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Tree surgery: A boon for damaged tree species

This article highlights the importance of tree surgery, particularly in preserving large and heritage trees that are over 100 years old. Tree surgery plays a crucial role in saving trees that are at risk of falling due to trunk hollowness. When a tree trunk becomes hollow, the likelihood of the tree collapsing increases significantly. If such a tree is located near a road or national highway, it can pose a serious hazard. Additionally, replacing a damaged tree requires considerable time and financial resources. Therefore, tree surgery is a valuable solution for restoring damaged trees and reducing the risk of tree falls.

TREES play a vital role in our lives and contribute significantly to maintaining a clean environment. However, various factors can prevent trees from completing their natural life cycle. Hollowness in tree trunks, caused by nutrient deficiencies, pests, and diseases, weakens the tree and prevents natural healing. As a result, trees may break and fall prematurely, leading to environmental and economic losses.

Timely pruning and surgical treatment can help strengthen tree structure and prevent damage caused by external factors. Tree surgery can effectively treat trunk hollowness, prolonging the tree's life. Pests, birds, and physical damage often create hollow spaces in tree trunks, providing shelter for further infestations and accelerating deterioration. Over time, disrupted nutrient flow from the roots affects the tree's health, causing it to dry up and eventually fall.

Timely intervention like tree surgery can help restore tree health, ensuring the proper flow of nutrients and preventing further deterioration. By adopting proper tree care practices, we can extend the lifespan of trees and contribute to a healthier ecosystem.

Comparison of tree rejuvenation and tree surgery

The process of rejuvenating trees is carried out when tree branches grow irregularly or are affected by pest attacks. This involves training and pruning, which help shape the tree's canopy to ensure a balanced structure. Proper canopy management enhances the tree's ability to withstand adverse environmental conditions while optimizing light and air circulation.

In contrast, tree surgery focuses on regenerating the damaged part of the stem to prevent the deterioration of the entire tree.

Benefits of tree surgery

Health and longevity: Tree surgery promotes the health and longevity of trees. By removing dead or diseased branches, arborists can prevent the spread of diseases and pests, improving the overall health of the tree. Pruning also allows for better airflow and sunlight penetration, reducing the risk of fungal infections and promoting healthy growth.

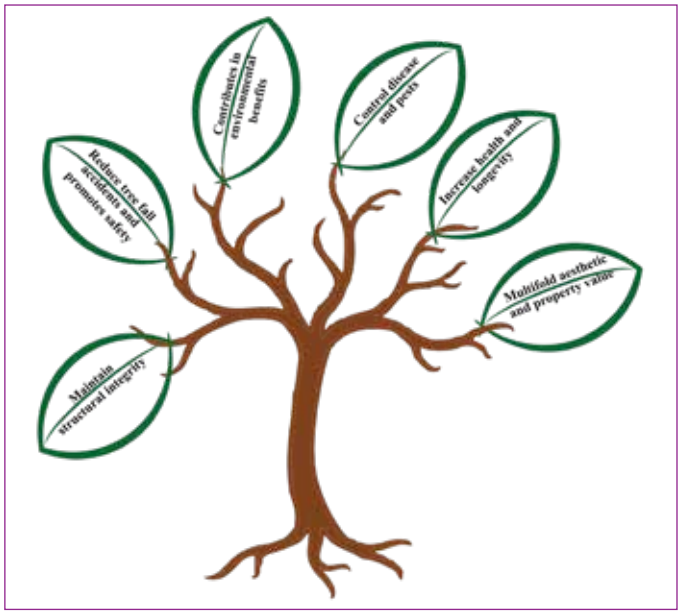
Safety: Tree surgery enhances safety by addressing potential hazards. Dead or unstable branches can pose a significant risk of falling, especially during storms or high winds. Tree surgeons can identify and remove such hazards, reducing the chances of property damage or personal injury caused by falling branches or entire trees.

Aesthetics and property value: Proper tree maintenance through surgery can improve the appearance and aesthetics of trees and landscapes. Skilled tree surgeons can shape trees, prune them to enhance their natural form, and remove any overgrowth that may obstruct views or crowd other plants. Well-maintained trees can add value to properties and contribute to an attractive environment.

Structural integrity: Tree surgery helps maintain the structural integrity of trees. By pruning or reducing the crown, arborists can alleviate stress on weak or heavy branches, preventing potential failure. This is especially important for mature trees or those in urban areas where their structural stability is crucial to prevent property damage or accidents.

Disease and pest control: Arborists are trained to identify signs of diseases and pests in trees. Early detection and appropriate treatment can help prevent the spread of diseases, saving trees from irreversible damage or death. Tree surgeons can also provide advice on preventive measures and help implement strategies to minimize the risk of future infestations.

Environmental benefits: Trees play a vital role in the environment by absorbing carbon dioxide, releasing oxygen, and providing habitat for various species. Tree surgery ensures the health and vitality of trees, allowing them to continue their ecological functions. Well-maintained trees also contribute to a greener and more sustainable environment, reducing urban heat island effects and improving air quality.



Benefits of tree surgery

Tree ambulance

Similar to a general ambulance, a tree ambulance is used to treat trees affected by diseases, termite infestations, tilting, or hollow stems. It is equipped with guardrails and mesh to protect treated trees, along with fungicides, pesticides, and other necessary chemicals for treatment. Additionally, it carries a hose pipe for on-the-spot watering and a ladder to assist staff in reaching tall trees.

Tree ambulance to perform tree surgery

Need of tree surgery

Clearance and obstruction: It is often seen that the unwanted or overgrown growth of trees creates obstacles in the roads, and when the storm blows, the roads become clogged. Selectively pruning branches or reducing the crown size, ensures the safe and unobstructed movement of people, vehicles, and the clear visibility of surroundings.

Encouraging desirable growth: Crown thinning, crown reduction, crown lifting, tree shape, and proper tree growth can be achieved by tree surgery cum pruning techniques. These methods help achieve a more desirable form, balance the tree's structure, and enhance the aesthetic appeal of the tree and its surroundings.

Safety hazards: Trees with compromised structural integrity, such as dead or weakened branches, can pose significant safety hazards. Tree surgery is essential to remove hazardous branches that could potentially fall and cause damage to property, and structures, or harm individuals. Regular inspections and maintenance help identify and address these safety concerns promptly.

Encouraging new tree establishment: Tree surgery is also beneficial during the establishment phase of young trees. Proper pruning and shaping help promote a strong and well-balanced structure, ensuring healthy growth and reducing the risk of future issues.

Tree surgery method

Once a tree requiring surgery is identified, the procedure begins by removing the infected or hollowed-out part. First, the hollow trunk is cleaned using controlled fire, which helps eliminate pests and their eggs. Next, an insecticide is applied to the affected area. It is recommended to use prophenofos at a concentration of 2 mL per litre of water. After disinfection, the hollow section of the tree trunk is filled with inert materials such as foam or Plaster of Paris. If the hollow is large, a chicken mesh is used to provide structural support and keep the inert material intact. Finally, a thin layer of cement is applied to the outer surface to protect the treated area from weathering. A treated tree may take 2–3 years to heal, and signs of vegetative growth indicate successful recovery. Over time, the trunk regenerates, restoring the tree to full health.

Precautions

This method requires skilled labour to perform

Table 1. Materials required for tree surgery

Material	Function
Plaster of Paris (Gypsum)	To fill the tree trunk hollowness
Chicken mesh net	To provide support to the Plaster of Paris in case of a big or large hollow in a tree trunk
Cement	A final layer of coating over Plaster of Paris protects it from weathering
Insecticide – Malathion	To control the pests that particularly attack landscaping trees

Tree before tree surgery

Tree after performing tree surgery

correctly; otherwise, it may cause severe damage to the tree. When using fire, it is crucial to be vigilant to prevent burning other parts of the tree. The application of Plaster of Paris should be done carefully, ensuring no air pockets remain inside. The cement layer should be kept thin; otherwise, the tree may struggle to push it out during the healing process. It is recommended to use high-quality cement that can last for 4–5 months.

How can one utilize this service?

There is no dedicated helpline number for a tree ambulance. When a damaged or infected tree is spotted, one can contact the MCD Horticulture Department at mcd-ithehelpdesk@mcd.nic.in and ask for a tree ambulance.

For further interaction, please write to:
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