

# A tree also reaches out for a glass of water

Trees have their own amazing ways of staying alive



By Shiba Desor

A few months ago, my roommate was going out of town for a week-long holiday. While leaving, she made it very clear to me that if I forgot to water any of the potted plants in the balcony and a plant died, she would ensure that I met the same fate.

So out of sheer fear, I carefully watered the plants every day. Each time I watered them, I would think, 'Poor plants, unlike me, they can't go and get a glass of water when they need it.'



## Who waters trees?

But wait, what about trees out in the wide open? The ones that we see growing on the side of the road, the ones on the hills and the ones in the forests. Who waters them? The answer

is easy and obvious at first glance: rain from the sky. As we all know, trees get their water by absorbing moisture from soil through their roots. But what happens when there is no rain? Or in places where the water on which the tree depends contains too much salt such as sea water?

Looking back, I realised that the trees I had come across in different parts

of India all had their own stories to tell in terms of water use and could help me solve this puzzle.

## Mangroves

For example, in the mangrove forests of Sundarbans of West Bengal,



Mangrove trees along the coast of the Andaman Islands. PHOTO: PANKAJ SEKHSARIA

the trees grew with their roots right inside salt water. For humans and animals, too much salt is dangerous. The same goes for trees as well. To solve this problem, some of these

trees have a filter at the root level itself so that salt is rejected and only water enters. Others take in the salt water, and then spit out the salt through their leaves.

“ WHILE SOME TREES HAVE FILTERS IN ROOTS TO REJECT SALT, OTHERS ABSORB SALT WATER, AND THEN SPIT OUT THE SALT THROUGH LEAVES

## Deserts

In deserts, there is very little rainfall. Yet there are trees that grow and thrive there. An example is the Khejri tree which grows abundantly in Rajasthan. It has a very deep root system which allows it to get water from below the ground, where the water table exists.

There are other plants like the cactus which stores water in a thick fleshy stem and turns its leaves to tiny spines to avoid water loss by evaporation from a broad leaf surface.



The Euphorbia species have adapted to the desert conditions in Kachchh, Gujarat. PHOTO: SUJATHA PADMANABHAN

While the Khejri tree has one deep tap root, the cactus has shallow roots spread all over the place to absorb moisture from as much ground as possible.

But the opposite – too much water – can also be a problem. In very rainy places like the Western Ghats, trees have a thin bark so that more water can evaporate.

Also, the leaves have a waxy coating so that the water slips down instead of accumulating and causing fungus to grow.

## Pond plants

Lastly, plants that live within ponds and lakes like the lotus and lily don't need a root-stem system for sucking water as their leaves are in direct contact with water and can take it in on their own.

This is how nature helps trees stretch out for their water needs. And now it is raining, so at least for today, there is no need for me to water the potted plants in the balcony.

(The writer is a member of Kalpavriksh which is coordinating the series.)

