitive environmental governance.

Risk Category	Potential Challenges	Mitigation Approach
Environmental	Climate events, pests	Diverse species, continuous monitoring
Technological	Connectivity, adoption	Offline access, user-friendly app
Social	Community participation	Inclusive governance, benefit sharing
Financial	Fund flow issues	Blockchain ledger, transparency
Market	Produce prices	Value chain, cooperative marketing

## 13. Risk Management Framework

## 14. Monitoring & Reporting

Our unwavering commitment to transparency and accountability is underpinned by:

- Regular reports with geo-tagging for precise location-based verification.
- Blockchain-based verification for all project activities and data, ensuring immutable records.
- Complete financial and impact transparency, accessible to all stakeholders.





## **15. Call for Action**

- While our ambitious goals for FY 2025-26 are set, Project VRIKSHA is built on the promise of transforming lives and landscapes. Here's a glimpse of the tangible difference your partnership will make:
  - **Restoring Nature, Rebuilding Hope:** Across the targeted regions of Jharkhand, West Bengal, Odisha, and Telangana, our project will tackle the critical issues of depleting green cover and climate vulnerability. Imagine once-degraded lands transforming into thriving agroforests, acting as natural carbon sinks and bolstering biodiversity. This restoration will lead to improved soil health, better water retention, and a more resilient ecosystem, directly mitigating the impact of climate change on these vulnerable communities.
- By investing in Project VRIKSHA, you are not just funding trees; you are cultivating a future of economic stability, environmental resilience, and digital empowerment for India's most vulnerable communities.