

Afforestation Challenges – Do's & Don'ts

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We have been discussing about a lot of environmental hazards, deforestation, ecological imbalances and various other challenges being created by rapid urbanization and some wrong decisions taken in past. But that shouldn't be interpreted as, only negative things are happening across. There have been various positive moves as well. There have been many attempted afforestation efforts too.

But, as they say, we must learn lessons from our past; the same goes true with our afforestation efforts as well. Whenever things go wrong, it is the most important to analyze and understand, what went wrong and how it went wrong. The post mortem of the incidents could lead us to understand the chain of events, its repercussions and its translation in our context.

For example, for our attempts of afforestation – the most controversial subject has been the "Eucalyptus Tree". Eucalyptus has been undoubtedly one of the most popular trees in afforestation, farm forestry and social forestry programs across the globe, but at the same time, what works for America, doesn't essentially work for Australia, since the soil, weather, rainfall, climatic conditions etc. are different in different geographies.

Eucalyptus is known for some of its rare traits like its fast growing, quick adaptations to wide ranging ecological situations, several industrial applications and as means of livelihood for unprivileged have elevated it to one of the most desirable tree species for farm forestry and afforestation. In Australian weather, it has done a wonderful job. Eucalyptus plantation, made many marsh & swamp lands to become good for agricultural usage, but in Indian tropical weather would it be equally beneficial?

The subject was discussed at length and many studies were submitted and referred to during 21st International Congress on Irrigation and

that it is one of the fastest growing trees, is a good cash crop for industrial usages for industrial wood requirements, get ready in 3-4 years and needs least amount of care, adapts to the climatic conditions, is suitable even for dry climate / desert like / drought like conditions as well and still grows at a rapid pace.



Thus the merits & the demerits puts the decision making to a dilemma that whether or not it should be considered as the tree of choice for the afforestation needs and helping the farmer in growing a rapidly growing cash crop like tree. Here we need to understand that any fast growing tree would hamper other crops to grow, as it'll be utilizing the available natural resources more than



the other competing crops, thus if you need a fast growing tree this factor is unavoidable. Secondly for the mineral content of the soil, when any tree grows, it utilizes the minerals in soil to grow and return it to soil by shedding leaves. This happens with eucalyptus as well, but as its dry leaves are used as biofuel for cooking, people pick up the dry leaves and the minerals aren't returned back to the soil, so we can't hold the eucalyptus responsible for this. So ultimately it boils down to just one demerit – the underground water level depletion, and that leads to a huge crisis for the country today with over 54% of the country under "Water Stress" and over 22% of the underground aquifer getting dried. So what's the way out?

The ONLY way out is to restore the natural ecology and biodiversity of the said agro-climatic zone. The natural selection of the species is done carefully by the Nature, keeping the requirement of the Soil, Water and Air ecology in focus and therefore the flora & fauna thus grown are the part of the natural biodiversity of the said zone.

They can grow naturally, so there would be least amount of human efforts in growing the same. All that is required to be done is "ECOLOGICAL RESTORATION" of the Water, Soil & Air. That too because it is us humans, who have destroyed the same. These three are the core elements of Life on the planet and all are living, as no life can be created out of dead substances. When they are ALIVE, life flourishes. We can bring them back to life through Vedic Science. Cownomics is the process of making this happen.

Bore well depth (ft)	Initial water yields (mean of n borewells)	Water yields after 3-5 years (mean of n borewells)	Reduction in bore well yields
Bore wells within 1 Km diameter of Eucalyptus plantation of > 2 ha (n=64)			
137-167 m (n=12)	2.95	1.92	34.9%
167-198 m (n=18)	2.74	1.67	41.6%
198-229 m (n=9)	2.68	1.60	39.8%
229-259 m (n=5)	2.44	1.42	41.8%
Mean	2.695	1.653	
Bore wells within 3-5 Km diameter of Eucalyptus plantation of > 2 ha (n=16)			
137-167 m (n=6)	3.15	2.38	25.0%
167-198 m (n=4)	2.99	2.15	28.0%
198-229 m (n=4)	2.68	1.77	33.9%
229-259 m (n=1)	2.51	1.58	37.0%
Mean	2.833	1.965	

Drainage, held between 15th – 23rd October 2011 at Tehran, Iran. There have been various other researches happening before and after the conference as well, and several of them have been listed in the reference section of the article as well. But it is important to understand that all these have happened to measure the after effects of a decision taken in past, though it would've been ideal if the studies were conducted first and the decisions were taken later.

Let's have look at one scientific research data submitted in the conference. The table explains how bore wells had to dig deeper and how their yield got reduced in places within a radius of 3-5 kms from the eucalyptus tree plantations. Thus it is established by the details scientific study that eucalyptus plantation does cause depletion of the ground water level in spite of all its merits, and in this era of global warming, and rapid urbanization, the depletion of the underground water level could be quite dangerous. As it sucks water from the soil, this can dehydrate the surroundings and due to its allopathic nature, it creates dominance over other plants and trees planted in the vicinity. Thus in a area, if we try to plant mixed species farming, the eucalyptus would take a lead and won't let other species grow, on the other hand also consume the available water on and in ground to make it tough for other trees to dwell.

While the above demerits have been associated with the eucalyptus, we still can't deny the fact

Letter to Editor

Dear Editor,

Somehow, I am able to access your newspaper for almost more than eight months. It is a very unique one. Seems to be the first ever such publication. I have been finding continuous improvement in the contents and coverage. Recently, I read your article "Who will ensure Quality of Compost from Garbage?" in the 18/12/2019 issue. It was very informative. A complete reflection of the government notification. I must congratulate you for such a thoughtful editorial. I once again appreciate your endeavour. Wish you all success in the New Year 2020.

Yours faithfully

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