



Indus Tree Crafts Foundation

FSC® Forest Management Certification Project
Karnataka & Maharashtra

SUMMARY OF FOREST MANAGEMENT PLAN

A. Introduction:

Indus Tree Crafts Foundation, a dedicated trust with extensive experience in sustainable development, will facilitate the project. Indus Tree Crafts Foundation's role encompasses comprehensive documentation, meticulous implementation management, targeted training, and capacity building. We are committed to ensuring full compliance with the Forest Stewardship Council® (FSC) Principles and Criteria, which set the global benchmark for responsible forest management. The FSC FM Group Certification Project is a pioneering initiative of the Indus Tree Crafts Foundation aimed at promoting sustainable forestry practices among smallholder farmers in Karnataka and Maharashtra, India. The project area covers a total of 1,112.8 hectares, comprising 986.6 hectares of privately owned FMU lands located across the districts of Chikmagalur, Shivamogga, and Hassan in Karnataka, and Pune, Nashik, and Dharashiv in Maharashtra. In addition, 126.3 hectares of land are designated as the Representative Sample Area (RSA). The farmers are organized into twelve Mutual Benefit Trusts (MBTs), a strategic structure designed to enhance internal governance, ensure equitable decision-making, and improve the overall management of forestry resources.

B. Objectives of the Project:

The primary objective of this project is to promote sustainable cultivation of indigenous bamboo species, across the participating farmers' lands in Chikmagalur, Shivamogga, and Hassan district of Karnataka and Pune, Nashik and Dharashiv districts of Maharashtra. The bamboo plantation project aims to restore and enhance degraded lands, improve local biodiversity, and contribute to the socio-economic well-being of the farmers and surrounding communities. The project will work with women from historically marginalized rural, tribal and backward communities for cultivation of bamboo as an additional source of livelihood. The project aligns with FSC Principles and Criteria to ensure responsible forest management practices that balance environmental, social, and economic benefits. The list of objectives is as follows:

- **Environmental Conservation:** Restore degraded lands and enhance local biodiversity through sustainable bamboo cultivation and conservation of native ecosystems. Cultivation of indigenous bamboo species in degraded lands accumulates organic matter, counteracts soil, and thus reverses soil degradation. Its dense root system helps stabilize soil, conserve moisture, and mitigate the impact of heavy rainfall and flooding.

- **Social Development:** Improve the socio-economic conditions of participating small and marginal landholding farmers, especially women farmers by providing sustainable livelihood opportunities and ensuring gender equality. Bamboo cultivation presents a unique opportunity for smallholder women farmers, who often struggle to gain any benefit from uncultivable, fallow land. As a species, bamboo lives for 40 to 150 years and produces multiple culms yearly for harvest and sale. Bamboo stands out due to its minimal investment needs and long-term sustainability. It provides significant returns from a single investment over an extended period. This approach addresses and bypasses multiple complex and historical barriers, enabling women to utilize their key asset, their land effectively.
- **Economic Viability:** Generate income for farmers through sustainable bamboo production and connected to markets contributing to long-term economic growth. Bamboo cultivation offers smallholder farmers a valuable alternative income stream, particularly those with underutilised land. This new revenue source mitigates the financial risks associated with traditional crops and improves economic stability.
- **Compliance with FSC Standards:** Ensure all activities meet FSC certification standards, promoting responsible forest management.
- **Capacity Building:** Enhance the knowledge and skills of farmers through training programs on sustainable cultivation practices and FSC standards. Capacity building program includes training on agroecology and crop diversification, emphasizing sustainable practices and alternative crops suited to local conditions. Additionally, training Provide training on documentation and certification processes to ensure compliance with FSC standards and market requirements and improve transparency.
- **Monitoring and Continuous Improvement:** Implement robust monitoring systems to track progress, assess impacts, and make necessary revisions for continuous improvement. The program has clearly defined objectives, and data collection methods are implemented to track progress. The system is regularly reviewed to ensure its effectiveness and alignment with the objectives.

C. Description of the Forest:

The project area encompasses 1112.8 hectares of land, including FMUs' 986.6 hectares of land privately owned lands located in the districts of Chikmagalur, Shivamogga, and Hassan in Karnataka, and Pune, Nashik, and Dharashiv districts of Maharashtra and 126.3 hectares of land covered under the Representative Sample Area (RSA). The FMUs' lands included in the project were primarily barren, uncultivated or degraded before the introduction of bamboo cultivation. These lands do not contain any natural or converted forest areas; instead, they are characterized by block and border plantations managed by the participating farmers. The bamboo plantations serve both environmental and economic purposes, offering a sustainable alternative to traditional land use while enhancing local biodiversity. The project does not encroach upon existing forest areas but is situated

within a landscape where natural forests are present in the surrounding regions, providing crucial ecological connectivity. The project's focus on sustainable bamboo cultivation aligns with the broader environmental goals of land restoration and conservation, ensuring that no invasive species are introduced and that irrigation practices are managed to minimize environmental impact.

The number of Management Units distributed in Karnataka and Maharashtra is as follows:

S. No	State	District	Number of Management Units	Area (in ha)
1	Karnataka	Chikmagaluru	241	66.0
2	Karnataka	Hassan	184	56.1
3	Karnataka	Shivamogga	591	147.8
4	Maharashtra	Dharashiv	228	40.9
5	Maharashtra	Pune	1920	322.1
6	Maharashtra	Nashik	2005	353.8
Total			5169	986.6

D. How Objectives Will Be Met During Management Activities to Ensure Sustainability:

The project's objectives will be achieved through a carefully designed set of management activities emphasizing sustainability at every stage, including plantation, harvesting, and agroforestry practices. The introduction of bamboo on previously barren, uncultivated or degraded lands is a crucial element, providing a sustainable land-use alternative that promotes environmental restoration and biodiversity enhancement. Bamboo, a fast-growing and regenerative crop, will be cultivated using sustainable practices that avoid overexploitation and ensure the long-term viability of the plantations.

During the plantation phase, site preparation will be conducted with minimal soil disturbance to prevent erosion and maintain soil health. Indigenous and native species and local variants of bamboo will be prioritized to maintain ecological balance and avoid introducing invasive species. Irrigation will be optimized to conserve water resources, focusing on minimal usage and rain-fed systems to reduce the environmental footprint.

Harvesting will be planned and executed to ensure continuous productivity and ecological balance. Selective harvesting techniques will be employed to prevent the depletion of resources and to allow for the natural regeneration of bamboo stands. Harvest schedules will be aligned with the growth cycles of the bamboo, ensuring that the crop is harvested at its peak without harming the overall plantation health.

Agroforestry practices will include regular monitoring and maintenance of the bamboo stands to promote healthy growth and prevent diseases or pest infestations. This will involve applying organic

treatments and pest control methods, aligning with the project's commitment to sustainability and environmental stewardship. Thinning and pruning will be carried out periodically to enhance the bamboo's growth and vigour while ensuring that the ecosystem functions effectively with minimal human intervention.

Some of the critical agroforestry practices are detailed below:

Soil Management

- **Loosening Soil:** Improves aeration; done in March. Loosening involves adding fresh soil around older clumps without damaging rhizomes.
- **Mulching:** Prevents weeds, conserves moisture, adds organic nutrients, and protects young shoots from heat. Mulching involves spreading of leaf litter or organic material around clumps.
- **Weeding:** Removal of competing plants before rains and flowering. Best done when soil is moist; uproot weeds completely and dispose away from the plantation. Avoid fire.

Clump Management - Maintains hygiene and boosts productivity through six steps:

- **Cleaning:** Removal of malformed culms to keep clumps open for new shoots.
- **Pruning:** Cutting of side branches (Nov–Feb) to improve aeration and nutrition.
- **Thinning:** Removal of weak/bent culms to allow space and better nutrition; adding soil after thinning.
- **Fireline:** Creating 4–5 ft cleared belt or 3×3 ft trench around plantation to prevent fire spread.
- **Drainage Channels:** Building main (3×2 ft) and sub (2×1 ft) channels to avoid water stagnation.
- **Irrigation:** Minimal irrigation during the first two years during the dry months using or bottle irrigation or manual watering

Natural Hazards: Fire Prevention and Control in Bamboo Plantations

Fire is one of the natural hazards identified in the selected areas where management units are located. Effective fire protection in the bamboo plantations with preventive measures such as regular weeding and clearing all shrubs, grass, and vegetation within a 5-meter (16-foot) radius around the plantation to create a firebreak. Additional safeguards include constructing fire lines—4 to 5 feet wide cleared belts—or digging 3 × 3-foot trenches around the plantation. Planting evergreen tree species along the borders can also act as a natural barrier against fire spread. In case of fire in nearby areas, immediate evacuation of the plantation is advised. If any bamboo plants are burnt, they should be watered thoroughly every three days for two weeks to aid recovery. These combined strategies significantly reduce fire risk and protect the plantation from severe damage.

These management measures represent ecologically sound silvicultural practices that balance environmental conservation with economic viability for smallholder farmers. By introducing bamboo on degraded or barren lands, the project restores soil health, prevents erosion, and enhances biodiversity without displacing existing ecosystems. Site preparation involves minimal soil disturbance, preserving natural structure and reducing erosion risks, while prioritizing indigenous

bamboo species ensures ecological integrity and avoids invasive species. Water conservation through rain-fed systems and optimized irrigation further minimizes environmental impact.

Harvesting practices emphasize selective cutting aligned with bamboo growth cycles, preventing overexploitation and maintaining continuous productivity. Agroforestry interventions such as application of organic inputs, mulching, pruning, and thinning recycle organic matter, improve soil fertility, and negate the requirement of chemical inputs. Fire prevention measures—including fire lines, trenches, and evergreen border planting—protect plantations from natural hazards without harming surrounding habitats. Organic pest control and disease management reinforce the commitment to sustainability.

Economically, these practices create multiple income streams for farmers. Biomass from thinning and pruning is repurposed for charcoal and bio-fencing, while sustainable harvesting ensures year-round marketable output. Reduced input costs through biomass recycling and water-efficient irrigation further enhance profitability.

The project's management activities will be guided by the principles of sustainable forest management outlined by the FSC standards. This includes meeting the environmental objectives of restoring degraded lands and enhancing biodiversity and ensuring that the social and economic objectives of providing sustainable livelihoods and generating income for the farmers are achieved without compromising the long-term health and productivity of the bamboo plantations. Continuous monitoring and adaptive management will be integral to this approach, allowing for the refinement of practices and the incorporation of new knowledge to achieve the project's sustainability goals.

Overall, this integrated approach combines ecological restoration, climate resilience, and biodiversity enhancement with practical strategies for income generation, ensuring that bamboo plantations remain both environmentally responsible and economically sustainable for smallholders.

E. Chemical Input Usage for Pest Management and Soil Nutrient Management:

The organization's pest management system fully complies with FSC-STD-RAP-IND-01.1-2022 for smallholders, emphasizing ecological responsibility, social acceptability, and long-term sustainability. The approach prioritizes prevention and ecological balance through good silvicultural practices—optimal spacing, soil health, mulching, moisture conservation, and natural vegetation buffers—reducing pest risks naturally (Criterion 10.2 & 6.6).

Monitoring: Regular inspections by trained farmers and Field Monitoring Teams ensure early detection of pests and diseases. Observations are documented in Farmer Diaries, meeting Criterion 8.1 for systematic monitoring.

Integrated Pest Management (IPM): First response: manual removal, sanitation, and natural predator enhancement. Chemical inputs are considered only if non-chemical methods fail and must comply with FSC Pesticides Policy (FSC-POL-30-001). No Highly Hazardous Pesticides (HHPs) are

used; all inputs are verified and recorded (Criterion 10.7.4). No chemicals in buffer zones or riparian areas (Criterion 6.7). No introduction of biological agents or invasive species (Criterion 10.3).

Community Engagement: Farmers and local communities are informed about pest issues and safe practices, ensuring transparency (Criterion 4.1). Technical advice is sought only when necessary and aligned with FSC requirements (Criterion 7.1).

F. Sustainable Harvest Limits (Consistent with FSC Criteria 5.6)

The project will implement sustainable harvest limits to ensure that bamboo harvesting is conducted in a manner that does not compromise the long-term productivity and health of the plantation areas. In alignment with FSC Criteria 5.6, which emphasizes the maintenance of forest resources and ecosystem services, the harvest limits will be determined based on a detailed understanding of the growth rates, yield potential, and ecological dynamics of the cultivated bamboo species.

The harvest limits will be established through a combination of scientific assessments and traditional knowledge, taking into account factors such as the age and maturity of the bamboo stands, the specific growth patterns of the bamboo species, and the carrying capacity of the land. Regular monitoring of bamboo growth and biomass accumulation will inform adjustments to harvest quotas, ensuring that extraction rates do not exceed the natural regenerative capacity of the bamboo stands.

Harvesting will be carried out selectively, with a focus on removing mature culms while leaving younger shoots to continue growing, thus maintaining the structure and vitality of the bamboo clumps. This approach will prevent overharvesting, reduce the risk of soil degradation, and maintain the ecological functions of the plantation areas. The project will also implement a rotational harvesting system, where different sections/culms of the bamboo plantation are harvested at different times, allowing for continuous regeneration and minimizing the environmental impact.

Additionally, the harvest limits will be reviewed periodically as part of the project's adaptive management strategy. This review process will involve input from forestry experts, local stakeholders, and FSC auditors to ensure that the harvest practices remain sustainable and aligned with FSC standards. By adhering to these sustainable harvest limits, the project will meet the farmers' economic needs and contribute to the long-term sustainability of the bamboo resources and the surrounding environment.

Biomass Retention in Bamboo Plantations: Biomass retention is a low-cost, eco-friendly practice that improves soil health, conserves water, prevents erosion, and supports climate goals while creating opportunities for value-added products. In bamboo plantations (after 3 years), significant biomass waste—fallen leaves, weak/malformed stems, dead branches, and rhizomes—accumulates during thinning and pruning, which are essential for sustainable clump management. These will be retained in the plantation due to the benefits it carries which include Soil Fertility, Water Conservation, Erosion Control and Climate Mitigation.

Utilization of Biomass: The Large malformed poles from the sites will be used for charcoal, briquettes, and bio-fencing. The Leaves and twigs will be Spread around clumps as mulch for moisture retention and nutrient recycling.

The farmer guidelines for biomass retention are as follows:

- **Collection:** Separate leaves/twigs and deposit at clump base; stack larger culms for transport to processing units.
- **Recording:** Maintain proper records of biomass quantity by category.
- **Timing:** Conduct thinning after monsoon; pruning twice a year (before and after monsoon).
- **Tools:** Hand saw, sickle, pruner, secateurs.
- **Care:** Avoid damaging healthy culms and rhizomes; add soil mound after thinning.

G. Monitoring System of the Project:

The project's monitoring system is designed to ensure continuous monitoring and assessment of all activities related to bamboo cultivation, harvesting, and overall forest management. This system is crucial for verifying that the project's objectives are being met in alignment with FSC standards, particularly those concerning sustainability, environmental protection, and social benefits.

The monitoring system will involve regular data collection and analysis to track the performance of various management activities. Key indicators will be identified to monitor the health and growth of bamboo plantations, soil and water quality, biodiversity levels, and the socio-economic impact on the participating farmers. This data will be collected through a combination of field surveys (using UGAO mobile application), remote sensing technology, and community-based monitoring efforts enabled by technology, ensuring comprehensive coverage and accuracy.

The monitoring process will be divided into several key areas:

- **Environmental Monitoring:** This will focus on assessing the ecological impacts of the project, including monitoring biodiversity, soil health, and water usage. Regular environmental assessments will be conducted to ensure that the bamboo cultivation practices are not leading to negative impacts such as soil erosion, water depletion, or the loss of native species. The introduction of bamboo on previously barren lands will also be monitored to assess its role in land restoration and carbon sequestration.
- **Social Monitoring:** The social impact of the project on the local communities and participating farmers will be regularly assessed. This will include monitoring income generation, and the equitable distribution of benefits among the farmers. Feedback from the community will be actively sought through stakeholder consultations, ensuring that any social issues are promptly addressed.

- **Compliance Monitoring:** The project will also establish a system for monitoring compliance with all relevant laws, regulations, and FSC standards. This will involve periodic audits and inspections by both internal and external bodies to verify that all activities are being carried out in accordance with the legal and certification requirements.
- **Reporting and Adaptive Management:** The results of the monitoring activities will be documented and reviewed regularly. This information will be used to produce reports for stakeholders, including farmers, local authorities, and certification bodies. The project will use an adaptive management approach, where the monitoring data is analyzed to identify areas for improvement and management practices are adjusted accordingly to enhance the sustainability and effectiveness of the project.

H. Environmental and Social Impact of the Project:

The environmental and social impacts of the project are carefully assessed and managed to ensure that the activities align with the principles of sustainability and community well-being. The project, which involves the cultivation and management of bamboo across 986.6 hectares of previously barren land, has been designed to have a predominantly positive or neutral impact on the local environment and social fabric.

Environmental Impact:

The environmental impact of the project is primarily positive, given that bamboo is a highly sustainable crop known for its rapid and regenerative growth and ability to restore degraded lands. The introduction of bamboo on previously barren or underutilized lands in Chikmagalur, Shivamogga, and Hassan districts of Karnataka and Pune, Nashik and Dharashiv districts of Maharashtra contributes to soil stabilization, carbon sequestration, and increased biodiversity. Bamboo's extensive root system helps prevent soil erosion, improve soil health, and enhance water retention, which is particularly beneficial in areas prone to degradation.

No invasive species have been introduced through this project, ensuring that the native ecosystems remain undisturbed. Additionally, the irrigation requirements for bamboo are minimal, reducing the potential for water resource depletion. The project has been planned and implemented so that it does not encroach upon or negatively impact any natural or converted forest lands, as all cultivation occurs on private plantations.

Social Impact:

The social impact of the project is also significant, particularly in terms of economic benefits and community development. The project engages small and marginal landholding farmers from socially and economically marginalized communities living in the remotest parts of these states. By engaging 6196 farmers organized into Mutual Benefit Trusts (MBTs), the project provides a stable source of income for small and marginalized farmers from rural and tribal communities through bamboo cultivation, which is both lucrative and sustainable. The formation of MBTs enhances internal

governance, collective decision-making, and fair distribution of profits, ensuring that all participating farmers benefit equitably from the project.

In addition to economic gains, the project strongly focuses on capacity building and empowerment of local communities. Training programs are provided to farmers to enhance their skills in sustainable agriculture, forest management, and compliance with FSC standards. This improves the farmers' livelihoods and fosters a sense of ownership and responsibility towards sustainable land use and environmental stewardship.

I. Conservation of Rare Species and High Conservation Values:

The project strongly emphasizes the conservation of rare species and the protection of areas with high conservation values (HCVs). Although the project area itself primarily consists of private plantations and previously barren land, its proximity to ecologically significant regions within the Chikmagalur, Shivamogga, and Hassan districts as well as Pune, Nashik and Dharashiv districts in Maharashtra necessitates careful planning to ensure that no adverse impacts are inflicted on local biodiversity.

Conservation of Rare Species:

The project has been meticulously designed to avoid any negative impact on rare or endangered species in the surrounding ecosystems. During the initial environmental assessments, the presence of any rare species was carefully documented, and measures were put in place to ensure their habitats remained undisturbed. The bamboo cultivation areas, being previously barren or degraded lands, do not overlap with critical habitats of rare species, thereby minimizing the risk of habitat loss or fragmentation.

High Conservation Values (HCVs):

High conservation value areas, which may include regions with significant biodiversity, critical habitats, or areas important for local communities, are identified and protected within the broader landscape surrounding the project. A list of HCVs located within the Forest Management Units (FMUs) is identified and recorded; the project acknowledges the importance of these areas and incorporates strategies to protect them indirectly. Buffer zones will be maintained around adjacent HCVs to prevent potential disturbances from project activities such as planting or harvesting.

HCV Management Plan

The primary objective of HCV management is to identify, protect, and maintain HCVs within the management unit in line with Principle 9. HCVs are areas of critical importance for biodiversity, ecosystem services, community needs, or cultural values. The management plan will ensure to apply a precautionary approach to ensure these values are preserved and enhanced starting with:

a) Identification of HCVs: The project will conduct a systematic assessment of the management unit to locate HCV areas. This includes checking for rare or endangered species, water sources, erosion-

prone zones, community resource areas, and culturally significant sites. Farmers will be trained to use simple checklists and maps to mark these areas accurately.

b) Protection Measures: Once HCVs are identified and mapped, we will implement measures to prevent any harm/impact to the HCV. The project will ensure farmers will avoid tree cutting, land clearing, construction of roads/infrastructure or chemical use etc. as applicable in these zones. Buffer areas will be maintained around streams and sacred sites. Any threats or natural hazards such as fire will be reported immediately. These actions ensure that management practices do not damage or destroy HCVs.

c) Farmer Commitments: The project will ensure that each farmer commits to preserve identified HCVs and follow the prescribed protection measures. These commitments will be documented and communicated through training sessions and visual guides.

d) Monitoring and Verification: Internal audits will verify compliance by checking HCV maps, farmer records, and physical conditions of the sites. Training attendance and understanding will also be assessed. Continuous monitoring will help maintain and enhance these values over time.

By implementing this plan, we intend to safeguard HCVs viz. biodiversity, protect community resources, and uphold cultural heritage, ensuring sustainable forest management for future generations.

Riparian Management Zone (RMZ): No RMZ was found within the or nearby project boundaries.

J. Maps of the forest showing protected areas, planned management, and land ownership:

The Indus Tree Crafts Foundation collected documents like identity proof and the record of ownership (Land Patta, ID card, consent form) to prove that the land is owned by individual farmers and that it is not common land or forest land. Indus Tree Crafts Foundation is committed to keeping the land proof in our records for five years or as per the certification cycle. Indus Tree Crafts Foundation also draws digital maps of all the group members' land with the help of digital resources, along with the baseline details about the ecosystem and biodiversity of the area. As all the lands belong to individual farmers, no such protected area is found within the FMUs. All the maps of the plantation area are already plotted and given in the plan.

K. Description and Justification of Harvesting Techniques and Equipment:

The harvesting techniques and equipment selected for this project have been carefully chosen to ensure sustainability, efficiency, and minimal environmental impact in alignment with FSC standards and the project's overarching objectives.

Harvesting Techniques:

The primary harvesting technique employed in this project is selective cutting. This method involves the careful selection and cutting of mature bamboo culms, leaving the younger ones to continue

growing. This technique is particularly suitable for bamboo cultivation, as it allows the plants to regenerate naturally, ensuring a continuous cycle of growth and harvest. Selective cutting not only sustains the productivity of the bamboo stands but also minimizes soil disturbance and prevents the degradation of the plantation area.

To further enhance sustainability, the project incorporates a staggered harvesting schedule. This approach spreads harvesting activities across different plots over time, reducing pressure on any single area and allowing for natural recovery. The rotation system is based on the bamboo species' growth cycle, ensuring that each plot is harvested only when the culms have reached optimal maturity.

Equipment:

The equipment selected for harvesting bamboo includes hand tools like machetes and pruning saws, as well as light mechanized tools where necessary. Hand tools will be used to minimize soil compaction, reduce fuel consumption, and prevent damage to surrounding vegetation. In areas where the use of mechanized tools is necessary due to the density or maturity of the bamboo, lightweight and low-impact machinery will be utilized. This ensures that the impact on the soil structure is minimized, preventing erosion and maintaining soil health.

Additionally, transport within the plantation areas is conducted using small, low-impact vehicles designed to navigate the terrain without causing significant soil compaction or damage to the bamboo stands. This careful equipment selection reflects the project's commitment to balancing operational efficiency with environmental responsibility.

L. Natural Hazard Management Plan – Fire Risk

Fire has been identified as a natural hazard in some of the the areas where management units are located. To minimize the risk and potential impact of fire, the organization adopts a comprehensive approach that combines preventive measures, monitoring, and emergency response. The first step is to create effective firebreaks by clearing all shrubs, grass, and dry vegetation within a five-meter radius around the plantation boundary. This reduces the accumulation of combustible material and acts as a buffer zone. In addition, four-to-five-foot-wide fire lines are constructed at strategic points, and three-by-three-foot trenches are dug along the plantation perimeter to serve as physical barriers against fire spread. In high-risk areas, farmers will be advised to plant evergreen and fire-resistant tree species such as Neem or Pongamia along the borders, creating a natural shield that slows down wind-driven flames. Regular removal of dry bamboo leaves and litter during peak fire season helps reduce fuel load within the plantation.

Monitoring and preparedness are critical components of the plan. Seasonal inspections of firebreaks and trenches are carried out before summer and after the monsoon to ensure their effectiveness. During high-risk months, weekly patrols are conducted, and the organization subscribes to local fire danger alerts from the government departments for early warning. The organization will issue a designated emergency helpline number for farmers to contact in the event of fire. Farmers can reach out to the helpline number and report the incident using the helpline number and seek necessary

support from the local fire department or other relevant government authorities. In the event of a fire, the priority is to evacuate farmers, if they are in the vicinity and inform local authorities. Fire containment measures rely on the use of fire lines, trenches, and water application to control the spread. If any bamboo plants are burnt, they are watered thoroughly every three days for two weeks to aid recovery and minimize long-term damage. All preventive and response activities, including maintenance of firebreaks, training sessions, and fire incidents, are documented in a Fire Management Log. The plan is reviewed annually or after any major fire event to incorporate lessons learned and ensure continuous improvement. These combined strategies significantly reduce fire risk and safeguard the plantation ecosystem in compliance with FSC Principle 10.9.

M. Management Activities Consistent with Ecological Requirements

The bamboo species managed under this project are self-regenerating and naturally resilient, ensuring sustainability of the resource. Harvesting is carried out selectively, targeting only mature culms, while younger culms are retained to grow and mature, maintaining the ecological balance and continuous regeneration of the stand. This practice aligns with the ecological requirements of bamboo and supports long-term sustainability and is in compliance with FSC Principle 10.1.

All bamboo species utilized within the management area are native and indigenous to the region. No alien or exotic species are introduced. The species list is verified through authoritative literature and references from leading national institutes and agencies specializing in bamboo research and development. This ensures compliance with FSC requirements for maintaining native biodiversity as per FSC Principle 10.3.

N. Community Relations and Workers' Rights

The organization shall contribute to the social and economic development of local communities.

The project is a smallholder-based program with low-intensity bamboo plantations, which actively promotes social and economic development through:

- Women-centric approach: Exclusive focus on women farmers for gender empowerment.
- Livelihood diversification: Bamboo provides an alternate income source for small and marginal farmers from rural and tribal backgrounds.
- Collective bargaining: Farmers are organized into groups, improving market access and negotiating power, leading to better economic prospects.

This aligns with FSC Principle 4.4, ensuring that forest management activities positively contribute to local socio-economic development.

The Organization shall avoid negative social, environmental, and economic impacts.

Bamboo cultivation under this program does not cause harm; instead, it delivers multiple benefits:

- Environmental: Bamboo prevents soil erosion, improves water retention, sequesters carbon, and releases oxygen.

- Social: Promotes gender inclusion, farmer-owned collectives, training, knowledge sharing, and asset building through bamboo-based enterprises.
- Economic: Provides sustainable alternate livelihoods, reducing vulnerability of rural incomes.
- Forestry management practices are minimal and restricted to micro and low-intensity plantations, ensuring no adverse impact on local communities or ecosystems.

This fulfils Principle 4.5, guaranteeing that management activities avoid negative impacts and enhance positive outcomes.

O. Duration of the plan:

The management plan is for a duration of 5 years. We will maintain all the documents and records compulsorily for a period of 5 years. We will review the management plan annually and take up necessary amendments/ changes based on implementing the FSC FM project year-to-year.

Name	Ms. Remya Devan
Designation	Project Manager
Contact Details	remya@industree.org.in +91 9746921288