FOREST DEVELOPMENT CORPORATION OF MAHARASHTRA LIMITED

(A Government of Maharashtra Enterprise)

No. Desk-PLN/R&M/FSC/C.R.29/24-25/ 1082 Dtd: 18 JUL 2024

CIRCULAR

Subject : Comprehensive Guidelines for Health and Safety related to various forestry operations.

Forest Stewardship Council (FSC) has formulated its own policy and issued the guidelines regarding the Standard for India for certificate holders **(Encl: FSC-STD-IND-01-2022 EN)**. According to the point number 2.3 of the said document, the organization shall implement Health & Safety practices to protect workers from occupational safety and health hazards. The same were explained during the workshop held on 15th March, 2024 and the comprehensive guidelines for health and safety related to various forestry operations were prepared and the same are enclosed herewith as **Appendix - A** for ready reference and further necessary action.

Encl : As above

(Sanjeev Gaur)
Chief General Manager (Planning)

To,

The General Manager, Nagpur Region, Nagpur

The Regional Manager, Chandrapur Region, Chandrapur

The Divisional Managers, Forest Project Divisions,

Nagpur / Bhandara / Yawatmal / Chandrapur / Markhanda / Pranhita / Depot Div. Ballarshah

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FOREST DEVELOPMENT CORPORATION OF MAHARASHTRA LTD.

HEALTH & SAFETY GUIDELINES RELATED TO VARIOUS FORESTRY OPERATIONS

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HEALTH AND SAFETY RELATED GUIDELINES

Forestry operations are a crucial aspect of sustainable forest management. However, it also involves various health and safety risks to workers involved in the process. It is essential that the well-being of workers be prioritized, and proper guidelines be in place to ensure a safe working environment during the operations. This document provides comprehensive guidelines for health and safety practices to be followed during various forestry operations.

A. FOR NURSERY

It is necessary to prioritise the well-being of workers to ensure a safe working environment for the workers employed in the nursery work.

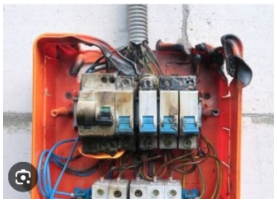
- **Risk Assessment-**To identify the potential hazards and dangers for the workers employed in the nursery operation.

1. Skin irritation from spraying of pesticides and insecticides.

2. While Preparing the Teak Bed chances of injury to workers by tools

3. While Application of Fertilizer to teak plant chances of accidental inhaling leading to dizziness, Vomiting, Nausea.

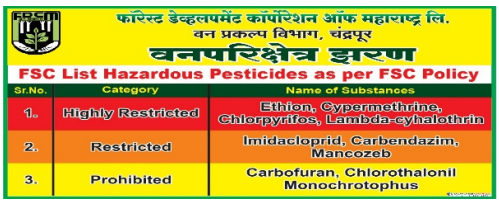
4. Electrical Short-circuit or fire hazards in storage godown of nursery.



- **Training and Supervision-** Ensure that all workers receive proper training on identification, handling of chemicals, safety protocols, equipment usage and emergency response. Supervision from our staff should be provided to oversee operations and enforce safety. These training sessions should be on regular basis by staff.

- **Personal Protective Equipment-**Every nursery should provide sufficient Personal protective equipment such as mask, gloves, PPE kit, Boots, transparent goggles/face shield, respirators etc. to workers during handling of chemicals and spraying and also for the bed preparation safety boots are necessary to avoid injury by tools.

- Other necessary information in vernacular for pesticides handling to local labours is necessary for their understanding. Displays to that effect must be installed in all nursery sites.

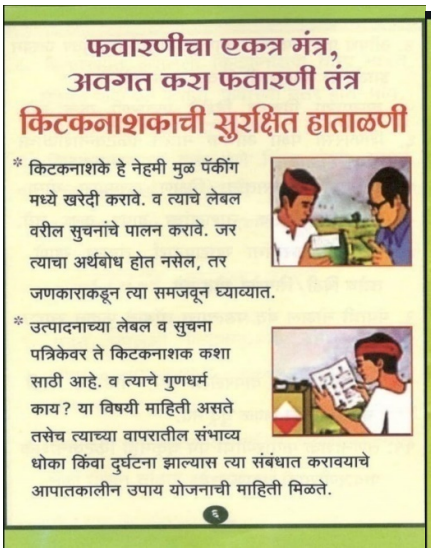


फॉरेस्ट डेव्हलपमेंट कॉर्पोरेशन ऑफ महाराष्ट्र लि.
वन प्रकल्प विभाग, चंद्रपूर

वनपरिक्षेत्र झरण

FSC List Hazardous Pesticides as per FSC Policy

Sr.No.	Category	Name of Substances
1.	Highly Restricted	Ethion, Cypermethrine, Chlorpyrifos, Lambda-cyhalothrin
2.	Restricted	Imidacloprid, Carbendazim, Mancozeb
3.	Prohibited	Carbofuran, Chlorothalonil Monochrotophus

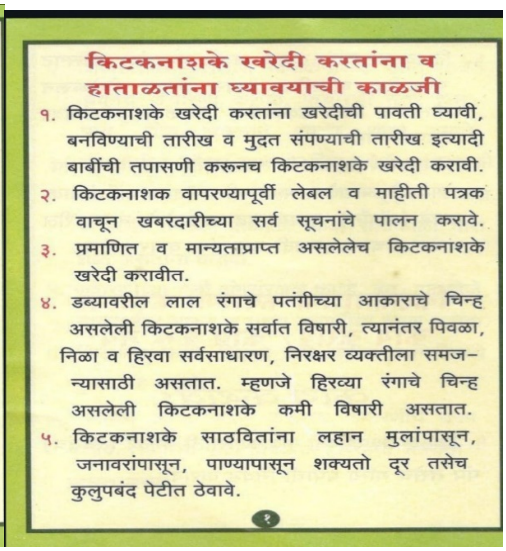


फवारणीचा एकत्र मंत्र,
अवगत करा फवारणी तंत्र

किटकनाशकाची सुरक्षित हाताळणी

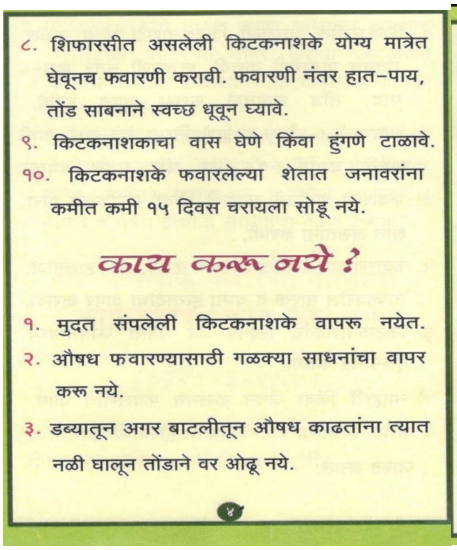
* किटकनाशके हे नेहमी मुळ पॅकींग मध्ये खरेदी करावे. व त्याचे लेबल वरील सुचनांचे पालन करावे. जर त्याचा अर्थबोध होत नसेल, तर जणकाराकडून त्या समजवून घ्याव्यात.

* उत्पादनाच्या लेबल व सुचना पत्रिकेवर ते किटकनाशक कशा साठी आहे. व त्याचे गुणधर्म काय? या विषयी माहिती असते तसेच त्याच्या वापरातील संभाव्य धोका किंवा दुर्घटना झाल्यास त्या संबंधात करावयाचे आपातकालीन उपाय योजनाची माहिती मिळते.



किटकनाशके खरेदी करतांना व हाताळतांना घ्यावयाची काळजी

१. किटकनाशके खरेदी करतांना खरेदीची पावती घ्यावी, बनविण्याची तारीख व मुदत संपण्याची तारीख इत्यादी बाबींची तपासणी करूनच किटकनाशके खरेदी करावी.
२. किटकनाशक वापरण्यापूर्वी लेबल व माहीती पत्रक वाचून खबरदारीच्या सर्व सूचनांचे पालन करावे.
३. प्रमाणित व मान्यताप्राप्त असलेलेच किटकनाशके खरेदी करावीत.
४. डब्यावरील लाल रंगाचे पतंगीच्या आकाराचे चिन्ह असलेली किटकनाशके सर्वात विषारी, त्यानंतर पिवळा, निळा व हिरवा सर्वसाधारण, निरक्षर व्यक्तीला समजन्यासाठी असतात. म्हणजे हिरव्या रंगाचे चिन्ह असलेली किटकनाशके कमी विषारी असतात.
५. किटकनाशके साठवितांना लहान मुलांपासून, जनावरांपासून, पाण्यापासून शक्यतो दूर तसेच कुलुपबंद पेटीत ठेवावे.



८. शिफारसीत असलेली किटकनाशके योग्य मात्रेत घेवूनच फवारणी करावी. फवारणी नंतर हात-पाय, तोंड साबनाने स्वच्छ धूवून घ्यावे.
९. किटकनाशकाचा वास घेणे किंवा हुंगणे टाळावे.
१०. किटकनाशके फवारलेल्या शेतात जनावरांना कमीत कमी १५ दिवस चरायला सोडू नये.

काय करू नये ?

१. मुदत संपलेली किटकनाशके वापरू नयेत.
२. औषध फवारण्यासाठी गळक्या साधनांचा वापर करू नये.
३. डब्यातून अगर बाटलीतून औषध काढतांना त्यात नळी घालून तोंडाने वर ओढू नये.

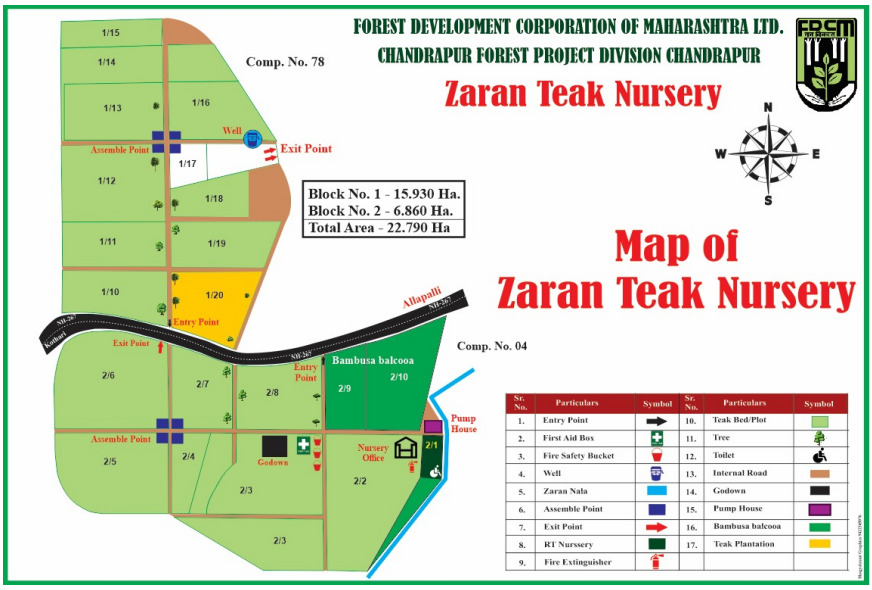
* उत्पादनाच्या लेबलवरील चित्ररूपी सुचना नुसार सुरक्षित साधन ई. वापर मिश्रण फवारणी करते वेळी करावा.

* किटकनाशकाची फवारणी करतांना डोक्यावर नेहमी टोपी वापरावी व दिवसाचे सर्वात उष्णवेळी शक्यतोवर फवारणी टाळावी.

* अपघाताने किटकनाशक कपड्यावर अथवा त्वचेवर उडाल्यास ते साबणाचा वापर करून स्वच्छ धूवुन घ्यावे.

- **Emergency Plan-**

1. Nursery to have well defined map / plan of entry & exit point in case of emergency.
2. Establish assembly points where employees gather during emergency.
3. Nursery should be equipped with First Aid box.
4. Nursery should display phone numbers of following emergency services.
   - Nearby Police Station.
   - Nearby Fire brigade station.
   - Nearby Hospitals / Doctor
   - Staff of the Nursery.



- **Fire Safety-** Suitable fire-fighting equipments should be provided for the purpose of control of emergency fire. These equipments should be maintained and checked regularly. Suitable training, instruction, information should be given to workers about the chemicals causing fire and about the fire-fighting equipment.

- **Spraying Pump-** Separate use for Insecticide & Herbicide pump is recommended considering the safety of labours.

B. FOR PLANTATION SITE

By adhering to these guidelines, one can help ensure the health and safety of workers at the plantation site while promoting a productive and sustainable environment for tree cultivation.

1. **Training and Supervision**: It must be ensured that proper training on safety protocols, equipment usage, and emergency procedures is imparted to all workers. All operations must be under strict supervision of an officer not below the rank of RFO.
2. **Personal Protective Equipment (PPE)**: Workers should be equipped with appropriate PPE such as helmets, gloves, safety goggles, steel-toed boots, and gumboots etc.
3. **Safe Work Practices**: Emphasis should be placed on safe work practices such as maintaining a safe distance from machinery in operation, using tools properly, and avoiding shortcuts that may compromise safety. Walking alone through jungle areas to avoid wildlife attacks should be avoided. Touching any unknown plants/fruits should be avoided.
4. **Risk Assessment**: A thorough risk assessment of the site should be conducted to identify potential hazards such as uneven terrain, falling branches, machinery, or wildlife.
5. **Environmental Considerations**: Compliance with the Insecticide Act, 1968, and Insecticide Rule, 1971, should be ensured. Training on the safe handling, storage, and disposal of chemicals such as fertilizers, herbicides, and pesticides should be provided. Proper labelling, mixing, and application procedures should be followed to minimize exposure risks.
6. **Weather Conditions**: Weather forecasts should be monitored, and outdoor work should be suspended during adverse weather conditions such as thunderstorms, high winds, or extreme temperatures.
7. **Communication**: Clear communication channels should be maintained between workers, field functionaries, and management to address safety concerns, provide updates, and disseminate important information.
8. **Regular Inspections**: Regular inspections of the plantation site should be conducted by the concerned officer to identify any potential hazards or safety issues, and corrective actions should be taken promptly.
9. **Hydration and Sun Protection**: Workers should be encouraged to stay hydrated by providing access to clean drinking water and scheduling regular breaks in shaded areas. The use of caps and light-colour, lightweight clothing should be promoted to protect against sun exposure.

10. **Wildlife Awareness**: Workers should be educated about potential encounters with wild animals. Guidance on how to react safely and avoid confrontations should be provided. The use of deodorants or perfumes, which may irritate wildlife, should be avoided.

11. **Fire Prevention**: A fire prevention plan should be developed and communicated, which includes measures such as maintaining fire lines and prohibiting smoking in jungle areas. Fire extinguishers and air blowers should be made available at the plantation site to tackle any emergency situations.

12. **Community Engagement**: Positive relationships with local communities and stakeholders should be fostered by addressing their concerns, communicating openly about plantation activities, and implementing measures to mitigate potential impacts on neighbouring properties.

13. **Worker Well-being**: The overall well-being of workers should be promoted by addressing factors such as workload, fatigue, and mental health. A culture of support and open communication should be encouraged, and resources for stress management and counselling should be provided if needed. Regular health checkups should be conducted.

14. **Documentation and Record-keeping**: Thorough records of safety inspections, training sessions, incident reports, and other relevant documentation should be maintained. This information should be used to track trends, identify areas for improvement, and demonstrate compliance with regulatory requirements.

15. **Security Hut**: A security hut should be built near the site for rest and changing clothes.
16. **Regular Review and Updates**: Health and safety policies, procedures, and training materials should be regularly reviewed and updated to reflect changes in site conditions, technology, or best practices. Feedback from workers and stakeholders should be solicited to ensure that safety measures remain effective and relevant.

17. **Phone Numbers for Emergency Services**: Phone numbers for emergency services such as fire, Rapid Response Unit (RRU) for wildlife-related conflicts, hospitals, police stations, and local forest authorities should be provided.

C. HARVESTING OF FOREST PRODUCE

General Guidelines:

1. **Risk Assessment:** A thorough risk assessment should be conducted before the harvesting process is started. Potential hazards such as falling trees, uneven terrain, wildlife encounters, and adverse weather conditions should be identified. Strategies to mitigate these risks should be developed to ensure the safety of workers.

2. **Training and Education:** It should be ensured that all workers undergo proper training on safety procedures and protocols before engaging in harvesting activities. Information on potential hazards, emergency response plans, and the proper use of personal protective equipment (PPE) should be provided.

3. **Personal Protective Equipment (PPE):** All workers must be equipped with safety gears like helmets, gloves, high visibility clothing, and safety boots, to protect themselves from potential injuries.

4. **Equipment Maintenance:** All harvesting equipment, such as chainsaws, axes, and vehicles, should be regularly inspected and maintained to ensure they are in proper working condition. Faulty equipment can increase the risk of accidents and injuries during harvesting activities.

5. **Communication:** Clear communication protocols should be established among workers to effectively coordinate activities and respond to emergencies promptly. Radios, whistle signals, or other communication devices should be used to stay connected in remote forest areas.

6. **Emergency Response:** An emergency response plan should be developed and communicated that outlines procedures to follow in case of accidents, injuries, or medical emergencies. Workers should be trained on how to respond to different types of emergencies, and access to first aid kits and emergency contact information should be provided.

7. **Hazardous Tree Identification:** Workers should be trained to recognize signs of potentially hazardous trees, such as dead or leaning trees, cracked trunks, or unstable branches. Working near these trees should be avoided, and consideration should be given to removing them before starting harvesting activities.

8. **Safe Tree Felling Techniques:** Proper tree felling techniques, including directional felling, back cutting, and bore cutting, should be employed to control the direction of tree fall and minimize the risk of accidents. A safe distance from falling trees should be maintained, and clear escape routes for workers should be established.

9. **Lifting and Carrying Techniques:** Workers must be trained for proper lifting and carrying techniques to prevent musculoskeletal injuries, such as back strains or sprains. Mechanical aids, such as winches or pulleys, should be used to lift heavy loads and avoid overexertion.

10. **Wildlife Awareness:** Workers should be educated on potential wildlife encounters during harvesting activities, such as snakes, bears, or insects. Guidance on how to react to these encounters should be provided, and precautions should be taken to avoid conflicts with wildlife.

11. **Hydration and Nutrition:** Workers should be ensured to stay hydrated and well-nourished throughout the harvesting process by providing access to clean drinking water and nutritious meals. Regular breaks should be encouraged to rest and refuel to prevent exhaustion and dehydration.

12. **Machinery Safety :** Machinery such as chainsaws and tractors should be operated only by trained and authorized personnel. All mechanized equipment must be regularly maintained.

D. FOR SAW MILL

Following Hazards are associated with Sawing operations.

Sr No	Component	Hazard Associated with it
1	Sawmilling plant	Saws, ejected timber, machine hazards, and proximity to Cutting Machine.
2	Saw Dust	Hazardous to respiration and creates fire-prone surroundings
3	Noise	Hazardous noise levels associated with operating machinery
4	Housekeeping	Trip hazards, contamination from substances, bad storage, and hygiene
5	Lighting	Lighting of control panels, suitability for tasks, adequate for walkways.
6	Electricity	Electrical plant, switchboards, overhead cables and lights, dust build up.
7	Psychosocial hazards	Effects of work-related stress, bullying, violence and work-related fatigue.

Safety Measures

1. Operators should be equipped with Body Protective gears, like goggles, helmets, gloves, masks, footwear, ear protection device during all time of sawing operations.
2. When handling saw blades, cut resistant gloves made from materials such as kevlar or ballistic nylon should be used.
3. Sawers and cutters must be given training and instruction for safe operation.
4. A slip-resistant good working surface should be provided.
5. Areas should be clear of all obstructions.
6. Precautions should be taken to ensure that dust from stockpiles does not impose on workers or neighbouring properties.
7. Work health and safety training should be regularly conducted at least annually.
8. A first aid box needs to be maintained at work station.
9. An emergency assembly point in a safe location must be marked with a signboard, placed at conspicuous places
10. The emergency response number needs to be provided in visible locations.

11. Dangerous events and near misses - events that could have caused an injury, illness, or incident - need to be reported, and immediate steps to avoid such incidences need to be taken.
12. Eyewash stations need to be installed to provide immediate relief after an accident.
13. Signboards with adequate display in local vernacular should be installed.
14. Caution should be exercised when using electrical power tools near flammable materials.
15. Adequate lighting should be provided.
16. No live wire or uncovered electric wire should be present on the premises.
17. Stockpiles of sawdust and woodchip should be located away from overhead power lines or sources of combustion and clear of waterways.
18. Woodchip and sawdust stockpiles must be maintained in a manner to eliminate the risk of collapse.
19. Adequate fire-fighting equipment in working condition should be available in the event of a fire.
20. The correct type of grinding wheels should be ensured for the task.
21. Purpose-built racks should be used to store circular saw blades whenever they are not in use. These should be guarded, and if possible, located away from walkways and access routes.
22. Areas where large blades are stored should have restricted access.
23. Old or unused saw blades should not be left unprotected in the work area.
24. Only trained persons should undertake saw sharpening and maintenance.
25. Sharpening and grinding equipment must be properly guarded.
26. Automatic sharpening equipment must be located away from walkways and access routes, with appropriate warning signs and barriers to prevent inadvertent contact. Consider restricting access to the sharpening area.
27. Power tools not in use should be safely stored.
28. Power tools must be used following manufacturer instructions.
29. The tool should be visually inspected for damage before use.
30. Defective tools should be removed from service and tagged as unsafe.

31. Persons not directly involved in cutting operation must restricted to a safe distance from machines.
32. Machinery should be regularly maintained, and records should be promptly maintained in the maintenance book.
33. Dust nearby machinery should be removed daily and sent to the dust storage area.
34. The floor area should be clearly marked with lines, Demarcating the area allocated for machine, passageway, storage, and prohibited area.
35. A signboard of Do's and Don'ts must be installed on the premises.
36. Casual labour and work staff must be briefed about the Do's and Don'ts before they are engaged in operations.

E. FOR WASTE MANAGEMENT

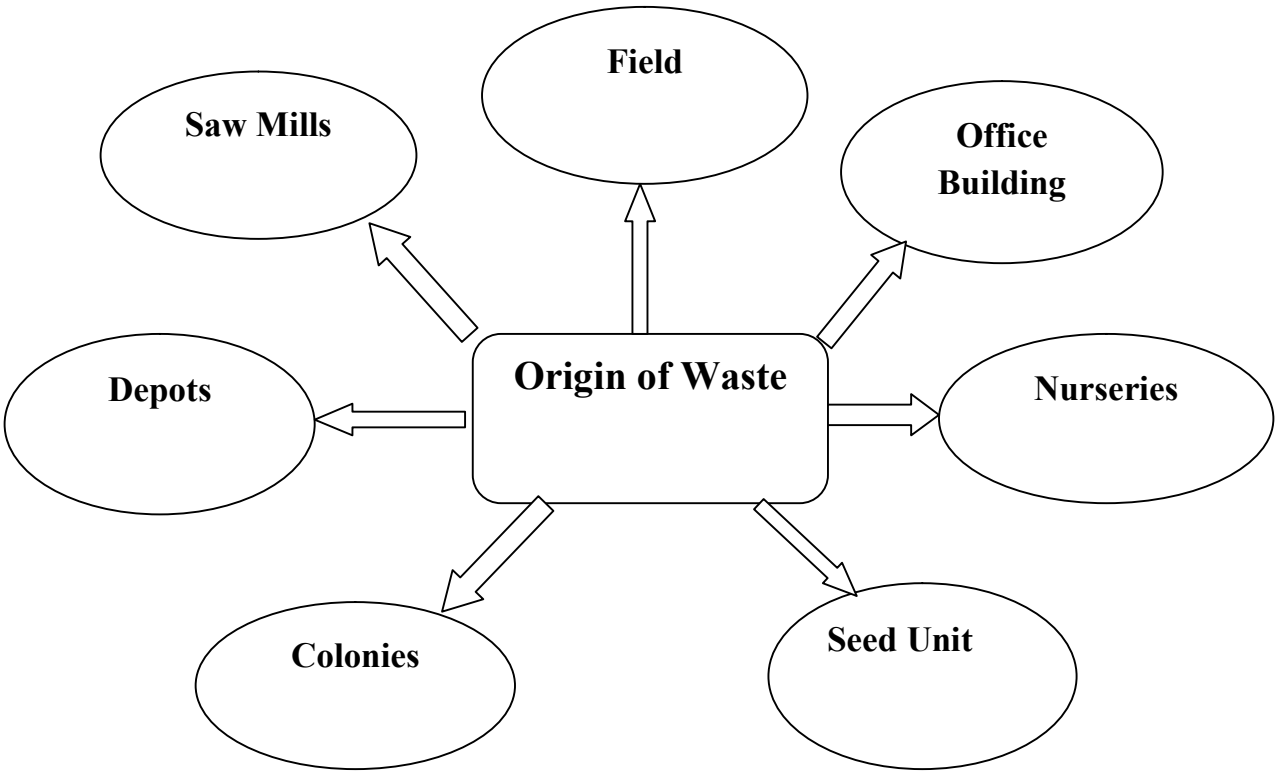
A waste management plan is a vital roadmap to cut cost and reduce the environmental impact and contribute in following the Sustainable Development Goals (SGDs) as per the UN convention.

Any Waste management Plan broadly includes few steps:

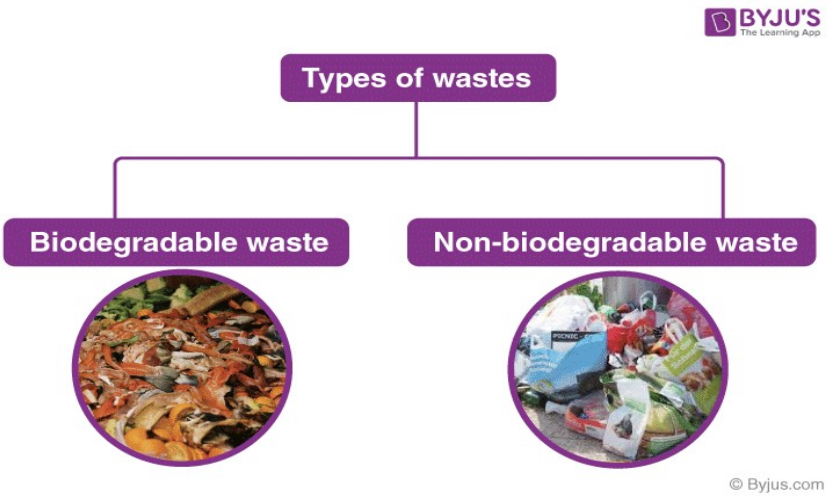
1. Identification of source
2. Classification of waste
3. Collection and Segregation.
4. Disposal methods
5. Way to reduce the waste
6. Knowledge empowerment of every stakeholder in handling the waste

1. Identification of source:

Waste may arise out of following sources -



2. Classification of waste:



Biodegradable Waste is the biomass based waste which contains moisture and it readily decays in the nature. Whereas the non biodegradable waste is hard to decay by its own and it need to go through various treatments before disposal

The waste material generated from various sources in FDCM is given in table below. Material shown in green color is bio degradable where as the non biodegradable is shown in red color

Sr. No.	Source	Waste material generated
1	Field	Waste material after Harvesting, Cleaning of plantations etc
2	Office Buildings	Paper waste, e-waste, etc
3	Colonies	Domestic waste
4	Nurseries	Waste after weeding, Fertilizer bags, Pesticides bag and bottles, RT blocks, etc
5	Seed Unit	Processing waste, gunny bags
6	Saw mills	Saw Dust, sawn waste (*farra*), log-end waste, machine blades, grease and oil cans etc
7	Timber Depots	Timber barks, un stackable fire wood
8	Miscellaneous	Waste at construction site, scrap material, written-off material, out of use vehicles, etc

3. Collection, Segregation and Disposal:

Depending upon the source and type of waste generated we can decide the collection and segregation may be dealt as follows.

a) Field:

Waste material after Harvesting, Cleaning of plantations etc. is generated in the field. It majorly includes small branches, leaves, etc which is Biodegradable type of waste. It should be kept in field only to decay naturally or can be converted in to compost for later use.

b) Nurseries:

Nursery is a major production unit in FDCM producing teak stumps, Root Trainer seedlings, other non-teak seedlings in plastic blocks and polybags. Nurseries generate waste after weeding, Fertilizer bags, Pesticides bag and bottles, RT blocks, etc. **The green waste after weeding should be converted to compost and vermin compost for the later use in nursery**. This will reduce fertilizer cost also.

Nurseries may use highly hazardous pesticides, as well as other agrochemicals. Pesticides can cause a number of acute and chronic severe health effects and illnesses for workers handling them, ranging from allergic reactions to respiratory diseases. The ILO has prescribed the Safety and Health in Agriculture Convention, 2001 (No. 184), which prescribes standards on the safe use of pesticides. It also adopted several Codes of Practice, which provide guidance on the safe use of chemicals. Hence proper disposal of any residual elements of fertilizers and pesticides is prime concern in nursery.

Disposal of remains of insecticides and empty packaging:

1. At the end of the day the inside of the spray pump should be washed and any residual insecticide should be flushed out the lance and nozzle.

2. The rinsing water should be collected and carefully contained in clearly marked drums with a tightly fitted lid. This should be used to dilute the next days tank loads or disposed properly by the supervisor at disposal sites like pits or digs.

3. In no case Residual insecticides, should be poured in rivers, pools and water sources.

4. Containers made of glass, plastic or metal should be decontaminated where possible by employing a triple rinsing method, which involves being partially filled with water three times & then emptied into a bucket or sprayer for the next application.

5. All empty packaging should be returned to the supervisor for safe disposal according to national guidelines.

6. Empty insecticide containers should never be reused.

7. It shall be the duty of manufacturers, formulators of insecticides and operators to dispose packages or surplus materials and washing in a safe manner so as to prevent environmental or water pollution.

8. The used packages should not be left outside to prevent their re-use. 9. The

packages should be broken and buried away from habitation.

Disposal of Expired Insecticides:

1. Adequate measures should be undertaken to avoid expiry of stocks in storehouses.

2. **"First Expiry First Out"** principle should be strictly followed during stock movements.

3. The expired stock should be returned to manufacturer for disposal as per guidelines preferably through incineration process.

c) Office Buildings:

FDCM has various offices form range level to in Head Quarter at FDCM Bhavan, Nagpur. These offices generate substantial amount of Paper waste, e-waste (computers, printers) etc.

According to Maharashtra Pollution Control Board the Urban and Rural Local Bodies like Municipal crop, Municipality, Gram Panchayats have appropriate mechanism for waste disposal. Hence the waste generated from office should be disposed as per protocol set by the Local bodies.

d) Seed Treatment Unit:

Seed treatment units are present in Nagpur, Nashik and Ballarshah. These units process the raw teak seeds. All the pericarp, mesocarp and other waste matter is removed. All three units on average treat around 125 tonnes of teak seeds per year. Generally the treatment recovers about 60-65% of processed seeds. The remaining wastage is biodegradable and can be composted for further use.

e) Saw mills:

FDCM has two saw mills at Allapalli and Ballarshah. Saw mills generate tones of waste in the form of saw dust, sawn waste (*farra*), log-end waste, machine blades, grease and oil cans etc. **Saw dust** has various other uses like making fuel pellets, briquettes. Also it is useful in poultry industry. Hence it is auctioned frequently. **Sawn waste** (*farra*) is used as firewood. Hence it is also sold. Other non degradable waste like steel blades is auctioned as scrap.

4. Way to reduce the waste:

Waste Management Mantra

ESSENTIAL CONTENTS AND USES OF A FIRST AID KIT: A COMPREHENSIVE GUIDE

A first aid kit typically contains essential supplies to provide initial care for common injuries and medical emergencies. While the specific contents may vary based on the size of the kit and intended use, here are the typical items found in a basic first aid kit and their uses:

1. Adhesive bandages: Used to cover minor cuts, scrapes, and blisters to prevent infection and promote healing.

2. Sterile gauze pads: Used to dress larger wounds or apply pressure to control bleeding.

3. Adhesive tape: Used to secure bandages and dressings in place.

4. Antiseptic wipes: Used to clean and disinfect wounds to prevent infection.

5. Antibiotic ointment: Applied to minor cuts and burns to prevent infection and promote healing.

6. Scissors: Used to cut medical tape, gauze, or clothing to access wounds.

7. Tweezers: Used to remove splinters, debris, or insects from wounds.

8. Disposable gloves: Worn to protect the first aider from bodily fluids and to prevent the spread of infection.

9. CPR mask or face shield: Used to provide a barrier between the rescuer and the victim during CPR to reduce the risk of infection.

10. Instant cold packs: Used to reduces welling and relieve pain from sprains, strains, or minor burns.

11. Triangular bandage: Can be used as a sling to support injured arms or to secure splints in place.

12. Emergency blanket: Used to provide warmth and shelter to individuals experiencing shock or exposure to cold temperatures.

13. Sterile eye wash solution: Used to flush foreign objects or chemicals from the eyes in case of eye injuries.

14. Splint: Used to immobilize broken bones or injured limbs to prevent further damage and reduce pain.

15. First aid manual: Provides instructions and guidance on how to administer first aid for various injuries and medical emergencies.

It's important to periodically check and replenish the contents of the first aid kit to ensure that supplies are up-to-date and readily available in case of an emergency. Additionally, individuals should receive training on how to properly use the items in the kit and administer first aid effectively