



TREE PLANTATION IMPACT REPORT – 2025

41,436 Trees Planted | 6,547 Tonnes CO₂ Offset (20-Year Projection)

Geography: Tapi District and Dang District (Gujarat)

Implementation Partner: VIKALP

Financial Partner: Guala Closure Group

Digital Link: [Guala Closure](#)

Executive Summary

The Social Afforestation Program 2025 was implemented by **VIKALP** in partnership with **Guala Closure Group Reforestation** to address climate change, environmental degradation, and livelihood vulnerability among indigenous and marginalized farming communities in India.

The program was carried out across **48 villages in Tapi District (Gujarat) and Dang District (Gujarat)**, engaging **979 farming families**. A total of **41,436 one-year-old** fruit-bearing and some native trees were planted on farmland and homesteads using a participatory, community-led approach.

Plantation activities were supported by structured planning, quality nursery selection, transparent plant distribution, community training, and a robust digital monitoring system. Geo-tagging, photographic documentation, and stage-wise monitoring were used to ensure transparency, accountability, and survival-focused reporting.

The plantation is projected to offset approximately **6,547 tonnes of carbon dioxide (CO₂)** over a 20-year period while contributing to improved soil health, water conservation, biodiversity, and local climate regulation.

By integrating afforestation with community institutions such as the Bhoomi Producers' Collective, the program links environmental restoration with sustainable livelihoods, women's participation, and long-term resilience. The 2025 program demonstrates a scalable, accountable, and community-centred model for climate action in India.



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Introduction

In many vulnerable rural and tribal regions of India, environmental degradation, climate variability, declining agricultural productivity, and limited livelihood opportunities are deeply interconnected. Communities that depend primarily on agriculture and forest-based resources are among the most affected by soil erosion, water scarcity, deforestation, biodiversity loss, and climate-induced uncertainties. In this context, social afforestation and agroforestry have emerged as effective, low-cost, and community-driven solutions that simultaneously address environmental restoration and socio-economic development.

Tree plantation initiatives, when implemented with strong community participation and long-term planning, generate multiple benefits. Trees contribute to carbon sequestration, improve soil fertility, regulate microclimates, conserve water, reduce erosion, enhance biodiversity, and improve air quality. At the same time, fruit and forestry trees provide households with nutrition, income opportunities, fuel, fodder, shade, and raw materials, thereby strengthening food security and livelihood resilience. Social afforestation therefore acts as a bridge between climate action and human development.





The collaboration between **Guala Closure Group**, and **VIKALP, India**, has been continuously working since 2016 to promote community-led afforestation and agroforestry among indigenous and marginalized communities. This long-term partnership is grounded in the shared vision of restoring degraded ecosystems while empowering local communities through participatory planning, capacity building, and ownership of natural resources. Over the years, the partnership has supported plantation of fruit-bearing and forestry species across ecologically sensitive regions of Gujarat.



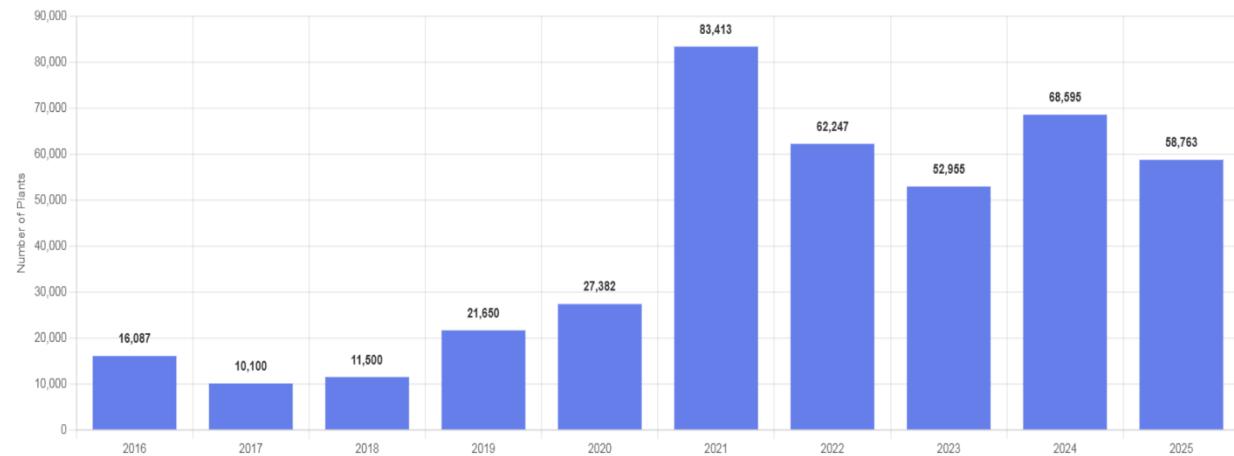
VIKALP, as the local implementation partner, works closely with Indigenous and deprived communities, particularly tribal farmers, women, and small landholders. The organization integrates traditional ecological knowledge with sustainable land-use practices and climate-resilient agriculture. Guala Closure Group, as the financial and strategic partner, supports these efforts through long-term commitment, environmental expertise, and a focus on measurable climate impact. Together, the partners ensure that afforestation initiatives go beyond plantation numbers and emphasize survival, monitoring, and long-term benefits.



VIKALP has done a **social plantation of 4,12,786 fruit and forestry trees** with approximate **5000 families** in the state of **Gujarat** and **Maharashtra** from **2016 to 2025** in collaboration with **Guala Closures Group, Up2Green Reforestation and Lala Foundation.**

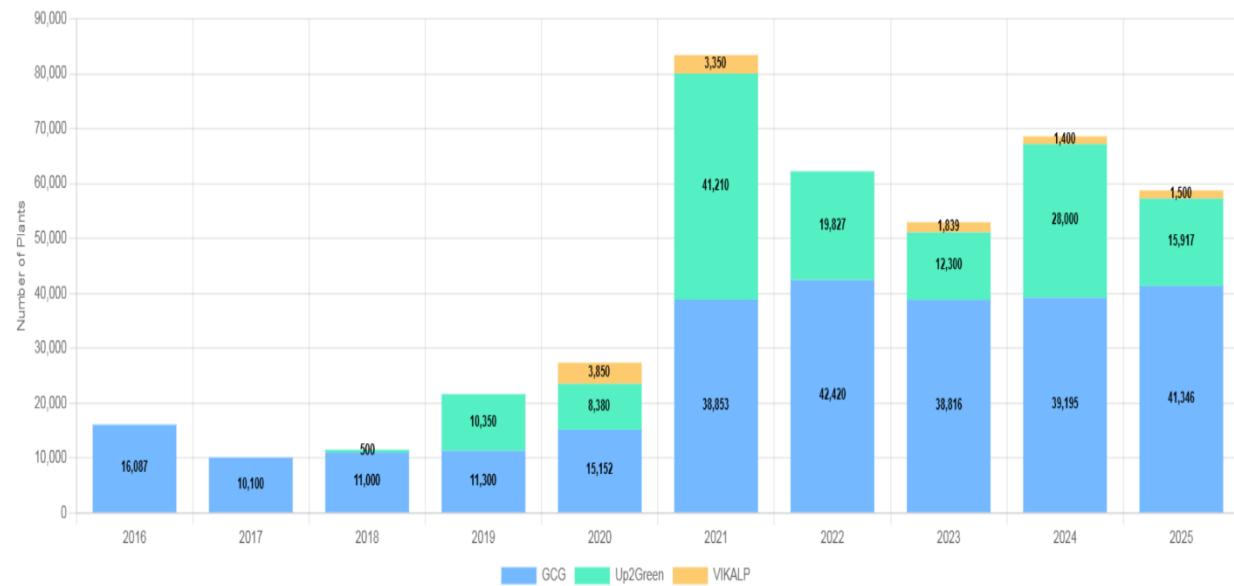
Total Plants Planted (2016–2025)

Year-wise plantation output



Partner-wise Plantation Contribution

GCG | Up2Green | VIKALP

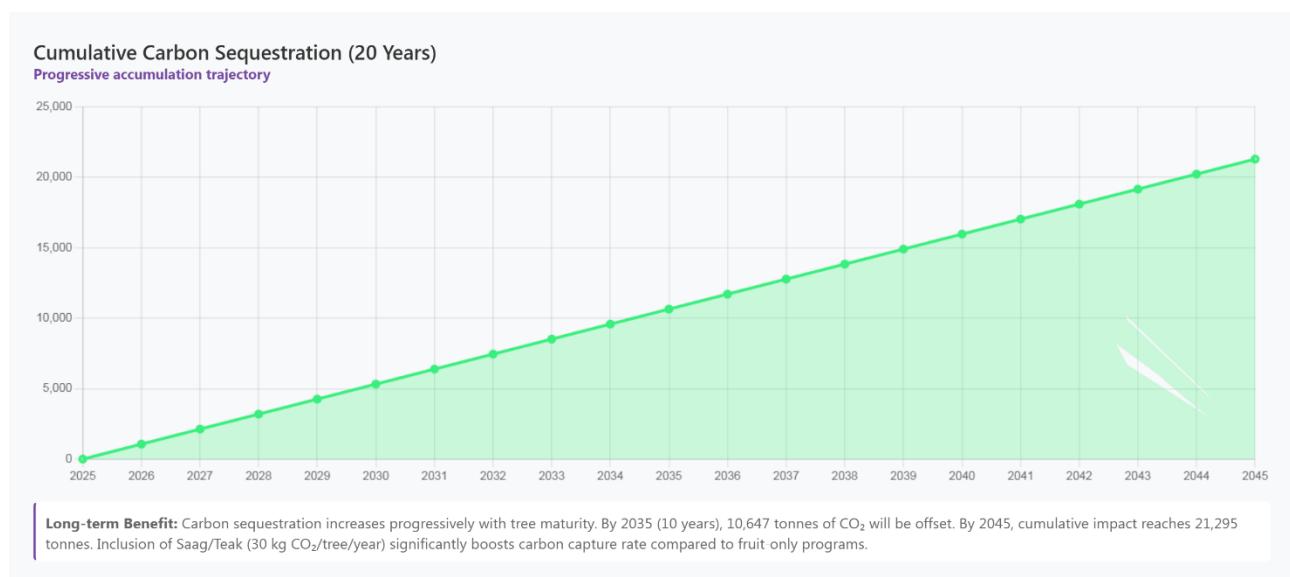




During the **2025 Social Afforestation Program**, plantation activities were carried out in **48 villages** across **Tapi District of Gujarat** and **Dang District of Gujarat**. These regions are predominantly inhabited by indigenous and tribal communities that rely heavily on rain-fed agriculture and forest resources for their livelihoods. A total of **979 farming families** actively participated in the program, planting **41,436 fruit-bearing trees** on their farms and homesteads.

The species selected for plantation were based on community demand, agro-climatic suitability, survival potential, and livelihood value. Priority was given to fruit species that contribute directly to household nutrition and income generation, while also supporting ecological restoration. The plantation process was preceded by community consultations, site verification, beneficiary selection, and awareness-building to ensure preparedness and long-term commitment from participating families.

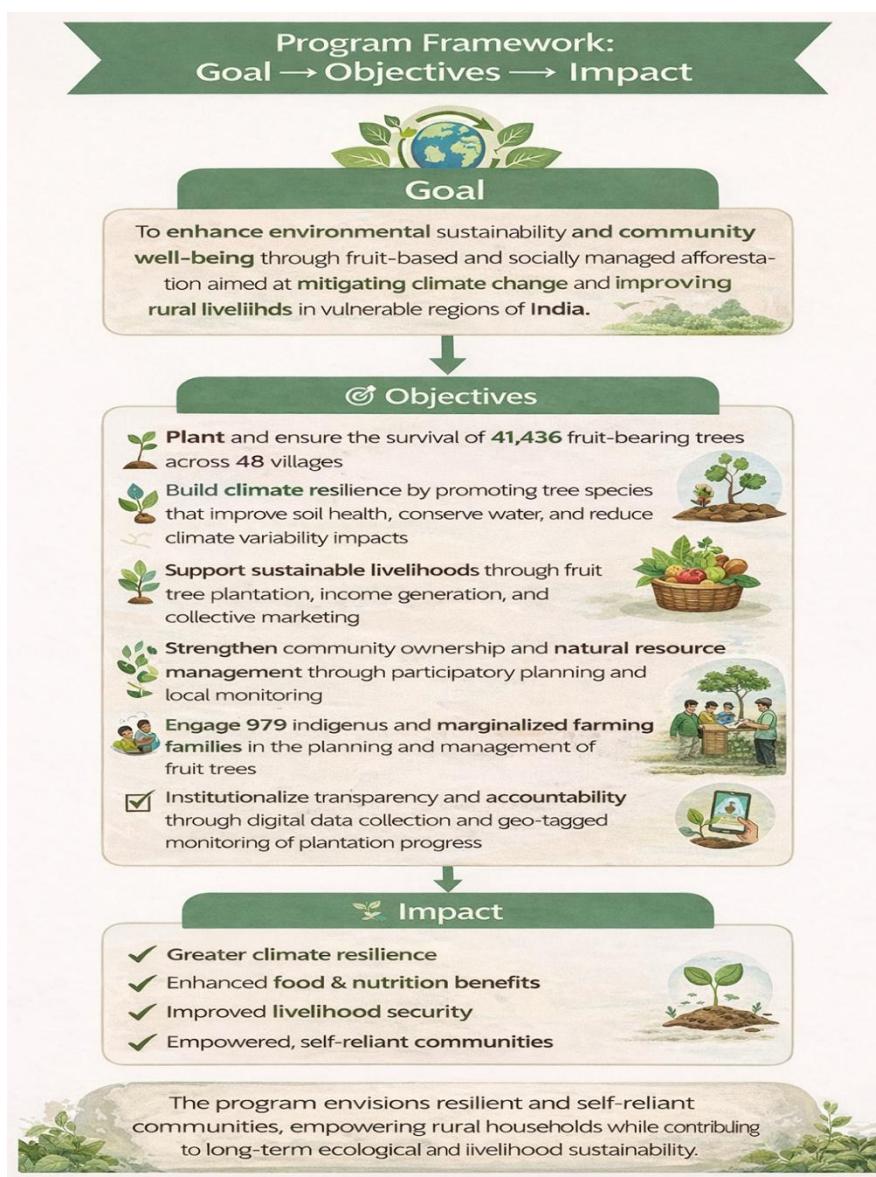
In addition to socio-economic benefits, the 2025 plantation contributes significantly to climate change mitigation. Based on conservative and scientifically validated carbon sequestration estimates, the trees planted under this program are projected to offset approximately **6,547 tonnes of carbon dioxide (CO₂)** over a 20-year period. The plantation also supports sustained oxygen production, improved groundwater recharge, reduced soil erosion, and enhanced local biodiversity, thereby strengthening ecosystem resilience.



This report documents the implementation, outcomes, and learning of the 2025 Social Afforestation Program. It presents detailed information on program objectives, community benefits, geographic coverage, plantation processes, beneficiary engagement, digital monitoring systems, environmental impact, and future strategies. The report reflects the joint commitment of VIKALP and Guala Closure Group to advance inclusive, transparent, and community-centred climate action in India.

Goal and Objectives

The Social Afforestation Program implemented by VIKALP in partnership with Guala Closure Group is designed to address the interlinked challenges of climate change, environmental degradation, rural poverty, and food insecurity. The program adopts a holistic and community-centred approach, recognizing that long-term environmental sustainability can only be achieved when local communities are empowered as custodians of natural resources and beneficiaries of ecological restoration.



The program integrates environmental restoration with livelihood enhancement by promoting fruit-based agroforestry and socially managed plantation systems. Through participatory planning, capacity building, and continuous monitoring, the initiative aims to ensure that tree plantation is not a one-time activity, but a sustained process that delivers measurable environmental and socio-economic benefits over time.



Main Goal

To contribute to climate change mitigation and adaptation by strengthening ecosystem resilience through community-led afforestation, while simultaneously improving the livelihoods, food security, and nutritional status of indigenous and marginalized farming communities in ecologically vulnerable regions of India.

Main Objectives

- To enhance environmental sustainability by increasing tree cover and restoring degraded agricultural and homestead landscapes through fruit-based and agroforestry plantation systems.
- To build climate resilience among rural communities by promoting tree species that improve soil health, conserve water, regulate microclimates, and reduce the impacts of climate variability.
- To support sustainable livelihoods by integrating fruit tree plantation with income generation, nutrition security, and long-term economic benefits for small and marginal farmers.
- To strengthen community ownership and responsibility for natural resource management through participatory planning, awareness building, and local monitoring mechanisms.

Specific Objectives

- To plant and ensure the survival of **41,436 fruit-bearing trees** across **48 villages** in Tapi District (Gujarat) and Dang District (Gujarat) during the 2025 plantation cycle.
- To actively engage **979 farming families**, primarily from indigenous and marginalized communities, in the planning, plantation, protection, and long-term management of trees.
- To promote household-level nutrition and food security by prioritizing fruit species that provide regular access to fresh, nutritious produce for women, children, and vulnerable groups.
- To generate supplementary income opportunities for beneficiary families through fruit production, value addition, and collective marketing over the medium and long term.
- To enhance community knowledge and skills related to sustainable plantation practices, organic inputs, soil management, and tree maintenance through structured training and continuous field support.
- To reduce tree mortality rates by ensuring proper site selection, pit preparation, irrigation availability, fencing, and post-plantation care by beneficiaries.
- To strengthen the role of women in afforestation and agroforestry activities by promoting their participation in beneficiary selection, training programs, and collective livelihood initiatives.
- To institutionalize transparency and accountability through digital data collection, geo-tagging, stage-wise monitoring, and evidence-based reporting of plantation progress and outcomes.
- To contribute to global climate action by achieving an estimated **6,547 tonnes of CO₂ offset** over a 20-year period through scientifically informed carbon sequestration practices.
- To strengthen and integrate the **Bhoomi Producers' Collective** as a community-based platform for sustainable livelihoods, women's empowerment, and long-term management of plantation-related resources.

Through these goals and objectives, the Social Afforestation Program seeks to create lasting environmental impact while fostering resilient, self-reliant, and climate-aware rural communities. The program emphasizes long-term sustainability, learning, and scalability, ensuring that the benefits of afforestation extend well beyond the plantation year.

Community Benefits

The Social Afforestation Program is designed to deliver multiple, long-term benefits to the participating communities by integrating environmental restoration with social well-being and economic resilience. Unlike short-term plantation drives, this initiative emphasizes sustained tree survival, community stewardship, and the productive use of planted trees to improve the quality of life of beneficiary families.

The benefits of the program extend beyond the individual households directly involved in the plantation. By increasing tree cover across villages, the initiative contributes to healthier local ecosystems, improved agricultural conditions, and enhanced community awareness regarding climate change and sustainable natural resource management.





Environmental Benefits

Tree plantation under the program contributes significantly to environmental restoration at the local level. The planted fruit trees improve soil structure and fertility through increased organic matter, reduce soil erosion caused by heavy rainfall, and help retain moisture in agricultural fields. The presence of trees also improves microclimatic conditions by providing shade, reducing surface temperatures, and protecting crops from wind damage.

The trees act as natural carbon sinks, absorbing carbon dioxide from the atmosphere and storing it in biomass and soil. Over time, the plantation enhances biodiversity by creating habitats for birds, insects, and other beneficial organisms. Improved trees cover also contributes to better air quality by filtering dust and pollutants and supporting sustained oxygen production.

Climate Change Mitigation and Adaptation

The Social Afforestation Program directly contributes to climate change mitigation by increasing carbon sequestration through long-living fruit trees. Based on conservative estimates, the 2025 plantation is projected to offset approximately **6,547 tonnes of CO₂** over a 20-year period.

In addition to mitigation, the program strengthens climate adaptation at the community level. Trees help regulate local temperatures, reduce the impacts of heat stress, improve water infiltration, and increase resilience to erratic rainfall patterns. These benefits are particularly critical for rain-fed agricultural systems practiced by Indigenous and marginal farmers.

Social and Nutritional Benefits

Fruit tree plantation contributes directly to household nutrition by improving access to fresh, nutrient-rich fruits. Regular availability of fruits supports dietary diversity and plays a vital role in addressing malnutrition among women, children, and adolescent girls in tribal and rural communities.

The program also strengthens social cohesion within villages. Collective planning, training sessions, and shared responsibility for tree care foster cooperation among community members. Awareness activities conducted as part of the program increase understanding of environmental conservation and encourage intergenerational knowledge transfer related to sustainable land use.

Economic and Livelihood Benefits

From an economic perspective, fruit trees represent a long-term asset for farming households. As trees mature and begin producing fruit, families can use the produce for home consumption as well as for sale in local markets, thereby generating supplementary income. This diversified income source reduces dependence on seasonal agricultural labour and migration.

The program also creates opportunities for collective livelihood development through processing, value addition, and marketing of fruit products. These activities are gradually being linked to the **Bhoomi Producers' Collective**, enabling community members—especially women—to participate in cooperative economic activities and strengthen their financial independence.

Long-Term Community Impact

Over time, the cumulative benefits of the Social Afforestation Program contribute to more resilient rural communities. Improved environmental conditions, enhanced food security, diversified livelihoods, and increased climate awareness together support sustainable development pathways that are locally rooted and community driven.

By integrating environmental, social, and economic benefits, the program ensures that tree plantation is not viewed as an external intervention, but as a shared investment in the future well-being of the community and its natural resources.





Performance Involved

The effective implementation of the Social Afforestation Program is the result of coordinated efforts between experienced institutional partners, field teams, community volunteers, and beneficiary families. The program follows a clearly defined structure of roles and responsibilities to ensure transparency, accountability, and high-quality execution at all stages of the plantation cycle.

The partnership model brings together international expertise in reforestation and climate action with strong local presence, contextual knowledge, and long-standing relationships with Indigenous and marginalized communities. This combination ensures that plantation activities are technically sound, socially inclusive, and adapted to local ecological and cultural conditions.

Role of VIKALP – Implementation Partner

VIKALP is a voluntary organization working in the state of Gujarat, India, since 2002, with a primary focus on climate-friendly inclusive development. The organization works closely with Indigenous and deprived communities on issues related to climate change, agroforestry, biodiversity conservation, natural resource management, women's empowerment, and sustainable livelihoods.

VIKALP is registered under the Public Trust Act, India, and is actively engaged at local, national, and international levels. The organization holds official accreditation with the United Nations Framework Convention on Climate Change (UNFCCC), the United Nations Convention to Combat Desertification (UNCCD), and the Convention on Biological Diversity (CBD). VIKALP also holds Special Consultative Status with the United Nations Economic and Social Council (UN ECOSOC), reflecting its institutional credibility and commitment to global environmental and development frameworks.

As the implementation partner, VIKALP is responsible for overall program coordination at the field level. This includes community mobilization, beneficiary identification, site verification, nursery selection, training delivery, plantation execution, monitoring, data management, and reporting. The organization's long-standing presence in the project areas enables trust-based engagement and effective collaboration with local communities.

Our Vision: A world where communities live in harmony with nature, enjoying dignified livelihoods, food security, and environmental sustainability, while actively participating in global efforts to combat climate change and protect biodiversity.

Our Mission: To empower indigenous and marginalized communities through sustainable development initiatives, promoting environmental conservation, climate resilience, and social equity while preserving traditional knowledge and cultural heritage.

Aligned with UN Sustainable Development Goals





Role of Guala Closure Group – Financial and Strategic Partner

Guala Closure Group is a French non-profit organization established in 2009, dedicated to the preservation of natural ecosystems, water resources, and biodiversity through reforestation, agroforestry, and agroecology initiatives. Guala Closure Group develops and supports multi-stakeholder projects that link companies, communities, associations, research institutions, and civil society organizations.

Guala Closure Group provides financial support, strategic guidance, and environmental expertise to the Social Afforestation Program. The organization emphasizes long-term ecological impact, transparency, and measurable climate outcomes. Through its partnership with VIKALP, Guala Closure Group ensures that plantation activities align with global best practices in reforestation and contribute meaningfully to climate change mitigation.

Field Team and Volunteer Network

The program is implemented on the ground by a trained field team consisting of VIKALP staff members and village-level volunteers. Each staff member is responsible for a defined cluster of villages, ensuring close supervision and regular interaction with beneficiary families. This decentralized structure enables timely problem-solving and adaptive management during the plantation process.

Village volunteers play a critical role in day-to-day coordination and monitoring. Selected in consultation with community members, volunteers are often beneficiaries themselves and have a deep understanding of local conditions. They support beneficiary identification, facilitate communication, assist in tree distribution, and provide ongoing guidance on plantation care and maintenance.

Community Participation and Beneficiary Role

Beneficiary families play a central role in the success of the Social Afforestation Program by participating in site preparation, plantation, and long-term care of trees, including ensuring protection and water availability. Women are key contributors to plantation management and household nutrition, and the program actively promotes their participation in training, awareness activities, and collective livelihood initiatives to sustain plantation outcomes.

Coordination and Accountability Mechanisms

The program follows a structured planning and review process to ensure effective coordination and accountability. Regular team meetings, cross-verification of field data, random site inspections, and stage-wise monitoring are used to track progress and maintain quality. Digital data collection and geo-tagging enhance transparency by enabling real-time monitoring of plantation activities, supporting evidence-based decision-making and stakeholder review throughout the program lifecycle.



Context and Interest of the Project

The Social Afforestation Program is implemented in regions characterized by ecological vulnerability, socio-economic marginalization, and high dependence on natural resources for livelihoods. The targeted areas in Tapi District of Gujarat and Dang District of Gujarat are predominantly inhabited by indigenous and tribal communities whose subsistence is closely linked to agriculture, forest produce, and seasonal wage labour.

These regions face multiple and overlapping challenges, including irregular rainfall patterns, soil degradation, declining agricultural productivity, deforestation, and limited access to sustainable livelihood opportunities. Climate variability has further intensified these challenges, increasing the frequency of droughts, heat stress, and crop failures. As a result, many households experience economic insecurity, food shortages, and seasonal migration in search of alternative livelihoods.

Environmental degradation has compounded these challenges. Reduced tree cover has led to soil erosion, declining soil fertility, reduced groundwater recharge, and diminished availability of forest-based resources such as fodder, fuelwood, and minor forest produce. The loss of traditional tree-based systems has weakened both ecological balance and livelihood resilience.

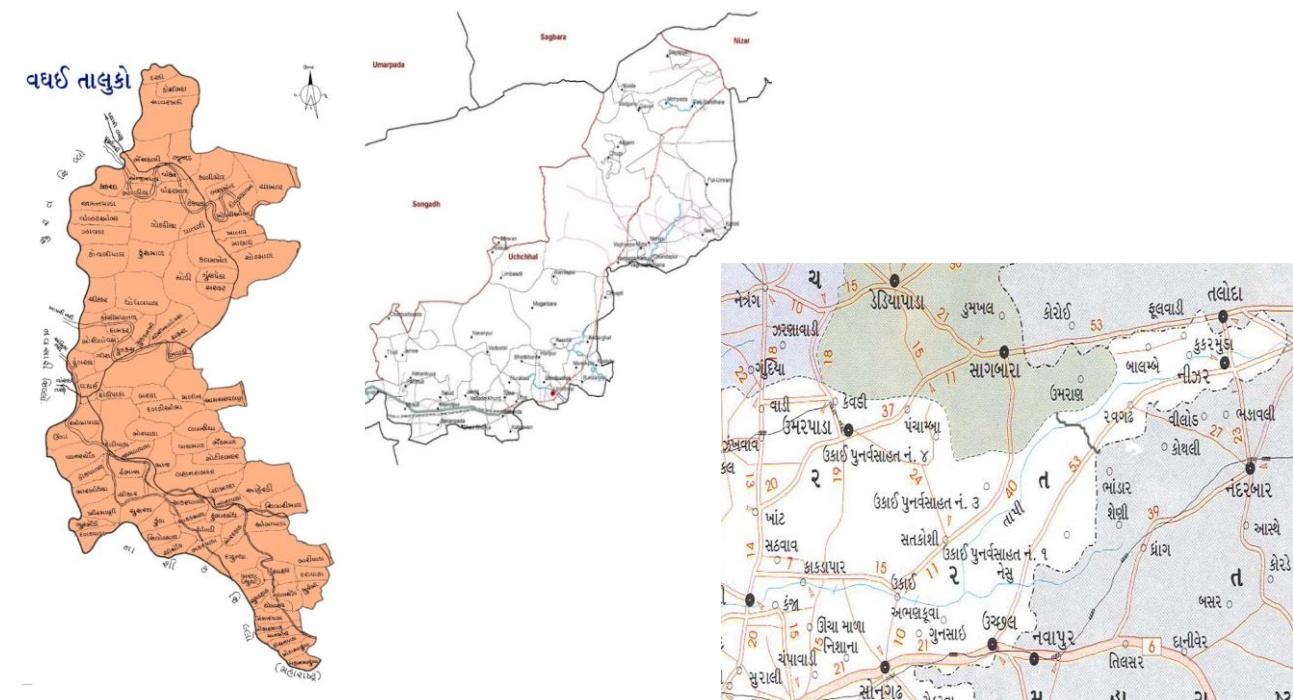
In this context, social afforestation and agroforestry offer an integrated solution that aligns environmental restoration with community needs. Tree plantation on farms and homesteads supports landscape restoration while directly contributing to household nutrition and income generation. Fruit-bearing trees are particularly relevant, as they provide long-term economic returns, enhance food security, and improve dietary diversity.

The relevance of the Social Afforestation Program is further reinforced by strong community demand and traditional ecological knowledge. Many participating villages have prior experience with plantation activities and have observed tangible benefits such as improved microclimates, fruit availability, and supplementary income. Indigenous communities in the project areas maintain a cultural and spiritual connection with trees and forests, fostering a strong sense of stewardship and long-term commitment to tree protection.

Reference to the Planting Area

The Social Afforestation Program was implemented in selected regions of western India that are ecologically sensitive and socio-economically vulnerable. The plantation areas were identified based on agro-climatic suitability, community demand, availability of land and water resources, and the presence of indigenous and marginalized farming communities.

During the 2025 plantation cycle, the program covered **48 villages** across **Tapi District in the state of Gujarat** and **Dang District in the state of Gujarat**. These regions share similar climatic conditions, cropping patterns, and socio-economic characteristics, making them suitable for a consistent and scalable afforestation approach.



Plantation Areas in Tapi District, Gujarat

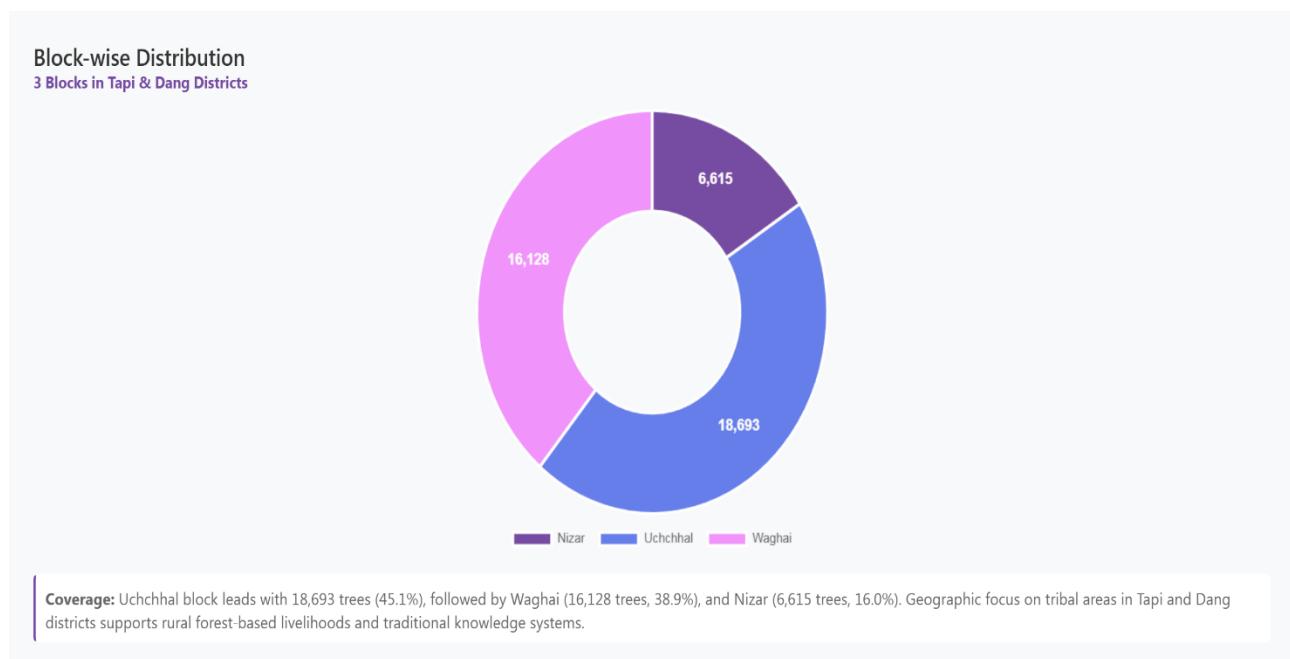
In Gujarat, plantation activities were carried out in Tapi District, which is characterized by hilly terrain, forest fringes, and predominantly tribal populations. The district experiences a monsoon-dependent climate, with agriculture largely dependent on rainfall. Soil erosion, declining soil fertility, and limited irrigation infrastructure are common challenges in the area.

The program covered villages located in selected blocks of Tapi District where communities have prior experience with plantation initiatives and demonstrated commitment to tree protection and maintenance. Fruit tree plantation in this region contributes to improved land productivity, enhanced food security, and long-term livelihood support.

Plantation Areas in Dang District, Gujarat

In Gujarat, the program was implemented in Dang District, particularly in border areas adjoining Maharashtra. The region shares similar ecological characteristics with Tapi District, including semi-hilly landscapes, forest-dependent livelihoods, and a high proportion of small and marginal farmers.

Expansion into Dang District was guided by community demand and ecological continuity. Farmers in the selected villages expressed strong interest in fruit tree plantation based on positive outcomes observed in nearby project areas. The geographic proximity also facilitates effective monitoring and cross-learning between communities.



Agro-Climatic and Ecological Characteristics

The plantation areas fall within agro-climatic zones suitable for fruit-based agroforestry. The selected species are compatible with local rainfall patterns, soil types, and farming practices. Tree plantation on farm boundaries, homesteads, and agricultural plots supports soil conservation, improves water retention, and enhances resilience to climate variability.

The presence of traditional ecological knowledge among Indigenous communities further strengthens plantation outcomes. Many beneficiary families have long-standing experience in managing trees and forest resources, which contributes to higher survival rates and long-term sustainability of the plantation.



Rationale for Area Selection

The selection of plantation areas was guided by a combination of environmental vulnerability, livelihood needs, and community readiness. Priority was given to villages where farmers had access to land and basic irrigation facilities, demonstrated willingness to maintain trees, and agreed to long-term protection commitments.

By focusing on geographically connected and ecologically similar regions, the program ensures efficient implementation, effective monitoring, and the potential for replication and scaling of the afforestation model in surrounding areas.



About the Community

The Social Afforestation Program is implemented among indigenous and marginalized communities residing in selected villages of Tapi District in Gujarat and Dang District in Gujarat. These communities are predominantly tribal groups with strong cultural, social, and economic ties to land, forests, and agriculture. Their livelihoods and well-being are closely connected to natural resources and seasonal agricultural cycles.

The majority of beneficiary families are small and marginal farmers, agricultural labourers, or forest-dependent households. Landholdings are generally small, and agriculture is largely rain-fed, making livelihoods highly vulnerable to climate variability. Seasonal migration for wage labour is common, particularly during periods of agricultural inactivity, which affects household stability and access to education for children.

The socio-economic conditions of the communities reflect long-standing marginalization. Limited access to quality education, healthcare, and infrastructure contributes to persistent challenges such as malnutrition, low-income security, and restricted livelihood options. Women and children are often the most affected by these vulnerabilities, particularly in terms of nutrition and health outcomes.

Despite these challenges, the communities possess strong traditional knowledge systems related to land management, agriculture, and forest conservation. Many families practice mixed cropping, use organic inputs, and rely on indigenous methods for soil and water management. Cultural values emphasize respect for nature, and trees are often regarded as shared assets that support both livelihoods and ecological balance.

Dietary practices in the community are largely based on locally available cereals, pulses, vegetables, and seasonal fruits. However, limited and irregular access to nutritious food contributes to nutritional gaps, particularly among women, children, and adolescent girls. Fruit tree plantation under the program directly addresses this issue by improving access to fresh and diverse food sources at the household level.

Livestock rearing, particularly cattle and small ruminants, is an important component of household livelihoods. Animal manure is commonly used as organic fertilizer, supporting soil fertility and reducing dependence on chemical inputs. These practices align well with the program's emphasis on sustainable and regenerative land-use systems.

Community structures such as village councils, self-help groups, youth groups, and informal farmer networks play an important role in local decision-making and collective action. These structures are actively engaged during program implementation, facilitating beneficiary selection, awareness activities, and monitoring of plantation activities.



Women play a central role in agricultural work, household food management, and daily care of planted trees. Recognizing this, the program actively encourages women's participation in training sessions, awareness meetings, and collective livelihood initiatives. Strengthening women's involvement enhances the sustainability of plantation outcomes and contributes to broader goals of gender equity and community empowerment.

The Social Afforestation Program builds upon the strengths of these communities while addressing their vulnerabilities. By integrating tree plantation with traditional knowledge, collective action, and long-term livelihood planning, the program supports a pathway toward resilient, self-reliant, and climate-adaptive rural communities.

Planting Process within Organization

The Social Afforestation Program follows a systematic and well-structured implementation process designed to ensure transparency, quality, and long-term sustainability of plantation outcomes. The planting process is not limited to tree distribution, but includes comprehensive planning, capacity building, community engagement, and continuous monitoring at each stage.

VIKALP adopts a phased implementation approach, drawing on lessons learned from previous plantation cycles. This ensures that each stage of the program is carefully prepared, executed, and reviewed before moving to the next phase.

Phase 1: Internal Planning and Team Preparation

The planting process begins with internal planning meetings involving the entire project team. These meetings focus on reviewing experiences from previous years, identifying challenges, and finalizing strategies for the current plantation cycle. Roles and responsibilities are clearly defined, and implementation timelines are prepared.

Team members are oriented on technical aspects of plantation, community engagement strategies, monitoring requirements, and data collection protocols. Special emphasis is placed on improving survival rates, strengthening community ownership, and integrating digital monitoring tools into field operations.



Phase 2: Community Engagement and Site Verification

Following internal preparation, field teams engage with selected villages through meetings with community leaders, volunteers, and potential beneficiary families. These interactions help communicate program objectives, roles, and expectations, while also gathering feedback from the community.

Site verification is a critical step in the planting process. Field teams assess land availability, soil conditions, irrigation facilities, fencing, and suitability for plantation. Only sites that meet the agreed criteria are finalized for tree distribution, ensuring preparedness and reducing the risk of tree mortality.



Phase 3: Nursery Coordination and Plant Procurement

Based on the finalized beneficiary list and species demand, the organization coordinates with selected nurseries to procure healthy, high-quality saplings. Nurseries are chosen based on plant quality, species authenticity, root health, and compliance with technical specifications.

The procurement process is planned to align with the monsoon calendar to ensure optimal planting conditions. Saplings are transported and stored carefully to prevent damage and stress prior to distribution.

Phase 4: Tree Distribution and Plantation

Tree distribution is carried out in a planned and transparent manner at designated village-level locations. Beneficiaries receive saplings along with guidance on correct planting techniques and immediate post-plantation care.

Plantation activities are conducted by beneficiary families on their farms or homesteads, following recommended practices related to pit size, spacing, soil preparation, and watering. Volunteers and field staff provide on-site support during this phase to ensure proper planting.

1. Filling the survey in mobile application.



2. Distribution of Plants.



3. Filling the survey



4. Guiding and explaining the proper way of Plantation





Phase 5: Initial Monitoring and Support

After plantation, field teams and volunteers conduct follow-up visits to assess plant survival, address issues related to watering, pests, or damage, and provide additional guidance to families as needed. This early-stage monitoring is critical for establishing healthy plant growth.

Data related to plantation status, survival, and site conditions is recorded digitally, enabling real-time tracking and timely interventions. Feedback from the field is incorporated into ongoing implementation and future planning.



Through this structured planting process, the organization ensures that tree plantation is implemented as a quality-driven, accountable, and community-centred intervention. The emphasis on preparation, participation, and monitoring significantly enhances survival rates and long-term impact of the Social Afforestation Program.



Beneficiaries and Species Identification

The identification of beneficiaries and tree species is a critical component of the Social Afforestation Program. A transparent and participatory selection process was followed to ensure that the benefits of the program reached genuinely interested and capable households while maximizing the survival and long-term impact of planted trees.

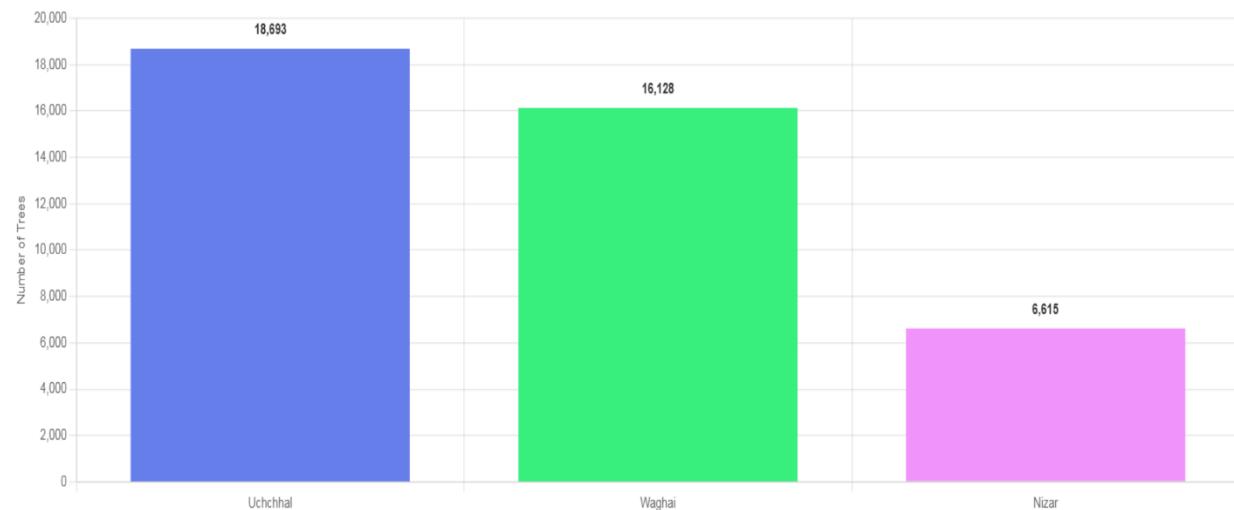
Beneficiary identification was carried out through a combination of community consultations, household visits, and field verification by the project team. Priority was given to indigenous and marginalized farming families who demonstrated willingness and capacity to care for trees over the long term.

Geographic and Household Coverage

During the 2025 plantation cycle, the program covered **48 villages** across Tapi District (Gujarat) and Dang District (Gujarat). A total of **979 farming families** were identified as direct beneficiaries of the program. Each beneficiary household received a defined number of saplings based on land availability, irrigation access, and prior plantation experience.

Total Trees Planted by Block (Guala Closure 2025)

Total: 41,436 trees



Beneficiary Selection Criteria

To reduce mortality rates and ensure sustainability, clear eligibility criteria were established for beneficiary selection. These criteria were communicated during community meetings and verified through field visits prior to finalization.

- Availability of land suitable for plantation (farmland or homestead).
- Access to basic irrigation facilities, especially during the first establishment period.
- Willingness to dig planting pits prior to sapling distribution.
- Commitment to protect planted trees through fencing and regular care.
- Agreement not to cut the planted trees for a minimum defined period.
- Preference to families with successful survival rates in previous plantation cycles.

Beneficiaries provided verbal and written consent to follow plantation guidelines and to replace saplings at their own cost in case of mortality due to negligence.



Gender Considerations in Beneficiary Selection

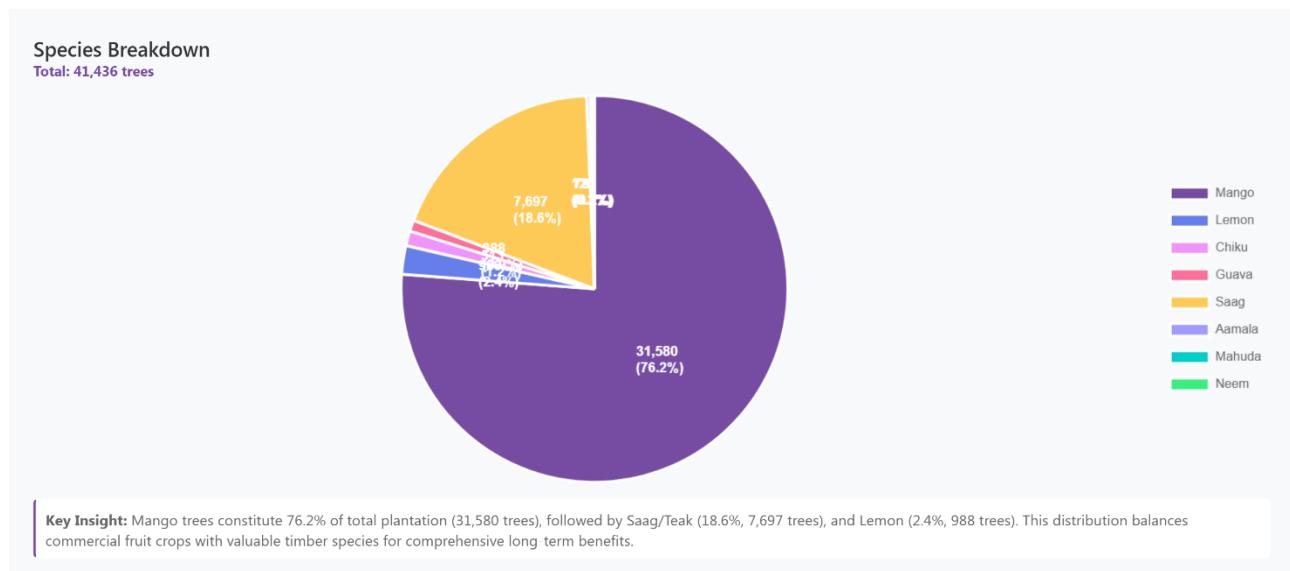
Special emphasis was placed on promoting women's participation in the afforestation program. Since women are often responsible for daily agricultural activities and household food management, their involvement is critical to tree survival and utilization.

Wherever possible, beneficiary records were created in the name of women members of the household. Women were actively encouraged to attend training sessions and awareness meetings related to tree plantation, care, and utilization.

Species Identification and Selection Process

The selection of tree species was guided by agro-climatic suitability, community demand, survival performance, and livelihood value. Consultations with farmers, volunteers, and field staff helped identify species that are well adapted to local conditions and widely accepted by the community.

Priority was given to fruit-bearing species that provide direct nutritional and economic benefits to households. Species with lower survival rates or limited community acceptance were avoided during the 2025 plantation cycle.



Selected Species and Rationale

- Mango (76.2%):** High nutritional value, strong market demand, excellent survival rates, and long-term income potential. Mango is the preferred fruit tree for tribal communities in Gujarat.
- Saag/Teak (18.6%):** Valuable timber species with strong cultural and economic importance. Provides long-term asset creation and soil conservation benefits.
- Lemon (2.4%):** Regular fruiting throughout the year, household consumption, and consistent income generation.
- Chiku (1.2%):** Well-adapted to local climate, drought-resistant, and suitable for small landholdings.
- Guava (0.9%):** Fast fruiting, high nutritional benefits, and ease of maintenance.
- Other Species:** Aamala, Mahuda, and Neem were planted in smaller numbers for specific medicinal, cultural, and ecological purposes.

Species allocation per household varied based on land size, irrigation capacity, and farmer preference. This flexible approach ensured that beneficiaries could realistically manage and protect the trees assigned to them.

Through careful beneficiary and species identification, the program strengthened ownership, reduced plantation risks, and aligned ecological restoration with community livelihoods. This approach forms the foundation for effective monitoring and long-term sustainability of the Social Afforestation Program.

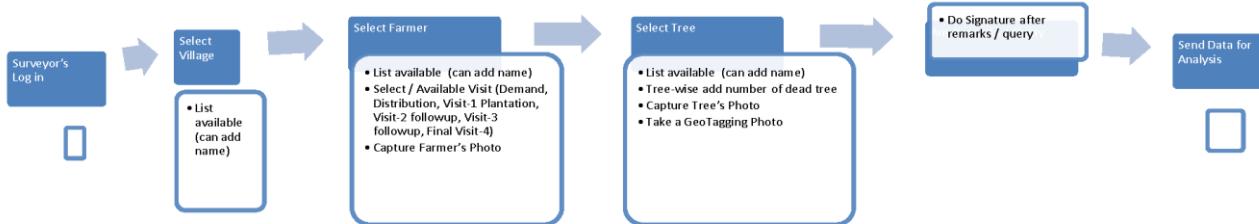


Digitization of Afforestation Program

Digitization is a core strength of the Social Afforestation Program and plays a critical role in ensuring transparency, accountability, and long-term monitoring of plantation activities. Unlike conventional plantation initiatives that rely primarily on manual records, this program integrates digital tools at every stage of implementation, from beneficiary registration to post-plantation monitoring.

The digitized system enables real-time data capture, geo-referenced documentation, and evidence-based reporting, significantly enhancing the credibility of the program for partners, donors, and other stakeholders. It also supports adaptive management by allowing timely identification of challenges and informed decision-making.

Structure/Flow of the Plantation App



Mobile/Tab needs

- Internet Connection > Google Play Store
- Camera, Plantation App & GeoTagging App

ADMIN'S ROLE

- Add/import/update data of District, Taluka, Village, Farmer & Tree
- Create Log in id for each Surveyor and provide
- Receive/Update & conclude data and provide again to the Surveyor for the next visit, if any

SURVEYOR'S ROLE

- Each Surveyor's Villages are pre-defined and controlled by the Admin.
- Farmers are pre-defined and controlled by the Admin
- 5 Stages of Visit and Final Visit will be updated separately for each farmer
- Location of Plantation (may be Home, Farm & Other)
- List of trees is pre-defined and controlled by the Admin
- Add number of dead tree (Tree-wise data)
- Add any remarks/query and Close it with signature
- Send data for analysis to the Admin

Example of data

Sr. No.	Farmer Name	Farmer Number	Farmer Aadhaar	Village	Block	District	State	Location	Mango	Lemon	Chiku	Guava	Sapta	Aamals	Mahur	Neem	Tot
1	SAVITABEN DHANABHAI VASAVA	8758834720	714419737732	Nava Vadgam	Uchchhal	Tapi	Gujarat	21.275205,73.8646567	65	1	1	0	160	0	0	0	227
2	MEGHABEN DINKAR VASAVA	9356591409	500666876508	Nava Vadgam	Uchchhal	Tapi	Gujarat	21.27558,73.863995	65	1	1	0	60	0	0	0	127
3	SANDHYABEN SEGYABHAI VASAVA	7574048001	432492952056	Nava Vadgam	Uchchhal	Tapi	Gujarat	21.2752767,73.86457	15	1	1	0	10	0	0	0	27
4	VARSHABEN SUNILBHAI VASAVA	8849108193	821532279161	Nava Vadgam	Uchchhal	Tapi	Gujarat	21.275315,73.864405	15	1	1	0	10	0	0	0	27
5	RADHIKABEN SUNILBHAI VASAVA	7861808060	939899654647	Nava Vadgam	Uchchhal	Tapi	Gujarat	21.2752933,73.864267	15	1	1	0	10	0	0	0	27
6	NIKITABEN FILIPBHAI VASAVA	8849939566	349074876386	Nava Vadgam	Uchchhal	Tapi	Gujarat	21.2755783,73.8640417	15	1	1	0	10	0	0	0	27
7	RAHONIBEN SUBASHBHAI VASAVA	9265370139	64883300200	Nava Vadgam	Uchchhal	Tapi	Gujarat	21.276085,73.864605	15	1	1	0	10	0	0	0	27
8	PREMILABEN MAHENDRABHAI VASAVA	9687797433	940778343923	Nava Vadgam	Uchchhal	Tapi	Gujarat	21.2755133,73.8642517	15	1	1	0	10	0	0	0	27
n	QUANTIDEV PRADHABHAI VASAVA	7951063750	50257050761	Nava Vadgam	Uchchhal	Tapi	Gujarat	21.27501,73.8647333	100	1	1	0	10	0	0	0	113

Purpose and Objectives of Digitization

The digitization framework was designed with the following key objectives:

- To ensure transparency and traceability of plantation activities.
- To avoid duplication of beneficiaries and plantation records.
- To monitor tree survival and growth over time.
- To strengthen accountability at field and organizational levels.
- To generate reliable data for reporting, learning, and scaling.



Digital Data Collection System

A mobile-based digital application is used by field staff and trained volunteers to record plantation data directly from the field. The application is designed to function in offline mode, enabling data collection in remote areas with limited internet connectivity. Collected data is synchronized once connectivity is available.

Each beneficiary is registered using a unique identification process, which includes household details, village information, land location, and plantation site characteristics. This ensures accurate beneficiary mapping and prevents duplication across plantation cycles.





Geo-Tagging and Spatial Verification

All plantation sites are geo-tagged using GPS-enabled devices. Location coordinates are captured at the time of plantation and linked to beneficiary records. This spatial data allows verification of plantation sites and supports geographic analysis of plantation coverage.

Geo-tagging also enables visual mapping of plantation areas across districts and villages, strengthening transparency and enabling external verification by partners and stakeholders.

Farmer Name: AJAYBHAI BAMESHBHAI CAMIT Farmer Number: 9118148792

Farmer Aadhar: 833287407081 Farmer Gender: M

Fruit:

Mango (મુંગ)	Lemon (લેમન)	Chiku (ચિકુ)	Guava (ગુવા)	Aamala (અમાલા)
<input type="button" value="-"/> 22 <input type="button" value="+"/>	<input type="button" value="-"/> 1 <input type="button" value="+"/>	<input type="button" value="-"/> 1 <input type="button" value="+"/>	<input type="button" value="-"/> 1 <input type="button" value="+"/>	<input type="button" value="-"/> 0 <input type="button" value="+"/>

Native:

Saag (સાગ)	Mahuda (મહુડા)	Neem (નીમ)
<input type="button" value="-"/> 0 <input type="button" value="+"/>	<input type="button" value="-"/> 0 <input type="button" value="+"/>	<input type="button" value="-"/> 0 <input type="button" value="+"/>

Date: 07-07-2024

Farmer Image:

No file chosen



Latitude: 20.9428235 Longitude: 73.4825836

Farmer Signature:



Surveyor Signature:





Stage-wise Monitoring and Documentation

The digitization framework supports stage-wise monitoring of plantation progress. Field staff record photographic and descriptive evidence at multiple stages, including plantation, early establishment, growth, and survival checks. This creates a time-stamped visual history of each plantation site.

Monitoring stages typically include:

- Pre-plantation site readiness verification.
- Plantation stage documentation.
- Post-plantation survival assessment.
- Growth monitoring at defined intervals.

The figure consists of four screenshots of a mobile application interface, likely an Android app, illustrating the stage-wise monitoring and documentation process. The screenshots are arranged in a 2x2 grid.

- Screenshot 1 (Top Left):** Shows a "Welcome Test user" screen with a navigation bar. Below the bar are six circular buttons numbered 1 to 6, each with a label: DEMAND, DISTRIBUTION, Current Location, CONCLUSION, and two others partially visible. A callout box highlights the "Current Location" section, which displays "Latitude: 37.4219983" and "Longitude: -122.084".
- Screenshot 2 (Top Right):** Shows a "DEMAND Form" screen. It has a progress bar at the top indicating "0% completed". Below are five input fields: "Date" (empty), "Select Year" (set to 2024), "Select Village" (empty), "Select Farmers" (empty), and "Farmer Aadhaar Number" (empty). At the bottom are "Step 1 of 4", "Cancel", and "Next" buttons.
- Screenshot 3 (Bottom Left):** Shows a "FOLLOW UP 1 Form" screen. It has a progress bar at the top indicating "33% completed". The form is divided into sections for "FRUIT" and "NATIVE". Under "FRUIT", there are four items: MANGO (22), LEMON (1), CHIKU (1), and GUAVA (1). Each item has a minus, plus, and "Add Plant" button. Under "NATIVE", there is one item: SAAG (1), with an "Add Plant" button. At the bottom are "Step 2 of 4", "Back", and "Next" buttons.
- Screenshot 4 (Bottom Right):** Shows a "FOLLOW UP 1 Form" screen. It has a progress bar at the top indicating "100% completed". The summary table shows:

Farmer Name	AJAYBHAI RAMESHBHAI GAMIT	Aadhar Card	832287497081
Total Trees	Count		
MANGO (કુણી)	22		
LEMON (લેમન)	1		
CHIKU (ચિકુ)	1		
GUAVA (ગુવા)	1		
Total Number of Trees	25		

Below the table are "Latitude" (22.9966635) and "Longitude" (72.5170205) fields. At the bottom is a signature placeholder labeled "Upload Surveyor's Signature" and "Step 4 of 4" buttons.

Data Validation and Quality Control

To maintain data quality, the system includes multiple layers of validation. Field data is reviewed by supervisors and cross-checked through random field visits. Inconsistencies or missing information are flagged and corrected through follow-up verification.

This multi-level validation process enhances reliability and reduces the risk of over-reporting or inaccurate documentation.

Use of Digital Data for Reporting and Learning

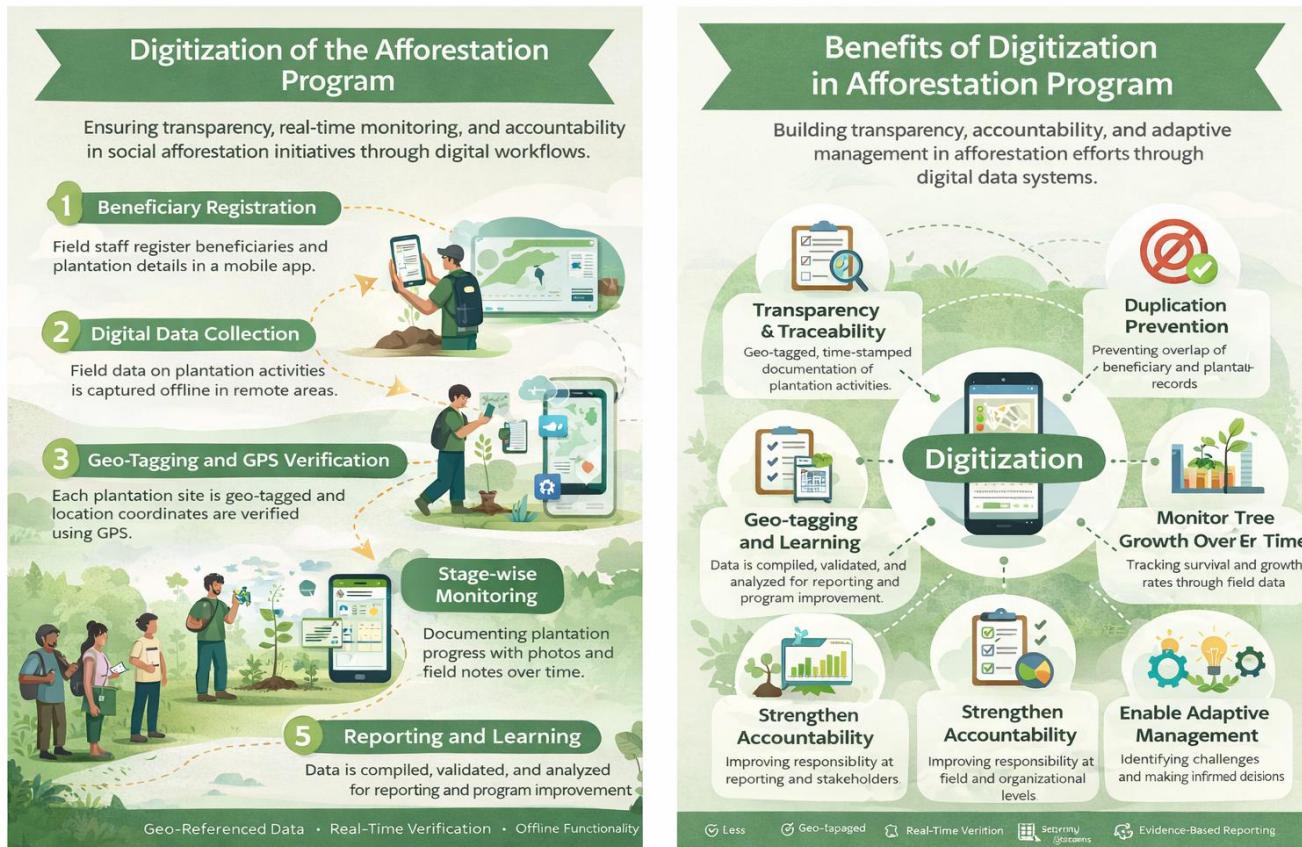
Digitally collected data is consolidated and analysed to generate plantation summaries, district-wise statistics, species distribution charts, and survival reports. These outputs support internal learning, program improvement, and transparent reporting to partners and donors.

The digitization system also enables comparison of performance across years, helping identify factors influencing survival rates and informing future plantation strategies.

Significance of Digitization for Program Credibility

By integrating digitization into the afforestation process, the program moves beyond input-based reporting and toward outcome-oriented monitoring. The availability of geo-tagged, time-stamped, and verifiable data strengthens confidence among stakeholders and positions the program as a scalable and replicable model for community-led climate action.

Digitization thus serves as a foundation for transparency, learning, and long-term impact, reinforcing the Social Afforestation Program's commitment to accountable and evidence-based environmental restoration.





Awareness and Training to the Community

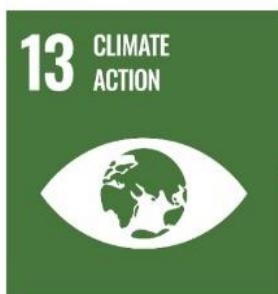
Awareness creation and capacity building are integral components of the Social Afforestation Program. Tree plantation alone does not guarantee long-term impact unless community members possess the knowledge, skills, and motivation required to care for and protect the planted trees. The program therefore places strong emphasis on structured awareness activities and practical training sessions tailored to local needs.

Awareness and training initiatives are designed to strengthen community ownership of plantation activities and to build a shared understanding of the environmental, social, and economic benefits of afforestation. These initiatives are implemented before, during, and after plantation to reinforce learning and encourage sustained engagement.



સામાજિક વનીકરણ કાર્યક્રમ-૨૦૨૫

વૃક્ષ રોપણી અને રક્ષા, સૌની પાસે આજ અપેક્ષા



વિકલ્પ અને ગવાલા કલોઝર્સ ગ્રૂપ



Objectives of Awareness and Training

- To enhance community understanding of the importance of trees for climate resilience and livelihoods.
- To improve technical knowledge related to plantation, care, and maintenance of saplings.
- To reduce plant mortality through correct planting and post-plantation practices.
- To promote long-term protection and ownership of planted trees.
- To strengthen women's participation in plantation management and household nutrition.



Pre-Plantation Awareness Activities

Prior to plantation, village-level meetings are organized to orient community members about the objectives of the program, beneficiary responsibilities, and expected outcomes. These meetings provide a platform for open dialogue, allowing farmers to raise concerns, share experiences, and clarify expectations.

Awareness sessions focus on topics such as the role of trees in soil conservation, water retention, climate regulation, and food security. Special emphasis is placed on explaining the long-term nature of benefits, encouraging families to view tree plantation as an investment rather than a short-term activity.

Technical Training on Plantation Practices

Practical training sessions are conducted for beneficiary families and village volunteers on proper plantation techniques. These sessions cover key aspects such as pit preparation, spacing, soil mixture, planting depth, mulching, watering schedules, and protection measures.

Training is delivered through demonstrations in the field to ensure that participants can directly apply the techniques on their own land. Volunteers and field staff provide hands-on guidance during plantation to reinforce correct practices.



Post-Plantation Care and Maintenance Training

After plantation, follow-up training sessions focus on post-plantation care, including regular watering, use of organic inputs, pest and disease management, and protection from grazing or physical damage. Farmers are guided on identifying early signs of plant stress and taking timely corrective action.

These sessions are critical for improving survival rates, particularly during the initial establishment phase when saplings are most vulnerable. Field teams and volunteers provide continuous support through visits and informal interactions with beneficiary families.

Focus on Women and Youth Participation

Women are encouraged to actively participate in awareness and training activities, recognizing their central role in household food management and daily care of planted trees. Sessions are organized at times and locations convenient for women to ensure meaningful participation.

Youth participation is also promoted to build long-term environmental stewardship. Engaging young people in plantation and monitoring activities fosters environmental awareness and supports intergenerational knowledge transfer within the community.



Linkages with Digitization and Monitoring

Awareness and training activities are closely linked with the digitization framework of the program. Beneficiaries are informed about digital data collection, geo-tagging, and monitoring processes, which enhances transparency and builds trust in the system.

Community members are encouraged to cooperate during data collection and monitoring visits, recognizing the role of digital tools in improving program quality and accountability.

Through sustained awareness and training, the Social Afforestation Program strengthens community capacity, improves plantation outcomes, and fosters a culture of shared responsibility for environmental restoration and climate resilience.



Nursery Selection

The selection of nurseries is a critical determinant of plantation success and long-term survival of trees. Unlike conventional plantation programs that often rely on young saplings, the Social Afforestation Program prioritizes the use of **one-year-old plants** to enhance survival rates and early establishment in field conditions.

One-year-old plants have a well-developed root system and greater resilience to environmental stress, making them more suitable for plantation in rain-fed and climatically variable regions. Nursery selection is therefore carried out with strict quality criteria to ensure that only healthy, well-established plants are distributed to beneficiary families.

Criteria for Nursery Selection

Nurseries are shortlisted based on clearly defined technical, ecological, and operational criteria. Field staff conduct physical inspections of nurseries prior to final selection to assess plant quality, species authenticity, and nursery management practices.

- Availability of **one-year-old plants** suitable for local agro-climatic conditions.
- Healthy and well-developed root systems with adequate root mass.
- Uniform plant height and growth appropriate for field transplantation.
- Evidence of proper hardening practices to prepare plants for outdoor conditions.
- Good nursery hygiene and absence of pest or disease infestation.
- Capacity to supply the required quantity of plants within the project timeline.



Quality Assurance and Species Authenticity

Ensuring species authenticity is an essential part of the nursery selection process. Field teams verify plant labels, growth characteristics, and nursery records to confirm that the one-year-old plants supplied match the species selected by beneficiary families.

Plants showing signs of weak growth, root binding, pest damage, or disease are rejected during inspection. This rigorous quality control process significantly reduces early mortality and improves overall plantation outcomes.

Coordination, Procurement, and Handling

Procurement schedules are prepared in alignment with the plantation calendar and village-wise distribution plans. One-year-old plants are procured as close to the plantation date as possible to minimize storage duration and transplant shock.

Transportation arrangements are carefully planned to protect plants from physical damage, excessive heat, and dehydration. Temporary holding areas, when required, are shaded and regularly watered until plants are distributed to beneficiary families.





Contribution to Survival and Plantation Success

The use of one-year-old plants, combined with strict nursery selection and quality assurance, contributes significantly to higher survival rates and faster establishment in the field. These plants are better equipped to withstand moisture stress, grazing pressure, and climatic variability during the critical initial growth period.

By investing in quality planting material rather than quantity alone, the Social Afforestation Program strengthens long-term environmental impact and ensures that community and partner investments result in sustainable and resilient tree cover.



Planning for Plant Distribution

Effective planning for plant distribution is essential to ensure timely plantation, equitable access for beneficiaries, and minimal stress to planting material. The Social Afforestation Program follows a carefully coordinated distribution plan that aligns plant availability, village schedules, and climatic conditions to optimize plantation outcomes.

Distribution planning is carried out in close coordination with nursery partners, field teams, village volunteers, and beneficiary families. This collaborative approach ensures transparency, preparedness, and smooth execution across all project villages.

Preparation of Distribution Plan

A detailed village-wise distribution plan is prepared based on the finalized beneficiary list, species allocation, and plant availability. The plan specifies distribution dates, quantities, species mix, and designated distribution points for each village.

Distribution schedules are aligned with the onset of the monsoon to ensure that planting takes place under favourable moisture conditions. This timing is critical for reducing transplant shock and improving early establishment of one-year-old plants.

Coordination with Nurseries and Logistics

Coordination with selected nurseries is undertaken to ensure timely supply of one-year-old plants in accordance with the distribution schedule. Transport arrangements are planned to minimize transit time and avoid exposure to excessive heat or dehydration.

Plants are transported directly from nurseries to village-level distribution points wherever possible. In cases where temporary storage is required, plants are kept in shaded areas and watered regularly until distribution.



Distribution Plan

SR. NO.	DISTRIBUTION DATE	VILLAGES	TOTAL VILLAGES	TOTAL FAMILIES	TOTAL PLANTS
1	02.07.2025	Gira, Dhodhalpada	2	40	1525
2	03.07.2025	Dabdar, Koshmal	2	37	1607
3	04.07.2025	Bhujad, Tekpada	2	46	1803
4	05.07.2025	Nani Dabdar, Moti Dabdar, Chikhaldha	3	65	1535
5	06.07.2025	Vanarchaund	1	25	1200
6	07.07.2025	Chinchina Gavtha, Borpada, Malin	3	80	1695
7	08.07.2025	Kakarada, Bhongadia	2	58	1989
8	09.07.2025	Koyalipada, Karadi	2	44	1980
9	10.07.2025	Lavariya, Vaghmal, Amasarvaran	3	55	1545
10	11.07.2025	Chinchod, Bhendmal	2	59	1249
11	16.07.2025	Dhupi,	1	25	2490
12	17.07.2025	Navagam, Vadali, Kherva, Panibara, Bhiljamboli, Navi Kachali	6	94	4700
13	18.07.2025	Navibhilbhavali, Kuida, -----	4	113	4887
14	19.07.2025	Chittpur, Patibandhara, Amoda, Sevati, Dogegav	5	71	3836
15	19.07.2025	Raigadh, Vedapada, Hathnur, Tapikhadkala, Sayala	5	78	4046
16	20.07.2025	Sayajigam, Jamtalav, Chadhvan, Tavali, Karod	5	89	5349
MANGO 31580, LEMON 988, CHIKU513, GUAVA 388, TEAK 7697, AMALA 120, MAHUVVA 72 & NEEM 78 IN 48 VILLAGES OF 3 BLOCKS OF 2 DISTRICTS IN GUJARAT			48	979	41436

Village-Level Distribution Process

Plant distribution is conducted at designated village locations in the presence of field staff, village volunteers, and beneficiary families. This collective approach promotes transparency and accountability while allowing immediate clarification of any issues.

Beneficiaries are informed in advance about distribution dates and are required to prepare planting pits, fencing, and water arrangements prior to plant collection. Only beneficiaries who meet these preparedness criteria are provided plants, ensuring readiness for immediate plantation.



Verification and Record-Keeping

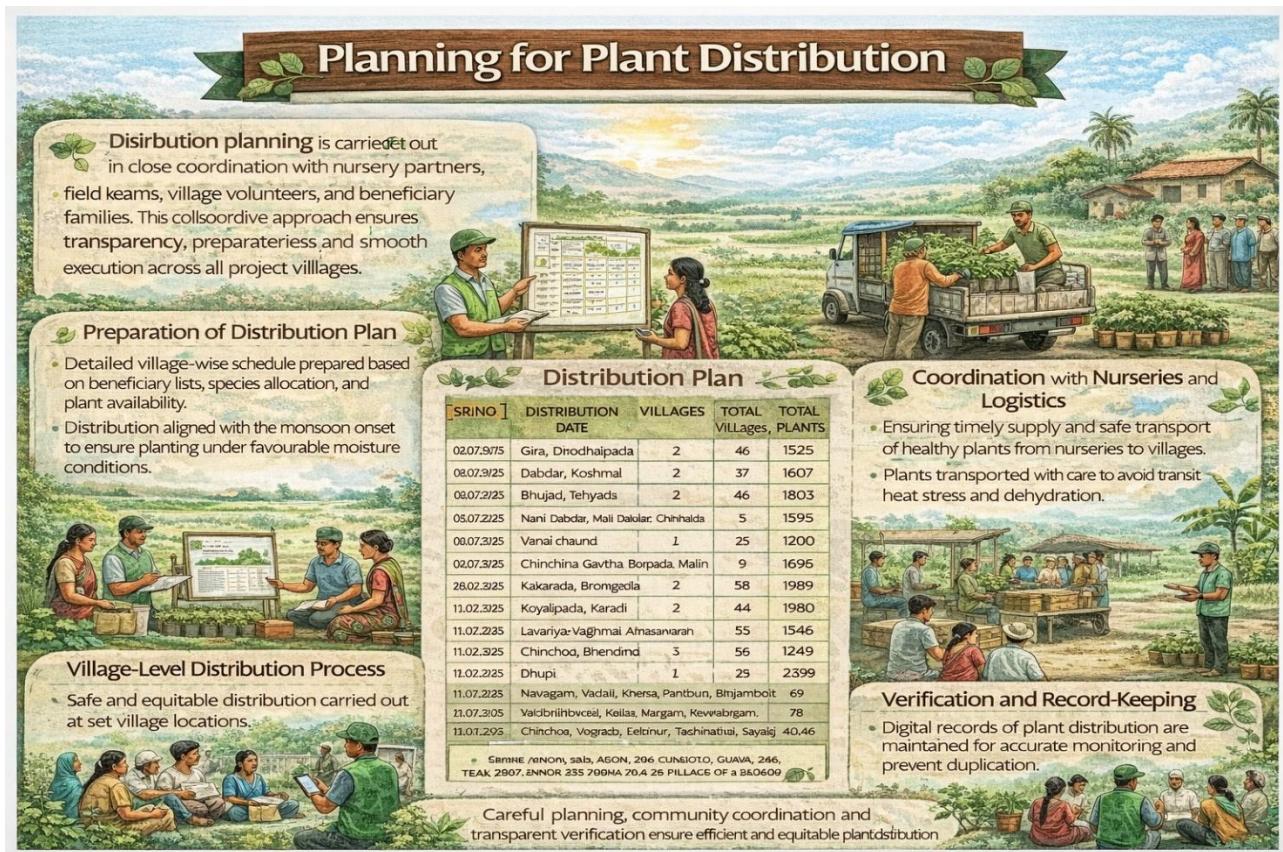
Distribution records are maintained digitally to capture beneficiary details, species distributed, and quantities provided. Beneficiaries confirm receipt of plants, which is recorded in the digital system to ensure traceability and prevent duplication.

This documentation supports transparency and enables accurate monitoring of plantation coverage across villages and districts.

Ensuring Fairness and Transparency

The distribution process is designed to ensure fairness and equitable access to planting material. Clear communication of eligibility criteria and distribution schedules helps prevent misunderstandings and reinforces trust between the organization and the community.

By combining careful planning, community coordination, and transparent record-keeping, the Social Afforestation Program ensures that plant distribution is efficient, accountable, and supportive of successful plantation outcomes.





Actual Tree Plantation

The actual tree plantation phase represents the culmination of planning, coordination, and community engagement undertaken throughout the Social Afforestation Program. Plantation activities were carried out in a systematic and participatory manner to ensure correct planting practices, beneficiary ownership, and optimal conditions for early plant establishment.

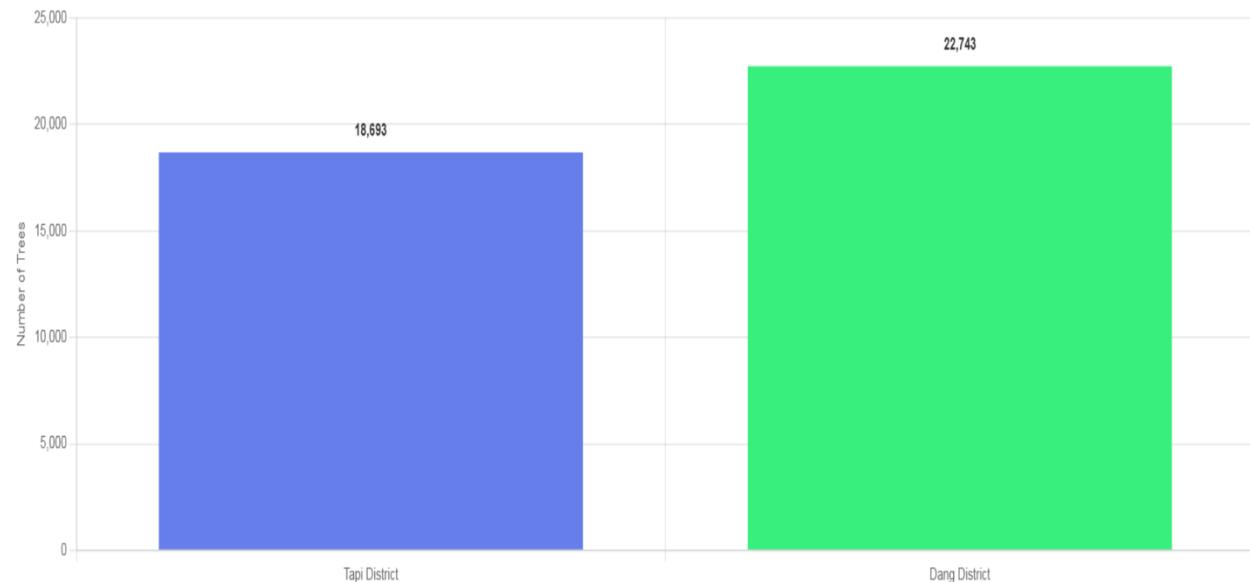
Plantation was conducted during the monsoon period to take advantage of favourable soil moisture and climatic conditions. One-year-old plants were planted by beneficiary families on their own farmland and homesteads, with technical support provided by field staff and village volunteers.

Scale of Plantation – 2025

During the 2025 plantation cycle, a total of **41,436 one-year-old plants** were planted across **48 villages** in Tapi District (Gujarat) and Dang District (Gujarat). Plantation activities directly involved **979 farming families**, primarily from indigenous and marginalized communities.

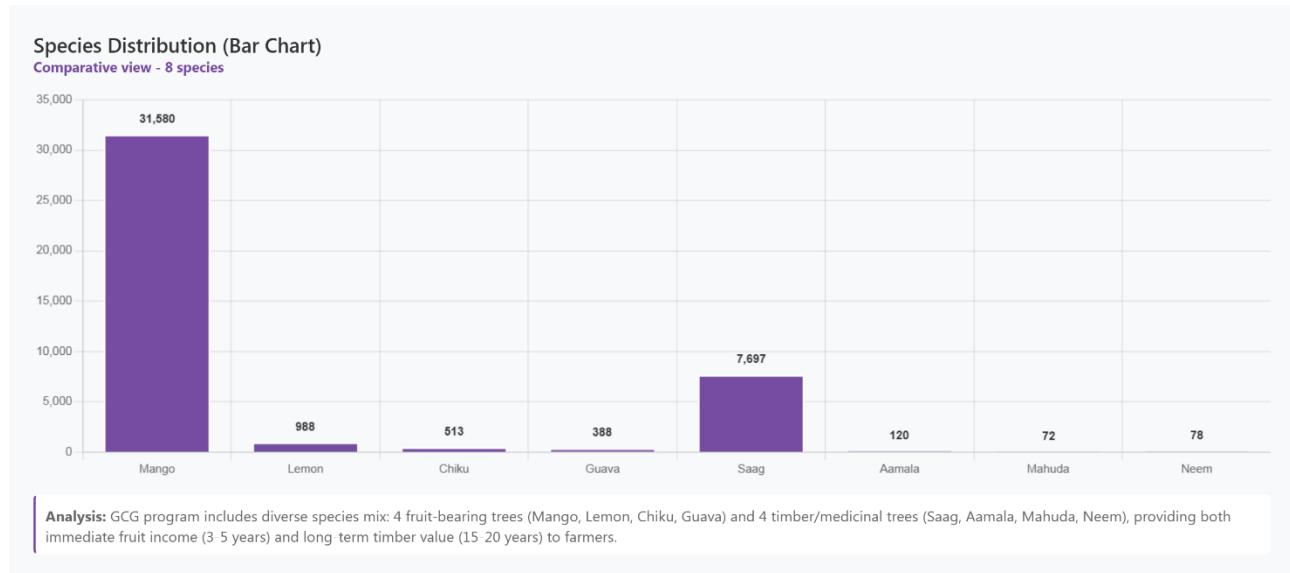
Total Trees Planted by District (Guala Closure 2025)

Total: 41,436 trees



Species Composition

The plantation focused on fruit-bearing species selected based on agro-climatic suitability, survival performance, and livelihood value. Species allocation was finalized through community consultations and field verification to ensure compatibility with local conditions.



Village-Level Plantation Implementation

Plantation activities were implemented at the village level with active participation from beneficiary families. Prior to planting, beneficiaries ensured pit preparation, fencing, and water availability. Field staff and volunteers provided on-site guidance to ensure correct planting depth, spacing, and soil handling.

This hands-on approach strengthened ownership and accountability among beneficiary families, while enabling immediate correction of planting practices where required.



Integration of Digitization During Plantation

Plantation activities were digitally documented using a mobile-based data collection system. Each plantation site was geo-tagged, and photographic evidence was captured at the time of planting. This ensured accurate documentation of plantation locations, species planted, and beneficiary details.

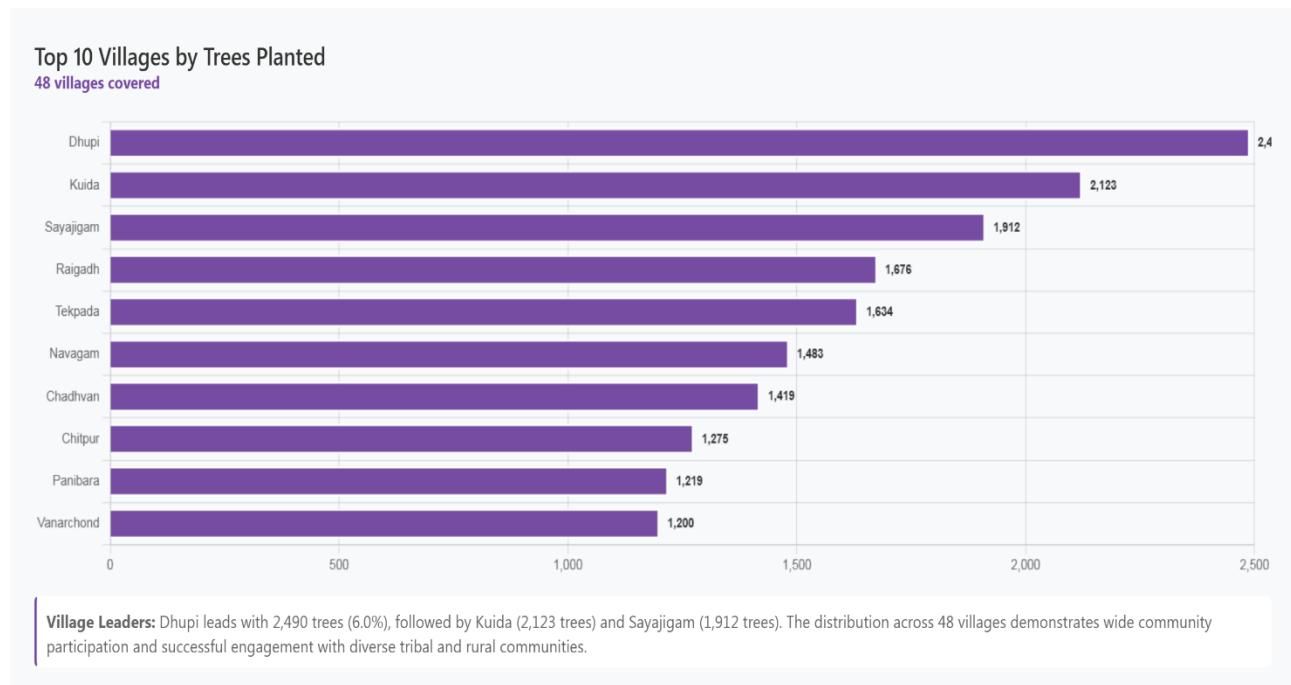
Quality Control During Plantation

Quality control measures were applied throughout the plantation process. Field teams monitored plant handling, ensured proper placement of plants, and verified that recommended practices were followed. Plants showing signs of damage or stress during distribution were replaced where feasible.

Beneficiaries received immediate guidance on post-plantation care, including watering schedules and protection measures, to support early establishment of planted trees.

Immediate Outcomes of Plantation

The plantation phase resulted in the successful establishment of tree cover across participating villages. The use of one-year-old plants, combined with favourable planting conditions and community involvement, laid a solid foundation for high survival rates and long-term growth.



The completion of the plantation phase marks a critical milestone in the Social Afforestation Program and sets the stage for ongoing monitoring, survival assessment, and long-term impact evaluation.

Ongoing and Future Monitoring Program

Monitoring is a central pillar of the Social Afforestation Program and ensures that plantation outcomes are sustained beyond the initial planting phase. The program adopts a structured, stage-wise monitoring framework to track plant survival, growth, and overall health over time. This approach emphasizes accountability, early problem detection, and continuous improvement.

Monitoring activities are carried out jointly by field staff, trained village volunteers, and beneficiary families. The integration of digital tools further strengthens the accuracy and transparency of monitoring processes.

Objectives of Monitoring

- To assess survival rates and growth performance of planted trees.
- To identify risks and causes of plant mortality at an early stage.
- To provide timely technical support and corrective measures.
- To ensure accountability and transparency through documented evidence.
- To generate learning for improving future plantation cycles.





Stage-wise Monitoring Framework

Monitoring is conducted at defined stages following plantation to capture changes in plant condition and survival. Each monitoring stage involves physical verification of plants, interaction with beneficiary families, and digital documentation.

- **Stage 1:** Demand
- **Stage 2:** Distribution
- **Stage 3:** Plantation
- **Stage 4:** Follow-up 1
- **Stage 5:** Follow-up 2
- **Stage 6:** Conclusion

Monitoring Stages and Timeline

Plantation Cycle & Follow-up Phases



Digital Monitoring and Documentation

Monitoring data is recorded using the digital data collection system described earlier. Each monitoring visit includes geo-tagged photographs, observations on plant health, and notes on site conditions such as irrigation availability and protection measures.

This digital documentation creates a time-stamped record for each plantation site, allowing comparison of plant condition across monitoring stages and years.

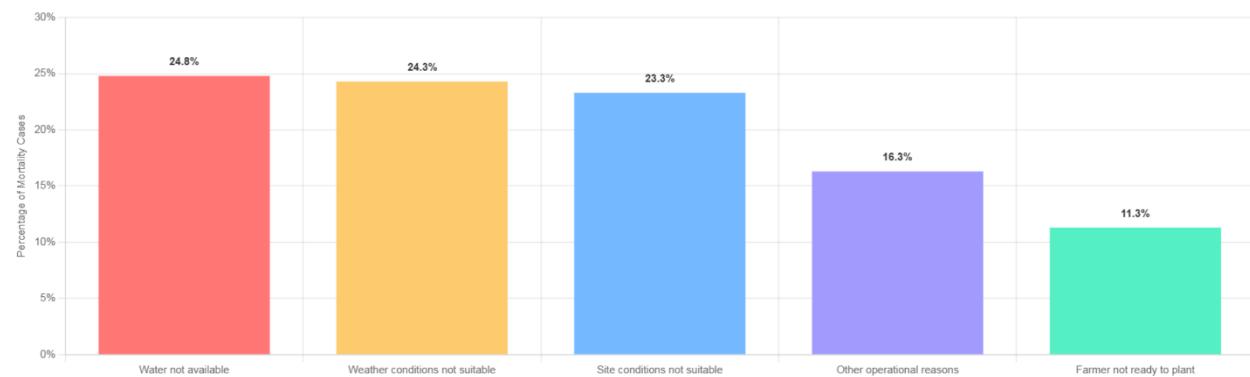
Identification of Risks and Corrective Actions

Monitoring visits help identify common risks affecting plant survival, including moisture stress, pest or disease incidence, grazing damage, and inadequate fencing. Field staff discuss these issues with beneficiary families and recommend corrective measures tailored to local conditions.

Corrective actions may include additional watering support, application of organic inputs, repair of protective fencing, or replacement of damaged plants where feasible.

Common Causes of Plant Mortality (Global Reasoning)

Normalized to 100 survey cases



Community Involvement in Monitoring

Beneficiary families play an active role in ongoing monitoring by observing plant health on a daily basis and reporting issues to volunteers or field staff. This community-led monitoring approach fosters ownership and ensures timely intervention.

Village volunteers serve as a bridge between the community and the organization, facilitating communication and supporting follow-up actions. Their involvement enhances the sustainability of monitoring efforts at the local level.

Future Monitoring and Long-Term Tracking

Monitoring of the 2025 plantation will continue beyond the initial establishment phase through periodic assessments in subsequent years. Long-term tracking will focus on survival, growth, fruiting performance, and livelihood outcomes.

Data generated through monitoring will inform adaptive management, future plantation strategies, and reporting to partners and stakeholders. This long-term perspective ensures that afforestation outcomes are sustained and continuously improved.

Through a robust and transparent monitoring framework, the Social Afforestation Program reinforces its commitment to accountability, learning, and long-term environmental impact.

Role of Bhoomi Producers' Collective

The **Bhoomi Producers' Collective** plays a strategic role in strengthening the long-term sustainability of the Social Afforestation Program. The collective functions as a community-based institutional platform that brings together farmers, women, and local volunteers to support afforestation, livelihood development, and collective action.

The integration of the Bhoomi Producers' Collective into the afforestation program ensures that tree plantation activities are embedded within broader community systems rather than remaining isolated interventions. This institutional linkage enhances ownership, coordination, and continuity beyond the plantation year.

Formation and Composition of the Collective

The Bhoomi Producers' Collective is composed of small and marginal farmers, women members of self-help groups, village volunteers, and community leaders from the project villages. Members are selected based on their active participation in afforestation activities and their interest in collective livelihood and environmental initiatives.

The collective operates through regular meetings, participatory decision-making, and shared responsibilities. Special emphasis is placed on the inclusion of women, recognizing their significant role in agriculture, household food security, and care of planted trees.



Role in Afforestation and Plantation Support

Members of the Bhoomi Producers' Collective support plantation activities by assisting with community mobilization, beneficiary coordination, and dissemination of information related to plantation schedules and care practices. The collective also facilitates peer learning by sharing experiences and best practices among farmers.

During monitoring phases, collective members help identify issues related to plant survival and communicate these to field staff, enabling timely interventions. Their local presence allows for continuous observation and rapid response to emerging challenges.

Livelihood Linkages and Value Addition

Beyond plantation, the Bhoomi Producers' Collective serves as a platform for developing sustainable livelihood opportunities linked to fruit production and agroforestry. As trees mature and begin producing fruit, the collective supports aggregation, value addition, and collective marketing of produce.

These activities create opportunities for supplementary income generation and reduce dependency on mediators. Women members, in particular, benefit from involvement in processing, packaging, and marketing activities, strengthening their economic participation and decision-making power.



Capacity Building and Leadership Development

The collective acts as a vehicle for continuous capacity building. Members receive training in areas such as organizational management, record-keeping, basic financial literacy, and sustainable agriculture practices. These capacities strengthen local leadership and support long-term community resilience.

Leadership roles within the collective are rotated to encourage participation and build confidence among members, particularly women and youth. This inclusive approach contributes to stronger social cohesion and shared responsibility.

Contribution to Program Sustainability

By institutionalizing community involvement through the Bhoomi Producers' Collective, the Social Afforestation Program creates a mechanism for continuity beyond project timelines. The collective supports ongoing monitoring, knowledge sharing, and livelihood development linked to plantation outcomes.

The role of the Bhoomi Producers' Collective strengthens the program's sustainability by embedding environmental restoration within community-led institutions. This approach ensures that the benefits of afforestation continue to grow over time, contributing to resilient livelihoods and long-term climate adaptation.





Final Living Plants Planted

The assessment of final living plants is a critical indicator of the effectiveness and quality of the Social Afforestation Program. Unlike plantation figures that represent inputs, the number of living plants reflects actual on-ground impact and the success of planning, implementation, and post-plantation care.

The program therefore places strong emphasis on survival assessment through structured monitoring and digital verification. Survival data is not estimated but documented through field verification and geo-tagged records collected during monitoring visits.

Approach to Survival Assessment

Survival assessment is conducted through stage-wise monitoring visits following plantation. During each visit, field staff and village volunteers physically verify planted trees and record their condition using the digital monitoring system. Plants are categorized based on health and survival status.

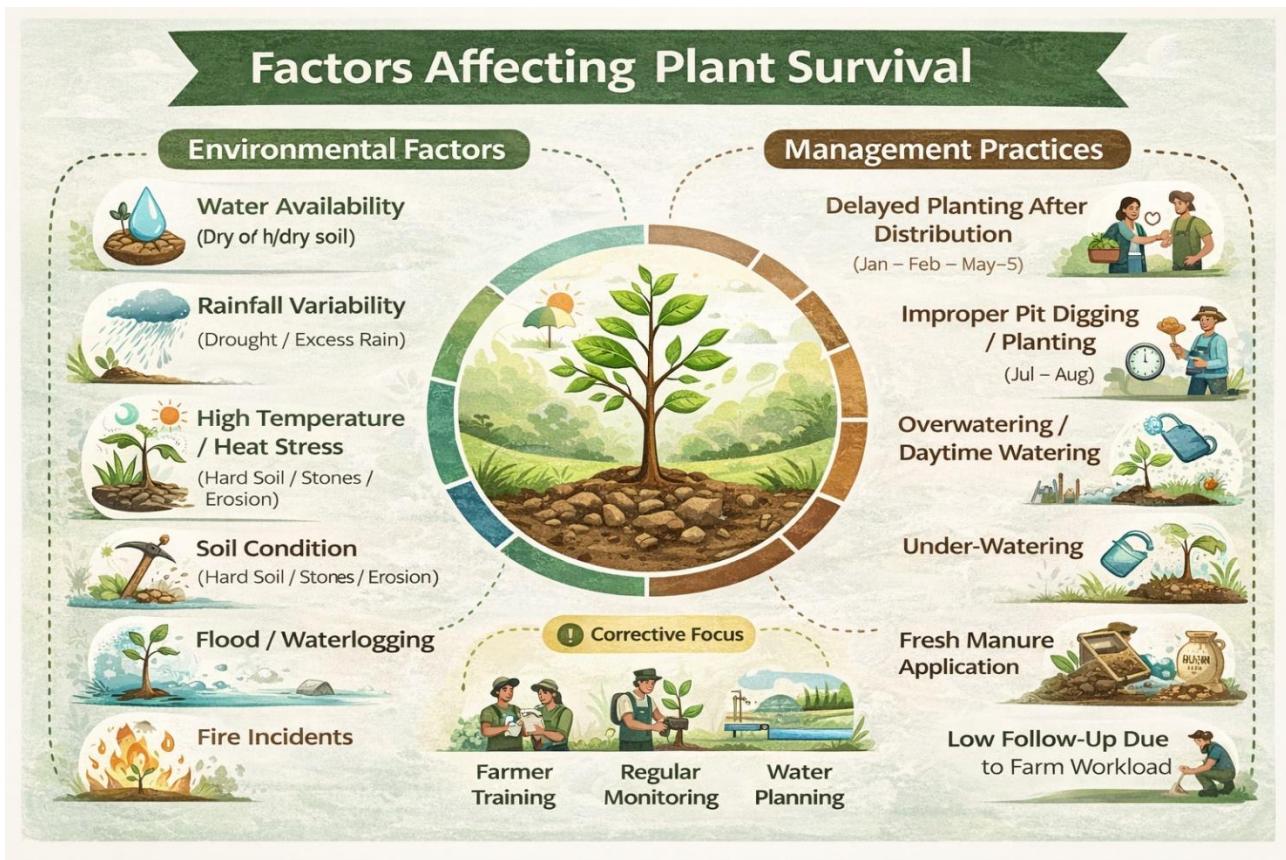
The assessment focuses on identifying:

- Healthy and actively growing plants.
- Plants under stress requiring corrective support.
- Plants damaged due to external factors.
- Plants that did not survive.

Factors Influencing Plant Survival

Survival outcomes are influenced by multiple environmental and management factors. Common factors affecting plant survival include availability of water during the establishment phase, protection from grazing, soil conditions, and timely care by beneficiary families.

External factors such as prolonged dry spells, extreme weather events, pest attacks, or accidental damage can also affect survival. These factors are documented during monitoring to inform corrective actions and future planning.



Replacement and Gap-Filling Strategy

In cases where plants do not survive due to unavoidable factors, the program follows a gap-filling approach during subsequent plantation cycles or favourable seasons. Replacement decisions are based on field verification and discussions with beneficiary families.

Beneficiaries are encouraged to replace plants that fail due to negligence at their own cost, while support may be provided in cases of loss caused by external factors beyond the control of the farmer. This approach reinforces responsibility while maintaining fairness.



Current Status of Living Plants – 2025

The final number of living plants for the 2025 plantation cycle will be determined after completion of scheduled monitoring stages. Initial observations indicate strong establishment of one-year-old plants due to favourable planting conditions, improved planting practices, and active community involvement.

Detailed survival figures will be finalized and reported following the completion of early and mid-term monitoring cycles. These figures will be supported by geo-tagged data and photographic evidence, ensuring accuracy and transparency.

These results are calculated in 2026 that is after 1.5 years of initial plantation.

Significance of Survival-Focused Reporting

By focusing on final living plants rather than plantation inputs alone, the Social Afforestation Program emphasizes quality, accountability, and long-term impact. This approach provides a more realistic measure of environmental restoration and strengthens confidence among partners and stakeholders.

Survival-focused reporting also supports learning and adaptive management, enabling the program to continuously improve plantation strategies and contribute to sustainable and resilient landscapes.

Future Strategy

The Social Afforestation Program is envisioned as a long-term, evolving initiative that responds to environmental realities, community needs, and learning generated through continuous monitoring. The future strategy builds upon the experience and outcomes of the 2025 plantation cycle, with a focus on strengthening quality, scalability, and sustainability.

Rather than emphasizing rapid expansion alone, the program prioritizes consolidation of existing plantations, improvement of survival rates, and deeper integration of afforestation with community livelihoods and climate resilience.

Strengthening Survival and Quality

A key focus of the future strategy is to further improve survival and growth performance of planted trees. Learnings from monitoring data will be used to refine species selection, planting techniques, and post-plantation care practices.

Greater emphasis will be placed on water management, organic inputs, protection measures, and timely corrective actions. The continued use of one-year-old plants and quality nursery selection will remain central to improving establishment and long-term outcomes.

Deepening Community Ownership

Future efforts will focus on strengthening community ownership of afforestation activities. This includes deeper engagement of beneficiary families in monitoring, peer learning, and collective decision-making related to plantation care and utilization.

Women's participation will continue to be prioritized, particularly in plantation management, nutrition-focused use of fruit trees, and leadership roles within community institutions such as the Bhoomi Producers' Collective.





Integration with Livelihood Development

As planted trees mature and begin fruiting, the program will increasingly focus on linking afforestation with sustainable livelihood opportunities. This includes support for aggregation, value addition, processing, and collective marketing of fruit produce through community platforms.

These livelihood linkages aim to enhance household income, reduce economic vulnerability, and strengthen the incentive for long-term tree protection and management.

Expansion and Replication

Based on demonstrated outcomes and community demand, the program aims to expand to additional villages and adjoining regions with similar ecological and socio-economic conditions. Expansion will be guided by careful assessment of local readiness, resource availability, and monitoring capacity.

The afforestation model developed through the partnership between VIKALP and Guala Closure Group will be documented and refined to support replication in other contexts, while remaining adaptable to local conditions.

Advancing Digital Monitoring and Learning

The digitization framework will continue to be strengthened to support long-term tracking of plantation outcomes, including survival, growth, and livelihood impact. Enhanced data analysis will support evidence-based decision-making and transparent reporting.

Learning generated through digital monitoring will inform adaptive management and contribute to continuous improvement of afforestation strategies.

Long-Term Vision

The long-term vision of the Social Afforestation Program is to contribute to resilient rural landscapes where environmental restoration, sustainable livelihoods, and community well-being reinforce each other. By combining quality-driven plantation, community institutions, and transparent monitoring, the program aims to create lasting impact beyond individual project cycles.

Through continued collaboration between communities, VIKALP, and Guala Closure Group, the program seeks to demonstrate that community-led afforestation can be a powerful and scalable pathway for climate action and sustainable development in India.



Executive Summary – 2024 Social Afforestation Program

The Social Afforestation Program implemented in 2024 by VIKALP in partnership with Guala Closure Group represented a large-scale, survival-focused afforestation initiative aimed at strengthening ecosystem resilience and supporting community livelihoods across Tapi and Dang Districts of Gujarat.

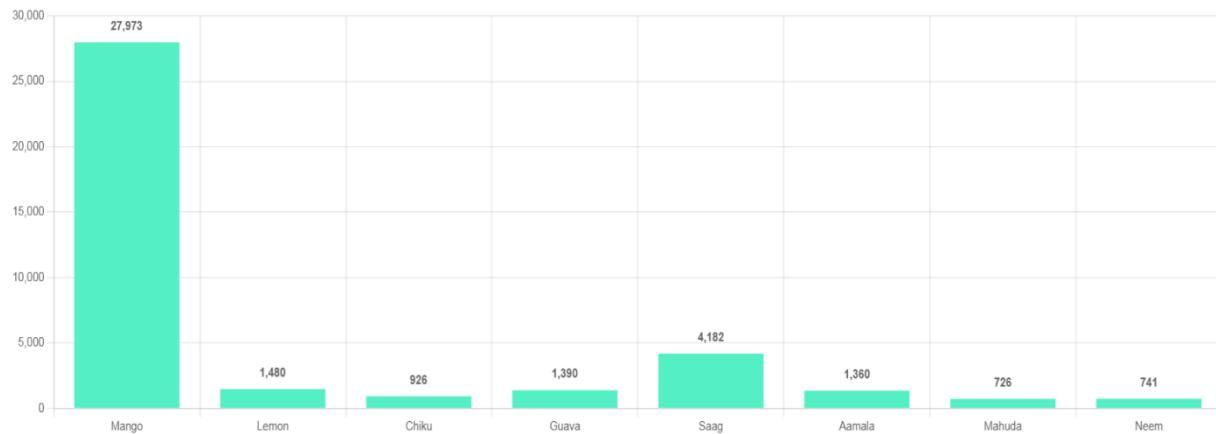
During the 2024 plantation cycle, a total of **39,443 fruit-bearing and multipurpose trees** were planted across 46 villages with the active participation of 1,242 indigenous and marginalized farming families. The program emphasized appropriate species selection, beneficiary ownership, advance site preparation, and post-plantation care.

Monitoring and survival assessment formed a central component of the program. Out of the total trees planted, **38,778 trees were recorded as surviving**, resulting in an exceptional overall survival rate of **98.3 percent**. This remarkably high survival performance reflects the effectiveness of quality one-year-old planting material, favourable monsoon timing, advance pit preparation, and sustained engagement with beneficiary families.

From a climate perspective, the 2024 plantation is projected to sequester approximately **6,204 tonnes of carbon dioxide (CO₂)** over a 20-year period, with a projected lifetime sequestration of **29,927 tonnes of CO₂**. In addition to carbon benefits, the plantation contributes to improved oxygen production (4,677 tonnes annually), water conservation (5.86 million litres annually), reduced air pollution (19,510 kg removed annually), and increased tree canopy cover (377.7 hectares).

The outcomes of the 2024 program provided important learning for subsequent plantation cycles and strengthened the foundation for scaling and improving the Social Afforestation Program in 2025 and beyond. The partnership between VIKALP and Guala Closure Group demonstrated the viability of high-quality, survival-focused afforestation as a model for climate action and livelihood support.

Species-wise Distribution (Surviving Trees)



Survival Analysis and Plantation Performance – 2024

Survival analysis provides a realistic measure of plantation effectiveness and long-term impact. The 2024 Social Afforestation Program prioritized survival-focused monitoring and transparent reporting rather than plantation numbers alone.

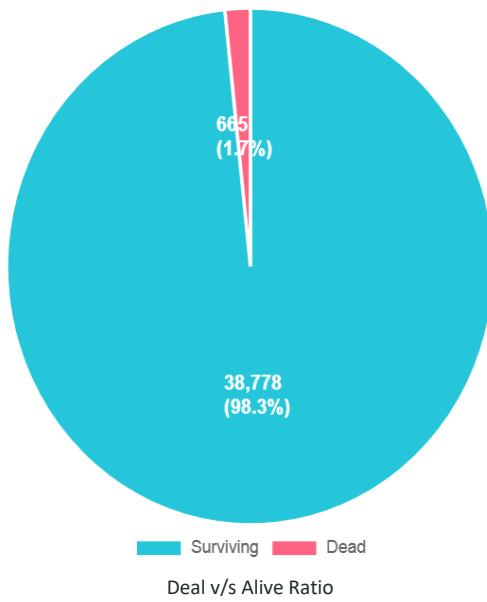
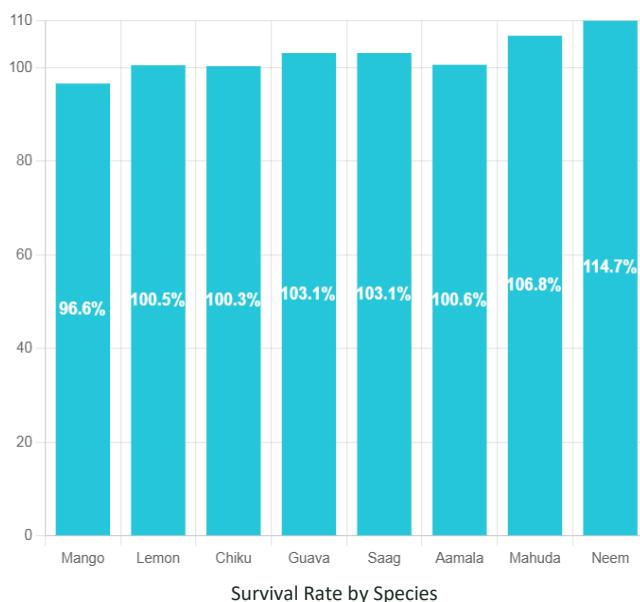
Out of 39,443 trees planted, 38,778 trees were recorded as living, while 665 trees did not survive. This resulted in an exceptional overall survival rate of **98.3 percent**, indicating outstanding performance across all project locations in both Tapi and Dang Districts.

The program's methodology included distribution of additional replacement saplings to mitigate potential mortality from previous cycles and establishment of a biodiversity demonstration site with additional trees. This proactive approach contributed to achieving survival rates that exceeded initial targets and demonstrated the effectiveness of quality-focused implementation.

Species-wise observations indicate exceptional survival performance across all planted varieties. **Neem** demonstrated the highest survival at **114.7 percent**, followed by **Mahuda** at **106.8 percent**, **Saag** at **103.1 percent**, and **Guava** at **103.1 percent**, indicating natural regeneration and high adaptability to local agro-climatic conditions. **Mango**, the dominant species, achieved a strong survival rate of **96.6 percent**. Lemon, Chiku, and Aamala all demonstrated survival rates above 100 percent, reflecting excellent site-species matching and beneficiary care practices.

Factors contributing to high survival rates included use of one-year-old quality saplings, appropriate species-site matching, advance pit preparation, favourable monsoon timing, and active beneficiary involvement in post-plantation care including fencing and watering.

Limited mortality was primarily due to moisture stress, occasional grazing, and localized environmental conditions. These findings informed adaptive strategies for subsequent cycles, including improved protection measures and strengthened beneficiary training.



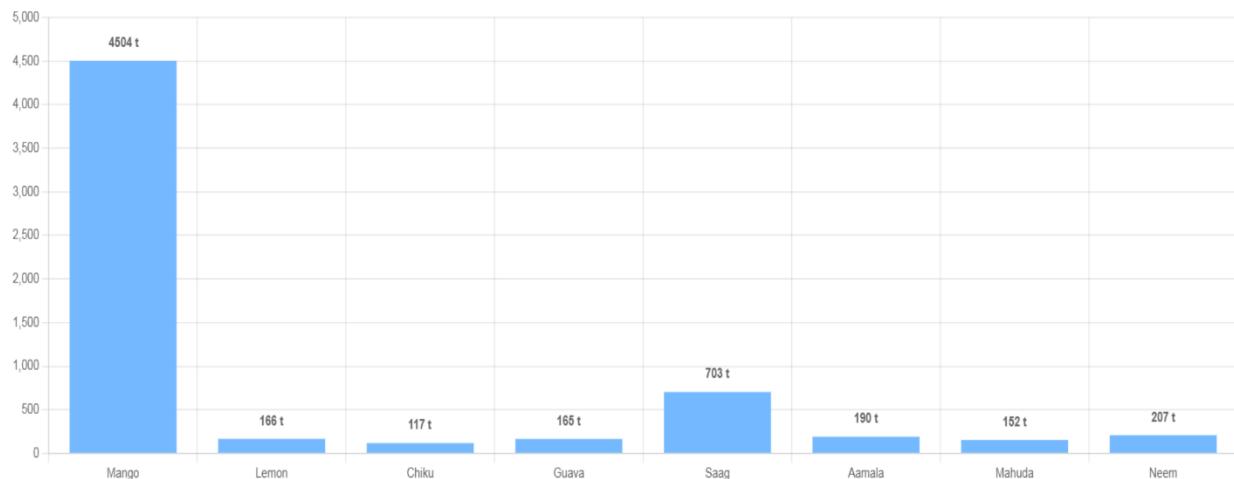


Environmental and Climate Impact – 2024

The 2024 plantation contributes significantly to climate change mitigation and environmental restoration. Based on conservative and scientifically informed estimates using standard carbon sequestration models, the trees planted under the program are projected to offset approximately **6,204 tonnes of CO₂** over a 20-year period, with an estimated lifetime sequestration of **29,927 tonnes of CO₂**.

In addition to carbon sequestration, the plantation generates substantial annual environmental benefits including oxygen production (4,677 tonnes annually, supporting 6,320 people), water conservation (5.86 million litres annually), air pollution removal (19,510 kg annually), and increased canopy coverage (377.7 hectares). These environmental co-benefits contribute to healthier local ecosystems and enhanced resilience to climate variability.

20-Year Carbon Sequestration by Species (tonnes CO₂)



Annual Environmental Impact

Oxygen: 4677 tonnes/year (supplies 6,320 people) | **Water:** 5.86 million liters/year | **Pollution:** 19,510 kg removed/year | **Canopy:** 377.7 hectares