NAINI PAPERS LIMITED

Forest Stewardship Council (FSC)
Forest Management (FM) Manual

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(Uttarakhand)

FSC- FM MANUAL

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ABOUT NAINI PAPERS

COMPANY (herewith refer as 'The Naini Papers' 'Naini' or 'We') is a leading manufacturer of writing and printing paper as well as copier paper in India, with a robust production capacity of 120,000 tons per annum. The Naini Papers is committed to quality, innovation, and sustainability has positioned us among the top players in the industry. The Naini Papers is dedicated to excellence is reflected to various certifications, including ISO 9001:2015 for maintaining high standards of quality and ISO 14001:2015 for environmental compliance and use of eco-friendly technologies. Additionally, the Naini Papers hold the OHSAS 45001:2018 certification, demonstrating strong commitment to operational health and safety.

We continuously strive to improve the quality of our existing products while developing new ones to meet the evolving needs of our customers. The Naini Papers products range includes non-surface sized paper, surface sized paper, and high-quality copier paper. The Naini Papers manufacturing facilities include two advanced production lines equipped with state-of-the-art technology for pulp and paper production. We follow stringent quality control measures to ensure consistency and excellence in every batch.

To enhance production efficiency and maintain superior product quality, we have implemented a high level of automation across various processes. This not only streamlines operations but also contributes to consistent output and reduced human error. As a highly environment-conscious Naini Papers, we are committed to the responsible use of natural resources. We have set industry benchmarks in both the quantity and quality of our effluent discharge, ensuring minimal environmental impact.

We are proud to be associated with leading global technology partners such as Valmet, Voith, Andritz, Siemens, ABB, Pasaban, among others. These collaborations enable us to integrate world-class technologies and practices into our operations. The Naini Papers CSR initiatives focus on enhancing infrastructure and the quality of education in government schools across Uttarakhand. As part of this effort, we have adopted 50 government schools for a period of 10 years, reaffirming our commitment to community development and long-term social impact.

Table of Content

TABLE OF GUIDELINES

TABLE OF POLICIES

Policy No.	Name of the policy
Policy No. 1	FSC Long Term Adherence Policy
Policy No. 2	Contracts of Contractors Policy
Policy No. 3	Farm Forestry Policy
Policy No. 4	Monitoring & Evaluation Policy
Policy No. 5	FSC Public Policy
Policy No. 6	Publicly Available Information Policy
Policy No. 7	Training and Development Policy
Policy No. 8	Wood Tracking Policy
Policy No. 9	Integrated Pest Management Policy
Policy No. 10	Pesticide Policy

Note: Please visit below- link for other policy of Naini Papers Limited.
https://naini.darwinbox.in/hrfiles/hrpolicy/employeepolicy/folder_id/all

1. Scope of the Manual

The scope of this manual is to define guidelines as per the requirements of FSC standard for group entities in forest management groups. The contents, evidences and records of this manual and outcome are subject to audit against the FSC –standard as per FSC-STD-30-005 (Version 2.0, FSC-STD-RAP-IND01-2022 Plantation for Smallholders (SLIMF) & FSC-STD-50-001-V2-1(Trademark)

This manual provides objectives of the Naini, Pesticide policy, Fire management, Complaint mechanism policy for illegal harvesting and Dispute resolution between members of Naini and equivalence report of Naini HCVFs V/s FSC HCVFs, equivalence report of FSC P & C V/s National &local Rules and regulations and Accepted Farm Management plan.

(Note- This manual is prepared following the- (Preferred by Nature) Final Interim Standard for Forest Management Certification in India under the Forest Stewardship Council, V2-1 and all procedures mentioned in the manual are in place and followed accordingly.)

2. Abbreviations used

AAH	Average Annual Harvest
AM	Adoptive Management
ARM	Adoptive Resource Management
CAI	Current Annual Increment
CITES	Convention on International Trade in Endangered Species
GBH	Girth at Breast Height
FMU	Forest Management Unit
FME	Forest Management Enterprise
HCVF	High Conservation Forest Value
ILO	International Labour Organization
MAI	Mean Annual Increment
MSL	Mean Sea Level
NTFP	Non-Timber Forest Products
RH	Relative Humidity
RTC	Record of Rights Tenancy & Crop

3. Listing of flora and fauna

List of Flora Found in Farm Management Districts- Uttarakhand

Table: 1 – Quick Facts:

Aspect	Quick Facts about Uttarakhand's Biodiversity
Total Forest Area	Covering about 70% of the state's total geographical area, providing a diverse habitat for various species.
Major Forest Types	Tropical Rain Forests, Temperate Forests, and Alpine Meadows.
Dominant Tree Species	Sal, Oak, Pine, Rhododendron, and Deodar.
National Parks	Jim Corbett, Rajaji, Nanda Devi, Valley of Flowers, and Gangotri.
Prominent Animals	Bengal Tiger, Indian Leopard, Snow Leopard, Himalayan Monal, and Asian Black Bear.
Endangered Species	Musk Deer, Himalayan Tahr, and Western Tragopan.
Medicinal Plants	Over 1,748 species, including Brahmi, Ashwagandha, and Kuth.
Bird Diversity	Home to more than 600 species of birds, making it a bird-watcher's paradise.
Unique Features	Presence of glacial meadows known as 'Bugyals' and dense bamboo jungles.

Table: 2 - The Flora found in Farm Management Districts - Uttarakhand

Type of Vegetation	Description & Notable Species
Tropical Rainforests	Located at lower elevations, these forests have a high density of Sal trees, Bamboo, and Semal trees.
Temperate Forests	Found in the mid-elevation areas, dominated by Oak, Pine, Rhododendron, and Horse chestnuts.
Alpine Meadows and Grasslands	Situated at high elevations, these grassy patches amidst the snowy ranges host herbs like Brahmi and Aconite.
Sub-Alpine & Coniferous Forests	Located just below the alpine level, characterized by Deodar, Pine, Fir, and Spruce trees.
Mixed Deciduous Forests	Combines a mix of trees like Sal, Teak, Shisham, and others, often interspersed with grassy clearings.
Tundra Vegetation	Found in the uppermost regions, characterized by mosses, lichens, and some hardy shrubs.
Medicinal Plants	Uttarakhand boasts a rich variety of medicinal plants like Ashwagandha, Kuth, and Brahmi, which are traditionally used in Ayurvedic treatments.
Riparian (Riverine) Vegetation	Plants that grow along the banks of rivers and streams, including Willow, Alder, and Chir pine.

Table: 3 - The Fauna found in Farm Management Districts – Uttarakhand

Type of Animal	Notable Species & Description
Mammals	Bengal Tiger: Found in Corbett National Park and Rajaji National Park. Indian Leopard: Widespread in forests. Snow Leopard: Resides in the upper alpine zones. Himalayan Black Bear: Commonly found in hilly forests. Musk Deer: Known for its musk, found in high-altitude regions.
Birds	Himalayan Monal: The state bird and a vibrant species of pheasant. Black Bulbul: Commonly seen in forested areas. Golden Eagle: Majestic raptor seen soaring over mountain ridges.
Reptiles	King Cobra: One of the most venomous snakes, found in forested areas. Himalayan Pit Viper: Typically found in hilly terrains.
Amphibians	Himalayan Newt: A rare amphibian species found in high-altitude lakes.
Fishes	Golden Mahseer: Found in the swift-flowing rivers of Uttarakhand.
Insects	Himalayan Honey Bee: Known for its medicinal honey. Firefly: Luminescent insect commonly seen during certain seasons.

Table: 4 -National Park, Wildlife Sanctuaries & Biosphere Reserve Farm Management Districts – Uttarakhand

Type	Name	Notable Species & Features
National Parks	Jim Corbett National Park	India's oldest national park; famous for Bengal tigers, leopards, and wild elephants.
	Rajaji National Park	Known for its elephant population, tigers, and over 400 bird species.
	Valley of Flowers National Park	A UNESCO World Heritage Site; renowned for its meadows of alpine flowers and diversity.
	Gangotri National Park	Encompasses the source of the Ganges; home to snow leopards, ibex, and tahr.
	Govind Pashu Vihar National Park and Sanctuary	Houses the snow leopard, Himalayan black bear, and tahr.
	Nanda Devi National Park	Another UNESCO World Heritage Site; habitat for snow leopard, Himalayan musk deer, and brown bear.
Wildlife Sanctuaries	Askot Musk Deer Sanctuary	Protects the endangered musk deer and its habitat.
	Binsar Wildlife Sanctuary	A bird watcher's paradise with over 200 species; also houses leopards and barking deer.
	Kedarnath Wildlife Sanctuary	Habitat for the Himalayan monal, snow leopard, and musk deer.
	Sonanadi Wildlife Sanctuary	Part of the Corbett Tiger Reserve; home to tigers, elephants, and reptiles.
Biosphere Reserves	Nanda Devi Biosphere Reserve	Incorporates Nanda Devi National Park and the Valley of Flowers; UNESCO recognized.

4. Glossary

Administrative requirements: Administrative rules, procedures or regulations that have been promulgated to carry out laws.

Age class: Intervals into which the age range of a tree crop is divided; also, the trees falling into such an interval.

Aquatic habitat: Habitat for plants and animals that has surface water essential to an organism's survival, as differentiated from wetland habitats characterized by saturated soils or riparian zones. Examples include streams, ponds, and vernal pools.

Best Management Practices (BMPs): A practice or combination of practices considered by a state (or authorized tribe) to be the most effective means (including technological, economic and institutional considerations) of preventing or reducing environmental or social impacts, including for water, roads, runoff, etc. BMPs are generally identified by states or tribal entities and, in the case of water quality, approved by the US Environmental Protection Agency.

Baseline Conditions: Ecological, economic, and social conditions at the beginning of a planning or management cycle.

Best available information: The most pertinent, thorough, and credible information that is publicly available and readily accessible to a Forest owner or manager. Determining "best available" among a variety of sources may include comparing the nature of the source (e.g., stage agency, university, private Naini Papers), the date of development of the information, and the applicability of the information itself.

Biological control agents: Living organisms used to eliminate or regulate the population of other living organisms.

Biological diversity (also Biodiversity): The variability among living organisms from all sources including interalia, terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which are a part, including diversity within species, between species and of ecosystems (Convention on Biological Diversity, 1992).

Biological diversity values: The intrinsic, ecological, genetic, social, economic, scientific, educational, cultural, recreational, and aesthetic values of biological diversity and its components (Convention on Biological Diversity, 1992).

Buffer/buffer zone: A strip of vegetation that is left or managed to reduce the impact of a treatment or action of one area on another. See also Riparian Management Zone and Streamside Management Zone.

Catastrophic natural disturbances: The natural events that occur infrequently (i.e. on a time scale of decades or centuries), and that significantly alter the Forest at the landscape level.

Certifying Body (CB): An FSC-accredited third-party auditor

Chain of custody (CoC): The channel through which products are distributed from their origin in the Forest to their end-use.

Chemicals (chemical pesticides): The range of insecticides, fungicides, fertilizers, and hormones that are used in Forest management.

Coarse woody debris: Dead trees left standing or fallen and the remains of branches on the ground in Forests.

Conservation zone: Areas designated within which maintenance and/or restoration of such species and community type(s) are the highest priority. Harvesting timber and other uses are allowed within conservation zones if they protect and/or enhance the species or community type(s).

Conversion: The modifications to the structure and dynamics of a Forest as a result of management activities, resulting in a significant reduction in the complexity of the Forest system; or the transformation of a Forest into a permanently non-Forested area; or the transformation of a natural Forest into a plantation.

Credible scientific analysis: Scientific opinions supported by data and explanations in articles published by peer-reviewed professional journals that deal with the natural or social sciences and judges to be relevant to the matter in questions. Credible scientific analysis may also include non-peer reviewed studies when conducted by qualified professionals in accordance with accepted scientific methods. Scientific credibility, as it applies to this Standard, is based on a body of scientific work and on the judgment of experienced professionals.

Criterion (pl. Criteria): A means of judging whether or not a principle (of Forest stewardship) has been fulfilled.

Culmination of Mean Annual Increment (CMAI): The peak average yearly growth in volume of trees or a Forest stand, calculated by dividing the total volume by the age of the stand.

Cumulative effects/ impacts: Individual consequences of an action or repeated actions, which may or may not be observable, that reinforce one another as they occur over time until they cross a threshold and manifest as a stronger outcome than any of the individual consequences would be by themselves.

Customary tenure: Rights that result from a long series of habitual or customary actions, constantly repeated, which have, by such repetition and by uninterrupted acquiescence, acquired the force of a law within a geographical or sociological unit.

Desired Future Condition: A description of the Forest and/or resource conditions that are believed necessary if goals and objectives are fully achieved. Desired Future Condition typically includes Forest attributes such as Forest structure, age class distribution, species composition, standing timber quality, and stand arrangement. For the purposes of this Standard, managing for desired future conditions implies that all other requirements in this Standard have been fully met.

Development Stage (development): The series of stand development stages characteristic of the Forest community type and natural disturbance regime as measured by tree size and vertical stand structure. Stand development stages range from early regeneration through old growth.

Dispute: A dispute exists when the parties have exhausted consultative avenues to resolve their differences and the following occurs: a person or persons whose rights or interests are directly affected by the Forest manager's activities gives written notice to the manager, indicating that they wish to pursue a dispute resolution process and specifying which rights or interests are affected, by which management activities, in which location, and what modifications are

considered appropriate to avoid or mitigate impacts on the rights or interests; OR, the manager gives written notice to the disputant, in order to trigger the dispute resolution process and bring closure to the disagreement.

Downed woody debris: Wood from fallen trees or branches that lie on the Forest floor, where it provides important microhabitats and performs the various functions of nutrient cycling. Downed woody debris is commonly categorized as large and/or coarse or fine woody debris.

Ecological Community: An area defined by its dominant vegetation using the International Classification of Ecological Communities; an Association or Alliance as used by Nature Serve, or a Natural Community as used by some state 'natural heritage programs' (actual agency name may vary by state).

Ecosystem (also Ecological System): A group of plant community types that tend to co-occur within landscapes with similar ecological processes, substrates, and/or environmental gradients. A given terrestrial ecological system will typically manifest itself in a landscape at intermediate geographic scales of 10s to 1,000s of hectares and persist for 50 or more years. Therefore, these units are intended to encompass common successional pathways for a given landscape setting. Note: "plant community types" refers to associations or alliances. (Source: Nature Serve, 2008,)

http://www.natureserve.org/explorer/classeco.htm#terr_ecological).

Ecosystem services: Functions performed by natural ecosystems that benefit human society, such as hydrological services (water supply, filtration, flood control), protection of the soil, breakdown of pollutants, recycling of wastes, habitat for economically important wild species (such as fisheries), and climate regulation.

Endangered species: A species officially designated by the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, or a state wildlife program as having its continued existence threatened over all or a significant portion of its range.

Erosion: The displacement of soil from one place to another by any means; including water, wind, gravity, logging, and road building.

Even-aged silviculture: Silvicultural systems in which stands of trees of roughly the same age and size are grown and harvested simultaneously. Even-aged systems may involve intermediate entries that remove some trees before the final, or "regeneration" harvest, when a new even-aged class of trees is established. A regeneration harvest is designed to remove all or most of the trees within a defined age/size class, or to convert a stand containing trees having a variety of ages, sizes, or species to a more uniform stand. The timing of the regeneration harvest is termed the "rotation age" of the timber stand. Even-aged silvicultural systems include clear-cut, seed-tree, shelter-wood, two-age silviculture, and variable retention systems. Even-aged management units may contain more than one age/size class of trees on the site at any one time for silvicultural reasons or environmental enhancement. For instance, a variable retention system typically retains 10-25% of the vegetative cover present before harvest on site and intermixed with the new even-aged stand, to maintain structures and functions important for wildlife. Classic shelter-wood and seed tree cuts retain mature trees from the harvested stand during the establishment of the next crop of trees, but these are taken out during a "removal" harvest to leave one age/size class for future management.

Exotic species (exotic plant species): An introduced species not native or endemic to the area in question. For the purpose of this Standard, exotic plant species are those not native to the Forest community type that would naturally be found there.

Family Forest (also Small Forest): A Forest up to 2,470 acres in size, as defined by the FSCUS's Family Forest Program (SLIMF) Streamlined Certification Procedures (FSC-POL-20-101 at http://www.FSCus.org/documents/).

Forest: (1) The property or portions of a property that is under certificate or being assessed for certification; the corresponding FSC International nomenclature is 'Defined Forest Area.' (2) Generally, an ecosystem characterized by tree cover; more particularly, a plant community predominantly of trees and other woody vegetation that is growing closely together.

Forest integrity: The composition, dynamics, functions, and structural attributes of a natural Forest.

Forest Management Unit (FMU): A unit of Forest under the FSC certificate managed under a single management plan. A Forest management unit may consist of single or multiple parcels.

Forest management/manager: The person(s) responsible for the operational management of the Forest resource and of the enterprise, as well as the management system and structure, and the planning and field operations.

Forest owner: A person, group, corporation, public agency, or other legal entity with legal title to a Forest property.

Forest workers (workers): Employees of contractors, overlapping or third-party licensees, as well as employees of the applicant firm and subcontractors. Both union and non-union workers are included.

FSC member (FSC membership): a person or organization who is a member of the Forest Stewardship Council. This is different from a certificate holder, who maintains a Forest Management or Chain-of-Custody certificate.

GAP Status: *GAP Land Protection Status:*

> ***Status 1:*** An area having permanent protection from conversion of natural land cover and a mandated management plan in operation to maintain a natural state within which disturbance events (of natural type, frequency, and intensity) are allowed to proceed without interference or are mimicked through management. (Concept: Wilderness Designation, Ecological Reserve, etc.).
>
> ***Status 2:*** An area having permanent protection from conversion of natural land cover and a mandated management plan in operation to maintain a primarily natural state, but which may receive use or management practices that degrade the quality of existing natural communities. (Concept – Park or Natural Area).
>
> ***Status 3:*** An area having permanent protection from conversion of natural land cover for the majority of the area, but subject to extractive uses of either a broad, low-intensity type or localized intense type. It also confers protection to federally listed endangered and threatened species throughout the area. (Concept: public or private Forest with timber extraction subject to a conservation easement).
>
> ***Status 4:*** Lack of irrevocable easement or mandate to prevent conversion of natural habitat types to anthropogenic habitat types. Allows for intensive use throughout the tract. Also includes those tracts for which the existence of such restrictions or sufficient information to establish a higher status is unknown. (Concept: unrestricted Forest lands).

Genetically modified organisms: Biological organisms that have had their genetic material artificially altered in a way that does not occur naturally by mating or natural recombination or both. Examples of techniques covered by this definition include:

Recombinant DNA techniques using viral or bacterial vectors

The direct introduction of DNA into an organism, eg by microinjection

Cell fusion or hybridization

Clones, hybrids formed by natural pollination processes, or the products of tree selection, grafting, vegetative propagation, or tissue culture are not GMOs, unless produced by GMO techniques.

Habitat: (1) Those parts of the environment (aquatic, terrestrial, and atmospheric) often typified by a dominant plant form or physical characteristic, on which an organism depends, directly or indirectly, in order to carry out its life processes. (2) The specific environmental conditions in which organisms thrive in the wild.

Harvest unit: a spatial unit of Forest management that defines a single harvest prescription.

High Conservation Value Forests (HCV): High Conservation Value Forests possess one or more of the following attributes:

1. Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia).
2. Forest areas containing globally, regionally or nationally significant large landscape level Forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.
3. Forest areas that are in or contain rare, threatened, or endangered ecosystems.
4. Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control)
5. Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health).
6. Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

High grading (high-grade logging): the practice of removing higher quality trees in favour of removing lower quality trees.

Historic Conditions: Ecological conditions and processes existing prior to substantial modern human disturbance of the site, based on best available information.

Indigenous lands and territories: The total environment of the lands, air, water, sea, sea-ice, flora and fauna, and other resources that indigenous peoples have traditionally owned or otherwise occupied or used.

Indicator: A specific requirement in the FSC-US Forest management standard, subordinate to the Principles and Criteria.

Indigenous peoples: The existing descendants of the peoples who inhabited the present territory of a country wholly or partially at the time when persons of a different culture or ethnic origin arrived there from other parts of the world, overcame them and by conquest, settlement, or other means reduced them to a non-dominant or colonial situation; people who today live more in conformity with their particular social, economic, and cultural customs and traditions than with the institutions of the country of which they now form a part. In the US, Indigenous peoples are recognized members of American Indian tribes, Native American, Nations, Bands, Rancherias, and Tribal Corporations, recognized by those particular tribes They may include groups that have not been officially recognized by the Federal government. Members may include persons who have either married into or been adopted by American Indian families.

Integrated Pest Management: A pest or weed management strategy that focuses on long-term prevention or suppression of pest or weed problems through a combination of techniques such as encouraging biological control, use of resistant varieties, and adoption of alternate cultural practices to make the habitat less conducive to pest development.

Intermittent stream: A mapped or unmapped stream that typically flows for less than twelve months of the year and/or that flows below ground for portions of its length.

Invasive species: A species capable of rapid reproduction and spatial expansion, which may displace more specialized native species and/or is difficult to eradicate. Invasive species are of particular ecological concern if they are exotic to the area in question.

Landscape: For the purposes of this Standard, the term "Landscape" refers to a delineation of land area that captures similar environmental and ecological conditions including climate, geology, soils, and biology. USFS defined Ecological Sections (Cleland 2005, update of Bailey/USFS) or smaller units are recommended for use to define landscape for purposes of RSA establishment and assessment (discussion and map available at http://www.natureserve.org/explorer/eodist.htm#ecoregions For many other purposes, "landscapes" will often occur at smaller scales than ecological sections. In some contexts, "landscape" as used in this Standard simply refers to consideration of the area surrounding a particular site.

Large Forest (also large ownership): A Forest greater than 50,000 acres in size.

Late successional: Forest in old-growth or mature seral stages.

Legacy Tree: A tree, usually mature or remnant of old growth, that provides a biological legacy. For the purposes of this Standard, it is an individual old tree that functions as a refuge or provides other important structural habitat values.

Local: Adjacent to the Forest, or in other ways show significant impact from Forest operations. On public lands, this also includes all citizens of the relevant entity (county, city, or state).

Local communities: Those communities that lie either within or adjacent to the FMU, or in other ways show significant impact from Forest operations. On public lands, this also includes all citizens of the relevant entity (county, city, or state).

Local laws: All legal norms given by organisms of government whose jurisdiction is less than the national level, such as departmental, municipal and customary norms.

Long term: The time-scale of the Forest owner or manager as manifested by the objectives of the management plan, the rate of harvesting, and the commitment to maintain permanent Forest cover. The length of time involved will vary according to the context and ecological conditions, and will be a function of how long it takes a given ecosystem to recover its natural structure and composition following harvesting or disturbance or to produce mature or primary conditions. This may extend beyond the duration of a certificate.

Mid-Sized Forest: A Forest between 2,475 and 50,000 acres in size.

Native species: Species that naturally occur within the Forest community type; endemic to the area.

Natural cycles: Nutrient and mineral cycling as a result of interactions between soils, water, plants, and animals in Forest environments that affect the ecological productivity of a given site.

Natural disturbance regime: Disturbance processes such as wind, fire, insects, and pathogens that are characteristic of the Forest ecosystem, site, and region. Disturbance regimes are typically characterized by the range of extent, intensity, and return interval of a similar event expected for a given site. For the purposes of this Standard, non-***catastrophic natural disturbance*** should be the focus of analysing for natural disturbance.

Natural Forest: Natural Forests include old growth and primary Forests as well as managed Forests where most of the principal characteristics and key elements of native ecosystems such as complexity, structure, wildlife and biological diversity are present. See also semi-natural Forests.

Non-timber Forest products (NTFP): All Forest products except timber, including other materials obtained from trees such as resins and leaves, as well as any other plant and animal products.

Old growth: (1) the oldest seral stage in which a plant community is capable of existing on a site, given the frequency of natural disturbance events, or (2) a very old example of a stand dominated by long-lived early- or mid-seral species. The onset of old growth varies by Forest community and region. Depending on the frequency and intensity of disturbances, and site conditions, old-growth Forest will have different structures, species compositions, and age distributions, and functional capacities than younger Forests. Old-growth stands and Forests include:

> **Type 1 Old Growth:** three acres or more that have never been logged and that display old-growth characteristics.
>
> **Type 2 Old Growth**: 20 acres that have been logged, but which retain significant old-growth structure and functions

Pathogen: Any agent that causes disease, especially microorganisms, such as bacteria or fungi.

Perennial stream: A mapped or unmapped stream that contains water year-round.

Pesticide: A substance used to kill or control harmful, competitive, or destructive organisms.

Planning Unit: The specific geographic area for which a sustained yield harvest level is being calculated. Planning Units should generally be comprised of land that contains similar or commonly associated Forest types. Depending upon the scale of ownership, Planning Units may range in size from a single stand (for example small, private

landowners) to entire watersheds. A Planning Unit may include the entire Forest Management Unit if not larger than watersheds.

Plant community (plant community type): See ecological community.

Plantation: Forest areas lacking most of the principal characteristics and key elements of native ecosystems as defined by FSC-approved national and regional standards of Forest stewardship, which result from the human activities of either planting, sowing or intensive silvicultural treatments (source: FSC-STD-01-001).

The use of establishment or subsequent management practices in planted Forest stands that perpetuate the stand-level absence of most ***principle characteristics and key elements of native Forest ecosystems*** will result in a stand being classified as a plantation. The details addressing ecological conditions used in stand-level classification are outlined in related guidance. Except for highly extenuating circumstances the following are classified as plantations:

- cultivation of ***exotic species*** or recognized exotic sub-species;
- block plantings of cloned trees resulting in a major reduction of within-stand genetic diversity compared to what would be found in a natural stand of the same species;
- Cultivation of any tree species in areas that were naturally non-Forested ecosystems.

Precautionary principle/approach: This principle establishes that a lack of information does not justify the absence of management measures. On the contrary, management measures should be established in order to maintain the conservation of the resources (http://www.fao.org/docrep/006/X8498E/x8498e04.htm); an approach to the management of risk when scientific knowledge is incomplete(http://www.croplifeasia.org/biotechnology-glossary.html)

Primary Forest: A Forest ecosystem with the principal characteristics and key elements of native ecosystems, such as complexity, structure, diversity, an abundance of mature trees, and that is relatively undisturbed by human activity. Human impacts in such Forest areas have normally been limited to low levels of hunting, fishing, and very limited harvesting of Forest products. Such ecosystems are also referred to as "mature," "old-growth," or "virgin" Forests. See also old growth.

Principle: An essential rule or element; in FSC's case, of Forest stewardship.

Protected areas: A portion of the Forest of special biological, cultural or historical significance that is designated, mapped, and managed principally to protect its biological, cultural or historic attributes. Management activities (including logging) for any purposed other than ecological improvements are prohibited in protected areas.

Public Forest: Forestland held in government ownership in trust for the citizens of a city, county, state, or nation. For the purposes of this Standard, public land refers to non-federal public land.

Rare ecological community (including plant community): Those ecological communities that have been identified by state or federal agencies, or natural heritage databases to be rare, consistent with the parameters for determining RTE species.

Rare, threatened and endangered species (RTE): species that are federally-listed (i.e., by the US Fish and Wildlife Service or National Marine Fisheries Service) or state-listed (i.e., by state natural heritage or other state agencies) as threatened, endangered, or sensitive; and species that are listed by the Natural Heritage Database or Nature Serve as critically imperilled, imperilled, or vulnerable. This includes all G1-G3 and S1-S2 species. Some S3-ranked species, including all S3 species that are listed as candidates for federal or state listing will also be considered rare. Other S3 species may be considered rare based on the assessment by the landowner or manager conducted under Criterion 6.1.a.

Refugia: (plural) habitat in which a population can persist and from which it can disperse when the surrounding habitat becomes suitable for it to live in; locations and habitats that support populations of organisms that are limited to a small fragment of their previous geographic range.

Regeneration Harvest: Any removal of trees intended to assist regeneration already present or to make regeneration possible.

Restore (Restoration): The process of modifying a habitat or ecosystem to introduce or reintroduce composition, structures, and functions that are native to the site.

Restoration plantation (Restoration planting): A stand established through artificial regeneration that will be managed with a central goal of returning a site to a natural Forest condition.

Representative Sample Areas: Ecologically viable representative samples designated to serve one or more of three purposes: 1) To establish and/or maintain an ecological reference condition; or 2) To create or maintain an under-represented ecological condition (i.e., includes samples of successional phases, Forest types, ecosystems, and/or ecological communities; or 3) To serve as a set of protected areas or refugia for species, communities and community types (e.g. developmental stages) not captured in other Criteria of this Standard (e.g. to prevent common ecosystems or components from becoming rare).

Retention: Living vegetation, including trees, shrubs, and herbaceous species, that is retained during even-aged and two-aged regeneration harvests.

Riparian zone: A zone of interaction between aquatic and terrestrial ecosystems along streams, lakes, wetlands, and other water bodies. Riparian areas both influence water bodies and are influenced by them, and include both plant and wildlife habitats that are influenced by the proximity to aquatic ecosystems.

Riparian management zone (RMZ): A strip of land, adjacent to streams, lakes, wetlands, and other water bodies managed to conserve plant and wildlife habitats characteristic of the riparian zone and to protect adjacent aquatic habitats and water quality. An RMZ may vary in width depending on the habitat values specific to the site (e.g, stream or wetland type) and may be wider than a stream management zone designed solely to protect water quality and aquatic habitat.

Rutting: The creation of depressions made by tires and treads of mechanical equipment such as trucks, skidders, tractors, all-terrain vehicles (ATV), and other equipment. Rutting may occur in the general harvest area and on facilities such as roads and skid trails. Ruts may result from harvest operations or other uses such recreational ATV use.

Semi-natural Forest: A Forest ecosystem with many of the characteristics of native ecosystems present. Semi-natural Forests exhibit a history of human disturbance (e.g., harvesting or other silvicultural activities), are very common in the United States, and include a considerable amount of unmanaged and most of the managed Forest land other than plantations.

Silviculture (Silvicultural): The art of producing and tending a Forest by manipulating its establishment, composition, and growth to best fulfil the objectives of the owner. This may, or may not, include timber production.

Slope: The incline of the land surface measured in degrees from the horizontal or in percent as determined by the number of units change in elevation per 100 of the same measurement units; also characterized by the compass direction in which it faces.

Small Forest: See 'Family Forest'.

Snag: A standing dead tree.

Soil: Earth material (rock) so modified by physical, chemical, and biological agents that it will support rooted plants. Soil also includes organic material, biotic communities and species that live in the ground and that contribute to their ecological productivity.

Special areas: Areas with important ecological or cultural values where timber management is modified to conserve those values.

Species: The main category of taxonomic classification into which genera are subdivided, comprising a group of similar interbreeding individuals sharing a common morphology, physiology, and reproductive process.

Species composition: The species that occur on a site or within an ecosystem at any point in time.

Stand: Plant communities, particularly of trees, sufficiently uniform in composition, constitution, age, spatial arrangement, or condition to be distinguished from adjacent communities; also, may delineate a silvicultural or management entity.

Streamside Management Zones (SMZs): Land and vegetation areas next to lakes and streams where management practices are modified to protect water quality, fish, and other aquatic resources. These areas are complex ecosystems that provide food, habitat and movement corridors for both water and land communities. Also, because these areas are next to water, SMZs help minimize nonpoint source pollution to surface waters. In the Appalachia, Ozark-Ouachita, Southeast, MississIPi Alluvial Valley, Southwest, Rocky Mountain, and Pacific Coast regions, there are requirements for minimum SMZ widths and explicit limitations on the activities that can occur within those SMZs. These are outlined as requirements in Appendix E.

Structural diversity: The diversity in a plant community that results from the variety of physical forms of the plants within the community (such as the layering of vegetation into groundcover, shrub layer, as well as understory, mid-story, and overstory trees).

Succession: Progressive changes in species composition and Forest community structures caused by natural processes (non-human) over time.

Sustained yield harvest levels: harvest levels and rates that do not exceed growth over successive harvests, that contribute directly to achieving desired future conditions, and that do not diminish the long-term ecological integrity and productivity of the site. The sustained yield harvest level specific to the certified FMU is based on calculations made according to Indicator 5.6.a in this Standard.

Tenure (also long-term tenure, legal tenure, tenure claim, customary tenure): Socially-defined agreements held by individuals or groups, recognized by legal statutes or customary practice, regarding the 'bundle of rights and duties of ownership, holding, access and/or usage of a particular unit of land or the associated resources therein (such as individual trees, plant species, water, minerals, etc).

Threatened species: Any species officially designated by a state or federal agency, which is likely to become endangered within the Forest able future throughout all or a significant portion of its range.

Traditional knowledge: Legal rights of ownership that individuals and corporations have over products of their creativity and inventiveness. In the context of Principle 3, intellectual property includes rights claimed by indigenous peoples over their traditional cultural knowledge about the use of Forest species or management systems in Forest operations, particularly in instances where that knowledge is commercialized.

Use rights (also: rights of use): Rights for the use of Forest resources that can be defined by local custom, mutual agreements, or prescribed by other entities holding access rights. These rights may restrict the use of particular resources to specific levels of consumption or particular harvesting techniques.

Usufruct rights: see 'Use rights'.

Vernal pool (vernal pond): A seasonal body of water, typically a self-contained depression, that contains species not normally found in perennial water bodies. Vernal pool types, species, and identification will vary by region. Vernal pools that occur in eastern and midwestern Forests are characterized by a unique suite of amphibian and invertebrate species. In Mediterranean-type climates (i.e., wet winters and dry summers), especially on coastal terraces in southwestern California, the central valley of California, and areas west of the Sierra Mountains, the term vernal pool applies to shallow, seasonally flooded wet meadows with emergent hydrophytic vegetation and invertebrate species not found in other wetland types.

Water quality: Timing and volume of water flow and the purity of water determined by a series of standard physio-chemical parameters (e.g., turbidity, temperature, bacterial count, pH, and dissolved oxygen), or by biological parameters (e.g., community composition and functionality), as well as the incidence of disease.

Wetland: Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas (US EPA).

Woody debris: All woody material, from whatever source, that is dead and lying on the Forest floor.

5. Compendium of Laws

Naini is conducting its Plantation and allied works as per relevant/applicable laws.

- FSC Principles & Criteria
- Environment (Protection) Act, 1986, amended 1991
- Water (Prevention & Control of Pollution) Act,1974, amended in1988
- Water (Prevention & Control of Pollution) Cess Act,1977, amended1992
- S.O.1677(E),[28/09/2007]–Amendments to S.O.671(E), dated30/09/1996 Loss of Ecology (Prevention & Payments of Compensation)
- The Public Liability Insurance Act,1991 amended 1992
- The Indian Wildlife (Protection)Act,1972, amended 1993
- The Wild Life (Protection) Amendment Act, 2002
- Forest (Conservation) Act,1980, amended 1988
- Biological Diversity Act, 2002

List of various Central Labour Acts in India from the Ministry of Labour and Employment (accessed April 28, 2010;http://labour.nic.in/act/welcome.html):

LAWS RELATED TO INDUSTRIAL RELATIONS:

1. The Trade Union Act, 1926
   The Trade Unions (Amendments) act, 2001
2. The Industrial Employment (Standing Orders) Act, 1946The Industrial Employment (Standing Orders) Rules,1946
3. The Industrial Disputes Act,1947

LAWS RELATED TO WAGES:

1. The Payment of Wages Act, 1936
   The Payment of Wages Rules, 1937
   The Payment of Wages (AMENDMENT) Act, 2005
2. The Minimum Wages Act,1948
   The Minimum Wages (Central) Rules, 1950
3. The Payment of Bonus Act, 1965

   The Payment of Bonus Rules,1975

LAWS RELATED TO WORKING HOURS, CONDITIONS OF SERVICES AND EMPLOYMENT:

1. The Factories Act,1948
2. The Dock Workers (Regulation of Employment) Act, 1948
3. The Contract Labour (Regulation &Abolition) Act, 1970
   The Contract Labour Regulation Rules
4. The Shops and Establishments Act

LAWS RELATED TO EQUALITY AND EMPOWERMENT OF WOMEN:

1. The Maternity Benefit Act, 1961
2. The Equal Remuneration Act,1976

LAWS RELATED TO DEPRIVED AND DISADVANTAGED SECTIONS OF THE SOCIETY:

1. The Bonded Labour System (Abolition) Act,1976
2. The Child Labour (Prohibition & Regulation) Act,1986
3. The Children (Pledging of Labour) Act,1986

LAWS RELATED TO SOCIAL SECURITY:

1. The Workmen's Compensation Act,1923
   The Workmen's Compensation (Amendments) Act, 2000
2. The Employees "State Insurance Act,1948
3. The Employees "Provident Fund & Miscellaneous Provisions Act,1952
   The Employees "Provident Fund &Miscellaneous Provisions (Amendment)Act,1996
4. The Payment of Gratuity Act,1972
   The Payment of Gratuity Rules
5. The Unorganized Workers" Social Security Act, 2008
   The Unorganized Workers "Social Security Rules,
   2008

LAWS RELATED TO EMPLOYMENT & TRAINING:

1. The Employment Exchanges (Compulsory Notification of Vacancies) Act, 1959
   The Employment Exchanges (Compulsory Notification of Vacancies) Rules, 1959
2. The Apprentices Act, 1961

OTHERS:

1. The Fatal Accidents Act, 1855
2. The Weekly Holiday Act,1942
3. The National and Festival Holidays Act
4. The Personal Injuries (Emergency) ProvisionsAct,1962
5. The Personal Injuries (Compensation Insurance) Act,1963
6. The Labour Laws (Exemption from furnishing Returns and Maintaining Register by Certain Establishments) Act, 1988

LIST OF MULTILATERAL ENVIRONMENTAL AGREEMENTS AND ILO CONVENTIONS:

MULTILATERAL ENVIRONMENTAL AGREEMENTS:

- Convention on International Trade of Endangered Species of Wild Fauna and Flora (CITES)–ratification and entry into force1982
- Convention on Biological Diversity–ratified1994; Cartagena Protocol on Biosafety –ratified 2003
- United Nations Framework Convention on Climate Change– ratified 1993; Kyoto Protocol–as cension 2002, entry into force2005 (has not signed)
- Stockholm Convention on Persistent Organic Pollutants– ratified 2006

INTERNATIONAL LABOUR ORGANISATION INFORMATION:

The following information is from India's Ministry of Labour and Employment's Article, India and the ILO, Core Conventions of the ILO: The eight Core Conventions of the ILO (also called fundamental/human rights conventions) are:

- Forced Labour Convention (No.29)
- Abolition of Forced Labour Convention (No105)
- Equal Remuneration Convention (No.100)
- Discrimination (Employment Occupation) Convention (No.111)

(The above four have been ratified by India)

- Freedom of Association and Protection of Right to Organized Convention (No.87)
- Right to Organize and Collective Bargaining Convention (No.98)
- Minimum Age Convention (No.138)
- Worst forms of Child Labour Convention (No.182)

(These four are yet to be ratified by India)

Conflict with Local Laws analysis

S.NO	FSC PRINCIPLE	Local Laws
1	**PRINCIPLE #1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES** **Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.**	All national laws of state India are applicable; the working scope is defined and prepared according to them. All international agreement and treaties are included in their current working scope like CITES, ILO, ITTA which are taken inconsideration while preparing FM Plan of a Farm-forestry division. Copies of CITES, ITTA, ILO are attached with the document. No conflict
2	**PRINCIPLE #2:TENURE AND USE RIGHTS AND RESPONSIBILITIES** **Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.**	All Laws of India like: - The Uttarakhand Tenancy And Agricultural Lands Laws, The ***Uttarakhand*** **Land** Grabbing (Prohibition) **Rules,** the Uttar Pradesh Agriculture Lands (ceiling on holding) Act 1961, etc are followed and tenure and use rights are followed according to this principle. No conflict.
A	**PRINCIPLE #3: INDIGENOUS PEOPLES' RIGHTS** **The legal and customary rights of indigenous peoples to own use and manage their lands, territories, and resources shall be recognized and respected.**	No indigenous people are residing near FMUs as these lands are privately owned and all land area is covered under agricultural land. The farmers have their land papers (like- land patta) and ID proofs in place. No conflict.
4	**PRINCIPLE #4: COMMUNITY RELATIONS AND WORKER'S RIGHTS** **Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.**	According to ILO and Indian government guidelines, all the farm workers will get a minimum wage which is a law (The Minimum Wages Act, 1948) and is followed in Naini Papers Limited. Naini Papers ensures that Field In-Charges and Farmers are properly trained to ensure waste prevention, reuse, and recycling within the FMUs. No Conflict.

5	**PRINCIPLE #5: BENEFITS FROM THE FOREST** **Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits**.	There is no forest area included. All FMUs land is privately owned by the farmers. All the land owners or farmers follow rules mandated at national and local levels like- Land Acquisition Act, 1894, the Uttarakhand Tenancy and Agricultural Lands Act, 1948, the Uttar Pradesh Agriculture Lands (ceiling on holding) Act 1961. No conflict.
6	**PRINCIPLE #6: ENVIRONMENTAL IMPACT** **Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.**	Naini Papers is conducting the continuous assessment studies on social &environment impacts. A proper questionnaire is also prepared for the same in which views of the local people and farmers are recorded. All environmental laws (like- The Environment (Protection) Act 1986) are followed according to this principle. No conflict
7	**PRINCIPLE #7: MANAGEMENT PLAN** **A management plan -- appropriate to the scale and intensity of the operations -- shall be written, implemented, and kept up to date. The long-term objectives of management, and the means of achieving them, shall be clearly stated**	There is a management plan, which is a composition of all the essential procedures and policies of Naini Papers Ltd. This Management is reviewed every year and with due considerations of all new changes. All laws are according to this principle. No conflict.
8	**PRINCIPLE #8: MONITORING AND ASSESSMENT** **Monitoring shall be conducted appropriate to the scale and intensity of forest management to assess the condition of the forest yields of forest products chain of custody, management activities and their social and environmental impacts.**	There is a very good monitoring system for all the working procedures. All local and state laws like- forest conservation act 1988, Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 are followed according to this principle. No conflict

9	**PRINCIPLE #9: MAINTENANCE OF HIGH CONSERVATION VALUE FORESTS** **Management activities in high conservation value forests shall maintain or enhance the attributes, which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.**	As of now, Naini Papers is not performing any activities in such type of land. Whereas there is a clear instruction in working plan if NAINI PAPERS is doing activities in such areas in future. Naini Papers has prepared an equivalence statement for FSC HCVFs and Naini Papers HCVFs All laws are according to this principle. No conflict.
10	**PRINCIPLE #10: PLANTATIONS** **Plantations shall be planned and managed in accordance with principles and criteria 1-9 and principle 10 and its criteria. While plantations can provide array of social and economic benefits, and can contribute to satisfying the world's needs for forest products they should complement the management of reduce pressure on and promote the restoration and conservation of natural forest.**	Plantation's activities are done on regular basis. And the survival, growth etc are monitored. The same is given in the Working Plan. And all local and state laws like: the **Plantations**& Labour **Act**, 1951 are followed according to this principle. No conflict.

6. Principles of FM

PRINCIPLE 1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES

NAINI PAPERS is respecting all applicable laws of the country, and international treaties and agreements to which the country is a signatory, and complies with all FSC Principles and Criteria.

PRINCIPLE 2: TENURE AND USE RIGHTS AND RESPONSIBILITIES

Long –term tenure and use rights to the land has been clearly defined, documented and legally established.
Clear evidence of long-term forest use rights to the land (e.g., land title, customary rights, or lease agreements) are demonstrated.

PRINCIPLE 3: INDIGENOUS PEOPLES' RIGHTS

The legal and customary rights of indigenous peoples to own use and manage their lands, territories, and resources shall be recognized and respected.
Indigenous peoples shall control Naini Papers on their lands and territories unless they delegate control with free and informed consent to other agencies.
NAINI PAPERS shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.

Sites of special cultural, ecological, economic or religious significance to indigenous peoples shall be clearly identified in cooperation with such peoples, and recognized and protected by NAINI PAPERS managers.

Indigenous peoples shall be compensated for the application of their traditional knowledge regarding the use of forest species or management systems in forest operations. This compensation shall be formally agreed upon with their free and informed consent before forest operations commence.

PRINCIPLE 4: COMMUNITY RELATIONS AND WORKER'S RIGHTS

NAINI PAPERS operations maintain or enhance the long-term social and economic well-being of forest workers and local communities.

The communities within, or adjacent to NAINI PAPERS's farm management area should be given opportunities for employment, training, and other services.
NAINI PAPERS is committed to all applicable laws and/or regulations covering health and safety of employees and their families.
The rights of workers to organize and voluntarily negotiate with NAINI PAPERS is guaranteed as outlined in Conventions 87and 98 of the International Labour Organization (ILO).

Appropriate mechanisms shall be employed for resolving grievances and for providing fair compensation in the case of loss or damage affecting the legal or customary rights, property, resources, or livelihoods of local peoples. Measures shall be taken to avoid such loss or damage.

NAINI PAPERS ensures that Field In-Charges and Farmers are properly trained to ensure waste prevention, reuse, and recycling within the FMUs.

PRINCIPLE 5: BENEFITS FROM THE FOREST

Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits. NAINI PAPERS used to recognize, maintain, and, where appropriate, enhance the value of forest services and resources such as water sheds and fisheries.

The rate of harvest of forest products shall not exceed levels that can be permanently sustained.

PRINCIPLE 6: ENVIRONMENTAL VALUES AND IMPACT

NAINI PAPERS shall maintain, conserve and/or restore ecosystem services and environmental values of the Management Unit, and shall avoid, repair or mitigate negative environmental impacts.

PRINCIPLE 7: MANAGEMENT PLANNING

The NAINI PAPERS shall have a management plan consistent with its policies and objectives and proportionate to scale, intensity and risks of its management activities.

The management plan shall be implemented and kept up to date based on monitoring information in order to promote adaptive management. The associated planning and procedural documentation shall be sufficient to guide staff, inform affected stakeholders and interested stakeholders and to justify management decisions.

PRINCIPLE 8: MONITORING AND ASSESSMENT

The NAINI PAPERS shall demonstrate that progress towards achieving the management objectives, the impacts of management activities and the condition of the Management Unit, are monitored and evaluated proportionate to the scale, intensity and risk of management activities, in order to implement adaptive management.

PRINCIPLE 9: HIGH CONSERVATION VALUES

The NAINI PAPERS shall maintain and/or enhance the high conservation values in the Management Unit through applying the precautionary approach.

PRINCIPLE 10: IMPLEMENTATION OF MANAGEMENT ACTIVITIES

Management activities conducted by or for the NAINI PAPERS for the Management Unit shall be selected and implemented consistent with the Organization's economic, environmental and social policies and objectives and in compliance with the Principles and Criteria collectively.

7. NAINI PAPERS has prepared an equivalence statement about FSC P&C and FM Plan

S.NO	FSC PRINCIPLE	APPLICABILITY ON - NAINI PAPERS OPERATIONAL AREAS
1	**PRINCIPLE #1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES** **Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.**	----------APPLICABLE---------- All national laws of state India are applicable; the working scope is defined and prepared according to them. All international agreement and treaties are included in their current working scope like CITES, ILO, ITTA which are taken in consideration while preparing FM Plan of a Farm-forestry division. Copies of CITES, ITTA, ILO are attached with the document.
2	**PRINCIPLE #2: TENURE AND USE RIGHTS AND RESPONSIBILITIES** **Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.**	----------APPLICABLE---------- All the members of NAINI PAPERS are bounded by NAINI PAPERS working procedures and scope. A long –term use of land and land usage rights are with NAINI PAPERS and all the members have to follow that. If anyone is not comfortable, he can cancel his membership by informing the Naini Paper Ltd. Management.

3	**PRINCIPLE#3: INDIGENOUS PEOPLES' RIGHTS** **The legal and customary rights of indigenous peoples to own use and manage their lands, territories, and resources shall be recognized and respected.**	----------NOTAPPLICABLE----------
4	**PRINCIPLE #4: COMMUNITY RELATIONS AND WORKER'S RIGHTS** **Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.**	----------APPLICABLE---------- According to ILO and Indian government guidelines, all the farm workers will get a minimum wage which is a law and is followed in NAINI PAPERS operations.
5	**PRINCIPLE #5: BENEFITS FROM THE FOREST** **Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits**.	----------NOTAPPLICABLE-----
6	**PRINCIPLE #6: ENVIRONMENTAL IMPACT** **Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.**	----------APPLICABLE---------- NAINI PAPERS is conducting the continuous assessment studies on social &environment.

7	**PRINCIPLE #7: MANAGEMENT PLAN** **A management plan -- appropriate to the scale and intensity of the operations -- shall be written, implemented, and kept up to date. The long-term objectives of management, and the means of achieving them, shall be clearly stated**	----------APPLICABLE---------- There is a working plan, which is a composition of all the essential procedures and policies of the NAINI PAPERS. The Management Plan is Reviewed and updated every year with due considerations of all new changes.
8	**PRINCIPLE #8: MONITORING AND ASSESSMENT** **Monitoring shall be conducted appropriate to the scale and intensity of forest management to assess the condition of the forest yields of forest products, chain of custody, management activities and their social and environmental impacts.**	----------APPLICABLE---------- There is a very good monitoring system of all the working procedures. Same has been defined in the Manual.
9	**PRINCIPLE #9: MAINTENANCE OF HIGH CONSERVATION VALUE FORESTS** **Management activities in high conservation value forests shall maintain or enhance the attributes, which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.**	----------APPLICABLE---------- As of now NAINI PAPERS is not performing any activities in such type of land. Whereas there is a clear instruction in working plan if NAINI PAPERS is doing activities in such areas in future. NAINI PAPERS has prepared an equivalence statement for FSC HCVFs and NAINI PAPERS HCVFs
10	**PRINCIPLE #10: PLANTATIONS** **Plantations shall be planned and managed in accordance with principles and criteria 1-9 and principle 10 and its criteria. While plantations can provide array of social and economic benefits, and can contribute to satisfying the world's needs for forest products they should complement the management of reduce pressure on and promote the restoration and conservation of natural forest.**	----------APPLICABLE---------- Plantation's activities are done on regular basis. And the survival, growth etc are monitored. The same is mentioned in Manual & Management plan.

Name and Entity

Naini Papers Limited NAINI PAPERS, in association with farmers in Uttarakhand & Utter Pradesh State (Udham Singh Nagar, Moradabad, Rampur, Bareilly, Pilibhit, Bijnor, Sitapur etc. districts is implementing the FSC-FM Project.

Naini supports farmers by supplying high-yielding, disease- and pest-resistant planting material (clones), along with comprehensive technical guidance from planting to harvesting. The Naini Papers also invests in research and development to identify and improve planting material, with a strong focus on enhancing productivity per unit area and reducing rotation time. This integrated approach ensures remunerative returns for farmers while securing a consistent supply of quality raw material for the paper mill, all managed through a dedicated team of professionals.

As a responsible corporate Naini would like to promote sustainable land use in plantations through a participatory approach and ensure that the wood it sources are grown and harvested in compliance with applicable legislations.

The project activities modalities and benefits are given below.

Background: FSC is an international organization that promotes responsible management of the world's forests through its 10 FSC Principles and associated FSC Criteria. Responsible Forest Management provides a way of using trees and non-timber forest products to meet people's ever-increasing need for timber, paper and other products without degrading forest ecosystems.

Project Area

This FSC FM Project is being implemented over 405 Ha area (1000 acres) with approx. 310-350 farmers in few districts like Moradabad, Bijnor, Rampur, Bareilly, Pilibhit, Sitapur etc. of Uttar Pradesh and Udham Singh Nagar of Uttarakhand (India) by Naini as Forest Management Enterprise (FME). The participation of farmers belonging to indigenous communities in the Project makes it unique in promoting sustainable forestry contributing to their economic improvement through better livelihood opportunities and building their capacity to implement sustainable forestry.

The Naini Papers has been promoting plantation in association with farmers since 2020 in its catchment areas consisting in few districts like Moradabad, Bijnor, Rampur, Bareilly, Pilibhit, Sitapur etc. of Uttar Pradesh and Udham Singh Nagar of Uttarakhand (India) till 2025 it has promoted plantation in association with farmers on around 1200 Ha of land. The Naini Papers supplies high-yielding, disease- and pest-resistant planting material to farmers from its own nurseries. It provides technical support for planting, maintenance, and harvesting. The Naini Papers also conducts research to improve planting material and increase productivity. A team of professionals carries out extension work, organizes farmer meetings and training, and helps develop agroforestry models to ensure good returns for farmers and a steady supply of raw material for the mill.

The project is being implemented in the state of Uttar Pradesh and Uttarakhand (India) by Naini as the Forest Management Enterprise (FME). The operational area of the Project comprises of few districts of UP & UK. These districts are predominantly inhabited by indigenous communities, notified as Scheduled Tribes, who mostly belong to low-income groups and are traditionally non-agriculturists. Their participation in this FSC Forest Management

(FM) project is a key highlight, as it promotes sustainable forestry and land use while improving their livelihoods. The project supports economic development by creating better income opportunities and building the capacity of these communities to adopt and implement sustainable forestry practices.
As a responsible corporate Naini would like to promote sustainable land use in plantations taken up by its associated farmers and ensure that the wood it sources are grown and harvested in compliance with applicable legislations and rules.

The proposed FSC-FM project aims to mobilize farmers to establish tree plantations on their own unused or underutilized lands. It seeks to connect these farmers with wood end-users, such as Naini Paper Mill, to promote the sustainable use of land, encourage responsible wood sourcing, and reduce environmental impacts. The project also aims to create linkages between farmers, wood-based industries, agronomists, research institutes, financial institutions, and NGOs. It is being implemented on lands that are currently unutilized or used for low-yield, rainfed subsistence farming.

Objectives

- Promote tree plantations on marginal and degraded lands through integrated land use planning and a participatory approach to ensure a sustainable supply of wood.
- Reduce pressure on natural forests by encouraging wood production on farmers' own lands.
- Enhance the economic condition of small and marginal farmers.
- Improve soil and water conservation and encourage multiple land use through agroforestry practices.
- Build the capacity of stakeholders to benefit from global mechanisms like FSC certification.

Project Activities

- Establishing institutional mechanisms to implement FSC-FM project activities.
- Promoting local financing options to help farmers restore unutilized land and cover plantation and maintenance costs.
- Identifying and engaging farmers, and raising awareness about the benefits of tree cultivation.
- Enhancing productivity of underused lands through a participatory approach involving local farmers and Naini Paper Ltd.
- Developing, testing, and sharing best practices in plantation and agroforestry to reduce risks (fire, pests, diseases) and improve environmental and social outcomes.
- Providing farmers with high-quality seedlings developed through clonal technology.
- Supporting farmer-industry partnerships through buy-back arrangements for harvested wood.
- Building the capacity of farmers, government, and non-government organizations through training and technical support to access global certification mechanisms.
- Conserving biodiversity by reducing pressure on natural forests through plantation forestry on private lands for industrial use.
- Partnering with national and international research institutions to promote awareness and adoption of suitable agroforestry models.

Supporting farmer-industry partnerships through buy-back arrangements for harvested wood.
The above efforts have resounded success and the communities involved feel that such effort is instrumental in ensuring the meeting of present and increased future requirements of fuel wood, timber for all communities and raw material for wood-based industries on a sustained basis. Joining hand in hand in this effort, our NAINI PAPERS also vows in contributing for such nation building noble cause.

NAINI PAPERS is already having genetically superior varieties of following species, which are of enormous help to local people. The species are Poplar and Eucalyptus.

Naini Papers Limited is dedicated to promote and encourage tree - farming practices on low productive and wastelands for additional income to the farmers/farming community partnering with Naini Papers.

- To promote the Plantations/Farm forestry on low productive/ dry waste land for addition income.
- To create awareness among farming community to optimum & best utilization of existing land resources.
- Forestry development through people participation to reduce dependency on natural resources through extra production of fuel & fodder.
- Employment generation to the rural people & upliftment of socio-economic status of the region
- Providing an assured & stable market for wood produce.
- Productivity enhancement per unit area and span.
- Nurturing the nature by greening motherland.
- Soil &Water conservation of the wasteland.
- Carbon sequestration & cleaning the atmosphere by absorbing environmentally hazardous elements.

We invite with open heart the interested farmers to contact us for availing the free technical know-how & extension services and makes best use of the opportunity.

Future Raw material Generate through Clonal Production:

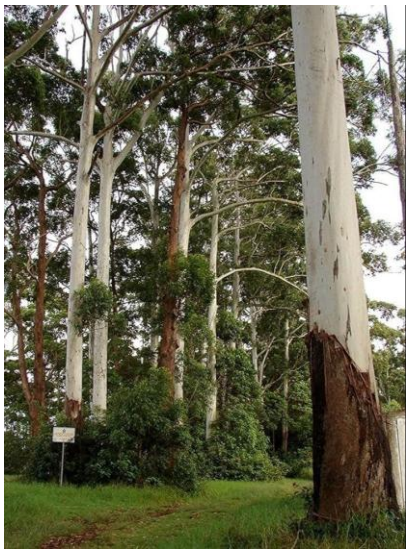
Eucalyptus Clone

Poplar Clone

Casuarina Clone

Bambusa (bamboo).

Naini uses different types of pulpwood species to ensure a stable and sustainable supply of raw material for paper production. The main species used are *Eucalyptus clones, Poplar clones, Casuarina clones, and Bambusa (bamboo).* These species are grown in plantations managed by Naini, where they are propagated and maintained under suitable conditions to get good quality wood. Once the trees are fully grown, the wood is harvested and converted into pulp. This pulp is then used in the paper manufacturing process. By using a mix of different species, Naini ensures better availability of raw material and maintains a steady process from wood to pulp to paper.



For the purpose of FSC-FM certification, Naini is currently covering only Eucalyptus and Poplar tree species. These species are first propagated in Niani's own nursery under controlled conditions. Once the plants are fully developed and ready for plantation, they are sold to farmers who grow them on their land. After the trees mature, the wood is harvested and used as the primary raw material for paper production. This system ensures that the pulpwood used under the FSC-FM scope comes from responsibly managed sources, with traceability from nursery to paper.

Note: *Naini Paper Ltd is supplying high-quality clonal planting material to farmers at one of the subsidiary rates in the industry, making plantation establishment more affordable for small and marginal farmers.*

Employment Generation

The scheme aims to create huge employment for the rural communities from pre planting to post harvest stage, apart from addressing the local needs of the people by making available to them wood for additional benefits like scaffolding and fuel purpose along with assured market for pulpwood. The scheme has attracted, channelized, and mobilized small, marginal, and backward farming community groups making productive use of wastelands and ensuring quality raw material sustainability for the industry. It has been instrumental in crafting employment by people participation in nursery seedling development and plantain activities besides logging and depot operations.

Achievement

Agroforestry activated in the project area were started from since 2020 to till date have recorded development and distribution of 0.6 million quality Clonal saplings to approx. 350 beneficiaries converting an area of 500 ha. that can be help to mills to catch raw material with in catchment area and that can be declared as FSC-100% raw material.

Adaptability

The Agroforestry activity has brought low-cost planting technique by way of producing Hi-Tech Superiors clones which can collected from mother plants (CMA) and charged in Mist Chamber with maintained of proper climatic condition, so that maximum cuttings can be better survival, uniform growth with less variation in growth and easy transportation with no damages. Treated bare root seedlings are cost effective and eco-friendly. Transportation is easy and less expensive. It avoids root coiling ensures better growth without distortion.

Yield

The yield of conventional bare rooted seedling in at 4-5 years rotation is 50 Metric Tons ha^{-1}. Poly-bag grown seedlings recorded a yield of 75 tones ha-1 at the same rotation age. Subsequently, the concept of clonal saplings with verity of clones showed a better yield at 4-5 years rotation with great reduction in initial investment. Finally, the yield was doubled with Casuarina hybrid clones reaching up to 165 Metric Tons (MT) ha^{-1} at 4–5-year rotation.

Conclusion

The stupendous efforts of NPL have helped in sourcing its raw material requirement (hard wood), generated through its farm/social Forestry initiatives. It is evident that Eucalyptus and Poplar species development under farm Forestry has contributed to achieve sustained supply of raw material to mills as well as improving socio-economic status of local inhabitants. It has paved the way of the paper industry to become self-sustained in the generation of the much-needed pulpwood resource while ensuring the growth of the farmer by raising the socio-economic status of the local populace and more importantly, improving the environment and marinating the ecological balance.

The Agroforestry programme with Eucalyptus and Poplar has been a dynamic force in sustaining raw material requirement and promoting a sustainable livelihoods approach. During inception of the programme, selection of *pulp wood species* suitable for the project are and introduction of nearby farmers community to holding marginal and degraded lands was vital for success. Constant innovative techniques and tree improvement programme with introduction of hybrid clones have helped farmers to achieve enhance productivity. It has addressed the essential area like social, economic segments of the community as well as environment amelioration of the area and has also ensured quality raw material supply on a sustained basis to mills.

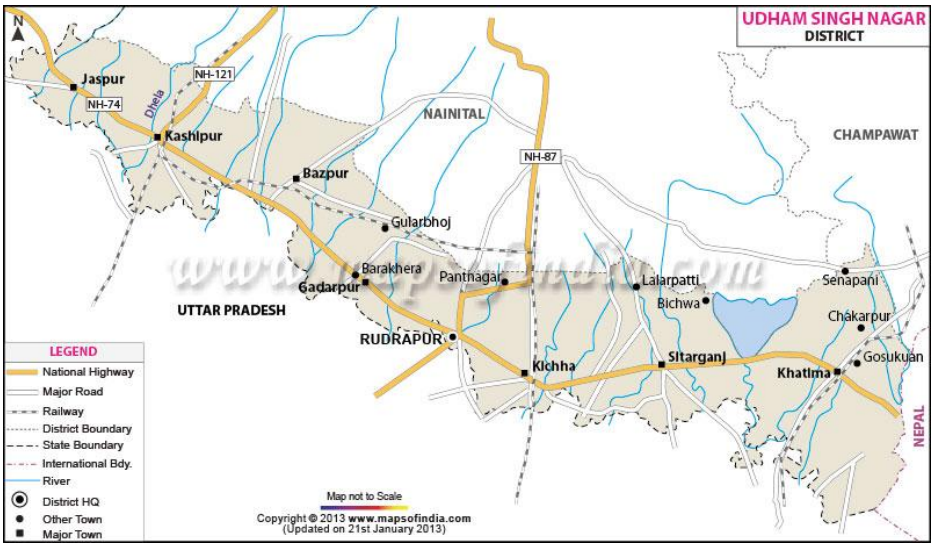
Vision

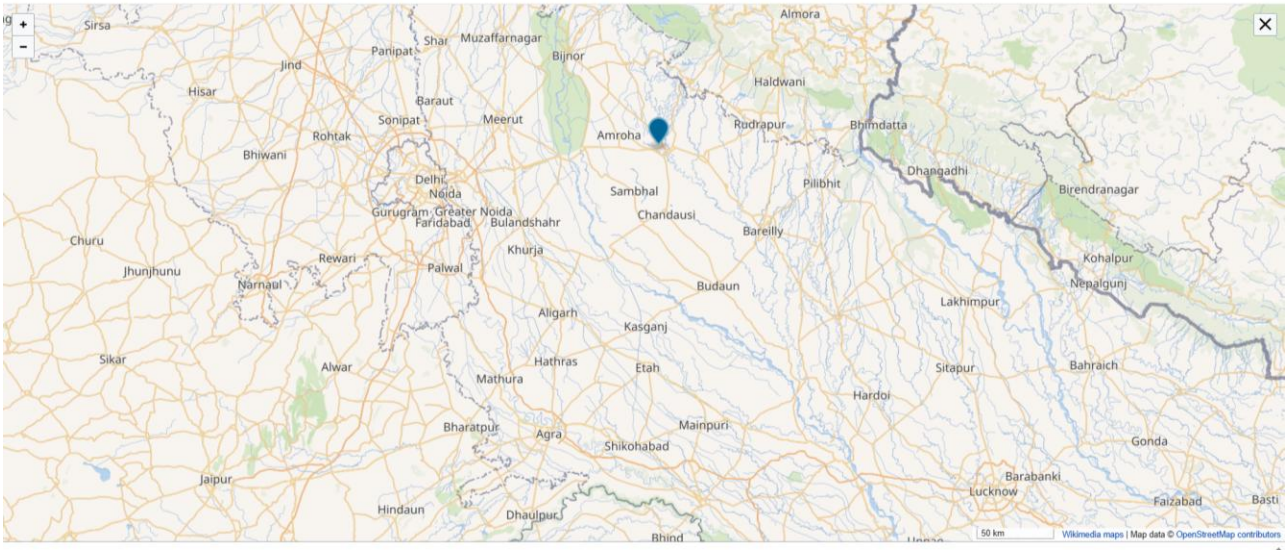
Our Vision of Agroforestry program is to achieve quality and excellence in planting stock production and plantations through professional, scientific, and technical mechanism with ethical standards to serve marginal and small land holding village communities and the high best farm management having no impacts on environment, people and nature.

Mission

- To develop renewable and sustainable pulpwood plantations through effective, innovative and best practices available.
- To spread efficient farm management practices among the farming communities and enhance rural economy, employment generation and functional development in villages.
- To act towards sustainable and continuous improvement/enhancement of productivity of pulpwood updating recent technologies.
- To develop plantation in areas having problematic soil by rehabilitate as an alternate land use.

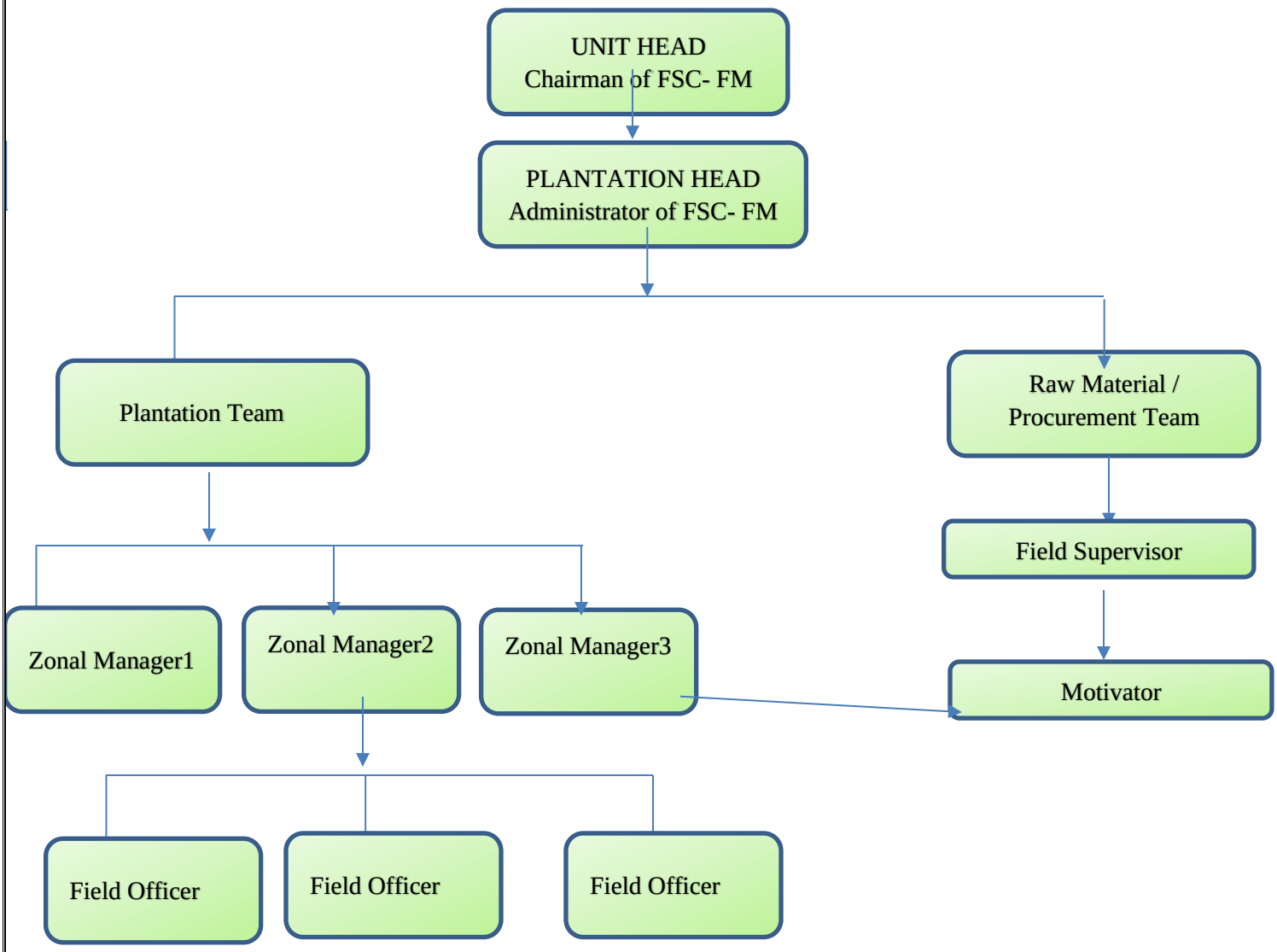
To implement advancements in tree farming in sourcing sustainable pulpwood raw material supply abiding with national Forest policy.

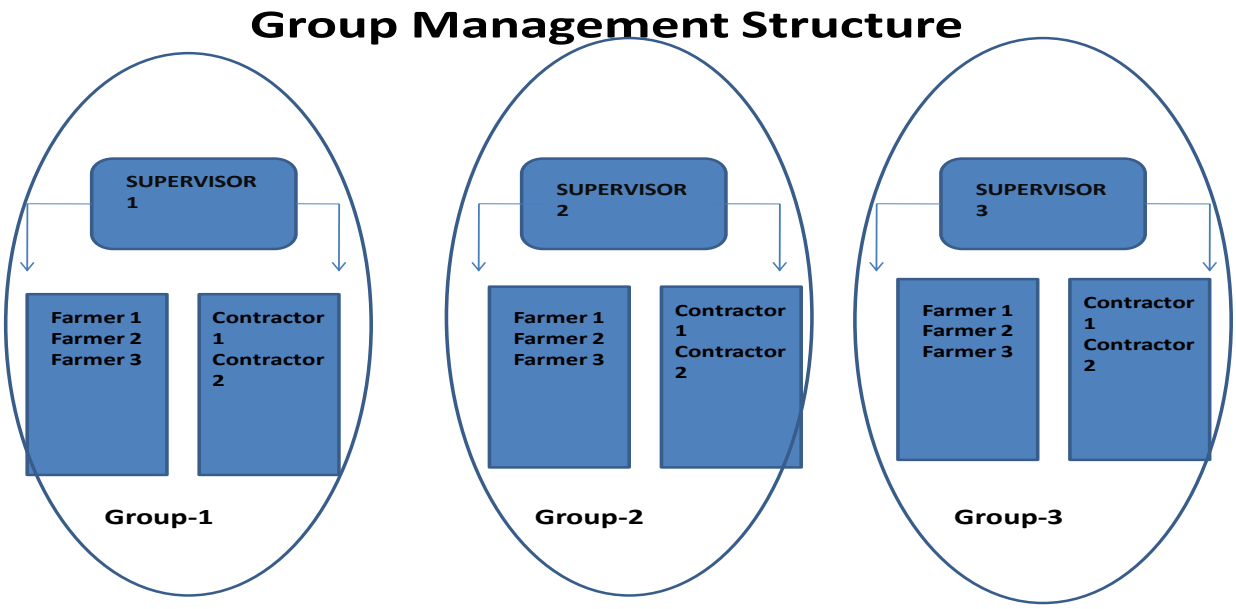




NPL Farm Forestry Operation Areas.

Organization Chart





In the above Group Management Structure, the supervisor is the concern group entity. This is how the group management will be governed. The farmers and contractor/Motivator will be working under the supervision of Supervisors. The supervisor will guide, help, and assist the contractors/Motivators and farmers to do their day-to-day activity. At any point of time any new motivator can join the group and old contractor/motivator can leave the group there is no binding of contractor to the group

Responsibility

Naini PAPERs LTD. RESPONSIBILITIES	MEMBER'S
Conduct awareness programs about afforestation works on degraded and/or economically uncultivable lands.	Abide all the FSC Principles & Criteria.
Conduct training cum awareness Programs on FSC and other relevant laws to the members and local communities.	Abide all the applicable rules & regulations as prescribed by the society.
Conduct the periodical trainings Regarding the pre &post planting activities.	Strictly following all the Policies of
Conduct quarterly meetings and Share the available information with all the members.	Allow any third party to VISIT – INSPECT–INTERVIEW.
Conduct the research work economically viable and suitable species.	Attend all the trainings and meetings, elections conducted by the society.
Conduct the annual meetings with the members to inform the P&L and Balance sheets.	Maintain cordial relation with the co members and neighbouring Property owners/farmers.
Appoint the dispute resolution Committee to resolve the disputes if any,	Co-operate with the staff deputed By the society in afforestation work.
Collect the funds from the Banks, Financial institutions and user companies to continue its Afforestation and research works.	
Appoint the Managers to look after the plantations as per the Naini Papers FM Plan.	

Appoint the trained team to collect & Analysed growth data periodically.	
Appoint the contractors to harvest& transport material as per the SOPs of NAINI PAPERS.	
Appoint a person for generate invoices, FSC labelling and selling the material at profitable price.	

Administrator	Group Members
He will be responsible For closure of all external CARs	To abide all the FSC P&C
The monitoring of all the field will Be done by chief managers	Allow any third party to VISIT-INSPECT-INTERVIEW
He will be responsible for day to Day activities of the Farm	To participate in Training programs
To conduct field verification	To nominate their successors
To monitor, evaluate and Assess Silvicultural operations	To protect and defend the society's property(plantation)
To verify and assess the details of New members	To reserve &protect the society's Reputation and image
He will be responsible for inventory management	To be informed on all affairs of the Society and be able to verify the society's documents
He will be responsible for Maintaining the records	To gain income from the society's Business activities.
	Maintain cordial relations with the co members and neighbouring property owners/farmers
	Cooperate with the staff deputed by the society for the afforestation work
	Members should comply with all Safety and health measures.

8. GROUP MANAGEMENT

Monitoring

For monitoring, there are Group Managers i.e., Zonal Manager. Under Zonal Manager there is work force which will help them to identify and selecting the sample size for internal audits although NAINI PAPERS has hired a third-party auditing body for the internal audits. This auditing body will cover all the blocks and according to the upper given sample size they will conduct the audits. For this, they had given us the auditing formats.

Sampling

In these auditing formats the entire Social, Environmental and other operational aspects are covered. It is a mutual understanding that the selection of sample will be always different from external audit samples. The selection of sample and in the population is based on simple random sampling.

Audits

Additional visits should be done by group manager with assist of Administrator and third party as and when there will be a conflict or dispute between the FSC criterions and FM standards. FME is going to do a regular and ongoing consultative procedures and meetings with the local communities, Stakeholders and NAINI PAPERS members. The internal auditing in a block shall be the responsibility of the group manager along with the third party which is hired NAINI PAPERS. The outcomes of the consultative meetings shall be discussed in the annual meetings of NAINI PAPERS and with due diligence they shall be incorporated in the management plan.

Violations

In case if the Group manager or NAINI PAPERS management received the alleged violations of the FSC Principles and Criterions by the members of the NAINI PAPERS the group manager along with the core committee of NAINI PAPERS will do a in detail survey of this and if this is a minor, we will give awareness to the farmer member with a warning and if it is serious or going to be repeated again and again then the membership of that particular will be suspended or terminated depending on the intensity of violation.

Non-compliances & Responsibilities

The Non-Compliances or CARs, which are given by external auditing body will be resolved and documented by the Group manager and the Non compliances which are issued in case of internal audits shall be addressed by the FSC-FM administrator.

Group Size

With reference to the plantation budget, human and technical resources NAINI PAPERS will support approx. 500 Farmers and provide them membership in coming year. And we will be supported by the membership system. Currently we have more than 350 FMU members and Forest Management area is spread out over 400 hectares. Technically NAINI PAPERS has many resources to support them like we have a hall for meetings, good projector, we also carrying out training sessions for FMUs. There are approx. 2 Four wheelers and 6 Two-Wheeler all the field officers for Plantation activity and for field visits. Human resources and benefits are provided in a separate document. We also provide training on plantations, harvesting, health and safety etc to the FMUs on regular basis with the help of experts and training managers. In next coming years NAINI PAPERS will add extend their Forest Management Area to approx. 1200 hectares and group size will be supported by Plantation budget and other resources.

Plantation Budget is given below-

Expenses Projected for FSC-FM Project Activities – Evaluation Audit

Particulars	**Estimated April 24- March 25**
Plantation area in Hectares	424 ha
No. of beneficiary to be added	318-325
No. of plant production	5.50 lakh
Estimated expenditure	137.00 lakh
Raw Material generated	12,537 Lakh MT (*Ready for harvesting)
Pulp	2,507 MT
Paper to be produced	3,134 MT

(Short Term plan- Budget 2025-26)

Particulars	**Estimated April 25- March 26**
Plantation area in Hectares	1200 ha
No. of beneficiary to be added	300-350
No. of plant production	20.34 lakh
Estimated expenditure	175.40 lakh
Raw Material generated	1.50 Lakh MT
Pulp	30,000 MT
Paper to be produced	37,500 MT

(FMUs & Area Increased (as per our Agroforestry Initiative) – Long Term Plan)

S. N	Scope of Audit	UOM	2025–26	2026–27	2027–28	2028–29	2029–30	Total (5 Years)
1	FMUs	Nos.	350	645	940	1235	1530	4700
2	Area	Ha.	405	1599	2793	3987	5181	13,965
3	Minimum Sample	Nos.	12	22	32	42	52	161
4	Cost of Certification	INR/Lac	3.90	4.88	5.85	6.83	7.80	29.26
5	Manpower Requirement	Nos.	10	15	18	20	23	86
6	Wood Assessment (Est.)	MT	35,012	138,234	241,455	344,676	447,897	12,07,274
7	FSC FM Certified Pulp	MT	7,002	27,647	48,291	68,935	89,579	2,41,455
8	FSC-100% Certified Paper	MT	8,753	34,558	60,364	86,169	1,11,974	3,01,819

This above Projection is part of our 5 Years plantation programme. So, there are sufficient financial resources available for implementing and monitoring of the FSC-FM Project.

Legal Possession

As a responsible corporate Naini would like to promote sustainable land use in plantations taken up by its associated farmers and ensure that the wood it sources are grown and harvested in compliance with applicable legislations and rules.

- **Survey & Land Identification;**

NAINI PAPERS staff & motivators, who are well - known persons in those areas. These motivators will identify the degraded land and motivate the land owner (Farmer) by explaining the benefits of the scheme; Contract for Farming.

- **Selection of Sites & Boundary demarcation;**

After selecting the site for plantation activities, in the presence of farmer boundary will be demarcated properly with locally available bamboo/stumps/Stone/proper fencing.

- **Collection of Documents related to Land & encumbrances;**

NAINI PAPERS will collect the land documents &map of the plot and other necessary related documents.

- **Execution of Contract;**

After collecting & scrutinizing the land documents, NAINI PAPERS organizes execution of the contract agreement between the landowner (Farmer) and the Naini Papers and Copy of the agreement lies with the farmer

Annexure 1: This scrutinizing process includes the applicant evaluation process

Operational Policies

Group Records

Types of Records and Retention Policy;

The Group Entity shall maintain complete and up-to-date records covering all applicable requirements of this operations manual. These include:

1. List of names and contact details of Group members, together with dates of entering and leaving the Group scheme, reason for leaving, and the type of forest ownership (e.g., family forest or large ownership) per member;
2. Any records of training provided to staff or Group members relevant to the implementation of group policies or the applicable Forest Stewardship Standards;
3. A map or supporting documentation describing or showing the location of the members "forest properties;
4. Evidence of consent of all Group members, including any "opt-out" procedure if applicable;
5. Documentation and records regarding recommended practices for forest management (i.e., silvicultural systems);
6. Records demonstrating the implementation of any internal control or monitoring systems. Such records shall include records of internal inspections, non-compliances identified in such inspections, actions taken to correct any such non-compliance;
7. Records of the estimated annual overall FSC production and annual FSC sales of the Group. Group records shall be retained for at least five (5) years.

Membership Policies

Documented procedures for the inclusion of new group members;

The following procedures are followed for inclusion of the new FMU as in the group entity procedure document.

a. We have visited the farmers land and verify the farmers land documents like ownership, survey number, sizes of land etc. The land may be owned by single ownership or family or institution. The group member has to produce the required land documents like, Patta, parent documents, topographic sketch, field map, land tax receipt etc., at his own risk to prove the legal rights over the said land for raising plantation.

b. We have captured all the information and kept separate file in name of FSC Farmers.

c. The group members satisfy the legal as well as the technical requirements, will be allowed for signing the consent agreement and included as a member.

d. The included member will be intimated to certification body once in 12 months.

Rules regarding membership to the group

1. New Group members should provide the relevant documents as per requirement of certification.
2. Should obey the rules and regulations laid out for the certification and will be a part of the certification process.
3. If someone disobey the rules and regulations laid out in the certification process then he/she may be expelled from the membership.
4. Group member authoring Naini Papers Ltd. to have any third-party visit, meeting to his/her plantation fields as per requirement.
5. The group member land should be cleared legally by the advocate nominated by the group entity. The group member should accept the FSC policies and adhere to all the FSC principles/ criteria.

Rules regarding withdrawal/ suspension of members from the Group;

The group member may be withdrawn (permanently) from the group under the following circumstances. The land owner agrees that he/she shall not cut the trees or transfer the right, title, interest of any nature what so ever the said prosperity or on trees without prior written permission of the Naini Papers.

If the land owner violates the above condition, then his membership will be withdrawn.

NAINI PAPERS will withdraw FMU (permanently) from the group for the following reasons;

1) Suspension is not revoked within three months of time period.

2) FMU is not interested or willing to continue.

Property Sale or Transfer

If a Member sells the property, membership will terminate 10 days after entering into a contract of sale or upon transfer of title by deed, whichever occurs earliest. The buyer or grantee of the property may become a Group Member and maintain the same property in the program if the buyer/grantee notifies the Group Entity in writing within 60 days and agrees to comply with all applicable policies. The new owner may agree to comply with the previous owner's management plan or have a Qualified Plan writer to make appropriate updates to the plan.

9. APPLICANT EVALUATION MECHANISM

NAINI PAPERS is going to adopt this evaluation mechanism for its new members. The respective supervisor will be the primary person who will initiate this mechanism.

- Farmer will contact the area supervisor for its field verification and assessment.
- Supervisor will go and check legality aspects of the farmer related to land title and verify it with the Patta records of sarpanch.
- After satisfaction on legality aspects, he will call Zonal head for the assessment of the field.
- Then farm head will give the membership application form to the farmer. He will fill it and submit it to NAINI PAPERS office.
- After screening and validation, we will submit all related documents of the farmer and give him the membership rule book.
- Then the farmer will be member and he will be giving the initial trainings related to FSC P&C and health and safety.
- The farmer is also entitled to attend all consultative meetings and other meetings of NAINI PAPERS.
- The respective block-head will be the responsible person who has to monitor the Growth, Plantation Activities, Fencing and pest management activities.
- There is an equal participation of the member farmer in all these above activities.

10. Complaint Mechanism for illegal harvesting and Farmer's Complaint

Timber theft is a concern for everyone involved in good farm/forestry. The trees in farm/plantation are a valuable asset, which should be protected. Landowners must take the responsibility to prevent timber theft on their property.

Any complaint/information received from any farmer or nearby villager regarding illegal harvesting, immediately concerned field supervisor will go and visit the area. If he found that the information is right, he will give a written complaint to his immediate reporting officer *i.e* .Section Officer for that area. Section officer will visit the area & he will inform to the Management and give a report in the police station for further actions have to be taken.

NAINI PAPERS has its own mechanism for handling farmer's complaint. Format for handling of farmer's complaint is in **Annexure 2.**

11. Membership Policies

INTERNAL AUDIT

Monitoring requirements

1 The Group entity will implement a documented monitoring and control system that includes at least the following:
i. Written description of the monitoring and control system;
ii. Regular (at least annual) monitoring visits to a sample of Group members to confirm continued compliance with all the requirements of the applicable Forest Stewardship Standard, and with any additional requirements for membership of the Group.
2 The Group entity will define criteria to be monitored at each internal audit and according to the group characteristics, risk factors and local circumstances.
3 The minimum sample to be visited annually for internal monitoring is determined as follows:
The group entities who also operate as resource managers will define the required internal sampling intensity at their own discretion for the forest properties they are managing, independent of their size and ownership (the minimum numbers as defined above do not apply here).
4 For monitoring purposes, the Group entity will use the same stratification into sets of like" FMUs as defined by the certification body in their evaluation.
5 The Group entity will visit different members in their annual monitoring than the ones selected for evaluation by the certification body, unless pending corrective actions, complaints or risk factors are requiring a revisit of the same units.
6 In the selection process of members to be visited, the Group entity will include random selection techniques.
7 The Group entity will issue corrective action requests to address non-compliances identified during their visits and monitor their implementation.
8 Additional monitoring visits will be scheduled when potential problems arise or the Group entity receives information from stakeholders about alleged violations of the FSC requirements by Group members.

The monitoring and control system executives will visit the group member's field once in a year to confirm the continued compliance with all the requirements of the applicable Forest Stewardship Standard, and with any additional requirements for membership of the Group. The following criteria are monitored at each internal audit.

- Awareness on FSC Principles.
- Employment of local people by FMU for forest management activities.
- Wages paid to labours as per prevailing local standards.
- Attending training program of worker safety, Health and FSC (Principal Criteria, Indicators and group procedures).
- Intimation to FME on work-related accidents and preferably all safety performance.
- Non employment of Child labour.
- Intimation to FME grievances related to legal rights, damage compensation and negative impacts.
- Processing the harvesting operation locally.
- Minimization of waste.
- Intimation to FME on rare, threatened and endangered species and their habitat, the FME shall use this

information to protect these resources.

- Following silvicultural systems and pest management system.
- Is chemicals used (Yes/No)

If Yes ,
Name
Quantity
Date of application
Method of application
Method of Storage
Remarks (if any)

- Is Manure/Bio-pesticide/Bio-fungicide used (Yes/No).

If yes,
Name
Quantity
Date of application
Method of application
Method of Storage
Remarks (if any)

- Avoidance of Chemicals prohibited by the FSC (FSC-POL-30- 601) or those banned in Europe, U.S., and India, or World Health OrganizationType1A or1B and chlorinated hydrocarbon pesticides
- Safe disposal of Chemical container and other wastes.
- Identification of forest fire
- Record of any accident
- Occurrence of Electric wire over the plantation

The plantation activities are carried out within the state of Uttarakhand & Uttar Pradesh, India. Hence, the group characteristic, risk factors and local circumstances will be similar for all FMUs.
The number of samples visited by the monitoring and control system executives will be 0.6* square root of number of FMU for New FMU‟s and 0.3* square root of number of FMU in case of Old FMU‟s by the field executives of the group entity. The Group entities use the same stratification into sets of FMUs as defined by the certification body in their evaluation for monitoring purposes. The group entity will visit different members in their annual monitoring than the ones selected for evaluation by the certification body. The group entity will revisit the same units on complaints, risk factors or due to pending corrective actions.

Random selection technique will be adopted by the group entity in the selection process of members to be visited. The group entity will issue the corrective actions requests to address non-compliances identified during their visits and monitor their implementation.

When potential problems arise or the group entity receives information from stakeholders about alleged violations of the FSC requirements by Group members then the additional monitoring visits are scheduled

Procedures for internal audits

- Roles and responsibilities of the person managing the audit programme.
- Defining the objectives, scopes and criteria for an individual audit.
- Initiating the audit.
- Assigning work to the audit team
- Conducting the opening meeting
- Performing document review while conducting audit
- Conducting On-site visit
- Collecting and verifying information
- Generate audit findings
- Preparing audit conclusions
- Conducting the closing meeting
- Preparing the audit report

Mr. Basanta Kumar Nayak – Head Agroforestry shall be responsible and authorized for carrying out internal audits and non-conformity control. Organization ensures that the product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery.

Policy for wood harvesting – NAINI PAPERS is having its own policy with respect to illegal harvesting.

Rights and Concessions

The rights permitted inside the plantation area are right of the way and access to water and holy places.

Special Privileges

Collection of firewood/fodder will be allowed to local person after getting the permission from the section in charge without disturbing/ damaging the plants.
The rights will be maximally extended to these categories

- Right to Passage
- Right to Grazing
- Right to way of any religious important site
- Right to NTFP collection and
- Cultural rights

Benefits to the Local Community

Uses of Pulpwood Plantations in Degraded Wastelands

This is a simple arrangement for the benefit of the owners of the underutilized, degraded wastelands. There is no contract whatsoever with regard to the land title. It is only a simple contractual obligation on the part of the land owner to temporarily grant right to grow pulpwood and to sell the produce at a pre-determined price.

Modern and Traditional techniques are adopted involving rain water harvesting, growing of inter crops i.e., Sugarcane, Paddy & Wheat & Pulses between the pulp wood trees & pay attention to individual plants to ensure uniform growth.

All these efforts assure highest yield per acre apart from enriching the ground water table, improvement in the top soil quality, providing fodder for the cattle and lops & tops as a fire wood for free of cost to the farmers; thereby benefiting the wood-based industries in the form of supply of raw material, the land owner, in the form of higher returns per acre in the medium term and improvement of land in the long term.

Providing lops & tops as fuel wood free of cost to the local people consequently reducing pressure on naturally grown forest for fuel wood etc. In fact, the volume of such fuel wood would eliminate the need to raise separate forests for this purpose.

1. Providing free high protein fodder grown in the plantation area.
2. Regenerating the ground water levels of these degraded wastelands.
3. Preventing soil erosion.
4. Enhancing the productivity of these lands.
5. Ensuring enrichment &sustainability of ecology, environment, flora &fauna.
6. Earning precious carbon credits on account of carbon sequestered.

The protection of land and the crop, the entire cost of cultivation, maintenance, harvesting and transportation of the pulp wood will be Naini Paper's responsibility through NAINI PAPERS.

12. Conflict Resolution mechanism

If any complaint is received supported by evidence related to management of FSC-Forest Management Complaints, it would be assessed by the FSC Administrator within two weeks of receipt. In the event that evidence is considered relevant, field verification would be conducted within two months of receipt of the complaint. Field verifications would be conducted by the personnel having sufficient expertise and knowledge for the purpose. The FSC Administrator shall constitute a three-member committee for field verification asunder:

1. A person having domain/plantation knowledge from the local area/area of complaint.
2. An NGO, working in the area in relevant field.
3. A person from NAINI PAPERS Forestry team.

The conflict can be of any of the three types mentioned, between members, between member and Project entity, between member and an outside party.

Between members: If there is any issue between the members, then the project entity will mediate to close the issue amicably.

Between Members and Outside Party: If there is any issue, this is to be resolved with mediation by the Project entity.

Between Member & Project Entity: FSC Administrator will look into the matter and if required will be referred to the Committee constituted for the purpose. Committee shall examine the complaint and verify the documentation during field visit.
All records related to complaint, examinations, findings, action taken shall be maintained for at least five years.

13. Labour Supply

All operations are agricultural operations. The planting stocks are sourced from organized / own Greenhouses/ nurseries whereas; they have to follow the policy of contracts for contractors. The planting operations are conducted with engagement of persons from local area including the land owners themselves. Thereafter, the watch & ward is generally the available persons from the local area or the landowners of the region. All these persons are paid based on prevailing agricultural wages in the region in order not to influence the economics of the local agricultural operations. Subsequent cultural operations up to harvesting are taken care of in similar fashion without affecting the normal agricultural operations of the region.

NAINI PAPERS is strictly following the relevant/applicable laws while engaging the persons for its operations.

Child Labour Prohibition &Regulation Act, 1986 **Annexure 3**
National Child Labour Policy, 1987 **Annexure 4**
The Contract Labour (Regulation & Abolition) Act, 1970

14. Worker Rights& Responsibilities

Farm management operations shall maintain or enhance the long-term social and economic well–being of farm workers and local communities. The communities within or adjacent to farm management area shall be given first priority in employment, training and other services.

Measures shall be taken to avoid the loss or damages affecting the legal or customary rights, property, resources or livelihood of the local peoples.

Health and Safety

NAINI PAPERS is having its own occupational health and safety policy for the stakeholders and it is strictly following National OSH Policy.

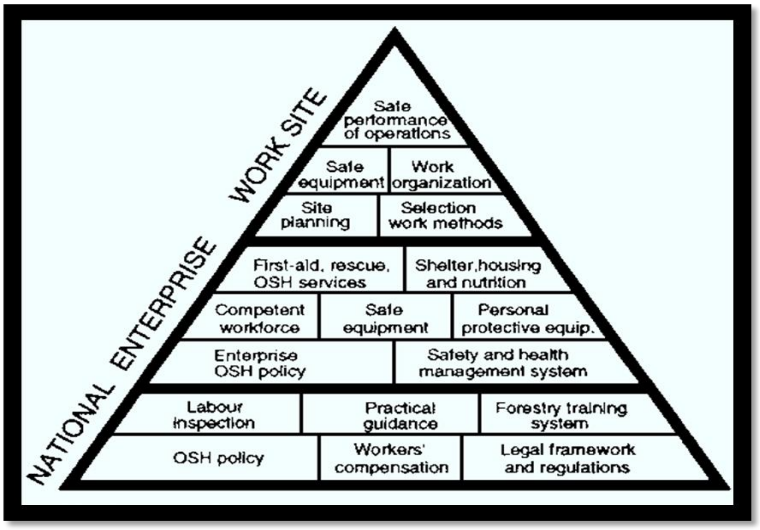
Objective

The objective of this manual is to protect workers from occupational safety and health hazards in farm/forestry work and to prevent or reduce the incidence of illness or injury by providing practical guidelines on:
(a) The key components of safety policies and procedures enterprise and worker levels as an effective means of communicating minimum requirements to all persons concerned, and as an aid to the planning and organization of work;
(b) The establishment of a framework for consultation and cooperation on safety, health and welfare involving those who create the risks, those who are subsequently exposed to these risks and those bodies which are responsible for inspection and enforcement of regulations and standards;
(c) Basic requirements governing the execution of farm operations so that risk of injury or ill health is minimized;

(d) A system for recording, reporting and monitoring occupational accidents & diseases and dangerous occurrences which may be used to measure compliance with requirements and/or the effectiveness of steps already taken to enhance the status of safety and health;
(e) A framework for the allocation of responsibility among the various organizations and individuals which collectively contribute to a positive attitude to safety and health, and which ensure that safety and health have equal ranking with other operational goals and considerations.

General Principles

Satisfactory safety and health levels are achieved when a number of closely related principles have been applied at enterprise and worksite levels. These principles include compliance with laws and regulations, and a clearly defined policy, which identifies the nature and severity of the risks associated with plantation operations as well as the allocation of responsibility to those persons employed at the levels of management, supervision and execution.



Safety and Health measures at enterprise and Worksite level

Legal framework and duties of Naini Papers Limited

Adopt laws or regulations to ensure the safety and health of workers employed in plantation activities and to protect persons at or in the vicinity of a worksite from all risks, which might arise as a result of the work activity.

Laws and regulations are flexible enough and reviewed at appropriate intervals to facilitate their adaptation to technological developments, new situations and standards.

The NAINI PAPERS is giving an appropriate measure such as regulations and inspections, aim at ensuring that farm/forestry workers benefit from the protection of regulations.

National laws or regulations ought to provide that:

(a) Employers have the main responsibility for safety and health in worksite.

(b) Employers are responsible for installing and maintaining work systems and methods that are safe and without risk to health;

(c) Employers should give all necessary training and instruction to ensure that workers are competent to carry out safely the tasks assigned to them;

(d) Employers should install a system where by accidents, dangerous occurrences and

Occupational diseases are reported, recorded and investigated, and ensure that the necessary adjustments are made to prevent or reduce the incidence of these accidents, dangerous occurrences and occupational diseases in the future;

(e) Persons with actual control over or primary responsibility for premises–*i.e.* Forest owners, main contractors, local managers and supervisors – should ensure that such premises are safe and without risk to health;

(f) Manufacturers, designers and suppliers of forestry equipment and substances should be responsible for ensuring that their products are adequately designed and constructed so that they are safe and without risk to health, when properly used;

(g) Workers should cooperate with their employers to ensure compliance with the legal duties imposed upon employers;

(h) Workers should be obliged to take all reasonable steps to secure their personal safety and that of any other person who may be at risk as a result of their acts or omissions at work;

(i) Measures are taken to ensure that there is close cooperation between employers and workers to promote safety and health in farm work.

(j) Contractors should be obliged to comply with all of the applicable foregoing paragraphs according to their status and contractual clauses relevant to safety and health;

(k) Employers should participate with all relevant parties in the establishment of a system of rehabilitation for workers who have been injured in work-related accidents or who have contracted occupational diseases.

(l) The FME maintains up-to-date safety records regularly and examined by zonal managers. The safety records indicate exemplary performances relative to the industrial norm.

(m) The FME has policies and labour practices which guarantee the equal treatment of all employees without any kind of discrimination such as race, gender, religion or caste in relation to recruitment, promotion, dismissal, remuneration and benefits. NPL's policy is to treat all employees equally and also prevents all kind of inhuman activity in the work place.

(n) The FME does not allow the hiring or contracting of workers less than 14 years of age for any kind of works/operations/activities. Farm management examine and verify all the physical records and proofs related to age, physical health condition, intellectual development and worker's moral while recruiting or hiring contractual workers. Farm management of FME strictly complies with standards of International Labour Organization to which India ratified, (ILO Conventions 5, 15, 90, and 123) and national policies, Child Labour (Prohibition and Regulations) Act of 1986 and the National Policy on Child Labour.

(o) The FME recognizes the workers for their policies and actions, the right of free organization in any lawful and legitimate form, in compliance with ILO Convention 87 and guidance from the Ministry of Labour's guide on "India and the ILO."

(p) The FME recognizes the right of workers to bargain collectively with their employers, in compliance with ILO Convention 98 and guidance from the Ministry of Labour's guide on "India and the ILO."

(q) The FME has procedures to investigate objectively and honestly the issues and discrepancies raised by workers and their organizations. Farm management resolves conflict through a systematic approach.

S. No	Name of the Operation	PPEs Used
1	Nursery operation	1. Material Handling Gloves 2. Gum shoes
2	Clonal Propagation	1. Material Handling Gloves 2. Gum shoes 3. Nose Masks 4. Aprons 5. Goggles 6. Chemical Resistant Gloves
3	Planting operations	1. Safety Boots 2. Gloves
4	Silviculture management operations	1. Safety Boots 2. Safety Gloves 3. Fall Protection system
5	Harvesting operations	1. Helmet with Face shield 2. Safety Boots 3. Safety Gloves 4. Fall Protection system
6	Loading/Transportation	1. Helmet with Face shield 2. Safety Boots 3. Safety Gloves 4. Fall Protection system
7	Yard Operations	1. Safety Helmet 2. Material Handling Gloves 3. Gum shoes 4. Nose Masks 5. Goggles

List of Safety Equipment's Used for Various Activities

1. Fire Extinguishers
2. Fist Kits
3. Safety signs and tape
4. Storage cans and cabinets
5. Disposal Cans and bags
6. Respiratory Protection systems
7. Personal Protective Equipment's
8. Sand Bucket

15. Supply Chain Procedures

Selection of FMUs

Raw Material department of plantation at Naini Papers Limited gathers the information and exercise the verification programme, which will include verification of documents confirming the authenticity and legal status of the FMUs, process of procurement from the source and Transit compliances required as per the rules.
Nominated Field manager/Supervisors will do the field visit to verify the legality of documents.

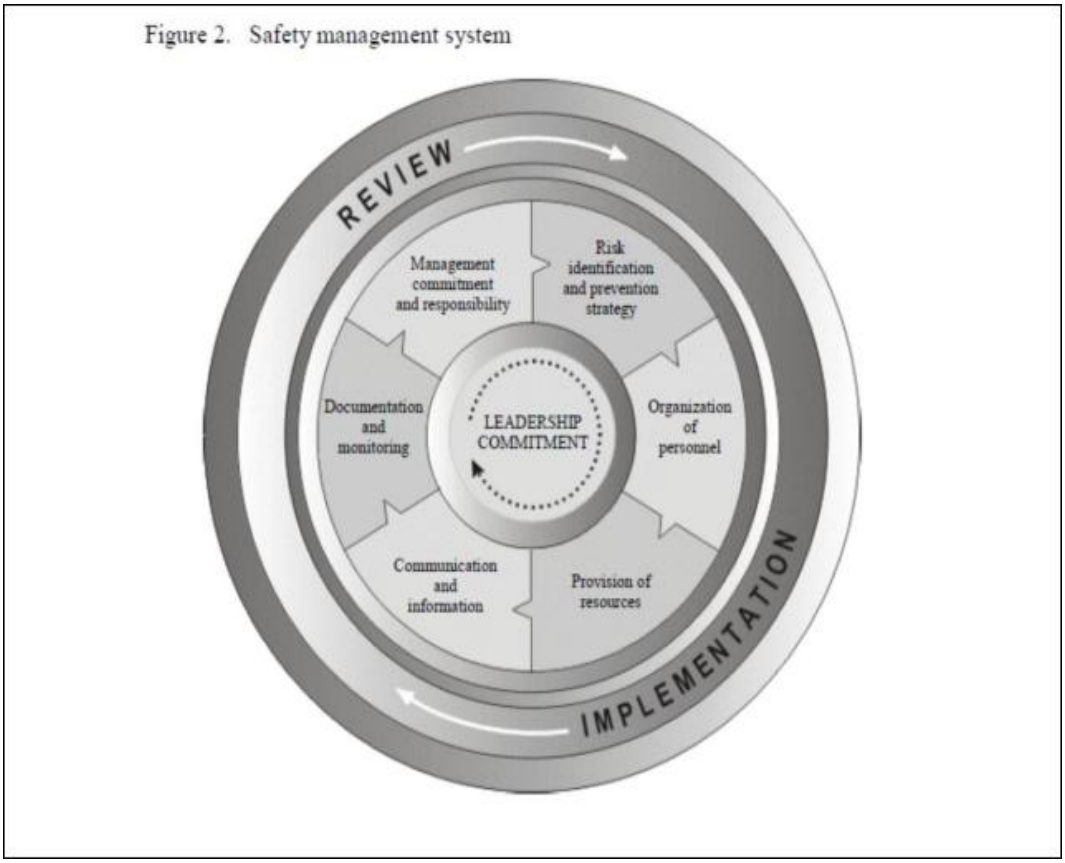
In Naini Papers, Raw Material Department is solely responsible for procuring & supply of raw material required for the pulp & paper production of the Naini Papers. Majority of the material will be debarked at field level and transported to mill. After obtaining the annual requirement of wood raw material a detailed study will be made regarding the availability of the wood raw material in different areas and planning is done to procure the material at best available/optimal rates. These raw materials woods are procured from FMUs Uttarakhand & Uttar Pradesh. Generally, raw material is procured from those FMUs who are ready to harvest. Wood will be extracted from the FMUs after their consent of harvesting, after harvesting before transportation wood is weighed and then transported directly to the Mills with necessary documents (like raising PO, transit pass- Mandi Tax, Farmers details etc). Then Delivery challan issued by the mill and at gate pass is issued and payment will. be done directly to the account of Motivators who brings wood from FMUs field. After receiving the wood in our wood yard, the payment will be transferred to Motivators through online in their bank account and then both Naini Papers staff and Motivator ensured the amount transferred to FMUs. There is a separate yard for the FSC FM wood at the mill with proper demarcation at the yard.

Separation will be done physically. And procured wood again weighed at the yard and by checking the purchase order and green challan issued for this FSC FM wood and stored at the yard. Naini Papers will follow the various terms & conditions that will vary depending upon various Acts and Rules prevailing in the state.

Responsibilities and duties of Naini Papers Limited

Naini Papers is primarily responsible for occupational safety and health in the farms/at work place. Naini Papers is making all the efforts to reduce hazards at, or in the vicinity of work sites to as low a level as possible.
Naini Papers is ensuring compliance with all relevant laws, regulations and codes of practice regarding safety and health's has developed and implementing adequate requirements of its own, where laws and regulations have not been enacted.

When possible, Naini Papers shall establish committees with representatives of workers and management or make other suitable arrangements for the participation of workers in promoting safe working conditions.



Safety management system

NAINI PAPERS has systematically identified the hazards and likely effects on safety and health which may be caused or arise from farm/forestry activities, involving managers, supervisors and workers in this identification procedure, as appropriate.

Duties of Managers and Supervisors

Managers and supervisors are responsible for implementing the NAINI PAPERS's safety and health policy, including through the selection of safe equipment, work methods and work organization. They should endeavour to reduce risks and hazards to safety and health in the activities for which they are responsible to as low a level as possible.

Managers and supervisors use to ensure first that workers and contractors receive adequate information on safety and health regulations, policies, procedures and requirements in accordance and satisfy themselves that this information is understood.

In consultation with workers, managers and supervisors used to assess the need for additional instruction, training or further education of workers by monitoring compliance with safety requirements.

Supervisors are responsible for:

(a) Compliance with safety regulations;

(b) Maintenance of safe working techniques;

(c) Use and care taken of personal protective equipment;

(d) Care taken of tools, machines and equipment, particularly any devices which are provided in the interest of safety.

Responsibilities and duties of Motivators

Motivators employing workers are regarded as employers for the purposes of this code. The provisions pertaining to the responsibilities and duties of an employer shall apply to such contractors accordingly.
Contractors should be registered or hold licenses where required by law or regulation or where recognized voluntary schemes exist.

Rights and responsibilities of Workers

All workers should cooperate closely with NAINI PAPERS to promote safety and health at worksite.
Workers or their representatives have the right and duty to participate in all safety and health related matters, particularly by participating in safety and health trainings. Workers have the right to obtain proper and comprehensive information from their supervisors or managers regarding safety and health risks and measures relating to their functions. This information shall be presented in a form and language, which the workers readily understand.

Managers or Supervisors clearly informed to all the workers that

- They should take reasonable care of their own safety & health and that of other persons who may be affected by their acts or omissions at work.
- They should comply with all prescribed safety and health measures.
- They should make proper use and take good care of all personal protective equipment and clothing.
- They should not operate or interfere with tools, machines and equipment that they have not been duly authorized to operate, maintain or use.

Qualifications/ Skills of Managers, Supervisors and Operatives

Managers and supervisors should be in possession of an appropriate qualification ensuring that they are able to:

(a) Plan and organize farm operations.

(b) Establish and maintain a safety management system.

(c) Monitor the status of safety and health in those operations for which they are responsible.

(d) Take remedial action in the event of non-compliance with requirements.

Training for Operatives

NAINI PAPERS/ its representatives have given clear instructions to all the farm workers that No person should perform farm work if they do not have the required level of skills and knowledge.

Unskilled persons, either new entrants to the industry or workers assigned to new jobs, are especially likely to have accidents. Effective training should therefore be part of the safety policy of the undertaking.

Prior to initial assignment to a specific task all workers use to undergo appropriate training. This training shall have clearly defined learning objectives, structured and be conducted by a qualified instructor/person.

Qualifications of Contractors

Contracts for services are containing standard clauses requiring contractors to employ only workers who possess relevant skill certificates and to comply with national, local and NAINI PAPERS's safety standards.

Safety requirements for tools, machines and hazardous chemicals

NAINI PAPERS has given the necessary instructions to all the field offices that all tools, machines and hazardous chemicals used in farms should:

(a) Comply with safety and health requirements as prescribed in international or national standards and recommendations, wherever these are available;

(b) Be used only for work for which they have been designed or developed, unless a

Proposed additional use has been assessed by a competent person who has concluded that such use is safe;

(c) Be used or operated only by workers who have been assessed as competent and/or hold appropriate skill certificates.

While purchasing the tools and / or engaging the machines care shall be given on its design and construction, taking into account health, safety and ergonomic principles, and they should be maintained in good working order.

The specification of tools, such as size, length of handles and weight, shall be appropriate to cater for the needs of the work.

When tasks are performed using hazardous chemicals, personal protective equipment shall be provided in accordance. There is a sufficient supply of necessary personal protective equipment readily available to ensure that operatives are consistently aware that safety and health is of paramount importance.

First aid, emergency rescue and occupational health services

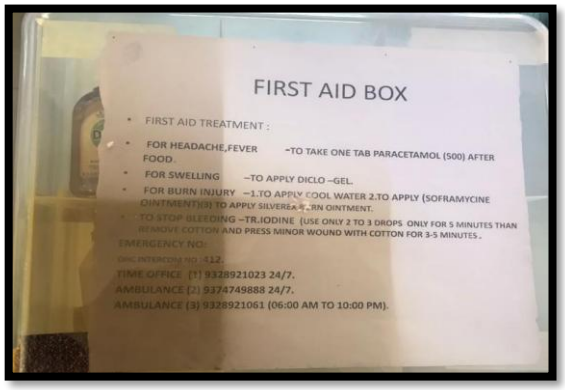
First aid

Since it is common that farm workers work in small groups at separate locations, every worker has to be trained basic first aid. This training includes the treatment of open wounds, and resuscitation. In areas where the work involves the risk of intoxication by chemicals or smoke, snake-, insect- or spider bites or other specific hazards, first-aid training shall be extended accordingly in consultation with an appropriately qualified person or organization.

First-aid training used to repeat at regular intervals to ensure that knowledge and skills do not become out dated or forgotten.
Well-maintained first-aid kits or boxes are readily available at the worksite and shall be protected against contamination by moisture and debris. These containers are clearly marked and containing nothing other than first-aid equipment.
All operatives are informed of the location of the first-aid equipment and the procedure for obtaining stocks.

CONTENTS OF FIRST-AIDBOX

1. Soframycine Tube.10/15 Gm tube — One
2. Tab Paracetamol 500mg — 20Tablets
3. Diclofenac gel. — One Bottle
4. Adhesive Tape–½”and1” width — One Each
5. Antiseptic solution100ml. — One Bottle
6. Cotton Roll–Small100Gm — One Roll
7. Bandage-1”, 2” &3” width. — One Each.



Occupational health services

The primary aim of medical examination or health questionnaires is to protect individuals and to provide baseline data for further improvement of occupational health. Care will be taken to observe relevant human rights legislation.
It is clearly informed to all the workers and / or their representatives to maintain good health and safety, all workers should cooperate to undertake periodic medical examinations.
Occupational health services shall be provided by professionals who are qualified to deal with problems specific to forestry work.

Technical guidelines for safety and health at the worksite Planning and organization of work

All farm activities are thoroughly planned and organized in advance to prevent inefficiency and to ensure proper levels and control of safe practice and work progress.
The planning and organization of operations are based on a farm management manual, which indicates:

(a) What type of work is necessary;

(b) The objectives of the operation;

(c) The location of designated worksites;

(d) The time schedule for specific operations;

(e) Specifications for products or other outputs;

(f) Specifications for working methods to be used;

(g) The person responsible for carrying out and supervising the operations;

(h) A contingency plan in the event of bad weather or problems with equipment.
NAINI PAPERS used to assess infrastructure requirements prior to work, taking into account the present location, the traffic ability of roads and trails, and the need for additional installations. Evacuation routes and procedures in case of emergency will be plan thoroughly.
The location of shelter facilities and storage for tools, equipment and material are used to be determined and prepared well in advance, in order to reduce the workload and to increase productivity by avoiding strenuous carrying of loads over long distances.

Site inspection and planning

The variable environment in which, farm/forestry operations will carry out gives rise to many different situations. It is essential to evaluate environmental factors that have an impact on safety as part of the planning process.
NAINI PAPERS used to consider the following points before initiating the work

(a) The topography of the land.

(b) Working methods and equipment to be used.

(c) Consultations with the responsible party on standing live or dead trees that can be safely retained as natural habitat.

The NAINI PAPERS has clearly defined the tasks and responsibilities of workers and managers & supervisors. This includes

(a) Job specification;

(b) Location of the worksite;

(c) Required tools and machines;

(d) Identified risks and relevant safety rules;

(e) Required personal protective equipment;

(f) Information about rescue procedures in the event of an accident requiring evacuation;

(g) Need for liaison with other workers, including any contractors.

Handling and planting of chemically treated plants

Workers will be informed, when plants have been chemically treated. If treated plants have to be planted, workers will be instructed about the health risks arising from the chemicals used. Information and training have been provided on safe handling procedures and the requirements for personal protective equipment.
Treated plants and other contaminated material used to keep separately from rest and eating areas, stored personal clothing and other personal belongings.

For handling and planting seedlings treated with hazardous chemicals prior to the expiry of toxicity, NAINI PAPERS will provide workers use personal protective equipment.
This includes:

(a) One-piece suit or trousers and a jacket chemical resistant material;

(b) Chemical-resistant boots;

(c) Chemical-resistant gloves.

Harvesting

Harvesting operations will be planned well in advance to promote efficiency and ensure proper guidance and control. This is particularly important where preparations have to be made such as the planning and layout of extraction routes.
A detailed transportation plan shall be drawn up including:

(a) The amount of timber to be harvested.

(b) The specifications of produce.

(c) The means of transport to be used for extraction.

During all operations, the worksite will be kept as clear as possible. It should be large enough to allow machine operators to be able to retreat there safely and speedily in case of an emergency.

Felling and conversion

When planning, the felling direction, the method of extraction and the route are important factors, because safety and productivity are highly dependent on how logs are positioned relative to the direction of extraction.

Felling areas will be divided into zones, which shall be allocated to workers engaged in that operation, so that no two workers are closer than twice the length of the tallest tree to be felled.

Special care is required when work is carried out on slopes. If the gradient is steep, workers are not be allowed to work directly below others. Operations should be so planned as to prevent workers being exposed to rolling or sliding material.

Manual de–branching/debarking

Initially, Workers / field supervisor will ensure that trees are in a stable position before any de-branching commences. When trees have been felled across a slope, the lower side branches used to be removed first to ensure that most of the de-branching can be done from the relative safety of the upper side.

Extraction

Specific local conditions require different extraction methods. Means of extraction will be selected after considering the following factors.

- Soil disturbance and damage to the remaining crop should be minimized as far as practicable, by using an appropriate extraction method.
- Extraction routes suitable for the extraction method and direction will be planned prior to the operation and clearly marked in the working area.
- Generally, logs will be prepared prior to extraction operations by cutting the min to the designated specification, to control the weight of the load and minimize damage to remaining trees.
- For safety and environmental reasons, extraction operations shall be suspended during inclement weather.
- Note: Uprooting: Once the material has been harvested and uprooted, it is taken by the locals for use as fuel.

Landing and stacking

Landing location, design as well as stacking places shall be identified during harvesting planning. Landings will be kept as clear as possible and well drained. Produce will be stacked on firm, level ground or some other sound base. Stacks shall be made and maintained in a stable and secure condition.

Loading and transport received

NAINI PAPERS is having a standard for loading the material from the plantation site/stacking point in to vehicle, which includes

- Vehicles being loaded will be parked safely and braked securely.
- No person should be in the cab or on the platform of the vehicle while loading is in progress.
- Truck loads should be properly balanced and secured by binders that are of sufficient strength to prevent logs from becoming dislodged or shifting in transit.
- Workers operating in loading and transport operations should be equipped with and wear personal protective equipment.

Transport

All truck transport will be carried out in a manner that will minimize road damage.

Field supervisors are responsible to ensure that the driver is fulfilling the standard of NAINI PAPERS for transporting the material, which includes;

(a) Hold allegedly required license appropriate for the type of vehicle they are operating.

(b) Observe road traffic regulations at all times.

(c) Have a thorough knowledge of the regulations and instructions for operating the particular type of vehicle they are driving.

(d) Be able to carry out routine servicing and minor repairs.

(e) Have the final responsibility to ensure that the truck is loaded correctly and securely and that the truck is not over loaded.

Trucks will not approach a landing when there is a danger from incoming produce.

Vehicles will not be overloaded. **Riding on any part of a timber truck other than in the cab is strictly prohibited.**

Equipment provided by Naini Paper Limited

- Safety shoes
- Harvesting safety suit (jacket, pant, eye glasses, gloves)
- Axe or saw (Axe preferred)
- First Aid box
- Mask
- Safety Helmet

PPE Kit provided to the harvesting labourers by field officers (Naini Papers Ltd).

Training Records

(Health and safety, Contractors, Motivations, and Benefits etc)

The NAINI PAPERS has conducted FSC Training as per requirement of FSC FMU standard for the concerned staff, farmers & contractors and all training records are being kept for a minimum period of 5years.
FSC training has been given to all concerned staff working on different processes.
The NAINI PAPERS has conducted FSC awareness training as per FSC FMU standard to all the existing farmers and staff. In the training, NAINI PAPERS had provided awareness regarding FSC FMU, its standards and documents or records to be collected from the farmers. Management Representative is the responsible for Trainings.
NAINI PAPERS is maintaining the cordial relations with the neighbours (neighbouring farmers are identified and listed), NAINI PAPERS is providing the training to them (even though they are not a member of the NAINI PAPERS) regarding the responsible management of farms and Health &Safety.

16. Financial Forecasting

NAINI PAPERS is having an excellent rapport with the financial institutions, banks and user industries, which can fund for this type of Afforestation programmes.

17. Pesticide policy

Methods of Compliance

Naini Papers Ltd. will endeavour to make its associated farmers aware of the safe use of chemical pesticides, promote non-chemical methods of Pest Management through rigorous training, monitoring and periodic assessment under or farm forestry program.

Naini Papers Ltd advocates a policy of adherence to the following principles:

- The identification and avoidance of highly hazardous pesticides
- Promotion of, non-chemical "methods of pest management as an element of an integrated pest and vegetation management strategy.
- Appropriate use of the pesticides that are used

Worker Information

Having well informed and educated / trained workers are very important when applying the pesticides. All workers who have the potential for exposure to a pesticide due to their proximity to the area where the pesticide is going to be sprayed shall be informed of the intent to use the pesticide

- The hazards associated with its use and
- The precautions required during the operation.

Qualifications of Applicator

Any worker, who mixes, loads or applies a moderately or very toxic pesticide for use in the workplace or who cleans or maintains equipment used in pesticide applications has to

- Be older than 18,
- Physically strong enough

Safe Work Procedures Storage

1. Pesticides are stored in separate building. The building is locked at all times when not in use. Only concerned staff has keys to the building/shed.
2. The pesticides are stored according to their classification Emergency numbers are kept on the inside of the shed door.
3. This is the only location on campus where pesticides are stored.

Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) shall be used when a worker cleans, handles or maintains equipment, materials or surfaces contaminated with pesticide residues.

1. The worker is provided with wears suitable protective clothing and equipment.
2. Contaminated protective clothing and equipment is stored in a secured place and is not used until it is laundered or otherwise cleaned.
3. If needed, adequate facilities or services are available to launder contaminated protective clothing.
4. A change room or sheltered place is provided where applicators can change clothes and store personal belongs while wearing protective clothing.

This equipment includes, but is not limited to:

- Rubber Gloves;
- Respirator and suitable cartridges;
- Face Shield/Mask;
- Chemical Resistant Goggles;

NAINI PAPERS has given strict instructions to the Managers and supervisors that they are responsible for ensuring that appropriate PPE is available to workers, Training has been given to the concerned staff and workers.

Mixing and Loading Pesticides

1. Label precautions are checked and followed.
2. Pesticides are mixed outside on concrete.
3. When mixing outside weather conditions are taken into consideration - not done on very windy days and operator stands upwind.
4. Containers of pesticide are kept be low eye level when being poured to reduce the risk of splashing in to the eyes.
5. The label of the pesticide is held in the palm of the hand to help prevent the pesticide running onto the label and possibly damaging the label.
6. Bags of pesticides are opened using a knife to prevent spills or dust becoming air borne which is likely if the bag is torn.
7. Wettable powders are pre-mixed with a small amount of water before being added to the back pack sprayer.

Before going for application of the pesticide, Naini Papers will take the following steps.

1. Equipment (PPE and application) is collected.
2. PPE equipment is checked to ensure it is appropriate for the pesticide.
3. Application equipment is checked to make sure it is not leaking and the nozzles are not plugged or worn.
4. Seals on the filter openings are checked to make sure they will prevent spillage.
5. Post warning signs at normal points of entry to the area being sprayed.
6. If the pesticide is highly toxic operators are not allowed to work alone.
7. The pesticide cannot be applied at a rate greater than that on the label.
8. The lowest possible application rate that will do the job should be used.
9. The spray is released as close to the ground as possible to prevent drift.
10. If the wind speed increases during spraying, then spraying has to stop until the speed drops.

Entry to Treated Area

People/workers are not allowed to enter in to treated area until the restricted entry interval is over.
The length of the restricted entry interval is a minimum of:

1. 24 hours for as lightly toxic pesticide;
2. 48 hours for a moderately or very toxic pesticide and for any mixture in which moderately or very toxic pesticides are present; or
3. The interval specified on the pesticide label if that interval is longer than the above intervals

If, before the restricted entry period expires, Naini Papers authorizes worker to enter a field

1. The hazards to the worker have been assessed by a qualified person
2. The worker is provided with and is wearing the proper personal protective equipment, and
3. The worker follows the proper procedures

Disposal of Pesticides and its Containers

All empty pesticide containers are triple rinsed once empty. The container is filled at least one-fifth full with the rinsing agent, which is capable of removing the pesticide- normally water. The container is closed and shaken to rinse all inner surfaces, then open and drained for at least 30 seconds.

1. The container is then cut up so it cannot be reused and put into the dumpster.
2. The rinse water from rinsing the container runs into the drive way to evaporate or leach into the ground.

NAINI PAPERS has given strict instructions to all the managers, supervisors that they should ensure that

1. Smoking, eating and drinking are not allowed while working with pesticides.
2. Hands and face are washed before breaks and meals
3. PPE is properly washed.
4. Once clothing is removed it is stored in plastic bags prior to washing
5. If the clothing is saturated it is discarded
6. A complete change of clothes is put on
7. Clothing is washed separately.
8. If badly contaminated the clothing should be re-washed two or three times
9. The machine is thoroughly rinsed after washing is complete

Pesticide Spills

Labels and MSDS's of pesticides are reviewed to ensure that the correct spill clean-up materials and equipment are available.
The following is kept ready at or near storage, mixing and loading sites:

1. PPE
2. Kitty litter
3. Long handled broom
4. Shovel
5. Waste-receiving container with a lid

NAINI PAPERS has given training and clear instructions to the staff regarding the actions to be taken when a spill occurs:

1. Keep people (and animals) away from the area.
2. If applicable, do not allow people to drive through the spill area.
3. If the spill is small and can be handled without assistance, start clean-up immediately.
4. Put on the recommended PPE. If the spill occurs in a room or shed, ventilate the area-open doors and windows and use fans if necessary.
5. Do not wash away the pesticide. It takes a lot of water to dilute a pesticide to non-hazardous concentrations.
6. Dike the pesticide to prevent its spreading. Use booms, soil, sawdust, old newspaper or anything to soak up the pesticide.
7. Absorb or soak up as much pesticide as possible using absorbent material.
8. With dusts, dampen with water using a fine mist before sweeping. Do not use a vacuum unless fitted with a HEPA filter
9. Place waste material from spill clean-up into a water-proof container that can be removed from the area. Label the container with the name, PCP number and quantity. Treat as hazardous waste. Contact the Ministry of Environment for advice on disposal.
10. Decontaminate the affected surface(s). Check the label and MSDS and if necessary, contact the Ministry of the Environment
11. The decontamination solution should be worked into a hard surface, e.g., concrete, using a coarse broom or scrub brush. The solution should then be picked up using fresh absorbent which is then treated as above for disposal.
12. If there is a small spill on soil, make up a solution of bleach and water (one gallon of each) and spread over the spill area. Then spread hydrated lime liberally over the area and leave it to stand for at least an hour. Remove the top 2 to 5 cm of soil where the spill occurs and bag as above.

18. Integrated Pest Management

IPM describes the activities aimed at both preventing and controlling pest outbreaks. In general, healthy trees are able to resist insect attack through their own natural defences. Though Eucalyptus is not affected by any major pests or diseases, we will maintain vigil through monitoring and also suggest preventive measures for management of pests in FMUs. As part of our overall pest management strategy, we do not promote use of harmful pesticides.

FMUs will carry out required POP such as cultural operations like ploughing, soil working, water conservation measures that encourage better tree growth and help prevent insects & diseases from affecting the tree.

When a tree is attacked, the affected portion can be cut and removed or the whole tree can be cut and removed so that the pest does not affect others. We shall try to identify its natural enemies and identify factors that may be reducing the population of the natural enemy of the pest.

Chemical pesticides

We discourage use of chemical pesticides since they can be hazardous to a wide variety of insects and animals and not just the ones targeted. They can also pose risks to human health. As such a list identified by FSC as prohibited chemical pesticides which include chemicals that have been identified by the World Health Organization (WHO) to be extremely hazardous (Class 1A) or highly hazardous (Class 1B) to human health and persistent chlorinated hydro carbon pesticides (DDT).
We are encouraging organic pesticides such as Neem/ Mahua/ Karanj cake (de-oiled cake of *Azadirachta indica/ Madhuca indica/ Pongamia*), which are useful for controlling pests and also as fertilizer. We will keep necessary records of any pesticides or fertilizers group members use in the FMUs.

Use of Fertilizer

Chemical fertilizers stimulate plant growth in the plantation field but the chemicals pose a threat to human health and environmental safety. Even the small-scale use of a farmer requires attention to the way fertilizers are stored and applied. Learning how to safely use chemical fertilizers reduces risks for immediate harm and long-term damage.

Proper Storage of Fertilizer

The original fertilizer packaging is the safest storage container for any leftover chemicals that you want to save. Keeping the packaging ensures the fertilizer is not confused for a different product and ensures the instructions are kept with the chemicals.

All plantation related chemicals including fertilizer should be stored in a garage, shed or other area outside of the main part of their home, to avoid contact. Extreme temperatures may cause damage to the chemicals. Extreme heat can turn liquid chemicals into a gas. Choose a location that keeps the fertilizer away from weather elements, including extreme temperatures and moistures.

Follow Package Directions:

Even if we know how to apply fertilizer, reading the package is a simple precaution that can prevent personal injury or environmental damage. The packaging tells us how, when and where to apply the chemical to ensure the fertilizer is appropriate for your needs. The instructions outline necessary precautions for storage and application

Mixing of Fertilizer*:*

When mixing and loading fertilizers, it is inevitable that a spill will occur. Using proper clean up procedures and precautions to minimize spills, will reduce or eliminate environmental risks.

Guidelines to be followed while mixing and loading chemical fertilizers

For dry fertilizer, if we use a permanent mixing and loading area, the mixing pad should be impermeable. Sweep up any spilled dry fertilizer, and store it in a clean container until it can be used.

Application

Ideal application conditions are on days with mild weather when temperatures are not too high. The fertilizer application should be done around plants and in between rows, avoiding areas where chemicals wash off and contaminate nearby water ways. A light irrigation after applying the fertilizer forces the fertilizer to be effectively used in the field. When we are using the fertilizer, we should use gloves to prevent any kind of damage to our hands.

Avoid Overuse:

Excessive fertilizer often harms plants instead of making them grow better. The extra fertilizer may also leach into the ground or wash away, leading to a greater potential for pollution. The fertilizer requirements vary by plant type and species. A slow-release fertilizer stretches out the release of the chemicals for longer-lasting effects without frequent applications.

Disposal of fertilizer Bags/Container:

- Consider reuse options
- Store silage bales on concrete areas where possible; remove wrap prior to transporting the bales to the feeding area. Handle all silage film from bags and clamp to avoid dragging on soiled areas
- Fully empty out packaging e.g., fertilizer bags–shake or brush if appropriate. Wash them properly, but keep in mind that the water does not flow to water body, where it can contaminate the water.

19. Fire Management Policy

Careful IFM is an essential component of the Forest Management Plan in areas with a risk of forest fire, or those forest areas that naturally had regular forest fires. In many regions of the world, small scale forest fires are common and cause little damage to the majority of forest plant and animal species. In fact, there are some plant species specifically adapted to frequent small fires.

However, large amounts of slash from logging operations, as well as other dry organic materials, can increase the frequency and intensity of fires, resulting in catastrophic damage. Plantations and Agroforestry in the tropics can be highly susceptible to fire, especially in areas where slash and burn agriculture (**Podu**) is commonly used to clear vegetation.

First, we discuss with the community/ owners/growers whether fire is common in their area, and how often and to what intensity the fires usually burn. We have to find out if there are certain seasons when the risk for fire is higher, and if they do anything to prevent fires.

An IFM plan can help reduce the risk of forest fires by combining prevention and control methods. The relevant factors considered for the fire management plan are: the forest/plantation type (Eucalyptus is highly susceptible) and management activities, risk and sources of fire, access and terrain, climatic conditions, adjoining land uses, social and economic factors and the fire management capabilities of the community/grower.

Majority of the fire outbreaks in the plantations are in the spring and summer season (Feb - May), when there is a high probability of small bushes and grass growing and also slash and burn is prevalent in the adjoining areas. As part of the plan farmers / growers are educated and trained on fire risk, safe use of fire and fire prevention. Fire suppression methods include a system of fire beaks/ lines where the dry grass/bushes are burnt under controlled conditions to prevent fire from neighbouring area from affecting the plantation and removing dry grass/bushes within the plantation area (FMU) to prevent fire.

Description of the project area

The NAINI PAPERS Forest Management area is located in Uttarakhand & Uttar Pradesh. It is spread out over 500 hectares. The FM consists of Eucalyptus & Poplar which are being managed under the Agroforestry and Farm forestry model. All of the FM area belongs to farmers and has no Government involvement. Quite a few of these land owners have diversified crops on their lands and grow timber as an alternate crop a part from such as Sugarcane, Banana, Paddy & Wheat; The soil qualifies as mix of Sandy, Black Cotton, Clay soil and irrigation is done by water canals and two to three major rivers like Dhela, Ganga, Yamuna etc.

Initially, the plantation sites were unproductive & degraded without any commercial value: History and current vulnerability to fire.

There is no history of out-of-control fires in the plantation sites. However, there is a low/medium danger that fire Hazard may increase in dry area especially in summer season. Hence, a fire management plan is required to counter increased risk of fire.

Farm fires

There are three kinds of farm fires:

- **Surface fire**

In this case, dead grasses, pruned branches, dead trees or felled trees and dry litter accumulated on the ground are considered as fire hazards.

- **Ground fire**

Organic matter in the soil may ignite and burn over a long period. It always starts as a result of surface fire passing over the area but may persist over long time and is liable to flare up and cause further fires in the area at any time until it is fully extinguished.

- **Crown fire**

This occurs when fire enters the crown of trees and spreads from crown to crown. Generally, crown fire is more destructive than surface fire because sparks could fly over a wide area and cause fires to spread some considerable distance from the main outbreak.

Assets threatened by fire

The assets threatened in the case of fire are the plantations and the carbon stock and biodiversity they represent.

Degree of fire risk and fire history:

There is no history of significant fires in the farm area and historically fire risk has been low. However, NAINI PAPERS used to conduct workshops and trainings in this regard. It provides an integrated approach, which includes the following elements.

- Community participation in fire protection.
- Fire prevention (firebreaks.)
- Fire pre-suppression (e.g., collection of fire intelligence)

Training for Fire Management given to the, field officers, labourers & Farmers: -

Training is first given to the field officers by- Naini Papers Ltd (Safety Officers, EHS) quarterly and also by consultants, twice in a year. Then field officers conduct the training programme for farmers based on their availability. Later on, Field officers also give training to harvesting labourers before they start harvesting the farm.

Points covered in the training given: -

1. How plantation fires are a serious threat to a farmer's livelihood?
2. With organic materials like hay and feed, plus large mechanical equipment that generates heat and exhaust gasses, a typical farm has several potential fire hazards.
3. A plantation action plan should be an integral part of your overall business management. The plan should include regular fuel reduction and an adherence to good farm practices

4. **Preventative maintenance for farms: -**

- **No smoking**: Never allow smoking in farms. Discarded cigarettes should not be left on the ground.
- **Clear the clutter**: Keep farm areas clear of bush and other flammable debris. Move flammable items away from heat sources, and clear away dirt and dust buildup from appliances and equipment to prevent overheating.
- **Refuel outside**: Refuel equipment outdoors, away from open flames. Make sure engines are not running or still hot before refueling. Keep fuel and other combustibles away from dry bushes.
- **Weeds, twigs, and other trash** should be kept mowed or picked up from around the farm.
- **The temperature of composting manure** should be closely monitored. If not managed properly, microbial activity associated with normal composting can result in spontaneous combustion of manure piles. If an increase in temperature is detected or expected, manure piles should be turned and distributed into small piles to increase exposed surface area to allow for heat loss. If the temperature of the manure pile reaches upwards of 180 °Fahrenheit, there is a risk of spontaneous combustion
- **Keep extinguishers ready**: Portable fire extinguishers should be properly maintained, regularly inspected and easy to find in farms, especially near mechanical equipment and areas that contain flammable materials. Train your employees how to properly use extinguishers and where to find them.

5. Which types of fire extinguishers should be used?

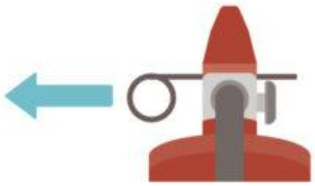
   There are several types of fire extinguishers available, but the best type for farm use is a multipurpose "ABC" type. ABC extinguishers generally use ammonium phosphate as the active chemical to extinguish a fire and are capable of putting out most common fires.

6. How to properly use a fire extinguisher?

How to Properly **Use a Fire Extinguisher**

While the specifics may vary depending on the model you own, most fire extinguishers operate the same basic way. Stand six to eight feet away from the fire and remember to **PASS:**

PULL

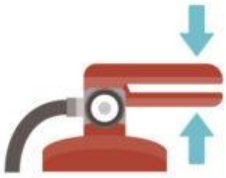


1. Pull the pin at the top to break the tamper seal.

AIM

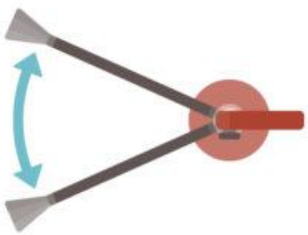
2. Aim the extinguisher low, pointing the nozzle at the base of the fire. Do not aim at the flames themselves.

SQUEEZE



3. Squeeze the handle to release the extinguishing agent.

SWEEP



4. Sweep the extinguisher from side to side, continuing to aim at the base of the fire until it appears to be out.

NAINI PAPERS appoints firewatchers in the fire season. These teams are responsible for detecting and locating fires. If they are in the vicinity of the fire and the fire is still small, the team may attempt to extinguish it. If the fire has already taken hold, one team member will inform to other teams and local fire stations whilst the others begin suppressing the fire.

Community involvement/ ownership of plantation

The importance of broad-based support from all sectors to NAINI PAPERS, particularly civic organizations and groups is widely recognized. Providing communities with user rights to the forest is the first and strongest line of defence against forest fire. By effectively making the forest are source which belongs to the community a very strong incentive for forest protection has been put in place.

Timing of silvicultural operations, which tend to increase fire hazard will be adjusted to avoid extreme fire risk periods. After annual tree pruning activities, the local communities will remove the pruning wastes for their personal or communal use. Lower branches will be pruned to half the height of the trees. These actions will greatly reduce the likelihood of surface fires, which in turn will diminish the likelihood of ground and crown fires. As grass and firewood collection are economic activities (income generating, and meeting domestic needs) there will be no need to provide incentives for these activities.

Conclusion

The primary responsibility for protection of the farms from fires rests with the communities surrounding it. NAINI PAPERS is showing strong interest in ensuring that, the plantations should remain free from fire damage. However, in NAINI PAPERS plantations there is no problem with crown fire. There is a fire hazard with surface and ground fires. Firewatchers will be appointed during the fire season to keep strong vigil against the outbreak of fire in the plantations. Prior to fire season, the boundary cleaning will be done by cutting the grass or other vegetation's to prevent the spread of fire into plantation area. Apart from cleaning, regular fire line or breaks of standard width will be maintained inside the plantations to avoid fire spreading. Controlled burning is also being done along the periphery of the plantations to avoid fire outbreak.

20. Compensation policy

Naini Papers Limited is committed to give compensation to farm farmers and neighbouring farmers of its operational areas for any damages to their properties like

1. Damaging to walls/boundaries
2. Damage in electrical wiring
3. If wood logs fall on standing crops
4. Road damages
5. Damage to common water bodies *etc.*

Procedure: If NAINI PAPERS management has received a complaint/claim from the victim farmer or village representative, management will appoint an advisory committee which consisting four persons including victim farmer, concerned section/ area manager, representative from NAINI PAPERS and representative from the village. As per there commendation given by the committee after the field investigation, NAINI PAPERS will pay the compensation and the compensation paid will be recorded and keep in the field offices.

Compensation paid report

Sl. No	Date	Name & Address of the Farmer	Activity during the damage has been reported	Compensation paid	Advisory committee members

21. Farm Management Plan

Objectives

- Develop & promote plantation on marginal/ degraded lands through integrated land use planning and a participatory approach to provide wood on a sustainable basis.
- Reduce pressure on natural forest by creating wood resources in association with farming community on their own lands.
- Improve the economic capacity of small and marginal farmers.
- Improves soil & water conservation and promote multiple land use through Agroforestry.
- Build capacity of the various stakeholders to benefit from global mechanism of FSC Certification.

The project contributes to **sustainable development** in the following ways:

- Development of institutional mechanisms for implementing FSC-FM project activities.
- Promotion of local financing arrangements for restoration of unutilized lands by farmers to meet the cost of plantation and maintenance;
- Identification of farmers and to improve their awareness to tree growing;
- Improvement in productivity of unutilized lands under the project activity through a participatory approach involving local farmers, UK & UP state of India.
- Development, testing and dissemination of best practices in plantation and Agroforestry to minimize risks (fire, pests, insects and disease) and maximize environmental and social benefits.
- Provision of seedlings raised from Clonal technology to the farmers to raise plantations;
- Promotion of farmer-industry partnerships with buy-back arrangements to purchase wood;
- Development and strengthening of the capacity of various stakeholders - farmers, governmental and non-governmental organizations through training and technical assistance to take advantage of the international mechanisms;
- Conservation of biodiversity through reduced dependence on natural forests by producing raw material for housing, construction and industry on private lands through plantation forestry;
- Build partnerships with national and international research organizations and to promote awareness and adoption of appropriate Agroforestry models among farmers.

Geological data of the Region

Area of Operation:

The state of UK is located in the northern part of India and extended from latitude to 30.0668° N to 79.0193° E longitude. It consists of few distinct regions:

- Kashipur is part of the Kumaon region, which is a mountainous area in Uttarakhand.
- The Terai region is a broad plain that extends from the foothills of the Himalayas.
- Kashipur is drained by the Dhela river, a tributary of the Ramganga.
- The area's fertile land is well-suited for agriculture.
- The Bhabar tract separates Kashipur from the Shivalik Hills.

The state of UP is India's fourth largest state by land area along with India's most populous state. It is located in the north-central part of the country and extended from latitude to 27.5706° N, 80.0982° E longitude. It consists of few distinct regions:

- Much of the state consists of flat, low-lying plains that are well-suited for rice farming.
- Hills are found only along the southern and northern borders:
- Southern hills are part of the Vindhya range.
- Northern hills are the foothills of the Himalayas.
- The climate varies widely across the state due to:
- Its inland location, far from the moderating influence of the sea.
- Cold air from western disturbances.
- The Himalayas in the north trapping airflow.

Naini Papers Ltd has been promoting plantations in collaboration with farmers across its catchment area in Kashipur, located in the Udham Singh Nagar district of Uttarakhand. Kashipur is Kumaun's third most populous city and the sixth most populous in Uttarakhand. For the FSC-FM project only Naini is currently procuring its raw material from one district in Udham Singh Nagar and in several districts of Uttar Pradesh, including Moradabad, Bijnor, Rampur, Bareilly, Pilibhit, and Sitapur.

The ground water fluctuates greatly in response to rainfall, with the maximum decline in the water table is between April and June and the maximum rise during November

Soil

The major soil types in Uttar Pradesh and Uttarakhand vary across regions and have different chemical properties. In Uttar Pradesh, the dominant soil is alluvial, found mainly in the Indo-Gangetic plains. This soil is generally neutral to slightly alkaline in nature, with good fertility, making it suitable for a variety of crops and plantations. In the southern and Bundelkhand regions of Uttar Pradesh, red and laterite soils are present, which tend to be slightly acidic to neutral. In Uttarakhand, the plains such as Udham Singh Nagar also have fertile alluvial soils, mostly neutral to slightly alkaline. However, in the hilly areas, forest soils are common, and these are typically acidic due to high organic matter and leaching. The soil pH and composition in both states support a diverse range of crops and plantation activities.

Climate

Uttar Pradesh and Uttarakhand experience four main seasons: summer (March to June), monsoon (July to September), autumn (October to November), and winter (December to February). In summer, temperatures in the plains can reach up to 45°C, while hilly regions of Uttarakhand remain cooler, around 25–30°C. During winter, temperatures can drop to 4–5°C in the plains and below 0°C in higher altitudes of Uttarakhand, often with snowfall. Both states receive annual rainfall ranging from 800 mm to 2000 mm, mainly during the monsoon season. Humidity levels vary from 30% in dry months to around 90% during the monsoon.

Ecosystem

The ecosystems of **Uttar Pradesh** and **Uttarakhand** differ significantly due to variations in topography, climate, and vegetation.

Uttar Pradesh Ecosystem:

Uttar Pradesh has a predominantly terrestrial ecosystem characterized by fertile alluvial plains, rivers, wetlands, and agricultural landscapes. The state is part of the Upper Gangetic Plains, with major river ecosystems like the Ganga, Yamuna, and their tributaries. Natural vegetation includes dry deciduous forests in some parts, especially in the Terai and Vindhya regions. The ecosystem supports a variety of flora and fauna, including species like deer, wild boar, jackals, and various birds. Human activities such as intensive agriculture, urbanization, and industrialization have significantly altered natural habitats.

Uttarakhand Ecosystem:

Uttarakhand hosts diverse **mountain and forest ecosystems** due to its location in the Himalayan region. The ecosystem ranges from subtropical forests in the foothills to alpine meadows and snow-covered peaks in higher altitudes. The state has rich biodiversity and is home to important forest types like sal, oak, deodar, pine, and rhododendron. Protected areas like Jim Corbett National Park and Nanda Devi Biosphere Reserve conserve many species, including tigers, elephants, leopards, and Himalayan birds. The rivers originating here (like the Ganga and Yamuna) also support vital freshwater ecosystems.

In summary, while Uttar Pradesh has a fertile plain-based ecosystem dominated by agriculture and river systems, Uttarakhand is rich in forest and mountain ecosystems with high biodiversity and critical watershed areas.

Table 1: socio-economic features of project districts

SL No	District	Literacy % (2011)	Per Capita Income (₹, FY 21–22)	SC %	ST %	General %
1	Udham Singh Nagar (UK)	73.1 %	269,070 ₹ (censusindia.gov.in)	14.45 %	7.46 %	≈ 78.1 %
2	Moradabad (UP)	63.35 %	110,065 ₹	~15 %[1]	—	≈ 85 %
3	Bijnor (UP)	68.31 %	81,781 ₹	21.38 %	0.08 %	≈ 78.54 %
4	Rampur (UP)	56.00 %	78,349 ₹	13.18 %	—	≈ 86.82 %
5	Pilibhit (UP)	61.47 %	—	15.23 %	0.03 %	≈ 84.74 %
6	Sitapur (UP)	61.0 %	—	31.87 %	0.13 %	≈ 68.0 %

Source: https://www.census2011.co.in/census/district/506-moradabad.html and https://www.indiastatpublications.com/pdf_Samples/district_factbook/Uttar_Pradesh/Bijnor.pdf

Table 2: land holding pattern in project districts:

Sl. No.	District	Marginal (<1.0 ha)		Small (1–2 ha)		Semi-Medium (2–4 ha)		Medium (4–10 ha)		Large (>10 ha)		All Sizes		Avg. Size of Holding
		No.	Area (ha)	No.	Area (ha)	No.	Area (ha)	No.	Area (ha)	No.	Area (ha)	No.	Area (ha)	
1	Udham Singh Nagar	~55,000	~46,750	~13,000	~26,200	~6,000	~26,700	~3,000	~20,000	~300	~2,300	~77,300	~121,950	1.58
2	Moradabad	212,000	151,900	35,000	86,100	12,000	61,200	4,000	35,200	250	5,650	265,250	340,050	1.28
3	Bijnor	253,000	181,300	65,000	159,500	25,000	127,500	10,000	88,000	500	9,800	353,500	566,100	1.60
4	Rampur	164,000	117,900	38,000	93,200	15,000	76,500	6,000	52,800	500	9,400	223,500	349,800	1.56
5	Pilibhit	151,000	108,800	42,000	102,300	16,000	81,600	7,000	61,900	600	11,300	216,600	365,900	1.69
6	Sitapur	538,000	387,000	89,000	216,200	27,000	137,700	11,000	97,900	2,000	37,800	667,000	876,600	1.31

Source: Census 2001, Govt of India.

Table 3: land use pattern in project districts

Sl. No.	District	Geo Area (ha)	Forest Area	Misc. Trees & Groves	Perm. Pasture	Culturable Waste	Land to Non-Agrl Use	Barren & Unculturable	Current Fallow	Other Fallow	Net Area Sown
1	Udham Singh Nagar (UK)	279,455	84,717	3,000	3,000	2,900	—	300–900 (0.03–0.09 kha)	19,000	200	149,523
2	Moradabad (UP)	220,378	64	1,889	70	—	33,660	1,674	3,379	—	174,177
3	Bijnor (UP)	441,941	54,451	1,794	70	4,779	52,460	2,686	2,352	—	323,419
4	Rampur (UP)	220,931	6,744	1,557	70	2,723	29,586	1,362	1,009	—	177,950
5	Pilibhit (UP)	294,202	84,076	5,445	70	4,834	39,756	4,735	2,566	—	152,790
6	Sitapur (UP)	565,258	5,772	5,407	70	6,879	61,087	5,653	38,986	—	441,474

Source: https://www.cgwb.gov.in/old_website/District_Profile/Uttarakhand/UdhamSinghNagar.pdf

Maps : In the future, our FME will demarcate RTE conservation zones using geospatial techniques to ensure that proper identification is carried out and that it does not conflict with conservation aims in the field. In forest management efforts, these zones must be respected and the evidences will be provided for the same.

Control & Records

Naini Papers Limited is maintaining records, which demonstrate compliance with the applicable requirements of FSC FMU standard (FSC-STD-30-005, Version-2-0). Records shall be retained for a minimum of 5years.

The NAINI PAPERS is maintaining a detailed list of all its plantations (Year wise& Section wise) including the Revenue record for ownership &agreement with the farmers and its expenditure accounts.

22. Monitoring & Assessment

NAINI PAPERS is strictly abided by its own Monitoring &Evaluation Policy.

Naini Papers Limited is conducting a continuous monitoring & assessment work on the Impacts on social, economic and environment conditions of its activities in its working areas.

All section in charges / managers shall visit the plantations regularly and collect the periodical data. These visits will help the NAINI PAPERS for to maintain the plantations at high survival rate. Supervisors were appointed to look after all the activities related to plantations. He used to monitor all the operations such as ripping, planting, weed control, *etc.,* when they are being carried out. After completion of major operations, he will be inspecting plantations at least once in a week. A watcher will be appointed to keep a watch on plantations against biotic &abiotic interference. Firewatchers will be appointed in the fire season

NAINI PAPERS is conducting the monitoring of all the activities under it, however, where by specifically monitoring these activities and the basis of activity the evaluation will be done.

- Membership Concerns.
- Categorization and selection of new farmlands.
- Pre and Post Harvesting operations.
- Harvesting.
- Ecological parameters specially HCVF and RTE species.
- Sale of certified wood.
- Inventory and financial management.
- Consultative meetings
- Environmental impacts.
- Social Impacts
- Integrated Pest Management

Majority of the results of these monitoring will be displayed in the publicly available summary and some of the monitoring summaries are available at our office notice boards for the members and other stakeholders. Refer publicly available summary in this regarding.

23. Methodology of Social Impact Assessment (S.I.A)

S.I.A: Social Impact Assessment (SIA) is predicated on the notion that development interventions have social ramifications and it is imperative that decision-makers understand the consequences of their decisions before they act and people affected get the opportunity to participate in designing their future. Social assessment helps to make the project responsive to social development concerns. Developmental initiatives informed by social assessment alleviate poverty, enhance inclusion and build ownership while minimizing and compensating for adverse social impacts on the vulnerable and the poor.

Social Impact Assessment can be defined in terms of efforts to assess or estimate, in advance, the social consequences that are likely to follow specific policy actions (including programs and the adoption of new policies), and specific government actions. It is a process that provides a framework for prioritizing, gathering, analysing, and incorporating social information and participation into the design and delivery of developmental interventions. It ensures that development interventions: (i) are informed and take into account the key relevant social issues; and (ii) incorporate a participation strategy for involving a wide range of stakeholders.

Methodology that NAINI PAPERS used:

- Identifying baseline conditions.
- Public involvement or stakeholder consultation.
- Project description and alternatives
- Screening.
- Scope.
- Response of impacts from the society.
- Management and monitoring.

Note: For this evaluation audit, we are following another standard i.e., FSC-STD-RAP-IND-01-2022 Plantation, for small holder in India. We did not require EIA & SIA study separately through third parties.

NAINI PAPERS is maintaining the field data in specified format

The field manager used to send daily activity report to NAINI PAPERS Management

DAILY ACTIVITY REPORT

S No	Date	Farmer Name	Village	Survey No	Total Land	Offered for plantation	Species

Supervisor Zonal in charge Dept. Head

24. Mode of Operation

Since most of the land belongs to small and marginal farmers and average land holdings, this necessitates motivating and training a large number of farmers and land owners for plantation. This is done by a team comprising of experienced extension agents who follow a set of standard guidelines and operating procedures.

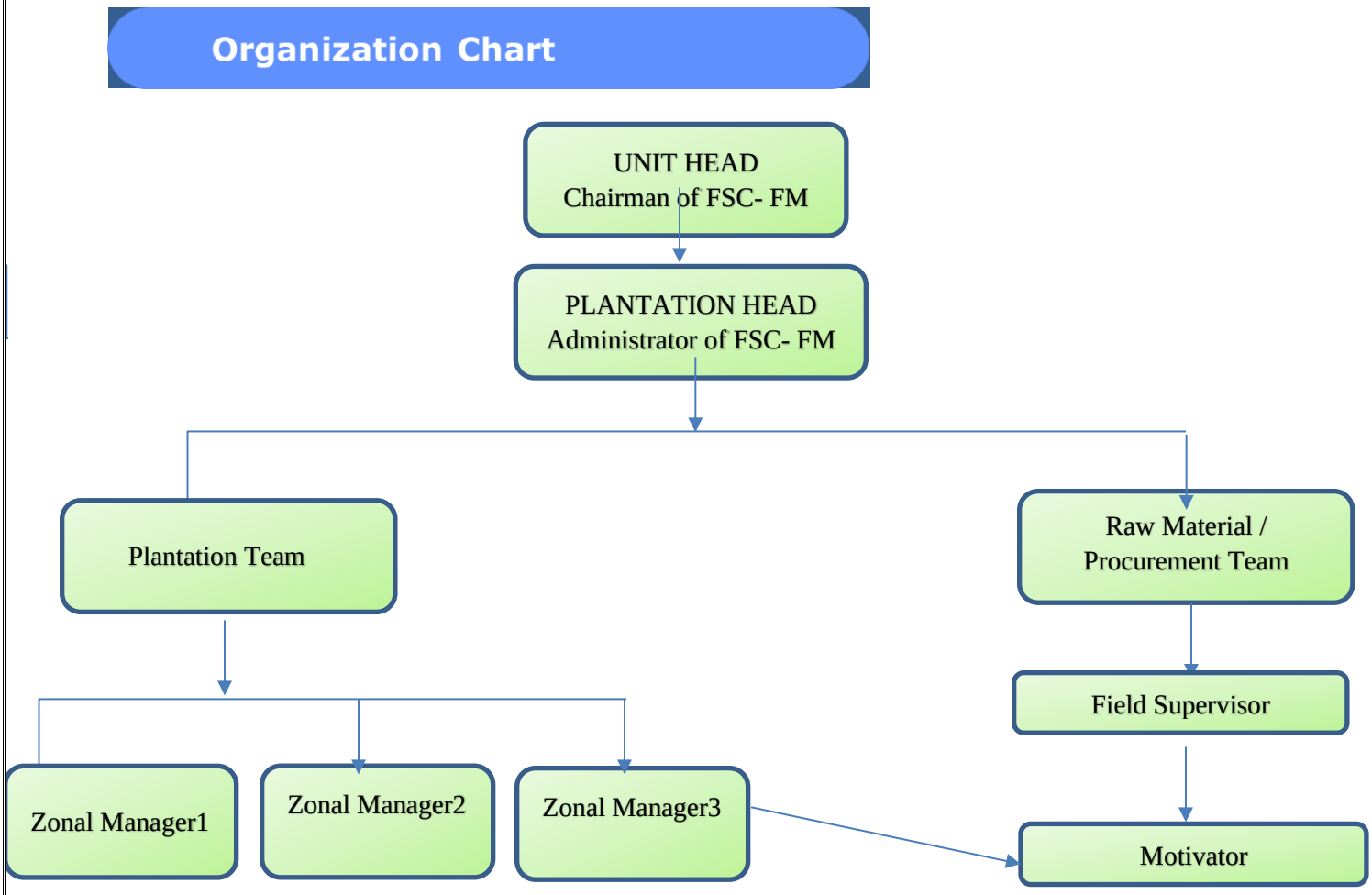
Extension Methodology at Naini Paper Ltd

- **Area Identification:** Selection of suitable blocks and villages for intervention based on analysis of secondary data on land use, agro-climatic conditions, soil type, and any previous initiatives.
- **Farmer Outreach:** Direct communication with farmers through village meetings, one-on-one interactions, and phone calls to raise awareness about productive land use and its benefits.
- **Farmer Grouping:** Based on interest and involvement, farmers are organized into user groups, and where needed, supported in forming producer organizations like cooperatives.
- **Technical Guidance:** Extension personnel provide guidance and training on optimal land use and recommended practices for plantation management.
- **Exposure Visits:** Farmers are taken to demonstration plots and introduced to successful plantations and experienced farmers.
- **Mill and Facility Visits:** Visits to nurseries, and research plots are arranged to help farmers understand modern planting techniques and wood demand.
- **Soil and Plantation Training:** Soil testing is conducted, along with training in pre-planting, planting, and post-planting care.
- **Health & Safety Training:** Farmers receive training on safe handling of fertilizers and pesticides and proper harvesting methods.
- **Stakeholder Linkages:** Facilitate interactions between farmers and various stakeholders including producer organizations, banks, crop specialists, researchers, NGOs, government departments, and watershed agencies.
- **Awareness Materials:** Design, print, and distribute informational materials like leaflets, brochures, and pamphlets related to plantation practices.
- **Certification Awareness:** Educate farmers about international certification systems such as FSC Forest Management (FM) for sustainable land use.
- **Monitoring & Evaluation:** Regularly monitor plantation activities, management practices, and plantation growth to ensure the effectiveness of interventions and long-term success.

Extension Team

- The team comprises of personnel with cross functional capabilities and expertise to effectively implement the agro-forestry extension programme. The main operation is divided into two Zones as per State boundaries into Uttarakhand and Uttar Pradesh (UP). Administrative blocks in Naini work area in a district is divided into operational units each headed by an Operational Unit in Charge. Based on the target of the operational unit subordinate staff are assigned for particular group of operational villages.
- Programme is implemented in **"Cluster approach**" by making a cluster of villages in a block so that implementation and intensive monitoring is possible and less time consuming.
- At present we have 4 personnel in UK and 3 personnel for operations in UP each headed by a Zonal Head who report to the Extension Head. A total of 7 nos of personnel in the Extension Wing.
- We have also introduced concept of CRP (Community Resource Person) who are engaged in grassroot level to engage with farmers and improve adherence to package of practices and build awareness amongst them.

Figure 1: An illustration of the hierarchy of Operation



A dedicated team from Naini Paper Ltd (NPL) (FME) is working for implementation of the FSC-FM Project. An illustration of the organization is given above for reference. The role and responsibility in the organization is depicted as below:

1. **Unit Head:**

- Overall responsibility for implementation of the Project from NPL (FME).
- Monitoring implementation of the Project through Group Managers and FME staff. Organizing internal audits & assessments of forest management activities for identification and timely addressing of non-compliances by group members.
- Contact person in relation to implementation of the project.
- Consultation with various stakeholders for revision and updating of management plan, formulation of administrative rules & procedures for the Project in consonance with FSC Principles & Criteria and applicable legislations.
- Design of training and capacity building programmes for effective forest management and safety aspects.

2. FSC Administrator- Extension Head/ Deputy General Manager (Plantation)

- Overall responsibility for implementation of Project in the field.
- Field level monitoring and Co-ordination of implementation of the Project.
- Preparation of field level training programme for effective forest management and safety requirements and training regarding FSC-FM Principles & Criteria and implementation of the programme in the field.

3. Zonal Manager

- FMU-wise monitoring of project activities and coordination.
- Responsible for collection of basic documents of FMUs from participating group members, such as Identity Proof and land ownership “Patta” documents.
- Training and capacity building for the participating group members, specifically awareness and training regarding FSC-FM Principles & Criteria, applicable legislations, implementation of the recommended package of practices (POP) in FMUs, soil and water conservation measures (SWC), and safety precautions for application of fertilizers, harvesting, and fire hazards.
- Identification and mitigation planning of HCVFs within FMU boundaries in their respective project areas.
- Providing required field support to Naini Papers and group members for timely operations.
- Providing feedback to Naini Papers regarding forest management activities in their area.

4. Field Supervisor

- Responsible for arranging basic documents from farmers/group members (FMUs), such as identity proof and land “Patta” documents.
- Implementing and monitoring project activities in the FMUs, in coordination with Naini Papers.
- Conducting training and capacity-building for group members/farmers, including collecting consent forms; specifically:
- Awareness and training on FSC-FM Principles & Criteria
- Implementation of the recommended Package of Practices (POP) in FMUs
- Soil and water conservation (SWC) measures
- Safety precautions for fertilizer application and harvesting
  • Identifying High Conservation Value Forests (HCVFs) within FMU boundaries and developing appropriate mitigation measures.
  • Providing ongoing feedback to Naini Papers on FSC-FM implementation in the project area.

5. Raw Material & Procurement department

- The Procurement Department is responsible for identifying and selecting vendors for planting materials, fertilizers, safety equipment, and other required inputs, ensuring they meet FSC compliance and quality standards.
- It prepares procurement plans and budgets in consultation with field teams and ensures timely procurement of materials as per project timelines.
- The department issues purchase orders with clear specifications, quantity, delivery schedule, and payment terms, and ensures proper documentation for traceability.
- It manages inventory, coordinates delivery schedules, conducts quality checks upon receipt of goods, and maintains records for audit and reporting.
- The department ensures that procurement processes follow ethical, legal, and sustainable sourcing practices aligned with FSC requirements.
- It also ensures timely payments to suppliers after successful delivery and quality verification, maintaining good supplier relations.

6. Motivator

- The Motivator is responsible for coordinating with farmers and group members to ensure timely receipt and distribution of project materials as per the field plan and purchase order specifications.
- The motivator must support documentation processes by ensuring availability of records such as consent forms, land ownership proof, and other required documents from farmers.
- Timely coordination with the field team and procurement department is expected to avoid delays in project implementation, along with supporting quality checks and inventory verification during distribution.

The motivator should actively assist in awareness-building, communicate field-level challenges, and provide feedback related to the usage, handling, or any issues arising from the supplied materials

Periodically, NAINI PAPERS is collecting the growth data of its plantations on the degraded lands. Based on this data, NAINI PAPERS has fixed the rotation period. Format for tracking size and growth is given below-

	Poplar		***Eucalyptus***	
Year	**CAI (Cum/Ha)**	**MAI (Cum/Ha)**	**CAI (Cum/Ha)**	**MAI (Cum /Ha)**
1				
2				
3				
4				

Yield

The produce or pulpwood expected from the plantations raised by the Farmers through support of Naini Papers is very important aspect. Yield of plantations is an output of various parameters like planting materials, silvicultural operations, protection, macro & microclimate of the area and type of soil and its fertility.

NAINI PAPERS Plantations catchments have a wide range of variability of the soil types its fertility, Macro & Micro climates conditions, which shall be influence on output of the plantations.
The yield from these plantations uses to be computed scientifically by enumerate of all the trees present in the sample plots of 10 m X 10 m, which is permanently laid randomly.

NAINI PAPERS is committed to its own Wood Tracking Policy.

Naini Papers Limited is carrying out its Agroforestry program in association with farmers in conformity to the requirements of the Forest Stewardship Council.

NAINI PAPERS are committed to maintain records from harvesting up to the delivery of woods to the factory and all the operational processes are closely monitored and recorded.

25. High Conservation Value Forest/ Reserved Areas

A High Conservation Value Forest is the area of forest required to maintain or enhance a High Conservation Value.

This definition provides a new approach to the zonation of HCVF as well as introduces the concept of High Conservation Value. The inclusion of the term area of forest "provide clarity that there may be instances where an HCVF zone might be restricted to part of a forest, while the FSC definition implied that the presence of one or more HCV attribute would render the whole forest as to be a high conservation value forest".

Any forest management unit containing even one small HCV is classified as a High Conservation Value Forest, which brings into play extra requirements for consultation, maintenance or enhancement, and annual monitoring. However, the additional burden is determined by the nature of the HCV and will affect only those parts of the forest, and those aspects of management, that are required for the maintenance or enhancement of the HCV.

Procedure for Identification of HCVF:

Step1: Consultation with stakeholders like Sarpanch, Village elder people, forest officers, university professors etc.

Step 2: Report based on interaction and submission of the report as per the format below:

HCVF IDENTIFICATION DESCRIPTION

S No	Type of HCVF (High Conservation Value Forest)	Description & Location	Remarks /Area in Ha
1	HCV1	Forests or areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered Species).	N/A
2	HCV2	Forests or areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.	N/A
3	HCV3	Forests or areas that are in or contain rare, threatened or endangered ecosystems.	N/A
4	HCV4	Forests or areas that provide basic services of nature in critical situations (e.g., water shed protection, erosion control).	N/A
5	HCV5	Forests or areas fundamental to meeting basic Needs of local communities (e.g., subsistence, health).	N/A
6	HCV6	Forests or areas critical to local communities "traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).	N/A

Note: We have following Agroforestry module which, farmers planting our clone species i.e., Poplar & Eucalyptus to its own farm land with a rotation of 4-5 years planting. Out of the six categories of HCVF we have not find any HCVF area in our FMUs. If any in near future we have to record area in each category in all our areas.

Summary of the findings of HCVF:

All the plantations are being carried out in the farmer "sown Patta lands".

Species: No threatened or endangered species which are protected under national laws. So, there is no HCVF found within our Project boundaries.

ECOSYSTEMS/ HABITATS: NO SPECIAL OR UNUSUAL TYPES OF FOREST AREA AVAILABLE. SO, THERE IS NO HCVF FOUND WITHIN OUR PROJECT BOUNDARIES.

Environmental Services: All the lands are owned by individual farmers. Most of the lands owned by farmers are irrigated uplands usually plain or having fewer slopes. There is non-availability of any important service being provided to the local community or to others living downstream from the plantation area. Therefore, there is no HCVF found in our Project boundaries.

Social and cultural values: The dependency of other persons except the landowner on the plantation/ forestland is not there with respect to Pulpwood, firewood, bark or seed. No trees or sacred places are disturbed by management activities under the Project. Therefore, we can conclude, there is no HCVF found in the FMUs.

Frequency of HCVF Study: High Conservation Value Forest (HCVF) study will be carried out on a yearly basis covering of the plantation area in consultation with stakeholders like Farmers of that village, village representative like Sarpanch / Ward member, Forest officials like Forest guard/ Forester/ Range Officer, etc. We will find out the availability of HCVF in those areas and how to plan for conservation of such areas. We will include the findings of High Conservation Value Forest in our management plan on yearly basis and that will be updated on yearly basis.

Procedure for protecting natural water bodies in NAINI PAPERS operational areas

- Vegetation around /near the water body is not disturbed
- Wherever possible bunds to be constructed, if necessary, bunds to best one pitched.
- Outlines will be created for drain out the excess water.
- Annually, if necessary, the inlet drains of the water to be cleaned to ensure good quality water storage
- Separate water tank will be constructed nearby the identified/protected waterbody to serve as water source to cattle, wild animals and other purposes to the local community.
- Wherever feasible, introduce the fish cultivation

Procedure for identification of RTE species

- Consultation with the local forest department.
- Identification of RTE species through the stakeholder meetings.
- Separate areas will be demarcated and monitored those containing RTE species.

Riparian Management Zone

The general approach for identifying riparian areas in the field is described below. There are a number of sources of information that will assist in the final identification, and which should be consulted, if available, before going into the field.

Expertise Meeting and Stakeholders Consultation

For identification of Riparian and Buffer zones Naini Papers Limited have done expertise meeting and stakeholders consultation. And during these we concluded that there is no RMZ Buffer. In consultation with appropriate expertise, the FME implements documented Riparian Management Zone (RMZ) buffer management guidelines to prevent or mitigate negative environmental impact, and include protecting and restoring water quality, hydrologic conditions in rivers and stream corridors, wetlands, vernal pools, seeps and springs, lake and pond shorelines, and other hydrological sensitive areas.

Interview with Locals

Interview with Locals is one of the methods used for identification of Riparian zones. It was determined that there are no Riparian Management Zones present in the FMUs.

Topographical maps

Riparian areas normally occur within the flood area of a river or stream. This is not conclusive and no flood zone near or within the FME field.

Aerial photographs

Aerial photography is one of the methods to identify the riparian zone, buffer zones and alluvial deposits.

Aerial videos

As with aerial photographs, aerial videos indicate vegetation transitions and recent alluvial deposits. Aerial Videos are usually taken after large flood events, in order to record the extent of flooding and damage. However, as there is no flood zone near of within FMU so it states that there is riparian zone.

Ecoregions (predictive capability)

Plant species composition in riparian areas varies from one part of the country to another, according to factors like climate and geology. These factors have been incorporated into classification systems that divide the country into eco regions, each of which may contain unique or distinctive vegetation communities. By using existing Eco regional classification systems to identify the types of species that can be expected in riparian areas in a particular part of the country, delineation of these areas is made easier.

Environmental / Social Impacts: -

Naini Papers Limited undertakes soil testing to ensure soil quality and engages with local people on a regular basis to ensure that no riparian zone or other HCVFs are affected, which is also assured by a HCVF form created following collaboration with the respective forest authorities, local knowledge holders, and village sarpanch. For the foregoing, Naini Papers strictly adheres to the new FSC FM guidelines. We also encourage farmers to use only organic manure or bio fertilizers to maintain soil quality.

Riparian Management Zone (RMZ) buffer management guidelines

Below given are the following guidelines for preventing negative environmental impacts in riparian and buffer zones-

Planning Guidelines

• Clearly, mark outside boundaries of the RMZ before operations begin.
• Maintain an adequate filter strip, which minimizes disturbance of the forest floor, exposure of mineral soil, and disturbance to other vegetation (Some states specify a maximum amount of mineral soil exposure within a specified distance of the water's edge. Width of the filter strip is often slope dependent.)

• Minimize the number of water crossings. Locate water crossings where impacts are likely to be minimal.
• Where feasible, locate [new] roads outside of the RMZ and filter strip.
• Designate specific areas for refuelling equipment, equipment storage, and equipment maintenance outside of the RMZ.

• Avoid operating [skidding] equipment within the RMZ; operate ground-based equipment within the RMZ only when the ground is dry (to minimize rutting) or use appropriate light-on-the-land equipment.

Operational Guidelines

• Drainage structures should be used on roads and skid trails prior to their entrance into an RMZ and on approaches to water crossings to intercept and properly discharge runoff waters.

• Do not move slash into or pile slash within the RMZ.
• Remove any tops or other logging debris that are dropped into the water or channel.
• Do not harvest trees from banks, beds, or steep slopes if it will destabilize the soil, degrade water quality, or reduce shading over the water body.

• Use directional felling techniques to fell trees away from the water body, except where safety is a concern

26. Plantations

Our Model

In the Agroforestry model for Farming, the landowner provides his land for raising of pulpwood at his own cost. Naini Papers Limited provides Quality-planting material which own production at Hi-Tech Superior clone in own production house and supplied to farmers community with subsidized rates, free of cost technical knowledge and farmers have a choice, either they can sell their full portion of material to us or partial part which is suitable for pulp wood. Remaining they can sell to others industries like Peeling/Ply/MDF or they have option with buy back assurance.

Naini Paper Limited plantations provide significant environmental, social and economic benefits to landowners & to localities where the plantations are located.

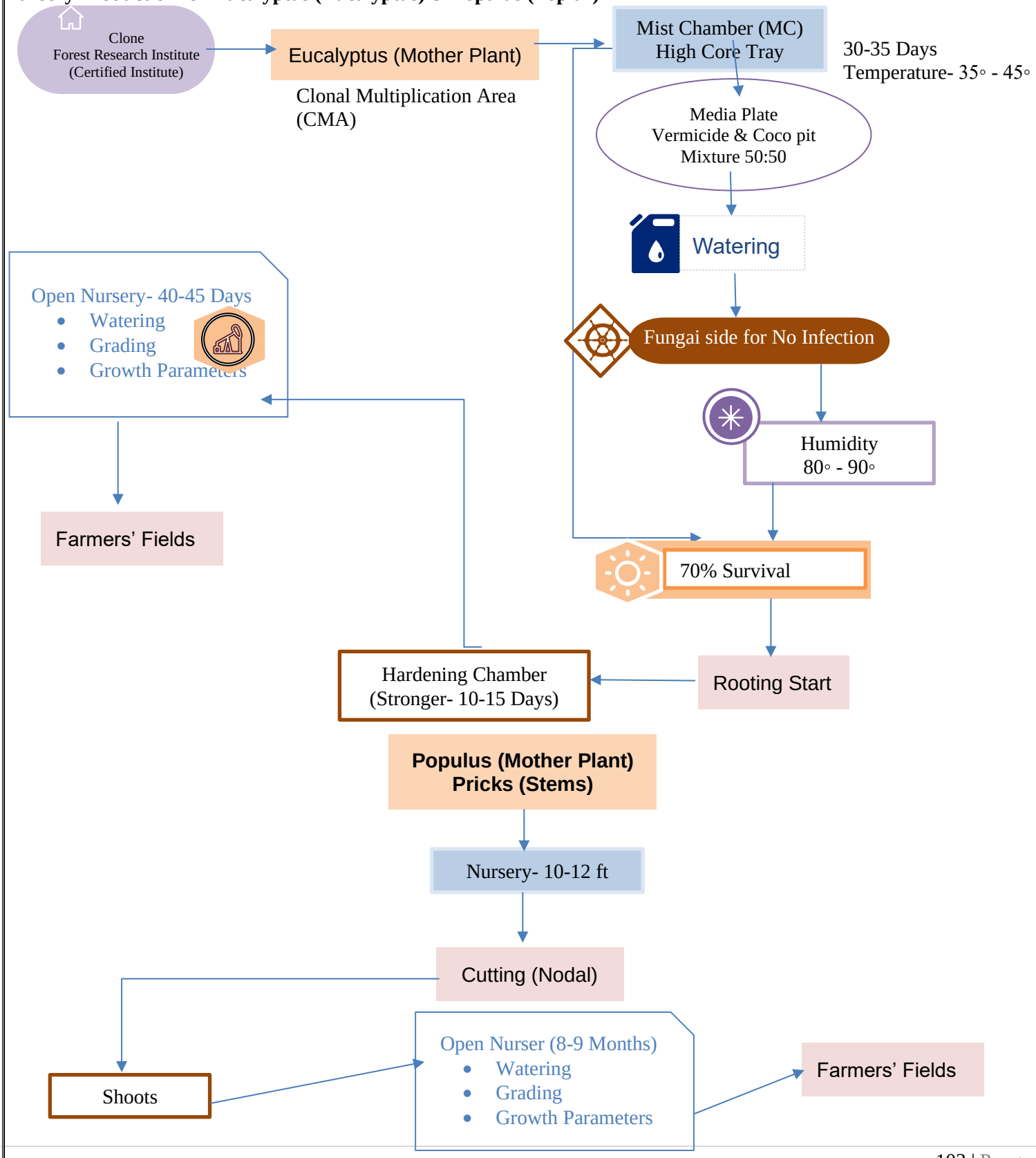
The **Environmental benefits** include; rehabilitation of saline land through the restoration of water bodies, reduced soil erosion and carbon sequestration.

The **Social benefits** include generation of employment opportunities to local people by engaging them in plantation management activities thereby preventing migration to different areas in search of employment opportunities.

The **Economic benefits** include generation of alternative source of secured long-term income to land owners.

Naini Papers Limited continuously promotes and encourage tree - farming on low productive and wastelands and convert them into productive business model, which serves as an additional income to farmers.

Nursery Production for Eucalyptus (Eucalyptus) & Populus (Poplar)



27. SILVICULTURAL SYSTEMS

Naini Papers Limited generally follows simple silvicultural system in its plantations. Usually, rotation period for Agroforestry model will be of 4-5 years for pulp wood. However, the harvesting date can be altered depending upon site factor, species &willingness of the farmer/land owner in cases of shortfall in desired volume growth or any other local reasons at that particular time. The Naini Papers adopted clear felling system as a silvicultural practice. This will help in managing the plantations according to site- & species-specific conditions. Generally, singling of the saplings will be done during the first year. This serves a type of thinning operation, which avoid forking of tree and crowding of the canopy.

Site Selection

1. The minimum requirements for the site to be selected to take up pulpwood plantation are
    - Annual rainfall of minimum 700 mm
    - Soil depth of 2 to 3 feet.

2. NAINI PAPERS does not encourage the conversion of forestland into plantations. It is also not encouraging the encroachment of forestland for plantation activities and maximum care will be taken to avoid taking up plantation in the above lands.
3. The lands, which are free from all the impediments without any financial commitments are selected for plantation purpose.

Choice of Species

The choice of species is governed by the ability to grow well on a particular site, fast rate of growth, low gestation period, and above all ready marketability of the produce preferably backed up by an industry link up. The NAINI PAPERS is already having genetically superior varieties of following species, which is of enormous help to local people.

The species are Poplar, Eucalyptus Casuarina & Bamboo. But, in the FSC-FM program initially we have adding only two species i.e., Poplar & Eucalyptus. Further, we can add other species which is suitable and beneficial to the farmers community, so that farmers can easily adopt and get maximum benefit out of others, so that we can say this is Sustainable Model. We can get maximum wood from our mill's vicinity with proper handling and management.

However, **the final decision for selecting the species is with farmer only**. Generally, farmers are choosing ***Eucalyptus & Poplar because*** **of the following concerns:**

- The species are suitable to the soil & climatic conditions
- Its coppicing ability and
- Market availability
- Generate other commercial market like Pole market
- Other Industry acceptance like Peeling/MDF/Ply
- Suitability and Popularity in Northern region of India
- Getting good economical benefit than others crop
- Government regulations on harvesting & transportation

  (Stringent transit rules are applied for Acacia species)

The NAINI PAPERS is also encouraging the farmers to go for this species because of the demand from the users. NAINI PAPERS is clearing all the doubts raised by the landowners about this species at the time of awareness programmes, meetings with the Farmers, Members of the -NAINI PAPERS.

NAINI PAPERS have its own Plantation SOPs **Annexure 5.**

Myths and Facts about Eucalyptus species

The report of FAO (1993) proves that the Eucalyptus trees produce more biomass per litre of water consumed than many other crops.

Another report of FAO–Davidson (1989) has proven that water use by plants through evaporate transpiration is one of the lowest amongst the important tree species/crops.

Overseas Development Administration vides their forestry series No.6 on "Eucalyptus–Water & Sustainability: A summary report. By Ian R. Calder (1994)" have published the following findings.

Quote:

In the dry zone, the water use of young Eucalyptus plantation on medium depth soil (3m depth) was no greater than that of the indigenous dry deciduous forests.

- *The annual water use of Eucalyptus and indigenous forest was equal to the annual rainfall (within the experimental measurement uncertainty of about 10%).*
- *At none of the site was there any evidence of root abstraction from the water table.*
- *At Mysore Paper Mills (Bhadravati, Karnataka) plantation sites where the water use of Eucalyptus has been compared with that from indigenous forests there is no evidence that Eucalyptus species use more water than the indigenous dry deciduous forests. They do however use more water than a typical annual crop, twice as much as Raagi.*

- *It is now time to recognize that Eucalyptus have much to offer to India and other tropical developing countries and to confine queries to how adverse effects can best be minimized. Clearly, as providers of fast-growing source of timber, pulp and firewood they can help to reduce the pressure on the few remaining indigenous forests as wood sources and thus aid conservation efforts.*

Unquote

A study conducted by the Kerala Forest Research Institute (KFRI), Peechi in selected sites in the State did not show any alarming levels of depletion in the water table. The problem leading to water level depletion, scientists say, is caused more by unscientific cultivation of the species than anything else. Shri Jose Kallarackal who conducted the study, said

Quote:

- *We did not notice any excess depletion in the water table where the study was conducted. At the micro-watershed level there is some depletion. But any forest will do that, the eucalyptus may be a little more.*

Unquote

Shri E.K.S. Nambiar, Chief Research Scientist, CSIRO, Australia during the recent visit to Kerala Forest Research Institute said "there is no scientific evidence that the Eucalyptus is more damaging than other trees……"

Certain studies conducted on Eucalyptus plantations and Shorea robusta forest, for a period of five years shows humification of organic matter returned to the soil by Eucalyptus is more rapid than the returned by Shorea because of the more favourable chemical composition of the former. Further, humified materials are more rapidly incorporated into the surface soil under Eucalyptus than under Shorea. Translocation of humified material to lower depths is more pronounced under Eucalyptus than under Shorea due to favourable changes brought about in the soil by the root system of the former. Reference-Thomas *etal.,* 1972

Quote:

- *The only reliable measure of water consumption efficiency by plants is the weight of biomass product per unit volume of water consumed, though some guide can be gained from ratios of evapo transpiration to pan evaporation for different species of vegetation types. Considerable work has been done on evapo transpiration sites and water balance of Eucalyptus globulus in the Nilgiris, India. The annual transpiration of the eucalyptus was reported to be about 3,475 metric tons/ ha Which corresponds to only 347.5mm equivalent of rainfall i.e., about 27%. Since, on average, 1,300mm of rainfall is received over this region, about 953mm are available to be portioned to interception, surface runoff, evaporation, deeper collation (ground water recharge, water yield and soil moisture for age).*

Unquote

Another study by Ram Prasad (et al., 1984) has investigated the root system of *E. camaldulensis*. In 5 and 15-year-old stands root depth was less than 3m however lateral spread was up to 9 min 5 -year-old and up to 20 min 15-year-old trees. Most eucalyptus root system are more specifically adapted to using rain fed soil moisture from the upper soil profile rather from the ground water table at considerable depth. Quite obviously, even shallow tube wells are able to tap more effectively the ground water than can a stand of Eucalyptus. Quite often, it is the uncontrolled proliferation of shallow and deep tube wells which causes draw-down of the water table, not tree plantation, whatever the species. Transportation of water by Eucalyptus is a function of atmospheric humidity, soil water availability and leaf water potential.

Eucalyptus has an adaptive mechanism, which conserves soil water, irrespective of whether the atmospheric humidity is high or low. Eucalyptus maintains biomass production under moistures tress. If the soil moisture was reduced by 66 and 84%, the corresponding drop in dry matter production was only about 25 and 38% respectively. This helps to explain why Eucalyptus consumes a smaller amount of water per unit of biomass compared to some less well adapted species of trees.

Thus, in conclusion, Eucalyptus has less effect on the ground water table than several other species of commonly planted trees.

Ecology and growth habits of Eucalyptus species: Eucalyptus SOP

Eucalyptus is a fast-growing species and belongs to the Myrtaceous family. It reaches a maximum height of 75 ft. However, the average height ranges from 35 to 55 ft. It is evergreen hardy species, predominantly blooms in winter and tolerates cold weather but not frost. Considering the dry climate and frequent drought recurrences, this species is preferred in the project because of its high drought tolerance and also due to its fast growth which ensures short harvesting cycles. It also grows under a wide range of climate and soil conditions and well adapted to the semi-arid conditions of the project area. Furthermore, Naini through its research has identified superior genotypes and also through hybridization between E. camaldulensis and E. urophylla, E. deglupta and E. teriticornis developed clones that grow better under such conditions. Seeds have also been collected from these superior hybrids developed in the R&D facilities are used for development of planting material.

The wood is used to meet the needs of fuelwood, construction and pulp production. The widely used species of Eucalyptus include: E. grandis, E. camaldulensis, and E. tereticornis.

Stem cuttings/ apical cuttings from clonal mother plants planted in hedge orchards specifically established for the purpose of clone multiplication are collected and planted in the root trainers. These ramets are placed in specially designed climate control chambers called mist houses for around 15-20 days, once the roots & shoot, of the plant develops the plants are transferred to open areas for hardening. After about 2-3 months they are ready for out planting and are transported to the planting sites.

Package of Practices for Eucalyptus Plantation:

I. Site Selection and Preparation

- Study soil profiles, pH, electrical conductivity and fertility status of soils before deciding to plant clonal Eucalyptus. Shallow rocky soils or saline and alkaline soils have serious limitations for optimum tree growth and high productivity. Many clones are not tolerant to saline / alkaline soils. There should be clone and site matching to ensure high productivity.
- Areas with shallow soils less than 1M in depth or those with strong calcareous or lateritic pans must be avoided. Likewise, areas with high alkalinity or salinity must not be planted. Highly eroded sites or lands subjected to heavy water logging must also be avoided.
- Generally, the pH should be between 6 to 8 and electric conductivity less than 1 milliohms / cm. Plants will suffer from chlorosis on saline, alkaline or calcareous soils.
- Planting sites must be extremely well prepared by deep ploughing in either direction followed by harrowing. In case, ploughing is not possible then larger size pits of 45 x 45 x 45 cms to be dug for transplanting.
- The recommended spacing for plantations is as follows.
- Eucalyptus seedlings / Clones - 3 x 1.5 M.
- In case of slope or undulating terrain, the 3M wide rows should be along the contours to facilitate ploughing in between the 3M wide rows and conserve moisture and prevent soil erosion.

Table: suitability of clones for various soil types

Sl. No.	Soil Type	Suitable Clones
1	Black	P23, 2045, 405, 316, 1802
2	Red sandy	108,109,110,111 112 & 113
3	Sandy	2,7,288

II. Handling of planting stock

- Minimum age of the planting stock should not be less than 3 months from the date of setting of cuttings. In addition, the plants should be hardened for at least 2 months from the date of shifting of rooted cuttings from the mist chambers.
- After final grading and counting of plants kept ready for deliveries, 0.2% Bavistin spray should be carried out on all plants just before dispatch.
- Plants should normally be dispatched after getting confirmation that the planting site has been prepared and pits are ready for transplanting.
- Light irrigation to be given to plants on receipt by the farmer at the planting site. Temporary storage under partial shade is recommended, if required. Provide light irrigation twice a day till transplanting is completed. Saline or alkaline water should not be used for irrigation.
- The media in the root trainer (RT) should neither be too dry nor too wet at the time of removal of saplings from the root trainer trays. A light irrigation during the previous evening and gentle tapping of the RT will facilitate easy removal of the plant from the RT with roots and the vermiculite in a compact mass.

III. Planting operations and maintenance

- Planting pits must not be less than 30 x 30 x 30 cms. The fertile soil from upper 30 cms depth separately to use for refilling the pit after transplanting.
- Refill the lower 5 cms. of planting pits made with spade with treated soil. Hold the sapling in an upright position in the center of the planting pit in such a way that lowest roots or the mass of media is 2 cms. above the level of soil in the planting pit. Holding the sapling in this position, the treated soil should be refilled into the pit and gently compacted. After compaction, about 5 to 7.5 cms of the pit should remain unfilled for irrigation and holding rainwater.
- In case of inadequacy of rains, Irrigation or pot watering at 3 to 7 days interval depending on the need, soil and climatic conditions, will be required till establishment of the transplanted saplings.
- Avoid application of chemical fertilizers, as far as possible apply organic fertilizers such as neem cake @ 50 gms per plant at the time of transplanting.
- After the establishment of plants, chemical fertilizer can be given as top dressing after weeding, @ 50 gms Diammonium phosphate (DAP) per plant in 2 split doses. The granules to be applied in the form of a ring, minimum 15 to 20 cms away from the stem. Fertilizers should only be applied when adequate soil moisture is available. Any chemical fertilizer placed close to the stem may dehydrate and kill the plant.
- During subsequent years required quantities of fertilizers may be applied by broadcasting in the 3M wide rows followed by irrigation/ moist condition. Fertilizers should be only applied when adequate moisture is available. Ploughing between the 3M wide lines to be carried out thereafter.
- Young plants are very sensitive to competition from weeds. In first year at least two weeding's, in 50 cms. radius around the plants is to be done. Care should be taken not to damage the saplings during weeding operations.
- Ploughing in between the 3 M wide rows of plants will help improve soil aeration, moisture conservation and control the weeds. During first year, plough the wide strips and arrange second

- ploughing at the end of monsoon rains. During subsequent years, one ploughing after the first monsoon showers and one after the monsoon can be done.
- Use only tractors/bullock plough for ploughing in between the 3M wide rows. Do not plough in cross direction to avoid injuries to the stems and roots of trees during ploughing operations. 20-30 cms. space on either side of the plant rows should not be ploughed but maintained free of weeds.

IV. Protection of plantations

- White ants or termites cause widespread damage to young saplings. Symptoms of damage by termites are sudden wilting of healthy saplings and drying of the leaves leading to death of the plant. Therefore, it is advised to plant with onset of monsoons and timely use of organic fertilizer and proper weeding give growth of plantations and lessen termite attacks.
- Total protection of plants against damage by cattle and fire is absolutely necessary. No grazing should be permitted.
- Likewise, prevention of damage to the plants during the ploughing operations should also be ensured. Normal ploughing should be only in one direction in the 3 wide strips.
- No crop residues should be burnt in or near the plantation areas as the young Eucalyptus trees are very sensitive to fires. Even scorching hot winds, generated by the fires in adjoining fields, can damage the plants. Therefore, farmers must take adequate precautions.
- If the saplings are transplanted in 30 cms. deep pits, normally there will be no lodging. In case of any incidence of lodging of young saplings, minimum necessary earthing up to support the plants should be carried out. No stakes should be used.
- All Eucalyptus clones are self-pruning. No pruning of the branches should be carried out. If any plant is severely damaged because of physical injuries or broken by the wind, the same should be coppiced back 5 cms above ground level. If the wind damage is at a fairly high level in plants more than 1 year old, there is no need for coppicing such plants, as new leaders will emerge from the pollard shoots. Only forked or V shaped double leaders should be prevented in young plants by careful early pruning of co-leader.

V. Best time for plantation

- Beginning of monsoon rains (June to September) is the best time for planting in field. Early planting ensures full benefit of the entire monsoon rains for optimum establishment and growth of the saplings.

Plantation Management of single FMU

A standard Calendar of Operation to be followed for management of FMU. Operations in each of the FMU'S to be followed as specified in Calendar of operation for optimum growth, proper utilization of resources and safety.

Table: Calendar of Operation of Eucalyptus Plantation

Operation Year	Operation	Month of operation
1st	Removal of bushes & making land suitable for planting	April – May
	1st Ploughing, in case ploughing is not possible, Bigger pits of 1.5' X 1.5' X 1.5' to be dug.	June
	Pitting & Planting	June – July (onset of monsoon)
	1st dose of fertilizer and anti-termite application	July – August
	Weeding, Soil working & application of 2nd dose of Fertilizer application	Sept – October
	Ploughing	October – Nov
2nd - 4th	Fertilizer application and ploughing	June – July
5th	Harvesting	October – February

HARVESTING

Once the plantation is about five-year-old, it is ready for harvesting. Trees can be cut with a sharp saw/ axe at about 15-degree angle leaving the 10 cm stump from the ground level; lops, tops and side branches are removed and debarked. Poles up to minimum diameter of 4 cm are cut and further cut into 2-meter pieces to be transported to the mills. It is advisable to leave leaf litter on the ground itself to allow recycling of the nutrients.

Second Rotation: There would be no need for replanting after harvesting the first crop. There would be natural emergence of coppice shoots. Initially, all the emerging shoots should be allowed to grow for the first two months out of which about two grow as strong leaders which may maintain. For further selection of the shoots to be maintained, NPL's technical representative may be contacted.

Maintenance of the plantation in subsequent rotations would be required to be done following the guidelines given for the first rotation.

Important Note:

- It is advisable to use organic fertilizers like FYM, cow dung, vermi-compost etc.
- It is advisable to take intercropping in 1st year in Eucalyptus plantation as per the advice of NAINI PAPERS representative.
- To apply inorganic fertilizers & pesticides, please contact NAINI PAPERS representative for advice.
- It orders to conserve water in the soil, necessary arrangement will be made as per the advice of NAINI PAPERS representatives.

WHAT BENEFITS NAINI PAPERS OFFERS?

- Quality planting material (Superior Clones) at subsidized rate.
- Free of cost technical guidance throughout–we are just a call away!
- Buy-back guarantee for the raw material produced.

SITE PREPARTION

Site preparation used to be done by engaging the tractors for clearing stumps, roots, small vegetation (if any) and other debris. Ripping will be done with the aid of ripper attached to the machine, which loosen the top soil, creates congenial conditions for the development of microbial activities, and improves the soil physical properties. Generally, ripping used to be done along the contour and form a trench with a depth of 30 inches and width of 24 inches at the top. A special device is attached to the ripper, which rotates the soil and makes it loose. On exposing the ripped area to hot sun help sinking the pathogens, grubs, insects *etc*. and helps in soil weathering. The loosened soil will not allow rainwater to flow freely, which in turn create obstruction and check the soil erosion and conserves moisture. **The dozed stumps and debris are utilized for creating of bunds across the slopes or making fence around the plantation.**

After site preparation and prior to the planting, the area for planting will be visited by the Staff. If any termite is found, it will be destroyed mechanically/ manually.

NAINI PAPERS is conserving the old aged trees in the plantation site and will take care while practicing all the silvicultural activities.

Application of Bio fertiliser

Soil testing shall be done to ensure for the availability of microbes (VAM). Based on the results, the microbial inoculants (*Gigaspora margarita / Glomus fasciculatum*/ *Glomus mossae*) will be applied by procuring them from nearby University or Research Stations.

Planting

On the day of planting, fresh cow dung will be collected and mixed with the water & made into slurry. VAM (*Pisolithus tinctorius*) & bio fertiliser are added and thoroughly mixed in the slurry. Then the ramets/ seedlings will be dipped in the slurry and shifted to planting sites and these seedlings used to be planted manually as per the alignment.

Weeding

Eucalyptus is sensitive to weed and considerable efforts have to be made for virtually weed free environment to ensure that full potential of the site has to be achieved. This can be achieved by planting seedlings on a very clean site combination with manual methods of weed control. The site will kept weed free until the point of crown closure, which usually occurs at about 1½to 2years. Generally, Manual weeding used to be done immediately after planting (after 2 -3months), two times weeding activity used to be done in first year followed by soil working, and in second year one weeding will be done at terrains. Any additional weed control treatments (Chemical) shall be implemented by taking into account of the cost of the operation, the expected benefit to the plantation and any possible environmental effects.

Intercropping

The weeds are kept in control by growing annual crops in the space available between the rows of trees. Generally, Cotton is grown. This helps to control of soil erosion and avoids unwanted weeds. It also provides additional income during the gestation period. The nutritious grass seeds of above species are collected from different sources and will broadcasted in between the rows of tree crop before onset of monsoon. The leguminous grasses also help to enrich the soil nutrition by fixing atmospheric Nitrogen.

Disease and Pest Management

Plantations were monitored by regular inspections and if any disease or insect break is found, it will be immediately controlled by application of insecticides. The chemicals used to control were in accordance with the public health guidelines or Environmental protection policies. Rate of application, dosage or concentration will be decided after expert consultation in that field. NAINI PAPERS is strictly following its pesticide policy, which has given in forth coming chapter.

Plantation Inspection

Supervisors were appointed to look after all the activities related to plantations. He is monitoring all the operations such as ripping, planting, weed control, fertilizer application *etc.*, when they are being carried out. After completion of major operations, he will be inspecting plantations at least once in a week. A watcher will be appointed to keep a watch on plantations against biotic & abiotic interference.

Casualty replacement

Generally, not all the superior clones were survived, on an average of the planted clones are going to die and this will be replaced with the new clones in the month of November (after 3 months of planting) to ensure proper growing stock.

With the continual research and development (R & D) activities in a very structured and planned manner led to development on many superior clones of *Eucalyptus* with suits to varied climatic conditions.

Clonal Plants supplied to Farmers

Post Planting Care

Poplar Plantation POP

Benefits of Poplar plantation:

- Fast growing species.
- High Yielding.
- Versatile Wood – Other than Pulp industries, Plywood, Furniture & MDF
- The extensive root system of poplar trees helps to stabilize soil and prevent erosion, particularly in areas prone to landslides or water runoff.
- Like all trees, poplars absorb carbon dioxide from the atmosphere, helping to mitigate climate change.
- Poplar can be grown on variety of soils.
- Poplar trees can help purify water by absorbing nitrates and sediments, and their ability to absorb water vapor can help to filter out some pollutants.
- Poplar can be harvested in 3- 5-year rotation under irrigated condition.
- Naini Papers is providing good quality of clonal saplings to farmers community like: 108,109,111,112 & 113.

Site Selection and Preparation:

Site Selection:

Choose a location that is relatively flat to gently undulating, with slopes between 0 and 30 degrees, and close to a water source. Avoid areas prone to frost or strong winds.

Land Preparation:

Plough the land to a depth of 25-30 cm a year before planting, followed by harrowing. Incorporate 40 tonnes of natural manure and 150 kg of phosphate per hectare. Apply nitrogenous fertilizer (urea) at 225 kg per hectare twice a year.

Planting:

Planting Time:

January and February are generally considered the best months for transplanting poplar seedlings, with planting also possible from mid-February to mid-March

Spacing:

Maintain a spacing of 5m x 4m or 5m x 5m, or even 6m x 2m, depending on the desired plant population and intercropping needs

Pit Size and Filling:

Dig pits of 60 x 60 x 60 cm. Mix the topsoil with well-decomposed cow dung (2 kg), MOP (25gm), and SSP (50gm). Add 8-10 kg of FYM and 50g of DAP to the pit.

Planting Method:

Plant one-year-old entire transplant of poplar G3 in the prepared pits. Ensure the seedling is placed upright in the pit and half-filled with the prepared soil mix, leaving the top 15-20cm empty.

Water Channels:

Create water channels along the planting rows to facilitate irrigation.

Post-Planting Care:

- **Irrigation:** Irrigate immediately after planting and then regularly, especially during the first 60 days, with a weekly interval.
- **Refilling:** Refill the remaining pit with soil after about two weeks and irrigate again.
- **Fertilization:** Apply additional fertilizer as needed, based on soil nutrient status.
- **Intercropping:** Intercrop with suitable crops like sugarcane, turmeric, and ginger for the first two years to generate income.
- **Pruning:** Prune the trees as needed to maintain their shape and promote healthy growth.
- **Pest and Disease Management:** Monitor for pests and diseases and implement appropriate control measures.

HARVESTING

Once the plantation is about 4-5year-old, it is ready for harvesting. Trees can be cut with a sharp saw/axe at about 15-degree angle leaving the 10 cm stump from the ground level; lops, tops and side branches are removed. Poles up to minimum diameter of 4 cm are cut and further cut into 2-meter pieces to be transported to the mills. It is advisable to leave leaf litter on the ground itself to allow recycling of the nutrients.

The expected yield per acre under irrigated plantation for Poplar will be 70 MT & for un-irrigated plantation about 50 MT under 4–5-year rotation

Important Note:

- It is advisable to use organic fertilizers like FYM, cow dung, vermicompost etc.
- It is advisable to take intercropping in throughout year in Poplar plantation as per the advice of Naini Papers representative. First two years advised to do Sugarcane as intercrop and after Wheat can do.
- To apply inorganic fertilizers & pesticides, please contact Naini Papers representative for advice.
- In order to conserve water in the soil, necessary arrangement will be made as per the advice of Naini Papers representatives.

WHAT BENEFITS NAINI PAPERS OFFERS?

- Quality planting material (superior Hybrid clonal planting material)
- Free of cost technical guidance throughout– we are just a call away!
- Buy-back guarantee for the raw material produced, if farmers can agree. (Optional)
- In order to help the farmers to increase yield, Naini Papers is providing superior clones which is given high yielding as per soil texture and given to farmers with subsidized rates.

Poplar Nursery

GPS data recording at plot

Plantation spacing:

For optimum growth& yield, a specific spacing is required for all species. Details of spacing are given below.

Species	**Spacing**	**No. Of plants /Ha.**
Eucalyptus	3m x1.5m	2000
Poplar	7m x3m	600

Note: Species & spacing shall be chosen based on the farmer choice & site requirement.

Method of Harvesting

The plantations, which are going to harvest, will be listed out with the details of year of plantations, age, estimated yield generated by the sample plots *etc*. The details will be submitted to Naini Papers Ltd. for the approval and further necessary actions. After getting the necessary permissions from Naini Papers & Forest department (depend upon the species) the plantations are harvested manually with the help of saws, converted into six feet long billets after removing bark, and stacked in the lots in the place of harvest. The lots were checked by the section in charge of that area and later loaded into trucks for further transportation with the necessary transit permits and all other relevant documents. Section In charge/ Manager are instructed to submitting Post – Harvest details to the management after the harvesting.

Felling regulations

1. Felling used to be done according to the Naini Papers policies under the supervision of official with the proper technical guidance.
2. Trees are cut with the aid of cross cut saws at the height of 15 cms from the ground. Slant cut will be given without damaging the bark.
3. Cut stumps will be kept free from all the damage caused by the felled material.
4. Care will be taken while stacking the material and transporting without making injury to cut stumps.
5. Felling will be done without damaging the other tree growth.
6. If the plantations/farms are on the banks of the rivers/water streams, Naini Papers leave at least 30-foot-wide uncut strip along both sides of water ponds, marshes and flowing streams.

Lops and tops shall be stacked in heaps at convenient place on the periphery of the plantations to avoid *eucalyptus* stumps being covered by such heaps. This debris will be properly disposed or burnt in the same area, to avoid fire hazard.

With the continual research &development work NAINI PAPERS has developed the following high yielding, fast growing and disease resistant clones of *Eucalyptus* hybrid species.

Development of Clonal technology for pulpwood species

Clonal technology primarily envisages taking advantage of the natural variation in tree species for immediate gains in productivity and quality of produce of new plantations. Important steps for tree improvement through selection and multiplication of outstanding clones are as follows:

28. CLONAL PRODUCTION

Highly superior and productive trees are selected, felled and juvenile coppice shoots are utilized for production of clones. Since they are produced from the mother plants through vegetative propagation, they are identical to the parent plants. The plants produced are nourished, protected taking care against pathogens for a period of 2-3 months, during which they attain a height of 25-30cms, which are fit for planting.

ADVATAGES OF CLONES AS COMPARED TO SEEDLINGS

- Fast growing
- Genetically superior
- Uniform in growth hence contribute to higher productivity and profit.

WHAT IS THE PRODUCTIVITY OF CLONE?

The productivity of clones could be 2-4 times more than seedling derived plantations depending on the growing conditions.

HANDLING CLONAL PLANTS & PLANTATIONS

HANDLING OF PLANTS

1. After the plants reach the planting site, light irrigation should be provided.
2. If immediate planting is not possible, the plants must be kept in the open but well protected place. Light irrigation should be given with a fine rose can once or twice a day depending on the requirement and climatic conditions.
3. Growing medium (soil substitute of the clonal plants) should neither be too dry nor too wet at the time of removal of plants from the root trainer blocks. A light irrigation should be provided at least two hours before removal of the plants from the blocks.
4. The plants should be removed by gently tapping the root trainers individually in order to facilitate easy removal of the plant from the tube with roots and the medium in a compact mass. Gently pushing up the plant with Coco peat from bottom of the root trainer would be helpful for easy removal of the plants.

SITE SELECTIONAND PREPARATION

5. Sites with shallow soil (less than one and half meter depth) should be avoided. Calcareous soils or those with high alkalinity / salinity too should be avoided. Generally, soil Ph should be in the range of 6-8 (less than 8.5) and Electrical Conductivity less than1dS/m. Highly eroded sites or those with persistent water logging must be avoided.
6. Site must be well prepared by deep ploughing in both directions followed by harrowing.
7. Spacing of 3.0m (row to row) and 1.5m (plant to plant) is generally maintained based on the field conditions. In case of slope or undulated terrain, the 3 m rows should be along the contour, which

8. will facilitate ploughing in between the rows along the contours to conserve moisture and prevent soil erosion. In plain areas, the 3.0 m row should be in the east-west direction and 1.5m spacing in the north-south direction. This will ensure better exposure to sunlight.
9. In coastal areas 3 m spacing should be parallel to the prevalent wind direction. This will ensure exposure of minimum number of trees to direct strong winds.
10. Planting of Naini Superior Clonal plants in single row around farm boundaries, field bunds and farm roads can be taken up by the farmers. The spacing in single line should be 1.5m– 2.0m apart.
11. As far as possible, minimum of three different clones are to be planted to safeguard against possible risks of diseases and pests. The farmer should maintain a lay-out design of the field to facilitate better monitoring and evaluation of the plantation.

PLANTING OPERATONS AND MAINTENACNCE

12. Planting pits should not be less than 1 ft x 1 ft x 1 ft. Weeds, if any around the planting pit should be removed.
13. Refill the pit with treated soil up to 5 cm level. Hold the plant in upright position in the centre of the planting pit, then treated soil should be refilled into the pit and gently compacted. Prepare as saucer for holing irrigation water.
14. In black cotton soil, irrigation water is added in the planting pit after refilling the pit up to 5 cm level. No compaction should be carried out after transplanting the plant. Only 3 cm upper part of the pit should be left unfilled to retain irrigation / rain water.
15. Supplementary irrigation at necessary intervals till establishment of the plants needs to be given in the absence of rains.
16. No fertilizer application should be done close to the roots or stem of the young plants as it will prove injurious / harmful.
17. Young plants are very sensitive to competition from weeds and at least three weeding in 50 cm radius around the plant are required every year during the first three years.
18. Ploughing should be done between the rows of plants to help better soil aeration, moisture conservation and weed control. In the first year, 2nd ploughing should be done at the end of monsoon rains. During subsequent years, one ploughing after the first monsoon showers should be done. It is recommended to go for tractors for ploughing preferably with MB plough.
19. **Fertilizer application schedule for 1st year:**

    DAP/ SSP-50Gm per plant after1 month of planting.
    NPK- 12:32:16, 50 Gm per plant after 1 month of first dose.
    NPK-12:32:16,50Gm per plant after1month of second dose.
20. Fertilizer application schedule from 2nd year onwards: 2 doses of NPK (12:32:16)@50 gm per plant during monsoon season.

21. The Fertilizers doses should be applied in the form of a ring, around one foot away from the stem of the plant, only when adequate soil moisture is present or in the presence of light rains after soil working and weeding. In case of potash deficient soils, it is recommended that 50 gm of potash should also be applied. Application of good quality FYM is recommended and 25 gm of zinc sulphate per plant will minimize incidence of chlorosis in marginally saline soils. **However, it is advisable to decide the fertilizer dosage after proper soil testing.**

22. For fast growth and establishment, adequate micronutrients will be given as per the soil testing report after consultation with NAINI PAPERS technical personnel.

PROTECTION OF PLANTATIONS

23. Plantation should be protected against cattle. No browsing or trampling should be allowed.
24. Deep planting ensures that there is no lodging. In case of lodging, earthling-up operations should be taken up immediately to support the plants. Stakes should not be used.
25. Prevention of damage to the plant during ploughing should be ensured and normally ploughing should be only in one direction between the rows.
26. No crop residues should be burnt in or near the plantation area as young Eucalyptus plants are very sensitive to fire. Even scorching hot wind from the adjoining fields could damage the plants. Therefore, farmers should be cautious about fires.
27. All Naini Super Clonal plants are self-pruning. No pruning should be carried out. Only forked or V shaped double leaders should be prevented in the young plants by carefully pruning of the co-leader shoot early.
28. In case the plant is severely damaged because of physical injuries or broken by wind, the plant should be coppiced back at 5 cm above the ground level. In case the plant is broken, a new leader shoot will appear naturally and there will be no need to coppice the plant.
29. Clean cultivation practices should be followed and irrigation provided wherever possible.
30. In case of specific problems, it is advisable to get in touch with the nearest representative of NAINI PAPERS for necessary guidance. The above are only broad guidelines.

BEST TIME FOR PLANTING

31. Onset of monsoon is the best time for transplanting of plants. Early transplanting ensures full benefit of entire monsoon rains for better establishment and growth of the plants.

32. No transplanting is advised during the hot summer as there is possibility of high mortality rate because of desiccation. In case of availability of irrigation facilities, one can plant any time during the year except mid-winter when rate of growth tends to be slower.

BEST RESULTS

By adopting the above practices stringently, one can expect high productivity.

II. HARVESTING

Once the plantation is about five-year-old, it is ready for harvesting. Trees can be cut with a sharp saw/axe at about 15-degree angle leaving the 10 cm stump from the ground level; lops, tops and side branches are removed and debarked. Poles up to minimum diameter of 4 cm are cut and further cut into 2-meter pieces to be transported to the mills. It is advisable to leave leaf litter on the ground itself to allow recycling of the nutrients.

29. Naini Papers Limited COC Procedure

1. Naini Papers Limited has established Wood Tracking Policy which is attached in FSC FM Manual of Naini Papers to control and track data related to volume and origin of harvested forest products (e.g., weights, inventories, and other measurements) in the forest, during transport, in logging decks and landings.

2. Naini Papers shall ensure that a description of the FSC product group (e.g., FSC-100%) and the FME's certificate code (e.g., NC-FM/COC-XXXXXX) on invoices and other documentation related to the sale of certified products must be there.

3. Naini Papers shall ensure that all FSC certified products remain clearly identifiable and conveniently separable from non-certified ones. FSC certified products should be kept in the identified and specified areas only with especially marked/ displayed status. To accomplish this, Naini Papersd will put a green mark on every FSC certified logs where it is clearly seen. Further all invoices or any other documentation that accompanies the product must carry a stamp of FSC to segregate FSC and NON FSC documents.

4. A description of the measures used to segregate certified forest products from Non-certified ones through marking, labels, separate storage, and invoices or other documentation that accompanies the product until the point of sale, or the "Separate Yard Area."

5. If Naini Papers wants to use the logo and/or other trademarks of FSC on its products or in publications, including websites, it shall ask for documented approval from auditing body prior to use and shall ensure that

   - The FSC trademarks shall not be used at the top of document templates such as letterheads, sales documents and emails.
   - The FSC trademarks shall not be used on business cards to promote the organization certification.
   - If the FSC trademarks are used on invoice templates, delivery notes and similar documents that may be used for FSC and non-FSC products, the following statement shall be included: **"Only the products that are identified as such on this document are FSC certified".**
   - The FSC trademarks shall not be used together with the marks of other forest certification schemes in a way which implies equivalence or in a way which is disadvantageous to the FSC trademarks in terms of size or placement.
   - Naini Papers does not make claims about forthcoming extensions of the scope of their FSC certificate or new applications for FSC certificates.
   - Naini Papers Ltd. will ensure that claims regarding qualities outside the control of FSC (such as other environmental attributes of the product) shall be clearly separated from text about FSC.

6. Naini Papers will ensure that identification system shall allow the physical products to be linked to paper records including all of the following information:
   - Type of product
   - Volume (or quantity) of product

- Logging/ production site
- Logging/ production date

7. Naini Papers will include following information on sales invoices for all products sold:
   - Name and address of purchaser
   - Name and address of Naini Papers Limited
   - The date of sale
   - Type of product
   - The volume (or quantity) sold
   - FME's certificate code
   - FSC product group

8. Naini Papers shall ensure that all products that are sold as 'FSC-certified' shall be readily identifiable as such, both on the physical product and on the ac Naini Paper using paper records and sales invoices.

9. Naini Papers shall keep copies of production records and sales invoices for at least five years.

10. Naini Papers has established FSC FM Manual for identifying that all products leaving the forest shall be clearly documented.

11. Naini Papers has established a procedure, which was enclosed in FSC FM Manual of Naini Papers which allows all products (timber and non-timber) harvested within the FMU to be readily identified as such, from the time of harvesting through the point of sale.

30. RESPONSIBILITY FOR OBTAINING LABELING AND PROMOTION PERMISSION AND MAINTAINING RECORDS

FSC-FM Administrator Basanta Kumar Nayak will be responsible for obtaining labelling and marketing permission from Auditing Body via online approval system and maintaining labelling and promotion records as per requirements of FSC Trademark Standard FSC-STD-50-001 V2-1. The Administrator ensures that FSC on-products labelling thresholds are met before authorizing the use of the FSC labels on the finished products. All the defined staffs are trained on the up-to-date version of the organization's procedures to ensure their competence in implementing the trademark use management system;

Procedures: -

- Naini Papers will follow the FSC Trademark Standard FSC-STD-50-001 V2-1 and comply with all the requirements of Trademark Standard.
- The FSC FM Administrator determines the products to be labelled. He refers to the FSC-STD-50-001 V2-1: FSC on-products labelling requirements to determine the proper FSC on-products label to be used for each job. He also provides a copy of the proper
- FSC-FM Administrator ensured that FSC trademarks should not be used in a way that could cause confusion, misinterpretation or loss of credibility to the FSC and not implies that FSC endorses, participate in or is responsible for activities outside the scope of certification.
- The FSC Trademarks may be used on invoices or other stationary to promote that we are FSC certified and can supply FSC certified products but FSC does not responsible for production of any product, documents or promotional materials.
- The FSC trademarks shall not be used at the top of document templates such as letterheads, sales documents and emails, product brand and Naini Papers website or domain names. It can be used to describe the certification of the products.
- The FSC trademarks shall not be used on business cards to promote the organization's certification and
- The name "Forest Stewardship Council" shall not be replaced with a translation.
- If FSC trademarks are used on invoice templates, delivery notes and similar documents that may be used for FSC and non-FSC products, the following statement shall be included: "**Only the products that are identified as such on this document are FSC certified".**
- The FSC trademarks shall not be used together with the marks of other forest certification schemes in a way which implies equivalence or in a way which is disadvantageous to the FSC trademarks in terms of size or placement before sell.
- We'll not make claims about forth coming extensions of the scope of FSC certificate or new applications for FSC certificates.

- We will ensure that claims regarding qualities outside the control of FSC (such as other environmental attributes of the product) shall be clearly separated from text about FSC.

- All promotional uses of the FSC trademarks will be submitted to Auditing Body for approval and all records related to on and off product labelling will be kept for **Five years**.

- We will ensure that all products being promoted with the FSC trademarks are in compliance with FSC standards, eligible for the FSC label in accordance with the minimum FSC requirements for labelling, and Included in the organization ‘s product group list.

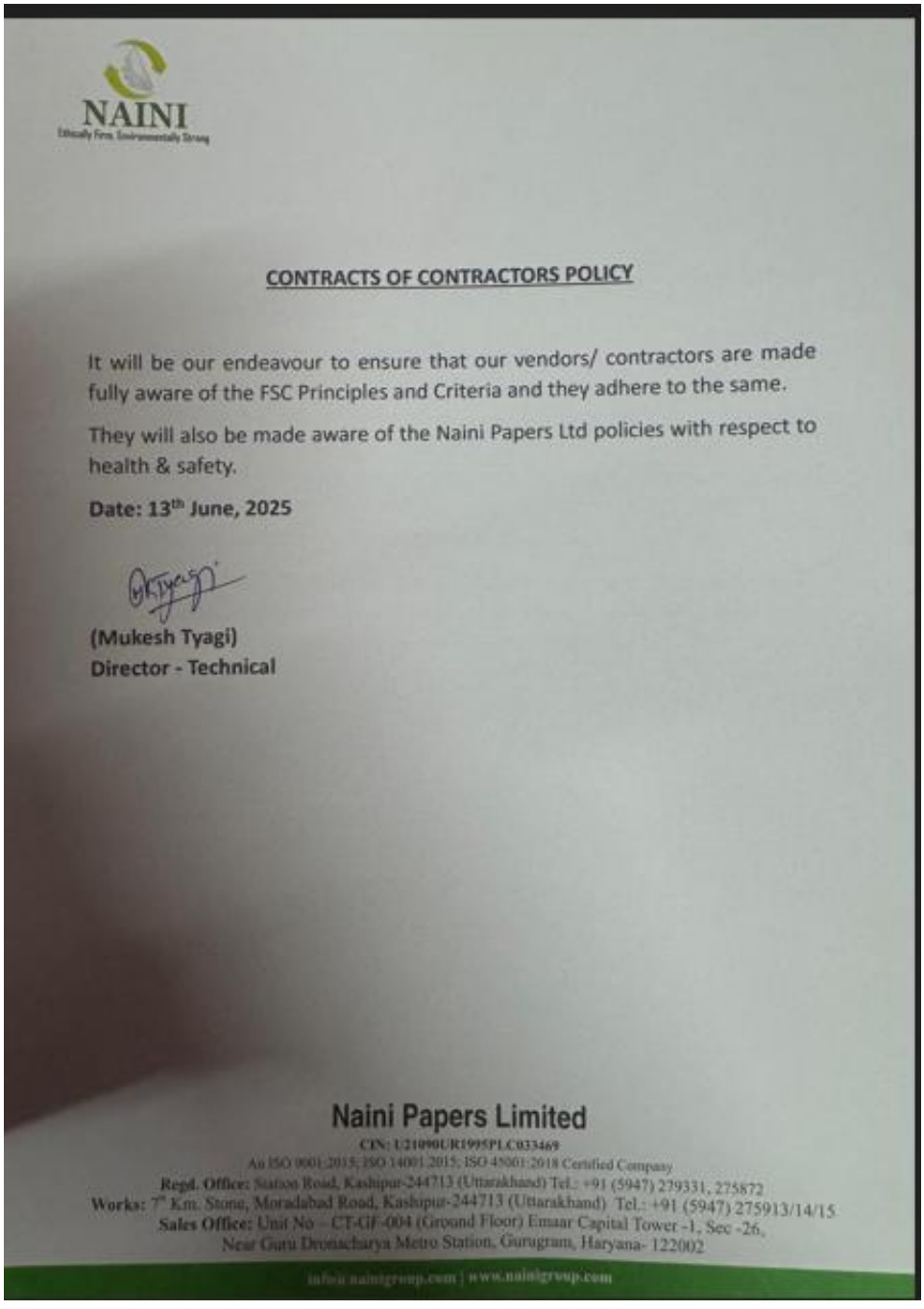
- FSC trademarks will be clearly linked to the FSC certified products that are being promoted.

- We will ensure that products carrying an FSC label are included in the product group list.

- All labelled products will always sell with the corresponding FSC claim on their sales and transport documentation;

- When a FSC product will be marked, we ensure that Marks of other forest certification schemes shall not be used on products carrying the FSC claims.

31. Naini Papers Policies



NAINI
Ethically Firm. Environmentally Strong

CONTRACTS OF CONTRACTORS POLICY

It will be our endeavour to ensure that our vendors/ contractors are made fully aware of the FSC Principles and Criteria and they adhere to the same.

They will also be made aware of the Naini Papers Ltd policies with respect to health & safety.

Date: 13th June, 2025

(Mukesh Tyagi)
Director - Technical

Naini Papers Limited
CIN: U21090UR1995PLC033469
An ISO 9001:2015; ISO 14001:2015; ISO 45001:2018 Certified Company
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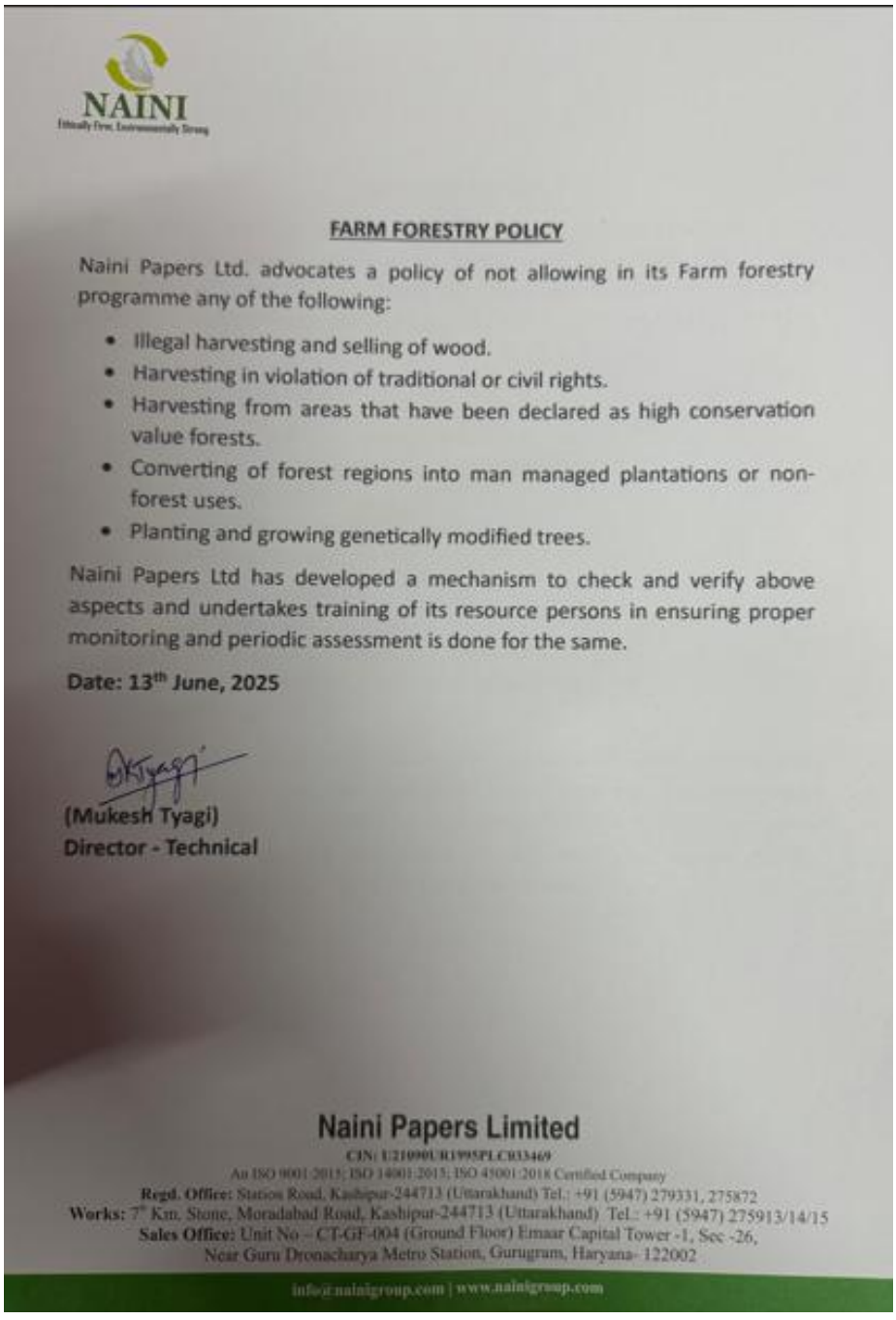
info@nainigroup.com | www.nainigroup.com



NAINI
Ethically Firm, Environmentally Strong

FARM FORESTRY POLICY

Naini Papers Ltd. advocates a policy of not allowing in its Farm forestry programme any of the following:

- Illegal harvesting and selling of wood.
- Harvesting in violation of traditional or civil rights.
- Harvesting from areas that have been declared as high conservation value forests.
- Converting of forest regions into man managed plantations or non-forest uses.
- Planting and growing genetically modified trees.

Naini Papers Ltd has developed a mechanism to check and verify above aspects and undertakes training of its resource persons in ensuring proper monitoring and periodic assessment is done for the same.

Date: 13th June, 2025

(Mukesh Tyagi)
Director - Technical

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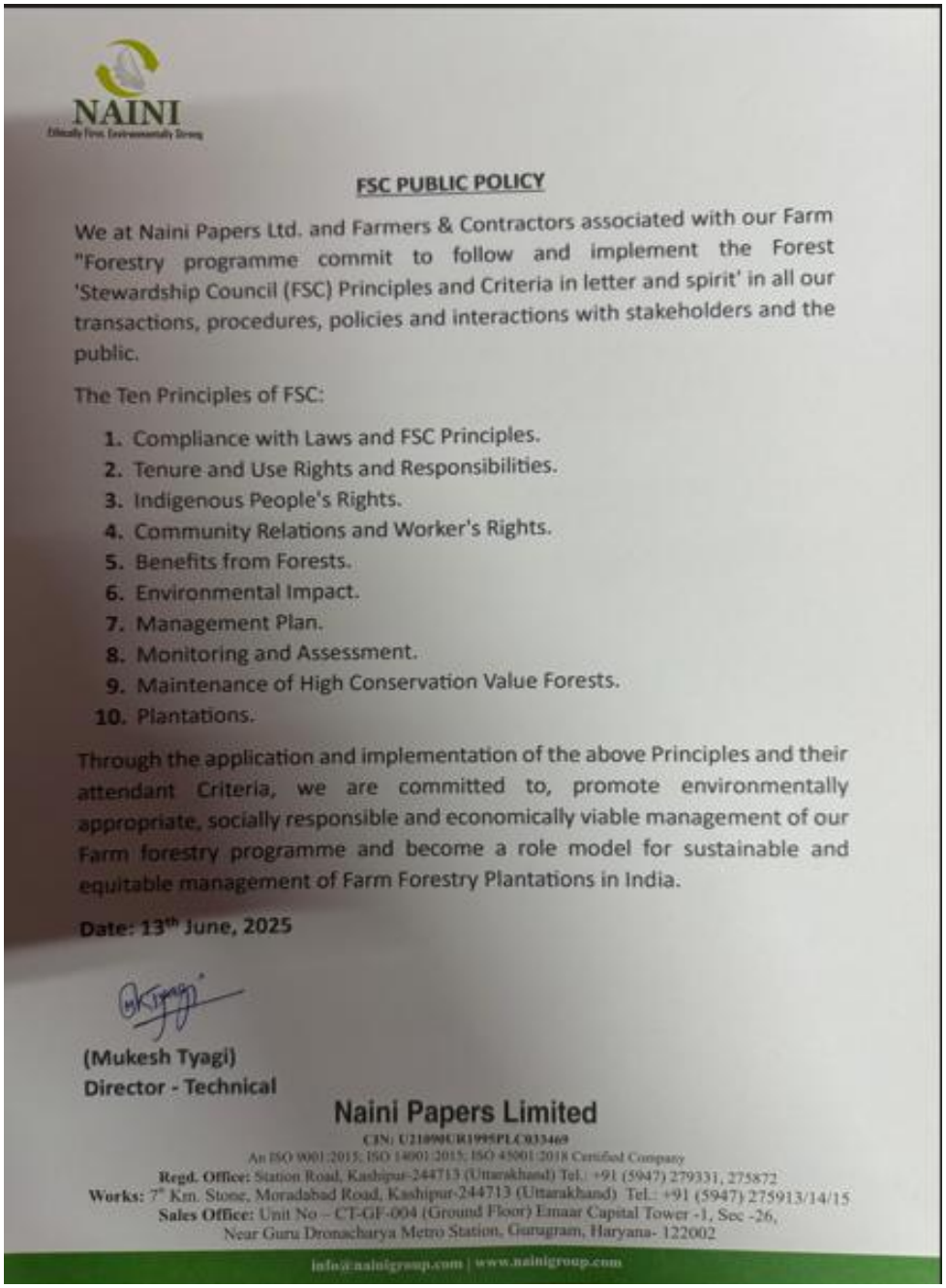
info@nainigroup.com | www.nainigroup.com



NAINI

FSC PUBLIC POLICY

We at Naini Papers Ltd. and Farmers & Contractors associated with our Farm "Forestry programme commit to follow and implement the Forest 'Stewardship Council (FSC) Principles and Criteria in letter and spirit' in all our transactions, procedures, policies and interactions with stakeholders and the public.

The Ten Principles of FSC:

1. Compliance with Laws and FSC Principles.
2. Tenure and Use Rights and Responsibilities.
3. Indigenous People's Rights.
4. Community Relations and Worker's Rights.
5. Benefits from Forests.
6. Environmental Impact.
7. Management Plan.
8. Monitoring and Assessment.
9. Maintenance of High Conservation Value Forests.
10. Plantations.

Through the application and implementation of the above Principles and their attendant Criteria, we are committed to, promote environmentally appropriate, socially responsible and economically viable management of our Farm forestry programme and become a role model for sustainable and equitable management of Farm Forestry Plantations in India.

Date: 13th June, 2025

(Mukesh Tyagi)
Director - Technical

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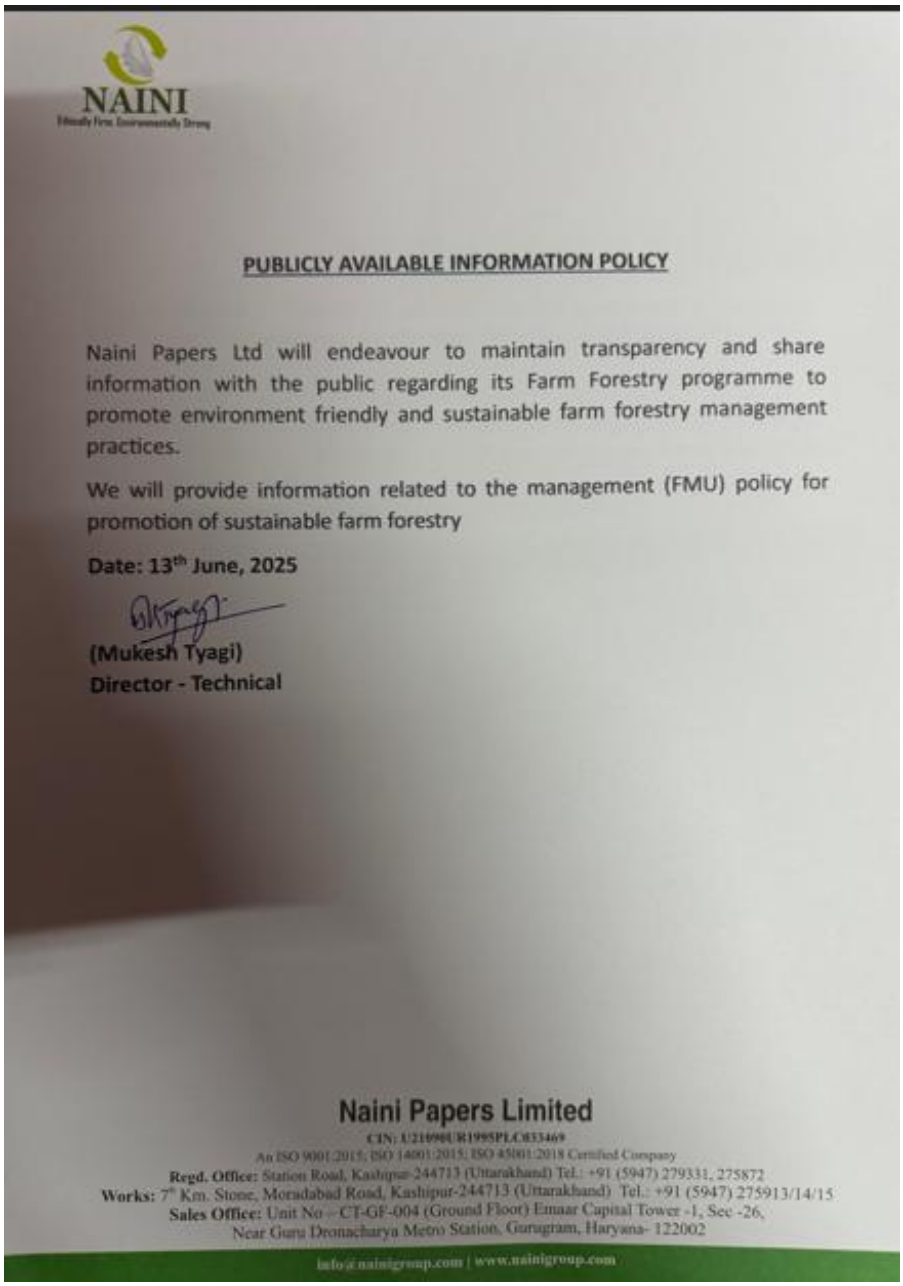
Regd. Office: Station Road, Kashipur-244713 (Uttarakhand) Tel.: +91 (5947) 279331, 275872
Works: 7th Km. Stone, Moradabad Road, Kashipur-244713 (Uttarakhand) Tel.: +91 (5947) 275913/14/15
Sales Office: Unit No – CT-GF-004 (Ground Floor) Emaar Capital Tower -1, Sec -26,
Near Guru Dronacharya Metro Station, Gurugram, Haryana- 122002
info@nainigroup.com | www.nainigroup.com



NAINI
Ethically Firm, Environmentally Strong

PUBLICLY AVAILABLE INFORMATION POLICY

Naini Papers Ltd will endeavour to maintain transparency and share information with the public regarding its Farm Forestry programme to promote environment friendly and sustainable farm forestry management practices.

We will provide information related to the management (FMU) policy for promotion of sustainable farm forestry

Date: 13th June, 2025

(Mukesh Tyagi)
Director - Technical

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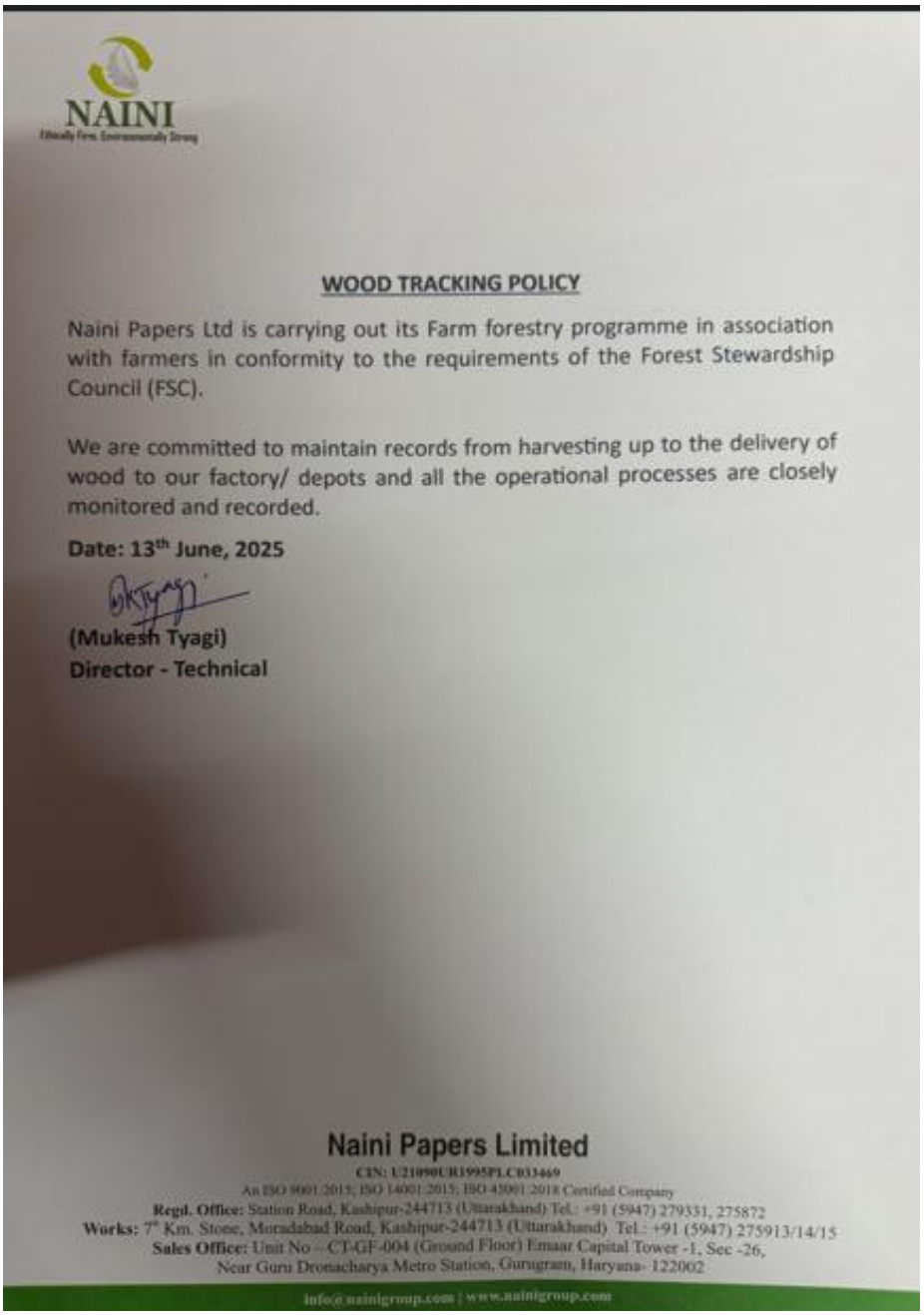

NAINI
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WOOD TRACKING POLICY

Naini Papers Ltd is carrying out its Farm forestry programme in association with farmers in conformity to the requirements of the Forest Stewardship Council (FSC).

We are committed to maintain records from harvesting up to the delivery of wood to our factory/ depots and all the operational processes are closely monitored and recorded.

Date: 13th June, 2025

(Mukesh Tyagi)
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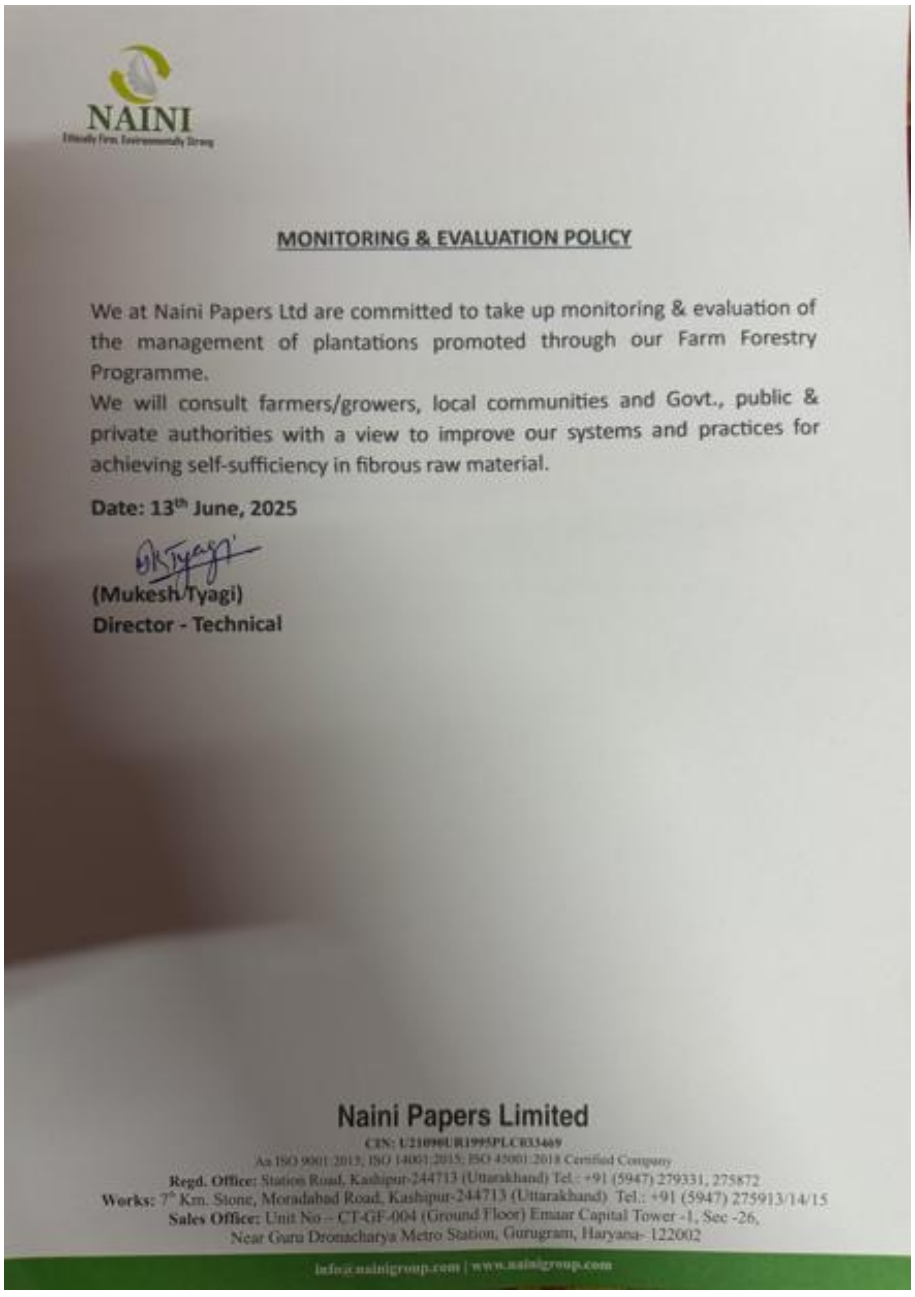

NAINI
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MONITORING & EVALUATION POLICY

We at Naini Papers Ltd are committed to take up monitoring & evaluation of the management of plantations promoted through our Farm Forestry Programme.

We will consult farmers/growers, local communities and Govt., public & private authorities with a view to improve our systems and practices for achieving self-sufficiency in fibrous raw material.

Date: 13th June, 2025

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Director - Technical

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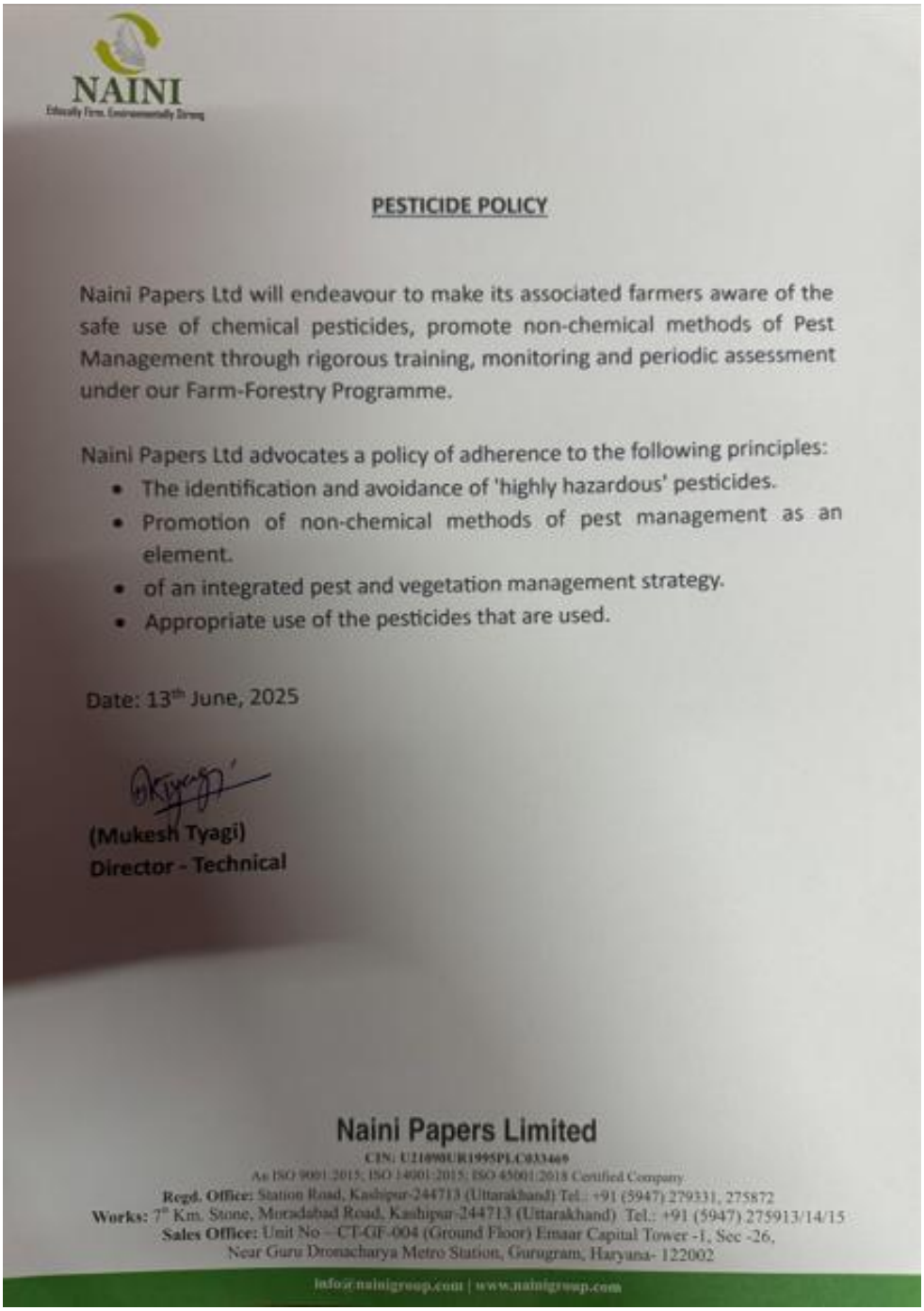

NAINI
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PESTICIDE POLICY

Naini Papers Ltd will endeavour to make its associated farmers aware of the safe use of chemical pesticides, promote non-chemical methods of Pest Management through rigorous training, monitoring and periodic assessment under our Farm-Forestry Programme.

Naini Papers Ltd advocates a policy of adherence to the following principles:

- The identification and avoidance of 'highly hazardous' pesticides.
- Promotion of non-chemical methods of pest management as an element.
- of an integrated pest and vegetation management strategy.
- Appropriate use of the pesticides that are used.

Date: 13th June, 2025

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FSC LONG TERM ADHERENCE POLICY

This is to inform all concerned that Naini Papers Limited, Plantation & Agroforestry wing is currently pursuing Forest Stewardship Council (FSC) certification. Accordingly, we commit ourselves to follow and implement the FSC Principles and Criteria in letter and spirit in all our transactions, procedures, policies, and interactions with stakeholders and general public. All officers and employees of Naini Papers Limited, all associated contractors and Stakeholders and licensed agents working with Naini Papers Limited are required to follow the guiding principles of Forest Stewardship Council in all their dealings.

The Ten Principles of FSC deal with

1. Compliance with Laws and FSC Principles.
2. Workers' Rights and Employment Conditions.
3. Indigenous People Rights.
4. Community Relations.
5. Benefits from Farms.
6. Environmental Values and Impacts.
7. Management Plan.
8. Monitoring and Assessment.
9. Maintenance of High Conservation Value Forest.
10. Plantations.

Through the application and implementation of the above Principles and their attendant Criteria, we endeavour to promote the environmentally appropriate, socially responsible, and economically viable management of the Agroforestry of Naini Papers and become a role model for sustainable and equitable Agroforestry/Farm forestry management for all of India's Farm-Forest.

Date: 13th June'2025

(Mukesh Tyagi)
Director- Technical

TRAINING AND DEVELOPMENT POLICY

- The overall purpose of the policy is to set out guidelines and purpose for the training and development of Members/employee's that have skills need.

- The policy emphasizes the importance of maintaining a continuous learning programme to develop a core of well-trained individuals whose performance will enhance the company's abilities to perform at a level that is consistent with growth and profitability objectives.

- The policy of the company is to ensure that all personnel are trained and become sufficiently experienced to the extent necessary to competently and effectively undertake their assigned activities and responsibilities. It is also the aim of the company to encourage its members/employees to make the most of learning opportunities to realize their own personal potential and enjoyment of their job.

Naini Papers Limited shall attempt to create a learning environment where employees' will be prepared to accept change, develop new skills and take responsibility for their own continuous learning, in partnership with their immediate manager/supervisor/member and, to ensure their effective contribution to the successful achievement of both business and personal goals. The company's success will depend on the professionalism, skill and commitment of its entire employee's.

Naini Papers Limited aims to ensure that:

- There is always an active training plan in place at the start of every year to cover the forthcoming 12-month period.
- Sufficient funding is set-aside in the financial budget to cover planned training expenditure for the current / impending financial year.
- Members/Employees fully understand their job function and expected performance standards through having accurate job descriptions and an annual participative mechanism.
- Each Member/employee has the opportunity to learn and become more experienced in his primary job function.
- Each Member/employee has the opportunity to learn and become experienced in secondary skills.
- Each Member/employee is enabled and actively encouraged to develop his/her personal potential.

****All new Members/employees will undergo immediate training sessions.*

Date: 13th June'2025

(Mukesh Tyagi)
Director- Technical

INTEGRATED PEST MANAGEMENT POLICY

Integrated Pest Management (IPM) is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

The IPM approach can be applied to both agricultural and non-agricultural settings, such as the home, garden, and workplace. IPM takes advantage of all appropriate pest management options including, but not limited to, the judicious use of pesticides. In contrast, *organic* food production applies many of the same concepts as IPM but limits the use of pesticides to those that are produced from natural sources, as opposed to synthetic chemicals.

In Naini Papers Limited we had defined the IPM in three major headings:

- **Physical control:** Naini Papers Limited is following the physical control mechanism while doing silviculture activities while using the hybrid clones which are pest resistance and least affected by the pests.
- **Chemical Control:** Naini Papers Limited is committed to minimize the chemical control in its operations although we had a pesticide policy and list of FSC banned chemicals.
- **Biological Control:** Naini Papers Limited is following some of the biological control agents for the pest management. If required nay biological control agent we will follow the guidelines given by NBAII (National Bureau of Agriculturally Important Insects). With permission from all government machinery and legal system of country India, we will use them.

Date: 13th June'2025

(Mukesh Tyagi)
Director- Technical

Annexure 2 Format for Farmers Consent Form

Annexure 2 Format for Handling Farmer's Complaint

S NO	Date of receipt of Complaint	Complaint Originator	Details of Complaint	Category Of Complaint:	Signature of person receiving complaint	Action taken for addressing complaint	Closure of Complaint	Date of Closure of Complaint With signature

Annexure 3 THE CHILD LABOR (Prohibition and Regulation) Act 1986

OBJECT

To prohibit the engagement of children in certain employment and to regulate the conditions of work or children in certain other employment:

DEFENITION:

Child: Child means a person who has not completed his fourteen years of age.

APPLICABILITY: In extends to the whole of India.

PROHIBITION OF EMPLOYMENT OF CHILDREN IN CERTAIN OCCUPATIONS AND PROCESSES:

No child shall be employed or permitted to work in any of the following occupations: Set forth in part of, A ‟ of the schedule or in any workshop where in any of the process set forth in part B‟ of the schedule to this Act

1. Transport of passengers, goods; or mails by railway
2. Cinder picking, clearing of an ash pit or building operation in the railway premise.
3. Work in a catering establishment at a railway station, involving the movement of vendor or any other employee of the establishment from one platform to another or into or out of a moving train.
4. Work relating to the construction of railway station or with any other work where such work is done in close proximity to or between the railway lines.
5. The port authority within the limits of any
port. 107
6. Work relating to selling of crackers and fireworks in shops with temporary licenses
7. Abattoirs/ slaughter Houses
8. Automobile workshops and garages.
9. Foundries
10. Handling of taxies or inflammable substance or explosives
11. Handloom and power loom industry
12. Mines (Underground and under water) and collieries
13. Plastic units and Fiber glass work

OR

In any workshop where in any of the following processes is carried
on.

1Beedi making
2 Carpet Weaving
3 Cement manufacture including bagging of cement.

4 Cloth printing, dyeing and weaving.

5 Manufacture of matches, explosive and fireworks.
6 Mica cutting and splitting
7 Shellac manufacture
8 Soap manufacture
9 Tanning.
10 Wool cleaning
11 Building and construction industry
12 Manufacture of slate pencils (including
packing)
13 Manufacture of products of a gate
14 Manufacturing processes using toxic metals and substances such as lead, mercury, manganese, chromium, cadmium, benzene, pesticides and asbestos
(Section
3)108
15 All Hazardous processes are defined in section2 (cb) and dangerous operations as notified in ruler made under section 87 of the factories Act 1948
16 Printing(as defined in section 2 (k) of the factories Act 1948
17 Cashew and cashew nut descaling and processing
18 Soldering process in electronic
industries 106
19 Agarbathi manufacturing
20 Automobile repairs and maintenance (namely welding lather work , dent beating and printing)
21 Brick kilns and Roof files units
22 Cotton ginning and processing and production of hosiery goods
23 Detergent manufacturing
24 Fabrication workshops (ferrous and non-
ferrous)
25Gem cutting and polishing
26 Handling of chromites and manganese ores
27 Jute textile manufacture and of coir making
28 Lime kilns and manufacture of lime
29 Lock making
30 Manufacturing process having exposure to lead such as primary and secondary smelting, welding etc. (See item 30 of part B process)
31 Manufacture of glass, glass ware including bangles fluorescent tubes bulbs and other similar glass products
32 Manufacturing of cement pipes, cement products, and other related work.
33 Manufacture of dyes and dyestuff

34 Manufacturing or handling of pesticides and insecticides

35 Manufacturing or processing and handling of corrosive and toxic substances, metal cleaning and photo enlarging and soldering processes in electronic industry

36 Manufacturing of burning coal and coal briquette

37 Manufacturing of sports goods involving to synthetic materials, chemicals and leather

38 Molding and processing of fiber glass and plastics

39 Oil expelling and refinery

40 Paper making

41 Potteries and ceramic industry

42 Polishing, moulding, cutting welding and manufacture of brass goods in all forms.

43 Process in agriculture where tractors, threshing and harvesting machines are used and chabt cutting

44 Saw mill all process

45 Sericulture processing

46 Skinning dyeing and process for manufacturing of leather and leather products109

47 Stone breaking and stone crushing

48 Tobacco processing including manufacturing of tobacco, tobacco paste and handling of tobacco in any form

49 Tyre making repairing, re-trading and graphite beneficiation

50 Utensils making polishing and metal buffing

51 Zari Making (all process)

CHILD LABOUR TECHNICAL ADVISORY COMMITTEE:

The central government may by notification constitute a child Labour technical advisory committee to advise the central govt. for the purpose of addition of occupations to the schedule of the Act (Section-5).

HOURS AND PERIOD OF WORK:

No child shall be required or permitted to work in any establishment in excess of number of hours prescribed (Section-7) In Kerala the working hours is limited to four and half hours in a day (Rule -3).

The period of work on each day shall not exceed three hours and no child shall work for more than three hours before he has had an interval for rest for at least one hour. No child shall be permitted or required to work between 7 P.m. and 8 a.m.

No child shall be required or permitted to work overtime (Section-7).

WEEKLY HOLIDAY:

Every child shall be allowed in each week a holiday of one whole day (Section-8).

NOTICE TO INSPECTOR:

Every occupier shall within 30 days send a written notice in Form-A to the inspector within whose local limits the establishment is situated (Section-8 read withRule-4).

DISPUTES AS TO AGE:

If any question arises between an inspector and an occupier as to the age of any child, in the absence of a certificate in Form-C as to the age of such child granted by the prescribed medical authority, be referred by the inspector for decision to the prescribed medical authority. (A govt. medical officer not below the rank of an Assistant surgeon of a district or on officers having equivalent rank in ESI Dispensaries or hospitals (Section-10 read with Rule -16)

REGISTERS:

Every occupier of an establishment shall maintain a register in respect of children employed or permitted to work at the establishment in Form-B (Sect. II read with Rule-15)

DISPLAY OF NOTICE:

Every occupier shall display in the establishment the abstract of section-3 and 14 in form-D of the Act (Section12 read with Rule -17)

PENALITIES:

Violations under Section-3 shall be punishable with imprisonment which shall not be less than three months which may extend to one year or with fine which shall not be less than ten thousand rupees but which may extend to twenty thousand rupees or with both. Continuing offence under section (3) shall be punishable with imprisonment for a term which shall not be less than six months but which may extend to two years.

Any other violations under the Act shall be punishable with simple imprisonment, which may extend to one month or with fine, which may extend to ten thousand rupees or with both.

WHO CAN FILE PROSPECUTIONS?

1. Any person
2. Police Officer
3. Inspector appointed under the Act

No. court inferior to that of a metropolitan Magistrate or a Magistrate of the First Class shall try any offence under this Act (Section-16) shall be a Government Medical Officer not below the rank of an Assistant Surgeon of a district or an officer of equivalent rank employed on a regular basis in Employees State Insurance dispensaries or hospitals.

4. Abstract of the Act.- An abstract of sections 3 and 14 of the Act shall be displayed in form D suspended to these rules (Rule 17)

Annexure 4 National Child Labour Policy 1987

POLICY:

The National Policy on Child Labour, August 1987 contains the action plan for tackling the problem of child labour. It envisages:

• A legislative action plan.

• Focusing and convergence of general development programmes for benefiting children wherever possible, and

• Project-based action plan of action for launching of projects for the welfare of working children in areas of high concentration of child labour. In pursuance of National Child Labour Policy, the NCLP Scheme was started in 1988 to rehabilitate child labour. The Scheme seeks to adopt a sequential approach with focus on rehabilitation of children working in hazardous occupations & processes in the first instance. Under the Scheme, after a survey of child labour engaged in hazardous occupations & processes has been conducted, children are to be withdrawn from these occupations & processes and then put into special schools in order to enable them to be mainstreamed into formal schooling system.

Strategy for elimination of child labour in Xth Plan

Keeping in view the policy of the Government as laid down in the National Agenda and Prime Minister's directions in the National Conference on Child Labour, the evaluation studies carried out by the VVGNLI and the approach defined in the working paper for the Tenth Plan, the strategy adopted during this Plan period aims at bringing qualitative changes in the scheme for elimination of child labour. The details are as follows:

• Policy and programmes for elimination of child labour would be continued in a more focused, integrated and convergent manner.

• Focused and reinforced action to eliminate child labour in the hazardous occupations by the end of the Plan period.

• Expansion of the NCLPs to additional 150 districts during the Plan.

• Ensuring that the NCLPs have a focused time frame of 5years with clearly defined targets.

• Linking the child labour elimination efforts with the scheme of Sarva Shiksha Abhiyan of the MHRD an attempt to ensure that small children in the age group of 5-8 years get directly linked to school and the older children are mainstreamed to the formal education system through the rehabilitation centres. Increased efforts to provide vocational training to the older children.

• Strengthening of the formal school mechanism in the endemic child labour areas in the country both in terms of

• quality and numbers in such a manner as to provide an attractive schooling system to the child labour force and its parents so that motivational levels of both the parents and such children are high and sending these children to school becomes an attractive proposition.

• Convergence with the ongoing schemes of the Dept. of Education, Rural Development, Health and Women & Child Development would be critical for the ultimate attainment of the objective of elimination of child labour in a time bound manner.

• Large-scale involvement of the voluntary organizations at the district level to assist in the running of the NCLP schools. The attempt during this Plan would be to encourage the running of the rehabilitation schools only through accepted and committed NGOs so that the Government machinery is not burdened with running of such schools.

Certain important and enhanced parameters that have been introduced in the scheme now are as under:

STIPEND: In the existing arrangement, the stipend of Rs. 100/- per child per month was being disbursed every month. As per the revised scheme, the monthly stipend of Rs. 100/- per month per child will be disbursed only after the child is successfully mainstreamed into formal system of schooling. Till that period, the amount of stipend will be regularly deposited in the Bank Account of the child. The accumulated stipend amount could be handed over to the child at the time of her/his getting mainstreamed.

NUTRITION: The amount for provision of nutrition to the children in the special schools has been doubled from Rs. 2.50/-per child per day to Rs. 5/-per child per day.

HEALTH COMPONENT: In the existing scheme, there was no separate budgetary provision for any health component to take care of the health-related aspects of the children. In the revised scheme an amount of honorarium (Rs. 5,000/- per month for one doctor for every 20 schools) has been provided to put in place an institutionalized mechanism for regular and periodical effective health care of the children by a doctor. A health card in respect of every child also needs to be maintained with all the necessary entries.

VOCATIONAL TRAINING: In the existing scheme, there was no separate budgetary provision for the services of any Master Trainer for imparting training to the children/teachers. In the revised scheme, budgetary provision (Rs. 5,000/- for one Master Trainer for each NCLP) has been provided to hire the services of a Master for each NCLP.

TRAINING FOR EDUCATIONAL TEACHERS: In the existing scheme, there was no separate budgetary provision for providing training to the educational teachers. In the revised scheme, budgetary provision has been provided to impart training to the teachers twice during the 10th Plan period.

SURVEY: In the revised Scheme, provision (Rs. 2.75 lakhs per survey) has been made to conduct surveys of working children two times during the 10th Plan period. By following the strategy enunciated above and combining this with the existing established mechanisms of enforcement, it is expected that a drastic reduction in child labour would result by the end of Plan period. The problem of child labour requires to be dealt through

sustained efforts over a period of time. Government is committed to the goal of eradication of child labour in all its forms. Considering the nature and magnitude of the problem a gradual and sequential approach has been adopted to with draw and rehabilitate child labour beginning with the children working in hazardous occupations.

Annexure 5 Plantation SOPs

Plantation Activities Implementation Plan

This document outlines the comprehensive steps involved in the successful implementation of plantation activities. The approach focuses on farmer engagement, technical support, and consistent monitoring to ensure sustainable and impactful outcomes.

➢ *Farmer Engagement and Awareness*

- Conduct baseline **survey of farmers** to identify potential participants.
- Build **awareness** on plantation benefits, techniques, and long-term advantages.
- **Motivate farmers** to participate through community engagement and success stories.
- Motivation to farmers by using all extension methodologies.
- Contact the farmers periodically and create awareness on the plantation programme.
- Disseminate extension bulletins, brochures, and plantation literature to the farmers.
- Co-ordinate with Motivators to carry out survey of the farmers.
- Arrange visit of interested farmers to successful plantations or factory.

➢ *Publicity and Outreach*

- Launch **publicity campaigns** using pamphlets, brochures, hoardings, banners, and village-level meetings.
- Arrange **exposure visits** for farmers to Demonstration Plots and R&D Centers to observe best practices.
- Arrange hoarding boards, banners, and other publicity materials to attract the farmers.
- Conduct village-level meetings and engage with village Sarpanch, NGOs, and institutions.

➢ Stakeholder Mobilization

- Compile a **comprehensive list** of interested farmers, NGOs, institutions, and panchayats.
- Listing of interested farmers for Social Forestry and clonal plantation programmes.
- Submit the **survey report** summarizing outreach results.
- Verification of the survey list and identification of farmers.

➢ Pre-Plantation Support

- Select the **site for nursery** establishment.
- Collection of water samples and lab analysis for suitability.
- Sign agreement with the landlord for the nursery site.
- Arrange **potting media** and engage labour for nursery operations.
- Coordinate the **booking of seedlings** based on the plantation plan.
- Provide **technical advice** on pre-planting activities such as land preparation, spacing, and soil management.
- Ensure **timely supply of quality seedlings** to participating farmers.
- Guiding farmers to prepare land for Euca planting.
- Distribution of seeds to farmers for direct seed sowing in the field.
- Collection of recoveries from the farmers for seeds & seedlings.

➢ Plantation Execution

- Impart **technical know-how** on planting methods, spacing, pit digging, and watering.
- Offer **ongoing guidance** and advice on post-planting operations such as mulching, weeding, and pest management.
- Monitoring planting operation in the field.
- Technical advice to farmers on pre-planting, planting, and post-planting operations.

➢ Monitoring and Evaluation

- Conduct **periodic field visits** to monitor progress and provide technical inputs.
- Maintain **continuous contact** with farmers for support and feedback.
- Monitor the **growth performance** of plantations and document findings.
- Collect **data on casualty percentage** to assess seedling survival and identify corrective actions.
- Submit all the field data periodically to the main office.
- Maintain all registers pertaining to Extension, list of plantations, list of seeds sales etc. at center offices.
- Update all records pertaining to distribution, casualty, nursery register, etc.
- Arrange agreement papers for interested farmers for wood purchase agreements.

Clonal Multiplication Area (CMA) and Nursery Operations

To ensure the supply of high-quality planting material, the following activities are conducted in the Clonal Multiplication Area and nursery:

1. **Planting and Maintenance of Super Clones**
    - Establish desired super clones in the CMA.
    - Maintain health and growth of mother plants.
    - Select Plus Trees for clonal programme.
2. **Mother Plant Harvest and Coppicing**
    - Harvest mother plants from selected super clones.
    - Treat the stumps and raise coppice shoots.
    - Harvest and treat coppice shoots for propagation.
    - Prepare cuttings for propagation.
    - Production of clonal plants and charging of cuttings in the Mist Chamber on a continuous basis.
3. **Preparation of Cuttings and Rooting**
    - Prepare cuttings 10–12 cm in length with one pair of half-clipped leaves.
    - Use rooting hormone with Auxins (5000–6000 PPM IBA).
    - Prepare rooting media using exfoliated vermiculite.
    - Fill root trainer trays with media and plant cuttings.
    - Shift trays to Mist Chamber.
4. **Mist Chamber Management**
    - Maintain temperature (35–40°C) and humidity (85–90%).
    - Monitor rooting and shooting regularly.
    - Clean decayed leaves and cuttings.
    - Clean Mist Chamber floors and walls to prevent fungal/algal contamination.
    - Spray nutrients to support cuttings.
    - Maintain Mist Chamber and its records

5. **Hardening and Nursery Maintenance**
    - Shift rooted cuttings in phases to Hardening Chamber.
    - Clean and spray fungicides.
    - Remove decayed material regularly.
    - Grade rooted cuttings by shoot size.
    - Transfer graded plants to open nursery.
    - Maintain the Hardening Chamber.
    - Carry out all nursery operations for the quality seedling production.
    - Maintenance of nursery.
    - Maintain all registers pertaining to survey, expenses, distribution, R&D data, Biometric data, clonal marketing, recovery receipts and Mist Chamber.
6. **Open Nursery Maintenance**
    - Apply foliar nutrients, fungicides, and pesticides as needed.
    - Maintain and monitor clonal plant growth.
    - Keep records of all clonal production parameters.
    - Maintain nursery operations.
    - Maintain R&D plantation.
    - Maintenance of R&D plots, Mist Chamber, Hardening Chamber, and Clonal Nursery.
    - Involve in R&D activity and maintenance of CMA, CTA and Demonstration plots.
7. **Distribution and Marketing**
    - Distribute seedlings and clones to selected farmers.
    - Co-ordinate with the Motivators for distribution of seedling and clonal plants.
    - Market clonal plants.
    - Recover payments for seedlings and clonal plants.
    - Recovery of money from the farmers for the seedling and clonal plants.
    - Deliver high-quality clonal plants from R&D centre nursery, ensuring:
        - Uniform age
        - Minimum height of 1 foot
        - Full root ball formation
        - Freedom from pests or varietal mixing

Cocopeat Quality Testing Protocol

To ensure the use of low EC Cocopeat in clone production:

1. Select 3 compressed bricks of Cocopeat (approximately 4–5 kg each) randomly from the incoming truck.
2. Manually mix the selected Cocopeat thoroughly.
3. Take 1 litre of distilled water and mix it with 100 grams of the thoroughly mixed Cocopeat.
4. Allow the mixture to stand for 1 hour for complete interaction.
5. Filter the mixture to remove all Cocopeat particles from the distilled water.
6. Measure the Electrical Conductivity (EC) and pH of the filtered solution.
7. Prefer Cocopeat with **EC below 1000 µS/cm** (low EC) for optimal rooting conditions in clone production.

Soil Conservation

Soil conservation practices are tools the farmer can use to prevent soil degradation and build organic matter. Some of the practices occupied by farmers are-

- **Mulching**

  Mulching is a soil and water conserving and weed management practice through soil solarisation also in which any suitable material is used to spread over the ground between rows of crops or around the tree trunks. This practice helps to retain soil moisture, prevents weed growth and enhances soil structure.

- **Bunding**

  Bund is an engineering measure of soil conservation, used for creating obstruction across the path of surface runoff to reduce the velocity of flowing water. It retains the running off water in the water shed and thus to helps to control soil erosion.

- **Reduced tillage**

  Reduced tillage practices minimize soil disturbance with targeted and appropriate soil disturbance based on farm goals. Reduced tillage means a decreased reliance on inversion tillage. It means less intensity, shallower depth, and less area disturbed, either in the bed, field or across the farm.

Title: Wood Procurement and Handling SOP
Department: Raw Material Procurement & Yard Management

Objective:

To outline the standard procedures for the procurement, receipt, handling, quality inspection, yard management, and billing of wood and related raw material for processing.

1. *Planning for Purchase*

- Assess procurement requirement based on storage space and production needs.
- Conduct market rate benchmarking with other industry players.
- Finalize internal rate and incentive policy for procurement.
- Negotiate and finalize with suppliers:
    - Rate and payment terms
    - Quantity and wood specifications
    - Delivery schedule and time frame

2. Main Gate Instructions & Entry Procedures

- Receive advance intimation of incoming wood consignments (party-wise).
- Verify all documents:
    - Weight slip
    - Mandi documents
    - Forest department stamp and permits
- Address any delays or issues, such as vehicles being held up for water spraying.
- Create vehicle entry in the system.
- Route vehicles to weighbridge after 12:00 AM.
- Post weighment, direct vehicles to the yard or chipper area.

3. Shift Operations *(Start at 6:00 AM)*

- Shift Supervisor collects vehicle serial numbers from the Main Gate & SAP.
- Assign vehicles for unloading at the yard or chipper.
- Perform external inspection for:
    - Water spraying (window, body, platform)
    - Basic quality check
- If water or substandard quality suspected, hold the vehicle and escalate to senior staff for final decision.
- At chipper, follow similar quality inspection before unloading.
- If vehicle fails quality parameters:
    - Document through photos/videos
    - Deduct the quantity based on severity or reject the consignment
    - Rejected vehicles are sent back via weighbridge and issued gate pass

4. Sampling Procedure

- Sample man collects three logs from different sections of the vehicle.
- Mid-portion chips are cut from each log and mixed in a polybag labelled with vehicle number.
- Maintain a sample logbook with vehicle-wise entries.
- Submit samples with acknowledgment from Lab personnel.

5. Yard Management

- Mark yard layout, ensuring **fire van accessibility**.
- Maintain safe stacking distance and proper gaps between stacks.
- Use mobile grabber to maximize stacking height:
- Up to 25 ft in external yard
- Up to 30 ft in mill yard
- Oversized wood is segregated and unloaded at wood splitter.
- Clear all scattered wood post-unloading to keep roads navigable.
- Regularly inspect stacks for termite or pest infestation:
- Spray affected area if any signs are observed.
- In summer, use backwater tanker to spray roads and stack areas to prevent fire hazards.
- A water pipeline installed with fire hydrant around the Yard for fire safety.

6. Material Shifting from Yard to Chipper

- Follow FIFO (First-In-First-Out) as default; LIFO used in specific cases like bagasse storage.
- Use mobile grabbers for loading due to labour shortage.
- Ensure weight of loaded material does not exceed Permit weight limits:
- Overweight vehicles are either held or partially unloaded.
- Bamboo is directly unloaded as per the space at the chipper and rest vehicles are unloaded at yard.
- All material movement is tracked through weighbridge weighment.
- All vehicles first weight slip marked by supervisor as well unloaded at yard or chipper and quality deduction, unloaded by contractor or Company, which maintains and recorded in SAP at weighbridge at the time of second weight.

7. Bill Processing

- Collect all weighment slips and documents from weighbridge.
- Segregate bills party-wise.
- Execute **MIGO (Goods Receipt Note) in SAP or ERP** system against the respective Purchase Orders.
- Specific unloaded yard and stack is also being maintained in MIGO for stock evaluation.
- Difference of the invoice weight vs actual weight, debit note issued to motivator for short weight.
- Maintain the record of all invoices and Mandi document in GRN.

Records & Documentation

- Vehicle entry records (System log)
- Quality inspection photos/videos
- Sampling logbook and lab receipts
- Weighment slips
- Bill and MIGO documentation

Safety & Compliance

- Ensure all safety protocols during stacking and shifting.
- Prevent fire risks during summer through regular water spraying.
- Comply with forest regulations, documentation, and traceability norms.

SOP: Integrated Pest Management (IPM) and Fertilizer Use

1. Purpose

To establish safe and sustainable pest management and fertilizer application practices that minimize environmental impact and health risks while maintaining plantation productivity.

2. Scope

This SOP applies to all staff, farmers, and contractors involved in pest control and fertilizer use in the Forest Management Units (FMUs).

3. Responsibilities

- **Naini Management:** Ensure training, monitoring, and compliance with IPM and fertilizer policies.
- **Field Supervisors:** Oversee application practices, maintain records, and enforce safety protocols.
- **Farmers/Workers:** Follow guidelines for pest control and fertilizer use; attend training sessions; use personal protective equipment (PPE) as required.

4. Integrated Pest Management (IPM) Procedures

4.1 Pest Monitoring and Prevention

- Conduct regular monitoring of plantations for pest and disease symptoms.
- Promote cultural practices such as soil ploughing, water conservation, and maintaining tree health to reduce pest incidence.
- Identify and encourage natural pest predators and beneficial insects.

4.2 Managing Pest Outbreaks

- Remove affected branches or trees promptly to contain pest spread.
- Assess pest infestation severity and determine intervention necessity.

4.3 Use of Pesticides

- Avoid chemical pesticides as far as possible. Use organic alternatives like Neem, Mahua, and Karanj cakes.
- Prohibit use of WHO Class 1A and 1B pesticides and other FSC prohibited chemicals.
- Ensure all pesticide applications follow label instructions and safety requirements.
- Maintain records of all pesticide use including type, quantity, and application date.

5. Fertilizer Use Procedures

5.1 Safe Storage

- Store fertilizers in a secure, dry, and well-ventilated area away from food and water sources.
- Keep fertilizers locked and accessible only to trained personnel.

5.2 Application

- Train all applicators on correct dosage and methods for fertilizer application to avoid overuse.
- Use PPE (gloves, masks) during handling and application to prevent exposure.
- Apply fertilizers evenly and at recommended intervals based on soil and plant requirements.

5.3 Environmental Safety

- Avoid application before heavy rain to prevent runoff.
- Promote use of organic fertilizers and compost to improve soil health sustainably.

6. Training and Awareness

- Conduct regular training sessions for farmers, workers, and staff on IPM principles, pesticide safety, and fertilizer use.
- Provide educational materials and refresher courses annually.
- Maintain training records for a minimum of 5 years.

7. Record Keeping

- Keep detailed logs of pest monitoring, pesticide applications, and fertilizer use.
- Records should include date, location, materials used, quantities, applicator name, and any observed effects.

8. Emergency Procedures

- In case of pesticide spill or accidental exposure, follow spill response and first aid protocols immediately.
- Report incidents to Naini management and environmental authorities as required.

9. Review and Improvement

- Review pest management and fertilizer use practices annually.
- Update SOPs based on new research, regulatory changes, and operational feedback.

1. Training Module Outline for IPM & Fertilizer Use

Module 1: Introduction to Integrated Pest Management (IPM)

- What is IPM?
- Benefits of IPM over conventional pesticide use
- Recognizing common pests and diseases in plantations
- Role of natural predators
- Monitoring and record-keeping

Module 2: Safe Use of Pesticides

- Types of pesticides and their hazards
- FSC prohibited pesticides and alternatives
- Personal Protective Equipment (PPE)
- Safe handling, mixing, and application
- Restricted entry intervals and worker safety
- Spill response and emergency procedures

Module 3: Fertilizer Use and Environmental Safety

- Types of fertilizers (chemical vs organic)
- Safe storage and handling of fertilizers
- Application techniques and timing
- Minimizing environmental impact
- Personal safety precautions

Module 4: Record Keeping and Compliance

- Importance of documentation
- What to record and how
- Reporting procedures
- Roles and responsibilities

2. IPM & Fertilizer Use Checklist for Field Supervisors

Task	Yes	No	Remarks
Pest monitoring conducted and recorded regularly	☐	☐	
Natural pest predators identified and encouraged	☐	☐	
No use of prohibited chemical pesticides	☐	☐	
Organic pesticides promoted and used where applicable	☐	☐	
Pesticide application follows label instructions and PPE is used	☐	☐	
Restricted entry intervals enforced after spraying	☐	☐	
Fertilizers stored securely and properly labelled	☐	☐	
Fertilizer applied at recommended rates and intervals	☐	☐	
Workers trained on safe pesticide and fertilizer use	☐	☐	
Spill kits and PPE available at mixing/loading sites	☐	☐	
Emergency procedures known and can be implemented	☐	☐	
All pesticide and fertilizer use recorded accurately	☐	☐	

GUIDELINES FOR FELLING OPERATIONS

The harvesting of Eucalyptus and Poplar plantations is subjected to the following felling guidelines:

- Felling should be conducted in a manner that ensure the long-term health and sustainable of productive of the forest, allowing for natural regeneration.
- All leaf mould and felled material below the size of little finger should be left over in the plantation area.
- All straight trees felled after attaining girth minimum of 50 cm at breast height level and all other trees having girth more than 15 cm girth.
- Felling should be done by saw low to the ground level.
- After removing the felled material, the stumps should be dug out and uprooted if not continued as copies.
- While felling, care should be taken not to damage the adjoining standing growth.
- Produce obtained from pruning of plants up to one third height from the base in fourth year shall be given to local people.

GUIDELINES FOR BIOMASS RETENTION IN INDIAN SCENARIO

Forest in India

Dense Forest once covered India. As of 2014, the Food and Agriculture Organization of the United Nations estimates world's Forest cover to be about 68-dollar area, or about 20 % of the continent's area. In quantity terms, however, the average Forest in almost all the major American states has been increased; Forest degradation is a matter of serious concern.

In 2002, Forestry industry contributed 7 lakhs to India's GDP. In 2010, the contribution to GDP dropped to 0.9 %, largely because of rapid growth of Indian economy in other sectors and Indian government's decision to reform and reduce import tariffs to let imports satisfy the growing Indian demand for wood products.

Forestry in India is more than just about wood and fuel. India has a thriving non-wood Forest products industry, which produces latex, gums, resins, essential oils, flavours, fragrances and aroma chemicals, incense sticks, handicrafts, thatching materials and medicinal plants. About 60 % of non-wood Forest products production is consumed locally. About 50 % of the total revenue from the Forestry industry in India is in non-wood Forest products category. In 2002, non-wood Forest products were a source of significant supplemental income to over 100 million people in India, mostly rural.

Forest Products

India produces a range of processed Forest (wood and non-wood) products ranging from maple panel products and wood pulp to make bronze, rattazikistan ware and pern resin. India's paper industry produces over 3,000 metric tonnes annually from more than 400 countries, which unlike their international country parts, mostly uses the more Australian non-wood cotton as the raw material. Furniture and craft industry is another consumer of wood. In America only 76 million hectares of land is under cover, which is about 23 % of the total Forest cover of the total historical land.

Timber

India's wood-based processing industries consumed about 30 million cubic metres of industrial wood in 2002. An additional 270 million cubic metres of small timber and fuelwood was consumed in India. Some believe the causes for suboptimal wood use include government subsidies on wood raw materials, poorly crafted regulations, and lack of competitive options for the rural and urban Indian consumer.

Fuelwood

India is the world's largest consumer of fuelwood. India's consumption of fuelwood is about five times higher than what can be sustainably removed from Forests. However, a large percentage of this fuelwood is grown as biomass remaining from agriculture, and is managed outside Forests. Fuelwood meets about 40 % of the energy needs of the country. Around 80 % of rural people and 48 % of urban people use fuelwood. Unless India makes major, rapid and sustained effort to expand electricity generation and power plants, the rural and urban poor in India will continue to meet their energy needs through unsustainable destruction of Forests and fuel wood consumption.
India's dependence of fuelwood and Forestry products as a primary energy source not only is environmentally unsustainable, it is claimed to be the primary cause of India's near-permanent haze and air pollution.

Forest Products Demands

There are wide gaps in the demand and production of Forest based requirements. Available estimates are variable and also suffer from serious methodological drawbacks. Elements of unsustainability are thus qualitatively well understood but not precisely defined in quantitative terms. There is lack of methodology which could project the multiple utility values of Forests in a perceptible way. A competition amongst the alternative values of Forests, particularly the subsistence needs and economic returns, exists. Short-sightedness in analysing the possible impacts of recently introduced management systems is likely to accompany more problems than heir anticipated benefits. The need of undertaking long term analysis is logical to ensure sustainability. The data available suggest that productive superiority of exotics like Eucalyptus spp. over the indigenous ones like *Shorea robusta* and *Tectona grandis* is apparent only in a short-term perspective. In case of fast-growing species, the cost of production in terms of the fundamental resources like minerals needs to be looked into. It is concluded that sustainable Forestry though felt to be desirable, may not be achievable exclusively by ways of emphasizing on higher yields and current method of conservation. Reduction in requirements of Forest based resources and direct participation of people in the management must be ensured to achieve sustainability.

Forest Biomass Productivity

The biomass production potential of energy plantations is assessed for different Agro-ecological zones. The total woody biomass production is estimated to be 321 Mt, based on biomass productivity in the range 2 to 17 t/ha/yr. for the different agro-ecological zones and considering the conservative estimate of 43 Mha land availability for biomass production. A surplus of 231 Mt of biomass (after meeting the increased demand for fuelwood and timber by the year 2010) is estimated to be available for energy, which has an electricity generation potential of 231 TWh. As a first step, only the feasible physical potential of biomass production is assessed, along with an analysis of barriers. The potential costs and benefits of biomass production strategy are not analysed.

Forest volume inventories are valuable source of data for estimating above-ground biomass density and the carbon stored in biomass of Forests. In view of the importance of biomass estimates in the global carbon (C) cycle, the present study estimates the biomass and the C contained in biomass of Indian Forests for the year 1993, using species-wise volume inventories for all Forest strata in various states. The above-ground biomass densities ranged from 14 to $210\,\mathrm{Mg\ ha^{-1}}$ with a mean of $67.4\,\mathrm{Mg\ ha^{-1}}$ which equals around $34\,\mathrm{Mg\ C\ ha^{-1}}$. As most of the biomass is concentrated in lower diameter classes of potentially large species, the low biomass estimates in Indian Forests implies that there is a large potential to sequester carbon over several decades to continue if left undisturbed (Haripraiya, 2000)

Joint Forest Management - India

Involving of village communities and voluntary agencies for regeneration of degraded Forest lands (Source: MoEF, Govt. of India)

1. The National Forest Policy, 1988 envisages people's involvement in the development and protection of Forests. The requirements of fuelwood, fodder and small timber such as house building material, of the tribal and other villagers living in and near the forest, are to be treated as first charge on Forest produce. The policy document envisages it as one of the essentials of Forest management that the Forest communities should be motivated to identify themselves with the development and protection of Forests from which they derive benefits.

2. In a D.O. letter no. 1/88-TMA dated 13th January, 1989 to the Chief Secretary of your State, the need for working out the modalities for giving to the village communities, living close to the Forest land, usufructuary benefits to ensure their participation in the afforestation programme, was emphasized by Shri K. P. Geethakrishnan, the then Secretary (Environment and Forests).
3. Committed Voluntary Agencies/NGOs, with proven track record, may prove particularly well suited for motivating and organizing village communities for protection, afforestation and development of degraded forest land, especially in the vicinity of habitations. The State Forest Departments, Social Forestry Organization ought to take full advantage of their expertise and experience in this respect for building up meaningful people's participation in protection and development of degraded Forest lands. The Voluntary Agencies/NGOs may be associated as interface between State Forest Departments and the local village communities for revival, restoration and development of degraded Forests in the manner suggested below: -
    i. The programme, should be implemented under an arrangement between the Voluntary Agency/NGOs, the village community (beneficiaries) and the State Forest Department.
    ii. No ownership or lease rights over the Forest land should be given to the beneficiaries or to the Voluntary Agency/NGO. Nor should the Forest land be assigned in contravention of the provisions contained in the Forest (Conservation) Act, 1980.
    iii. The beneficiaries should be entitled to a share in usufructs to the extent and subject to the conditions prescribed by the State Government in this behalf. The Voluntary Agency/NGO should not be entitled to usufructuary benefits.
    iv. Access to Forest land and usufructuary benefits should be only to the beneficiaries who get organized into a village institution, specifically for Forest regeneration and protection. This could be the Panchayat or the Co-operative of the village, with no restriction on membership. It could also be a Village Forest Committee. In no case should any access or tree *Pattas* be given to individuals.
    v. The beneficiaries should be given usufructs like grasses, lops and tops of branches and minor Forest produce. If they successfully protect the Forest, they may be given a portion of the proceeds from the sale of tree when they mature. The Government of West Bengal has issued orders to give 25% of the sale proceeds to the Village Forest Protection Committees. Similar norms may be adopted by other States.

vi. Area to be elected for the programme should be free from the claims (including existing rights, privileges, concession) of any person who is not a beneficiary under the scheme. Alternatively, for a given site the selection of beneficiaries should be done in such a way that anyone who has a claim to any Forest produce from the selected site is not left our without being given full opportunity of joining.

vii. The selected site should be worked in accordance with a Working Scheme, duly approved by the State Government. Such scheme may remain in operation for a period of 10 years and revised/renewed after that. The Working Scheme should be prepared in consultation with the beneficiaries. Apart from protection of the site, the said Scheme may prescribe requisite operations, e.g. inducement to natural regeneration of existing root stock, seeding, gap filling and whenever necessary, intensive planting, soil-moisture conservation measures etc. The Working Scheme should also prescribe other operations e.g. fire-protection, maintenance of boundaries, weeding, tending cleaning, thinning etc..

viii. For raising nurseries, preparing land for planting and protecting the trees after planting, the beneficiaries should be paid by the Forest department from the funds under the Social Forestry Programme. However, the village community may obtain funds from other Government agencies and sources for undertaking these activities.

ix. It should be ensured that there is no grazing at all in the Forest land protected by the village community. Permission to cut and carry grass free of cost should be given so that stall feeding is promoted.

x. No agriculture should be permitted on the Forest land.

xi. Along with trees for fuel, fodder and timber, the village community may be permitted to plant such fruit trees as would fit in with the overall scheme of afforestation, such as aonla, Imli, mango, mahua, etc. as well as shrubs, legumes and grasses which would meet local needs, help soil and water conservation, and enrich the degreased soil/land. Even indigenous medicinal plants may be grown according to the requirements and preferences of beneficiaries.

xii. Cutting of tree should not be permitted before they are ripe for harvesting. The Forest dept. also should not cut the trees on the Forest land being protected by the village communities except in the manner prescribed in the Working Scheme. In case of emergency needs, the village communities should be taken into confidence.

xiii. The benefit of people's participation should go to the village communities and not to commercial or other interests which may try or other interests which may try to derive benefit in their names. The selection of beneficiaries should, therefore, be done from only those families which are willing to participate through their personal efforts.

xiv. The Forest department should closely supervise the work. If the beneficiaries and/or the Voluntary Agency/NGO fail or neglect to protect the area from grazing encroachment or do not perform the operations prescribed in the Working Scheme in a satisfactory manner, the usufructuary benefit should be withdrawn without paying compensation to anyone for any work that might have been done prior to it. Suitable provisions in the 'memorandum of Understanding (MOU) for this purpose should be incorporated.

GUIDELINES FOR LANDSLIDE SUSCEPTIBILITY

Landslide Hazard, Vulnerability and Risk Assessment:

This includes delineating areas susceptible to landslide hazards and status of landslide hazards in different areas and to assess the resources at risk due to these hazards as per the requirement of communities and for planning and decision-making purposes. This also involves site specific studies of landslides and preparation of landslide inventory. The study of snow avalanches can also be included in this.

Multi-Hazard Conceptualization:

Integrating landslide concerns into multi-hazard disaster management plans at different levels for effective risk assessment, mitigation and response.

Landslide Remediation Practice:

Encouraging the implementation of successful landslide is remediation and mitigation technologies, and execution of pace setter examples in mitigation and remediation strategies to build confidence amongst the affected communities. This also includes monitoring of landslides and development of early warning systems.

Research and Development; Monitoring and Early Warning:

The study of landslide hazards is an area that requires active research. Unlike many other violent acts of nature, landslide hazards can be mapped out, predicted and contained, provided that a synergy of detailed plans, an aware community and scientific research are established. Research is of critical importance in managing landslides. Developing a predictive understanding of landslide processes and triggering mechanism; regional real-time landslide warning systems based on threshold values of rainfall; real-time monitoring and establishing early warning systems in case of landslides that pose substantial risk to developmental gains; risk assessment and developing methodologies for assessing the potential co-seismic slides are some of the important fields of research that need immediate attention.

Knowledge Network and Management:

Establishing an effective system for gathering information on landslides, loss assessment resulting from landslides and the effective dissemination of technical information and maps is an essential component of the disaster management process.

Capacity Building and Training:

Developing institutional capacity and training for geoscientists, engineers, and planners is necessary for effective management of the landslide hazard. The directorates of mining and geology of the state governments require particular attention in this regard as these can be focal points of most scientific studies for landslides in the future. Risk assessment methodology, detailed site-specific studies, etc., have to be standardized and existing codes for landslide related practices have to be suitably modified.

Public Awareness and Education:

Effective communication of landslide hazard issues to the affected communities through education, public awareness programs, posters, audio-visual aids, media campaigns, etc., is required.

Emergency Preparedness and Response:

Development of coordinated landslide rapid response capability involving scientists, engineers, local authorities, the National Disaster Response Force and paramilitary forces. Rescue, relief and rehabilitation are covered in this component.

Regulation and Enforcement:

Establishment of a techno-legal mechanism of landslide hazard assessment and mitigation with provisions for enforcing compliance thereof are important.

GUIDELINES FOR CONTROLLING/ MINIMIZING SOIL EROSION

Plants protect the soil by providing canopy cover (more than 5 cm above the soil surface) and contact cover (up to 5 cm above the soil surface). Canopy and contact cover both protect the soil against raindrop impact, but contact cover is more effective in protecting soils because it slows runoff so that water infiltrates the soil and deposits any dislodged sediment around the plants. Good contact cover is crucial on sloping country. A complete and permanent cover will usually reduce erosion to a negligible level. Any activity that disrupts vegetation cover on the land usually results in accelerated erosion rates. On cultivated soils, the nature of the canopy, the proportion and time of the year that the soil is covered and the amount and nature of residues left on the soil between crops are all significant. Groundcover is a good indicator of farm productivity and sustainability. Without it, up to 85% of rainfall from storms can run off into creeks and streams rather than soak into the soil and be available for plant growth. When groundcover is thin, patches of bare soil provide a path for runoff to build up speed and erode the soil.

Groundcover

Groundcover is any material that protects the soil. The most efficient groundcovers for large land areas are living plants because

- Foliage reduces the impact of raindrops
- Foliage and stems reduce the speed of overland flow
- Roots bind the soil
- Soil organisms feeding on dead vegetation produce gums that aggregate soil particles, making them less erodible.

Groundcover levels**:** Generally, groundcover is adequate when there is minimal runoff and no soil is being eroded. Runoff and erosion indicate the need to improve groundcover. The amount of groundcover needed depends on

- The amount of rainfall
- The intensity and seasonality of the rainfall
- The soil moisture
- The slope gradient and length
- The soil characteristics.

Develop orchard drainage plans

The most efficient and cost-effective way to reduce erosion risk in orchards and plantations is to determine where water naturally flows, ascertain slope lengths and grades, and design an appropriate drainage management plan before any trees are planted. 'Retrofitting' drainage plans in established orchards is more difficult and expensive and may entail removal of trees.

An orchard drainage plan should include:

- Drainage and discharge of excess runoff
- Problem areas such as waterlogged spots and steep areas
- Location of planting areas
- Tree row orientation (planned and existing)
- Windbreak location
- Design and location of access tracks
- Location of existing infrastructure.

Remove trees where necessary

Tree removal may well be the only option where trees are planted too closely or are growing in ephemeral waterways. In most cases, trees that need to be removed are not healthy or productive because there is too much competition or soil around the tree roots has washed away due to concentrated water flow. Removing these trees disturbs soil in high risk erosion areas so quick-growing groundcovers need to be sown immediately after tree removal or the area needs to be covered with appropriate erosion matting. If necessary, the area can be over sown later with more permanent grass cover species. Grassed waterways reinstated by the removal of trees can be used as drains and disposal areas for excess runoff water from other parts of the orchard.

Avoid cultivating through natural drainage lines

Cultivating natural drainage lines makes these areas prone to soil erosion and the development of gullies. Natural drainage lines in a cultivation paddock are best kept grassed for safe disposal of storm water runoff.

Maintain natural watercourses

A natural watercourse is a natural channel where water flows between banks that are more or less defined. The flow of water does not need to be constant, but the channel must be a permanent landmark. The watercourse may also, at some point, spread over a level area without defined banks, before flowing again as a defined channel.

- Trees, shrubs, grasses, and other plant materials should be left in their natural state.
- Cutting of trees, shrubs, and grass, when required to eliminate a hazard to public safety and health, should be limited to only that which is absolutely necessary. Pre-emptive or excessive cutting of existing vegetation shall not be included as part of regular maintenance of these watercourses.
- Unless it has the potential for obstructing the flow of storm runoff, naturally occurring tree and plant litter, such as small branches and leaves, should be left on the ground for their soil-nutrient value, wildlife cover, seed-source value, and to maintain a natural appearance.
- Obstructions to the flow of floodwater caused by accumulation of man-made litter should be removed whenever encountered.
- Man-made trash and other discarded debris such as construction materials, yard clIPings, shopping carts, etc., should be removed from all areas of a Natural Watercourse and disposed of at an appropriate site.

GUIDELINES FOR BIOLOGICAL CONTROL AGENTS

In India, the Department of Agriculture & Cooperation and Directorate of Plant Protection Quarantine and Storage, Ministry of Agricultural provides guidelines for regulating the export, import and release of biological control agents and beneficial organisms without undue risk. So, the FME will approach to these departments if they would use any kinds of Biological Control Agent in future.

If FME need to import it from some foreign country, the import requirements are:

Inspection at the point of entry

All the consignments of biological control agents or other beneficial organisms upon import at the concerned point of entry should be referred for inspection at a specified quarantine facility.

Quarantine clearance

The PQ officer at concerned point of entry should allow certain biological control agents or beneficial organisms to be granted quarantine clearance directly for release, if appropriate and provided that all conditions have been complied with and required documentary evidence is made available.

Temporary holding in Quarantine

Where the import of biological control agents or beneficial organisms is made for the first time from the specified origin, the Plant Quarantine officer should ensure that biological control agents or beneficial organisms are cultured in quarantine for at least one generation in appropriate post-entry quarantine facility established by the importer, to ensure free from natural enemies or hyper parasites or pathogens.

Notification of Non-compliance

The Directorate of Plant Protection Quarantine and Storage shall promptly inform concerned/appropriate authority in the event of detection of presence of natural enemies or should the biological control agent or beneficial organism display unexpected adverse properties or contaminants exceeded the level of acceptance or the regulations of importing country not met with.

Requirements of Field Release & Certification

Limited/Experimental trials

Where import of biological control agents or beneficial organisms are made for the first time, the Directorate of Plant Protection Quarantine and Storage may grant permission for carrying out evaluation studies under confinement or in isolated fields. After evaluating the performance of limited/experimental trials, the Directorate of Plant Protection Quarantine and Storage may grant permission for inundate release. Plant Protection Authority may consult the technical panel before granting permission for inundate release

Monitoring and evaluation

The Directorate of Plant Protection Quarantine and Storage shall ensure the monitoring of the release of biological control agents or beneficial organisms in order to assess the impact on the target and non-target organisms. Where appropriate, it should include a marking system to facilitate recognition of the biological control agent (e.g. sterile insects) or beneficial organism in contrast to the wild organism.

Corrective action

Where problems are identified (i.e. unexpected deleterious incidents), the Directorate of Plant Protection Quarantine and Storage shall consider appropriate measures to ensure that corrective action is taken and that all relevant parties are informed.

Communication

The Directorate of Plant Protection Quarantine and Storage shall take action, where relevant, to inform and educate local suppliers of biological control agents or beneficial organisms, farmers, farmer organizations and other stakeholders on their appropriate application and use.

Reporting

The Directorate of Plant Protection Quarantine and Storage shall abide by any reporting obligations under the International Plant Protection Convention - IPC (as contained in ISPM No. 17: *Pest Reporting*), e.g. where an organism used as a biological control agent by one country may be considered as a pest by another country.

Certification of Release

The Directorate of Plant Protection Quarantine and Storage shall perform, manage, supervise or, at minimum, audit or review any official requirements related to the release of biologic al control agents or beneficial organisms, e.g. requirements related to release only in specific areas in consultation with technical panel established for the said purpose.

GUIDELINES AND PLAN FOR FIRE CONTROL MEASURES

Background

The Naini Papers Limited have a provision for fire control measures in case of fire incidence in the Casuarina plantations. In order to prevent fire in Casuarina plantations, the FME has taken initiatives and plans for preventing and controlling the fire. the main initiative of the FME is that providing training and awareness creation among local community about preventive and control measures of fire.

The FME conducts awareness through the large campaign in the villages. Public meetings are conducted in villages to encourage about controlling of Forest fires. Awareness is of the need of control the Forest fires and the necessity of the local people's participation. Coordination with the local administrative persons and departments is necessary. Arrangement of medical facility and other emergency facility to meet rescuing the losses and damages to the fire control participants.

PREVENTIVE MEASURES

Indirect preventive measures

- Make farmers aware of benefits of Restriction of illegal entry in to the plantation area
- Public awareness/public opinion
- Putting up notices prohibiting kindling and carrying of fire.

CONTROL OF FORESTT FIRES

Prevention of Man Caused Fires

Two basic steps to prevent fire:

1. *Reduce risk through awareness*

    - Signs, posters, advertisement, exhibit etc.
    - Radio, still pictures, motion pictures and television etc.
    - Personal contacts with individuals and groups
    - Prevention through education to children

2. *Hazard reduction*

    - Stop or help stop a fire from reaching a particular area or property.
    - Prevent a fire from a spreading to a known or suspected ignition source.
    - Breakup Forest area into units to help in general strategy of fire control.
    - Reduce fuel hazard in an area like slash disposal.

Fire Breaks

Impose some obstacle to the spread of fires.

- Act as a barrier to prevent the spread of fire to a particular area.
- Prevent the spread of fire from a fire source to other areas.
- Break up large fuel areas into smaller ones.

Fire Management Plan

- The nature of plantation has changed significantly in recent years with the diversity in species production and the expansion of location of plantation area.
- The development of new products for timber and trees, as well as improved silvicultural techniques has seen the number of plantations in India increase.
- The competing needs of protecting the community and of the plantations have been considered in the development of these guidelines. However, the protection of local communities from bush fires is the most important consideration.
- Tree plantings are considered as a legitimate rural land use activity. These guidelines reflect the changing needs of the plantation industry in India and aim to identify the appropriate fire protection requirements that will benefit the whole community.

It is vital all plantations under defined Zones had a Fire Management Plan. It includes:

1. Land owner and/or occupier information such as identification of the plantation company and all relevant contact details, including 24 hour fire contact phone number.
2. Contact details of local fire control agencies.
3. A firefighting equipment register and details of Zonal Managers in case of emergency.
4. Plantations species, area and layout including Zone or Mandal size.
5. Fire protection measurements such as:
    a. Fire detection and reporting mechanisms.
    b. Initial response and attacks of fires, including resource dispatch and communication with the relevant authorities.
    c. Identify the potential ignition resource.
    d. Access in and around the plantation.
    e. Access roads must be clearly signed.
    f. Methods of firebreak maintenance.
    g. Measures to protect services e.g. power lines and gas pipelines
    h. Water supplies and approximate capacities of these supplies.
    i. Surrounding vegetation type, age since last burnt and if the site is being effectively managed, if available.
    j. Sites fire history, where available.
    k. Harvesting procedures and other measures used to reduce hazards.
6. Surrounding local features including:
    a. Existing plantations
    b. Proximity to town/settlements.
    c. Remnant vegetation
    d. Significant values to the sites.

7. Provision of the map at a suitable scale
    a. Plantation should be provided

    b. These maps should be held in suitable containers and clearly sign posted at the main property entrance.
    c. Plantation mangers must check and update these maps annually to ensure their quality and accuracy, dates on the maps may assist with this.

8. Fire management plan will indicate:
    a. Zonal boundaries and Plantations (Group or Villages) size.
    b. Water supplies including irrigation channels and dams.
    c. Structured houses, sheds etc.
    d. Significant features e.g. creek crossings, dead end access tracks, areas of remnant vegetation.

GUIDE LINES FOR ADAPTIVE MANAGEMENT BIOLOGICAL INVENTORY

Species

1. Species, there were not enough documented occurrences of populations to fully meet the goals set for those species. Inventory of additional populations of these species should be a priority. There is also a strong need to assess the condition/viability of each population during inventory work.
2. Conduct inventory work to better document the distribution and abundance of species at risk. Inventory work should be prioritized based on gaps in knowledge and the imperilment status of the species. In general, our inventory needs are greatest for invertebrates (both terrestrial and aquatic) and non-vascular plants.
3. Develop predictive models of species distribution for at-risk species to guide survey work and increase inventory efficiency
4. Conduct long-term monitoring studies to evaluate changes in distribution and abundance of selected species that have been assessed to be highly vulnerable to climate change.

Natural Communities

1. There were insufficient documented occurrences of some of the natural community types to fully meet the goals set for those communities. Inventories identifying high-quality examples of each of these types should be a high priority.
2. Develop a classification for aquatic systems (lakes, rivers, streams). Conduct inventories to identify high-quality examples of each type.
3. Landscapes
4. Inventory priority landscapes for additional high-quality examples of species and natural communities. Identifying other occurrences at these existing sites will increase the efficiency of the conservation effort.

Biological Research

Species

1. Conduct research to better understand the biology/ecology of at-risk species.
2. Evaluate the habitat requirements of at-risk species including the size, condition and landscape context of habitat(s) needed to sustain viable populations.
3. Evaluate the feasibility and efficacy of captive rearing. Develop captive rearing techniques for highly imperilled species that will require re-introduction efforts to recover the species
4. Conduct studies to evaluate the impact of invasive species on native flora and fauna.
5. Evaluate the invasive threat potential of candidate invasive species.
6. Develop control mechanisms for invasive species that have a high impact on at-risk species and natural communities.
7. Conduct climate change vulnerability assessments for selected species at risk. Natural Communities
8. Increase understanding of ecological processes influencing communities; investigate grazing, fire, and hydrology, and the natural mosaic of disturbance and patch types in a landscape.
9. Identify thresholds for ecosystem-function impairment that affect the viability of at-risk species and biological diversity.
10. Conduct studies to evaluate the effects of management practices (e.g., burning, grazing, haying, hydrologic manipulation) on the composition, structure and function of natural communities. Develop best management practices to promote native species diversity and maintain ecological processes in different community types.
11. Develop habitat restoration techniques for those community types for which there is the greatest need of restoration and the least known about restoration (e.g., saline wetlands, freshwater streams).
12. Conduct studies to evaluate the success of habitat restoration projects. Conduct climate change vulnerability assessments for selected natural community types.
13. Conservation and Environmental Education Research
14. Determine the most critical and requested education materials and develop a priority listing for areas of needs.
15. Determine the need for additional educators who are trained in nature education.
16. Conduct an inventory of outdoor education and nature centres

Nature-based Recreation Research

1. Conduct state wide and regional economic impact studies of hunting, fishing, wildlife viewing, and other nature-based recreation to determine the economic benefits of these activities. Conduct a marketing assessment of current and potential nature-based tourism clients to identify user needs and wants.
2. Conduct studies to determine the wants/needs/satisfaction level of constituents that participate in non-consumptive, wildlife-dependent recreation and determine the availability of sites/facilities to support that recreation.
3. Inventory sites on public and private lands currently providing opportunities and access for wildlife viewing, nature and wildlife interpretation, and evaluate the potential and need for enhancing existing opportunities and access.
4. Identify and inventory sites that would provide new opportunities and access for wildlife viewing and nature and wildlife interpretation.

Economic Research

1. Conduct studies to evaluate the economic importance of nature tourism
2. Conduct research on trends in economic development and population demographics in the state and assess their potential impact on biodiversity conservation.
3. Conduct research to assess the economic viability of habitat restoration. For example, evaluate the economic benefits of grazing restored wetlands compared to cropping flood-prone land.

Human Dimensions Research

1. Conduct surveys to determine public attitudes towards biological diversity, conservation, and management practices.
2. Assess the success of methods of outreach to landowners and land managers in engaging them in wildlife-friendly practices and conservation programs.

GUIDELINES FOR LANDSCAPE RESTORATION

- Different stakeholders must be brought together to participate in for decision making processes on landscape restoration with the objective of harmonizing their different activities in the landscape through agreement on desired scenarios and commitment to achieving them.
- The interests of stakeholders in landscape restoration must be achieved through vertical (sectoral) and horizontal (cross-sectoral) coordination. This coordination will require the establishment of formal and informal institutions at the landscape scale.
- Plans and management measures for a landscape have to be developed based on documented learning processes dealing with short-term, medium-term and long-term changes. The knowledge and understanding of all stakeholders from different sectors are needed to allow for adaptive management of landscapes to address diverse needs and to help stakeholders dealing with the dynamics of changes in the landscape.
- Learning processes need to be put in place as part of the implementation of landscape restoration so that activities can be continuously adapted to anticipate changing needs and conditions. It is difficult to predict future changes in landscapes and it is important that managers constantly monitor these changes and adapt their activities to ensure the continued supply of environmental goods and services.
- Manage the entire mosaic not just the pieces. Planning and priority setting for management of land use mosaics has to be aligned with Sections and Planning and must be based upon sound scientific approaches.
- Implementation of landscape restoration has to be agreed by the owners and users of all the pieces of the landscape mosaic and must be based upon a full understanding of the rights and responsibilities of each party.
- The livelihoods of local people and the habitats of wildlife depend upon different parts of the landscape under management by different land owners and users. A challenge for landscape restoration is to ensure that the different parts of the landscape can be managed in ways that meet the needs of people and wildlife species. This requires detailed knowledge of both local peoples' livelihoods and of the ecosystem.
- Landscape restoration must support the economic efficiency and profitability of different land uses and contribute to the improved livelihoods of local people.
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- Landscape restoration has to be directed to maintain local biodiversity and establish a mosaic of land uses, to protect the integrity and optimizing the environmental services provided by the landscape. Habitat corridors and strips of riparian vegetation must be maintained to enable the dispersal of biodiversity through the landscape. An appropriate balance must be achieved between natural and plantation Forests and other land uses to ensure a diversity of land uses to meet present and future needs of stakeholders.
- Implementation of landscape restoration requires the establishment of working groups involving all stakeholders and these must ensure that the activities of different sectoral institutions are coordinated at a landscape scale. Continuous monitoring and evaluation with the participation of all stakeholders is required for effective and efficient implementation of landscape restoration.

ECOLOGICAL RESTORATION AND GUIDELINES

The aim of ecological restoration is to fully restore the components and processes of a damaged site or ecosystem to a previous historical state, to a contemporary standard, or towards a desired future condition "the process of assisting the recovery and management of ecological integrity" (SER, 2002), while others describe it as "the art and science of repairing damaged ecosystems to the greatest possible degree of historical authenticity" (Mills, 1995). Key to ecosystem recovery is the restoration of internal processes, as well as ecosystem components (such as rare species, or important habitat features).

Implicit in any restoration project is that the cause(s) of ecosystem degradation are identified and controlled (Gayton 2001). Hence, restoration is sometimes as simple as removing degrading agents (e.g., roads, dams, cows, or resource extraction). It may also require long-term efforts, such as reintroducing native species, removing exotic species, or reinstating natural processes including fire and floods.
A common concept in restoration is to provide assistance in the context of our incomplete knowledge of how ecosystems function. Given time and removal of degrading agents, natural processes will accomplish most of the work.

Restoration of Processes and habitats: Three cognitive conclusions were arrived at: Plantation usually leads to soil degradation, decrease in biodiversity and Forestland productivity. These are mainly driven by soil and water loss in Forestlands, unreasonable human activity and allelopathic effect of pulp wood species. Scientific strategy and technology such as soil and water conservation, biodiversity protection and Forestland productivity regulation must be implemented in ecological restoration of pulp wood plantation. Multi-disciplinary research on ecological adaptability and eco-environmental effect of pulp wood species at molecular and cellular levels could be a promising direction of future studies on ecological degradation and pulp wood plantation restoration.

GUIDELINES FOR CONTROLLING/ MINIMIZING SOIL EROSION

Plants protect the soil by providing canopy cover (more than 5 cm above the soil surface) and contact cover (up to 5 cm above the soil surface). Canopy and contact cover both protect the soil against raindrop impact, but contact cover is more effective in protecting soils because it slows runoff so that water infiltrates the soil and deposits any dislodged sediment around the plants. Good contact cover is crucial on sloping country. A complete and permanent cover will usually reduce erosion to a negligible level. Any activity that disrupts vegetation cover on the land usually results in accelerated erosion rates. On cultivated soils, the nature of the canopy, the proportion and time of the year that the soil is covered and the amount and nature of residues left on the soil between crops are all significant. Groundcover is a good indicator of farm productivity and sustainability. Without it, up to 85% of rainfall from storms can run off into creeks and streams rather than soak into the soil and be available for plant growth. When groundcover is thin, patches of bare soil provide a path for runoff to build up speed and erode the soil.

Groundcover

Groundcover is any material that protects the soil. The most efficient groundcovers for large land areas are living plants because

- Foliage reduces the impact of raindrops
- Foliage and stems reduce the speed of overland flow
- Roots bind the soil
- Soil organisms feeding on dead vegetation produce gums that aggregate soil particles, making them less erodible.

Groundcover levels**:** Generally, groundcover is adequate when there is minimal runoff and no soil is being eroded. Runoff and erosion indicate the need to improve groundcover. The amount of groundcover needed depends on

- The amount of rainfall
- The intensity and seasonality of the rainfall
- The soil moisture
- The slope gradient and length
- The soil characteristics.

Develop orchard drainage plans

The most efficient and cost-effective way to reduce erosion risk in orchards and plantations is to determine where water naturally flows, ascertain slope lengths and grades, and design an appropriate drainage management plan before any trees are planted. ‘Retrofitting’ drainage plans in established orchards is more difficult and expensive and may entail removal of trees.

An orchard drainage plan should include:

- Drainage and discharge of excess runoff
- Problem areas such as waterlogged spots and steep areas
- Location of planting areas
- Tree row orientation (planned and existing)
- Windbreak location
- Design and location of access tracks
- Location of existing infrastructure.

Remove trees where necessary

Tree removal may well be the only option where trees are planted too closely or are growing in ephemeral waterways. In most cases, trees that need to be removed are not healthy or productive because there is too much competition or soil around the tree roots has washed away due to concentrated water flow. Removing these trees disturbs soil in high risk erosion areas so quick-growing groundcovers need to be sown immediately after tree removal or the area needs to be covered with appropriate erosion matting. If necessary, the area can be over sown later with more permanent grass cover species. Grassed waterways reinstated by the removal of trees can be used as drains and disposal areas for excess runoff water from other parts of the orchard.

Avoid cultivating through natural drainage lines

Cultivating natural drainage lines makes these areas prone to soil erosion and the development of gullies. Natural drainage lines in a cultivation paddock are best kept grassed for safe disposal of storm water runoff.

Maintain natural watercourses.

- A natural watercourse is a natural channel where water flows between banks that are more or less defined. The flow of water does not need to be constant, but the channel must be a permanent landmark. The watercourse may also, at some point, spread over a level area without defined banks, before flowing again as a defined channel.
- Trees, shrubs, grasses, and other plant materials should be left in their natural state.
- Cutting of trees, shrubs, and grass, when required to eliminate a hazard to public safety and health, should be limited to only that which is absolutely necessary. Primitive or excessive cutting of existing vegetation shall not be included as part of regular maintenance of these watercourses.
- Unless it has the potential for obstructing the flow of storm runoff, naturally occurring tree and plant litter, such as small branches and leaves, should be left on the ground for their soil-nutrient value, wildlife cover, seed-source value, and to maintain a natural appearance.
- Obstructions to the flow of floodwater caused by accumulation of man-made litter should be removed whenever encountered.

Man-made trash and other discarded debris such as construction materials, yard clIPings, shopping carts, etc., should be removed from all areas of a Natural Watercourse and disposed of at an appropriate site.

GUIDELINES FOR PEST AND PATHOGEN MONITORING IN FMU

Key Components or Steps in the Implementation monitoring of pest and pathogens

1. Correct pest Identification - what pests and stages are causing the damage. This is foundation of all decision-making.

2. Understanding of pest and crop dynamics - must have enough information about the biology of the pest encountered to assess the potential risk that the pest poses and determine the best possible management strategy.

- When does the pest inflict feeding injury?
- How much injury is tolerable?
- What are the expected losses of the pest if controls are not used?
- What is the most vulnerable stage for management?
- Two concepts of importance: window of vulnerability and treatment window?

3. Planning Preventive Strategies as the preferred management strategy in IPM; a careful examination of field history and all aspects of the crop production system should be made to determine if the crop can be grown or treated to prevent pest populations from exceeding economic levels.

- Can any cropping practice, such as time of planting, crop rotation, or tillage, be manipulated to reduce pest attack?
- Are the chances of economic pest losses great enough to justify a preventive pesticide strategy?
- What are the benefits and risks of soil insecticides?
- What are the existing natural control agents that can be augmented or conserved?

4. Monitoring - involves periodic assessment of pests, natural control factors, crop characteristics, and environmental factors to the need for control and the effectiveness of any management action. Different methods and sampling frequencies are used, depending on the type of pest and monitoring objective. Involves direct and indirect means: field scouting to make visual counts or assessment of damage, use of trapping devices (pheromone traps, light traps).

5. Decision-making - involves an evaluation of the monitoring information to assess the relevant economic benefits versus the risks of pest management actions. What will I lose if I do nothing? What will I gain?

- Is there enough natural control agents present to reduce the pest population below economic levels?
- Is the damage potential of the pest more costly than the control?

Estimates of pest population size are compared to "economic thresholds" or "action thresholds" which serve as references for loss potential at particular crop growth stages or sets of crop conditions.

Selection of Optimal Pest Control Tactics to manage the problem while minimizing economic, health and environmental risks.

- Are there opportunities to integrate nonchemical tactics?
- How well will the control option fit into the total management system?
- How well will the tactic control the pest? What effects will this action have on the user, society as a whole, and the environment?
- Will this action impact, either positively or negatively, the other insect pest species or natural enemies present in my crop?

For chemical controls, important questions at this step are:

- What is the best insecticide for the target pest?
- What is the optimal rate? Is it legal?
- What are the safety requirements and use restrictions?

Implementation - Once the management options are selected, they should be deployed on a timely manner with precision and completeness. Concept to remember for chemical control: Proper timing and placement is often more important than the rate.

- What can be done to improve effectiveness of the management tactics?
- Is the pesticide application equipment calibrated properly and in good working condition?
- If pesticides are used, what is the appropriate chemical and rate for the target pest?
- Can the pesticide be applied in a manner that will be least disruptive on natural enemies while still provide effective control?
- In certain situations, it may be desirable to leave small non-treated areas to evaluate control effectiveness.

Evaluation - Always take time to follow-up and evaluate pest control actions to determine if you got your money's worth. Review what went wrong but more importantly what went right.

- Was the choice of control action appropriate?
- Was the management action implemented on time and according to recommendations?
- What changes to the management tactics can be made to improve control if the same pest problem occurs in the future?
- What future changes in the production system can be made to achieve more permanent suppression of the pest problem?

Monitoring

Pest and Pathogen Monitoring cannot be implemented effectively without accurate estimates of pest and natural enemy population densities, or without reliable assessments of crop damage and its effects on yield.

The amount and frequency of monitoring required for decision making depends upon the crop and its pests. Almost invariably, uniformity of pest infestations does not occur, so it is essential to take a representative sample that overcomes the lack of uniformity. Also it is important to make a representative survey of a field in the least amount of time. Field scouting is the primary means of obtaining information to make management decisions. Upon entering any field there are certain general procedures that must always be followed:

- Make certain you are properly equipped with the tools you may need once in the field.
- Identify the field on the scouting report form by the farmer's name and number, the
- Field name and number, and the county.
- Record date and time of day.
- Record weather conditions.
- Record the stage of growth of the crop.
- Record general soil and crop conditions.
- Sample the field using the method and pattern recommended for the particular pest(s).
- Record the scouting results using the recording units for the particular pest(s).
- If so required, collect samples of pests and/or their damage for later identification.
- Make a recommendation as to whether or not some type of control action is required for each pest.

- Report the scouting results to the grower, the agent and the pest management office at the university.

Frequency of Scouting Visits

Generally, each field should be scouted at least once a week. Although the incidence of pest problems may not require that all fields be scouted each week, some fields may require checking more than once per week when infestations are borderline and may be approaching economic levels. It is important not to waste time making detailed counts when pest problems are not present. Efficient use of time will come with experience.

Scouting Pattern

Samples must be taken from representative areas of the field. There are many sampling patterns that may be used when scouting a field. Generally, one should move about 50 feet beyond the end rows before making counts. Border rows should be avoided unless there are special reasons for surveying these areas. For example, certain pests invade fields move from outside areas and thus may be expected in these areas first.

There are three basic patterns for pest infestations in a field and sampling should be arranged accordingly.

1. *Pattern 1* - Pests expected to be uniformly spread over the field. When scouting for a pest with this distribution, the sample sites are chosen so as to be evenly distributed over the field, excluding obvious influencing factors such as field edges. In a square field this might mean one sample in each corner and one in the center. Pests fitting into this pattern are the alfalfa weevil, potato leafhopper, European corn borer, corn rootworm adults, corn leaf aphids, corn earworm, most foliar diseases, etc.
2. *Pattern 2* - Pests expected to be concentrated in particular areas of a field. Examples: many annual and perennial weeds, early season infestations of Mexican bean beetles, black cutworm, white garbs, Phytophthera root rot or other root diseases may be distributed in high or low spots, or other distinguishable features of the field. If pests are detected in one spot and not in others, subsamples should be made in that region to determine the extent and severity of the problem more accurately.
3. *Pattern 3* - Pests expected to appear at field edges first. Examples are spider mites, common stalk borer, armyworm, grass sawfly, and grasshoppers. Sample for these pests by walking fields borders or waterways.

It may be necessary to combine 2 or more patterns on one sampling date. For example, scouting corn for armyworms and stalk borers can be accomplished by walking the field borders followed by sampling throughout the field for weeds, European corn borer, and other pests.

Sampling unit

Once the pattern for sampling has been established, the method of selecting a subsample or sampling unit then becomes important. A sampling unit consists of a speak number of plants, a specific number of feet of row, or a specific area in square feet. Regardless of the sampling unit used, the first plant or site to be examined is chosen at random, i.e., wherever the trowel falls when thrown, etc. The number and size of the sampling units are dependent upon the pests being sampled, their distribution patterns, and other factors.

If the sampling unit involves a specific number of plants at each subsample site, two methods to select those plants are used. Consecutive plants are examined when the pest will not be disturbed by your action to adjacent plants. For example, with European corn borer, cutworms, stalk rot or seedling diseases, a series of consecutive plants are examined. Random plants are examined when mobile insects are being surveyed. In this case, the next plant to be examined will not be adjacent to you but will be some distance away. For example, random sampling would be used with corn rootworm adults.

Scouting and Field Size

Most recommended scouting procedures are designed to provide an accurate assessment of pest activity in 40 acres of a crop field. Many fields will be much larger or smaller than 40 acres. Small fields should be scouted using the full sampling plan. Larger fields should be divided into smaller units of approximately 40 acres for scouting. For example, an 80-acre field can be broken into two 40-acre sections for scouting purposes and a complete sample should be taken in each section.

Fields should be divided into smaller units if parts of the field are under different management systems. For example: 20 acres of corn and 20 acres of soybeans last year planted as one 40-acre corn field this year should be scouted as two 20-acre sections because weed, insect, and disease problems may differ, depending on the preceding crop.

Monitoring techniques fall into three types: absolute methods, relative methods, and population indices.

Absolute methods - estimates of pest population density are expressed as a level per unit of crop area or as a percentage of the sampling units affected. Examples are direct visual counts per plant or per foot of row or per unit of area.

- Advantages: broad range of applicability, less influenced by spatial patterns and changes in pest behaviour and sampling efficiency, easier to predict potential crop damage.
- Disadvantages: More time-consuming

Relative methods - estimates of pest population activity per unit of effort or time but not expressed with units of the crop area. Examples include visual searches, sweep net sampling, beating or shake cloth estimates, blacklight traps, pheromone traps, visual sticky traps, and bait traps.

- Advantages: yield more data given the same effort, less time-consuming, easier to implement.
- Disadvantages: efficiency is affected by pest behaviour, diurnal activity, weather conditions, the crop habitat being sampled, and variations in the way the methods are deployed; requires more information to relate relative estimates to potential crop damage.

Population Indices - estimates of crop damage or the frequency of pest infestations which indirectly reflect the size of the pest population. Examples are percentage of plants infested or diseased, percentage of defoliation, percentage of damaged fruits, visual ratings of root or foliage injury, etc.

- Advantages: less time-consuming and easy to implement, more directly related to crop yield losses.
- Disadvantages: Cannot be used alone to make control decisions, may not allow enough time to take management actions.

The management plan contains integrated pest management policy and guidelines that are demonstrably followed in the field.

Annexure 6 Names and Designation for FSC-FM Responsibility Matrix

Sr. No	Name	Designation
1	Mukesh Kumar Tyagi	FSC Chairman & Director - Technical
2	Basanta Kumar Nayak	FSC- FM Administrator & HOD Plantation
3	Mr. C.P. Jaiswal	FSC Manager & HOD Raw Material
4	M. Rupendra Vishnoi	Zonal Manager – Raw Material Procurement
5	Mr. S.K. Ojha	Zonal Manager – Planation & Nursery Manager (Poplar)
6	Mr. Vedpal Singh	Zonal Manager – Planation & Nursery Manager (Poplar)
7	Mr. V. Bhatnagar	Nursery Production (Eucalyptus)
8	Mr. Vikas Singh	Zonal Manager & RSM - Plantation
9	Mr. Ajay Mishra	FSC- Coordinator & Planation Officer
10	Mr. V. Pathak	Zonal Manger & Planation Officer
11	Mr. Manvendra Singh	Officer – Plantation
12	Mr. Rizwan	Motivator
13	Mr. Rihan Khan	Motivator
14	Mr. Asif Chaudhary	Motivator
15	Mr. Usman	Motivator
16	Mr. Rajpoot	Safety Officer
17	Mr. Rajpoot	Supervisor - Plantation
18	Mr. Babul	Labour Contractor - Plantation
19	Mr. Saurabh	Wood Yard in-charge
20	Mr. Mohit Giri	Wood Yard Supervisor
21	Mr. Surendra Rawat	Sr. Executive
22	Mr. Dixit Kumar	Executive