TREE TRANSPLANTATION: AN ALTERNATE TO DEFORESTATION

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Forests are important for several reasons. First of all, many would espouse the opinion that they should be preserved for future generations to enjoy. Second of all, they provide habitat for many important species. Thirdly, forests perform important ecological functions. As aggregates of plant matter, forests do a great deal of oxygen production and help prevent excessive global warming.

Additionally, forests tend to help replenish nutrients in land and thus prevent desertification. I agree that cutting down trees is necessary to produce wood for construction, paper and other applications, but logging and other activities that kill trees can potentially lead to negative impacts on ecosystems and the environment as a whole. Large scale tree cutting can lead to deforestation, a transformation of an area from forest to terrain with little vegetation. Plants create oxygen and absorb greenhouse gases. The destruction of trees may, therefore, encourage global warming. There are some harmful effects of cutting trees which result in the loss of habitat for animal species, which can harm ecosystems. According to National Geographic,"70 percent of Earth's land animals and plants live in forests, and many cannot survive the deforestation that destroys their homes." So to reduce these harmful effects of tree cutting or deforestation the best method came to knowledge is **"TREE TRANSPLANTATION".**

INTRODUCTION TO TREE TRANSPLANTATION:

Tree Transplanting is an old practice, which has been employed to save certain trees, which are under threat of cutting or removal or damage due to various reasons. Such of those trees which are under threat and which also assume importance due to their rarity of occurrence, species type, endangered status, size, age, location, religious importance, medicinal value, emotional value, aesthetic value, etc., can be considered for transplanting. Again, though the practice is not new, the technique cannot be applied for all species of all ages at all places. It cannot be done on a large scale basis. This technique can be done on small scale and also it is site specific.

WHY TREE TRANSPLANTATION IS NEEDED?

There is a need to take up such experiments, acquire field knowledge and prepare package of practices on this technique so that it can be employed 'as and when' required based on technical suitability. The transplantation need is also to move the specific tree to the another suited site. It is also pertinent to mention that large number of well grown trees are in face danger of cutting during the implementation of developmental projects like road widening, railway line, water related projects, mining etc. Under such circumstances, the transplanting technique can be of some help for selected species.

METHODOLOGY FOR TREE TRANSPLANTATION

The entire process of the Tree Transplanting experiment has to be planned as below: (These methods are applicable for one meter and above girth class trees also. Changes can be adopted as per local conditions and size and girth of the tree). Various teams should be formed like, Tree treatment team, Transport team, Machine/Material procurement team, Logistics team etc., with designated work chart and responsibilities. After gathering all the required information, the list of trees suitable for transplanting has to be prepared. The preparation for tree transplantation then started. The points to be kept in mind are that the tree undergoes several shocks during its removal from the original site like root injury, exposure to Sun, detachment from mother soil, lack of moisture, infection, injury during transport, alien new soil conditions, duration of travel etc.

THE TREE REMOVAL

General health, size, species, root system etc., of the tree should be assessed before deciding about its removal and transplanting. Only a good and promising tree should be considered. Common tools like nursery spade or larger tree spade can be used. The pre-treatment to the tree should begin at least 5 to 7 days prior to actual removal of tree. One meter deep trench has to be dug around the tree trunk at a distance of about 1.5 to 2.0 m from the tree trunk with a medium bucket JCB and water it continuously. Watering should be done in the trench only. The shape can be either rectangular or spherical, as per local convenience. This will help to soften the soil and pre-condition the roots for mild exposure and displacement. The antibacterial and antifungal spray/solution can be used if any roots are exposed and found injured. On the day of transplanting, the tree should be adequately padded at its trunk with gunny bags where the Crane will hold and lift from the top. The tree trunk should also be tied with good sized ropes at its trunk to enable it to lodge/lie on to the long vehicle/ lorry. The soil has to be loosened further with a JCB and the ball of earth with a big mass of intact roots can be lifted. When the tree is freed from the soil, the roots and the soil ball should be immediately covered with wet gunny bags (or can be done after placing the tree on the vehicle). Then the tree is lifted up in the air and with the help of ropes.

TREE TRANSPORTATION AND TREE TRANSPLANTING

After the tree is loaded on to the vehicle, it should be tied to the vehicle at suitable points to keep it in good hold and position during travel. The tree branches can be tied, without breaking them, to enable smooth movement. The vehicle should move at such a speed which should not cause any injury to the tree. When the tree arrives at the transplanting site, about another 0.5 meter height of mother soil is put into the pit along with vermi-compost. Now, the 3.0 m deep pit has become 2.0 m deep. Water the pit adequately to keep the soil moist. Make the tree erect with the help of crane. Now, slowly lower the tree into the pit and with the help of the ropes, bring it to the centre of the pit and insert it. The gunny bags covering the root ball can be removed. There should be at least two feet space all around the edge of the root ball and the walls of the pit. Fill the pit with mother soil and already stored good soil to a height of about one meter above the ground level. Keep watering till good compaction is achieved. Post transplantation care is also necessary for the proper establishment of the tree. Proper mulching and drainage ensures the proper establishment of the tree. Mild pruning of those branches which are injured or damaged during transport may be done, to avoid further infection. Apply dung paste or neem paste to injured portions of the trunk or branches.

In last I would say that we need to have forests since we depend upon them as a source of timber! If we exhaust our supply of forests, we'll no longer be able to continue using them as the source of our building materials, heating fuel and paper etc. So to conserve the tree species, tree transplantation is the best method.