



HOW TO  
**PLANT**  
A  
**SAPLING**





## **OBJECTIVE**

To provide broad guidelines for procuring, planting and maintaining saplings as part of the plantation campaigns of WWF India in partnership with Forest Department, Horticulture Departments and public.

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**FIRST THINGS FIRST: MAKING SPACE**

Identify the area available for plantation

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**SECOND: RIGHT PLANT**

Climate and Soil

3

**THIRD: WATER**

Water and Drainage

4

**FOUR: SAFETY**

Protection

5

**FIVE: FIND OR GROW**

Sourcing saplings

6

**SIX : WHEN THE TIME IS RIGHT**

Time for plantation

7

**SEVEN : START DIGGING**

The planting pits

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**EIGHT: NO MORE WAIT**

Let's plant!

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**NINE: CHECK IF ALL IS FINE**

Saplings need regular care and maintenance!

# 1. FIRST THINGS FIRST- MAKING SPACE



## Area available for plantation

The first step is to identify location for planting. Do acquire prior permission from the land owners for plantation. Once the area is determined then calculate the total number of saplings that will be planted at each site.

### 1.1 Size of trees

The spacing between trees varies depending on the size they are likely to grow into at maturity. So, larger the size of size tree species selected for plantation, lesser is the total number of saplings that can be planted on the site.

**Large trees** : Like Peepal and Bargad will need atleast 50 feet spacing between each other  
**Medium tree** : Like Mango and Neem will need minimum spacing of 30 feet

**Small trees** : Like Harshingar and Date palm will need 15 feet

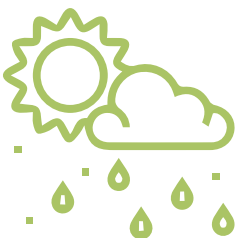
### 1.2 Spaces unsuitable for planting

You need to check if there are pathways, underground cables, gas pipelines, large rocks, buildings, rivulets or ponds in the site. These areas cannot be planted on, So the total area available for plantation reduces.

### 1.3 Existing flora

One needs to take into account the area occupied by already existing flora and if there are invasive flora, whether they must be cleared or retained.

# 2. SECOND – RIGHT PLANT



## Climate and soil

Choosing the plants is the next step, there are many factors that determine this.

### 2.1 Local climate

As the plantation sites are across the country, its essential to match the plants with the soil and climate conditions of the site. Be aware of average rainfall, temperature variations and sunlight available at the location.

### 2.2 PH level of the soil

Trees show preference to varying alkaline and acidic conditions. Soil testing must be done before large scale plantation are taken up.

## 2.3 Native species

The species one chooses to plant must be drawn with emphasis on native flora. A local botanist or tree expert may be consulted to prepare a list. It is very important that exotics and invasive varieties are avoided. As many plants as possible should be selected, starting with the native ones of the site and moving further to those native to the city, state and the country depending on the easy availability.

## 3. THIRD: WATER



### Water and drainage

All saplings need water. Survival of saplings once planted is directly dependent on the availability of water.

#### 3.1 Source of water

Where will the water be sourced from? How easily will it be made available? Will you water with a bucket, hose or drip? Where will you store the water needed by the saplings? What quantity of water is needed for each sapling? What's the frequency of watering? who will water? These are crucial questions to be answered.

#### 3.2 Volume

The amount of water that a plant consumes varies depending on season, species day temperature, humidity, soil composition and age of sapling. A rough estimate of water per sapling helps in arriving at the total volume of water that has to be made available at the site.

#### 3.3 Drainage

Observe where the water is collecting when it rains. Are there spots where water stands for long after rains? If water does not drain out within 24hrs of rain, one may plan water storage at these places or plant species that do well in waterlogged conditions.

## 4. FOURTH: SAFETY



### Protection

If saplings once planted are likely to face the threat of being grazed or damaged by movement of vehicles or people. Make a barrier around the whole site or individual saplings with a mesh or tree guards.

## 5. FIVE: FIND OR GROW



### Sourcing saplings

The next step is to source saplings. Forest departments of each state stock few native saplings. They should be contacted so that one has an idea as to how many saplings are available. Horticulture departments of civic agencies and nurseries are next.

If the requisite number of saplings are unavailable then a nursery may have to be set up at each location by collecting seeds of desired species. This requires:

#### 5.1 A designated location

The size of the nursery varies depending on the total number of saplings that will be raised/sourced or both. If one wishes to build facilities for people to then rooms and washrooms have to be provided. Is there a provision for electricity to run motors or provide lighting? Built area for storing seeds and material? And water storage facility for staff and plants.

#### 5.2 Supervisor and maalis

How many maalis will one engage? How many will be full time and how many will be called in peak work days? Same goes with Security guards and supervisors. Write down the responsibilities of supervisors and maalis

#### 5.3 Materials for growing

Quantity and size of containers, soil, vermicompost, wheel barrows , digging instruments and stakes needs to be chalked down, based on the type and number of saplings one will be growing in the nursery.

## 6. SIXTH : WHEN THE TIME IS RIGHT



### Time for plantation

Best time to plant saplings is early monsoons. Next best times are early spring and months of September and October provided saplings are regularly watered. Planting during extreme dry and cold months must be avoided as the roots do not develop easily.

## 7. SEVENTH : START DIGGING



### The planting pits

Planting pits are dug up a couple of days prior to plantation so that they don't get filled up with soil swept by wind or rain.

#### 7.1 What is around and below

Before digging pits, do check if there are underground cables, gas pipe connections, overhead wires, buildings and other trees around. You need to bear in mind the canopy spread of these tree at maturity so that the branches and trunk don't destroy wires or walls and roots don't break the cables or roads.

#### 7.2 Spacing the pits

The pits should be spaced depending on the maturity size of the sapling chosen for planting so there is sufficient space for canopy spread. Imagine you are planting a massive open umbrella with just the handle placed in the pit at present.

#### 7.3 Dimensions of the pit

The pit should be two to three times the root ball width and same depth as the root ball so that the top portion of the root ball is on same level as the surrounding soil. Where the soil is compacted the width of the pit can be four to five times the root balls width

## 8. EIGHTH: NO MORE WAIT



### Let's plant

Now that pits are dug and saplings are available, Its time to finally plant.

- Remove the container or the plastic bag without damaging the root ball.
- Loosen the roots gently at the bottom if they are too tightly compressed
- Ease the sapling smoothly into the pit till it rests at the bottom and stands straight
- The top portion of the root ball should be at the level of the ground.
- Fill the space between the root ball and the pit with back filled soil that was dug up
- Gently press down the soil from top so as not to leave any air gaps
- Clear weeds and make a berm to hold water

- If the saplings are below two feet one should mark the saplings by planting a three feet stick tied with a bright ribbon so that the sapling will not be camouflaged by tall weeds or grasses later.
- Water the saplings thoroughly.
- Saplings planted in dry regions can benefit with a mulch spread around them.
- Leave 6 inches around trunk without mulch.
- Secure them with a wire mesh or a tree guard if the entire site is not secured.

## 9. NINTH : CHECK IF ALL IS FINE



Saplings need regular care and maintenance after plantation for atleast two years. However if one chooses right species such as natives and they are planted in monsoons then they need to be maintained just for three to five months after plantation.

Check diligently on watering and if saplings are safe from grazing, movement of people, vehicles, diseases and pests.

Monthly one needs to take stock of survival status of saplings so damage control can be done before it's too late. The monitoring frequency may reduce as the saplings become larger.

