

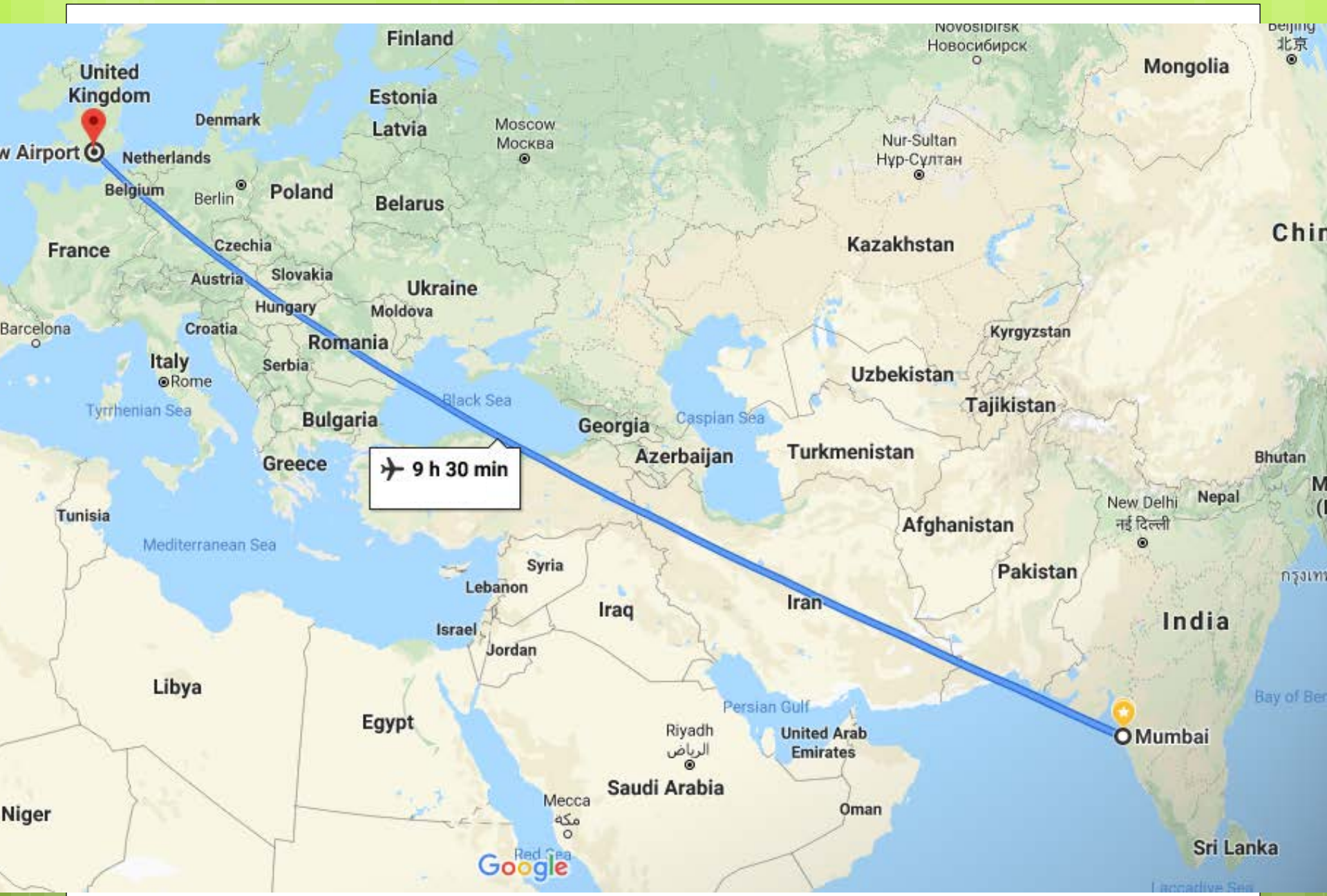


Potential & Challenges for Arboriculture in India

TREECOTECH
ARBORICULTURE SOLUTIONS

Vaibhav Raje
ISA Certified Arborist
ML – 0406A





United Kingdom



✈ 9 h 30 min

Mumbai



Green Kings
Environmental Horticulturists



TREECO TECH
ARBORICULTURE SOLUTIONS



- **Family business in Horticulture**, Father is a renowned & successful Landscape Horticulture Consultant in India
- **2009 – BSc Horticulture** (Konkan Agriculture University)
- **2010 – MSc Agriculture & Env Sci** (Newcastle upon Tyne, UK)
- 2011 – 2013 – Job in private consultancy
- 2013 – **Green Kings** (Self employed consultant – Horticulture/Arb)
- **Jan 2018 – ISA Certified Arborist** (ML 0406A)
- Nov 2018 – **Established Treecotech LLP** for Arboriculture Consultancy
- Organised **India's 1st International Arboriculture Conference** in Pune, Feb 2019

Challenges

- Population & Space
- Weather conditions
- Absence of Arboriculture industry
- Outdated practices / Culture
- Administrative / Political



An aerial photograph of Mumbai, India, showing a dense urban landscape with numerous high-rise apartment buildings and a mix of older, lower-rise structures. The city is situated along a coastline with a large body of water visible in the background. Overlaid on the image are five yellow rounded rectangular boxes containing text comparing Mumbai and London across various metrics.

Area

Mumbai – 603.4 SQKM

London – 1572 SQKM

Population (2018)

Mumbai – 24 Million

London – 8.97 Million

Cars (2018)

Mumbai – 3.2 Million

London – 2.6 Million

Trees

Mumbai – 3 Million (2018)

London – more than 8 million (2014-15)

Tree : Human

Mumbai – 1:8

London – 1:1

Extreme Weather Conditions

Average Rainfall

Mumbai June to Sept – 2317 mm

London Annual (106 days) – 583.6 mm

Cyclonic Winds & Storms in Arabian Sea

12th June 2019 – 75 trees fell in Mumbai

Average temperatures

Summer – 32° C

Winter – 20° C

75% average humidity



**4th September 2019
206mm in 06 hours**

Mumbai deluge – 4th Sept 2019

Tree / Branch Failure Cases in Mumbai



June to Sept 2018 - 510 trees

Deaths – 07

Injuries – 07

June to Aug 2019 - 645 trees

Deaths – 06

Injuries – 01

Tree fall : Death

UK – 1 :10 million

Mumbai – 1 : 3 million (approx.)

Industry Practices

Lack of trained personnel

Anecdotal knowledge

Poor health & safety awareness

Arborist recognition absent

Mindset

Urban Tree Conflict

The background image shows a street lined with large, mature trees. On the left, a blue wall features a colorful mural of flowers and tree trunks. The street is paved with a checkered pattern, and several cars are visible on the road to the right. The overall scene is a typical urban environment where trees and infrastructure coexist.

City built around trees

Trees outgrowing the space

Rapid infrastructure growth

**Lack of inter-departmental
co-ordination**

Low or no priority to trees



Heritage Trees



400 year old Banyan tree in Bengaluru spread in 3 acres



450 year old Baobab tree in Hyderabad

Administrative / Political



Policy upgrade

Project Planning

Due diligence

Political will

Global exposure



Potential

- **Species diversity**
- **Tree plantation drive**
- **Infrastructure projects**
- **Establishment of Arb Industry**



Species Diversity

> 50,000 plant species

> 8,000 tree species

**4 major bio-diversity
rich hotspots**

**Himalayas,
North-East of India
Andaman & Nicobar
Islands
Western Ghats**

Tree Plantation (June – Sept) Government of Maharashtra

2017

**Target: 40 million
Achieved: 54 million**

2018

**Target: 130 million
Achieved: 158 million**

2019

**Target: 330 million
Achieved: 296 million
so far**

Mumbai to get 100 Miyawaki forests, confirms BMC

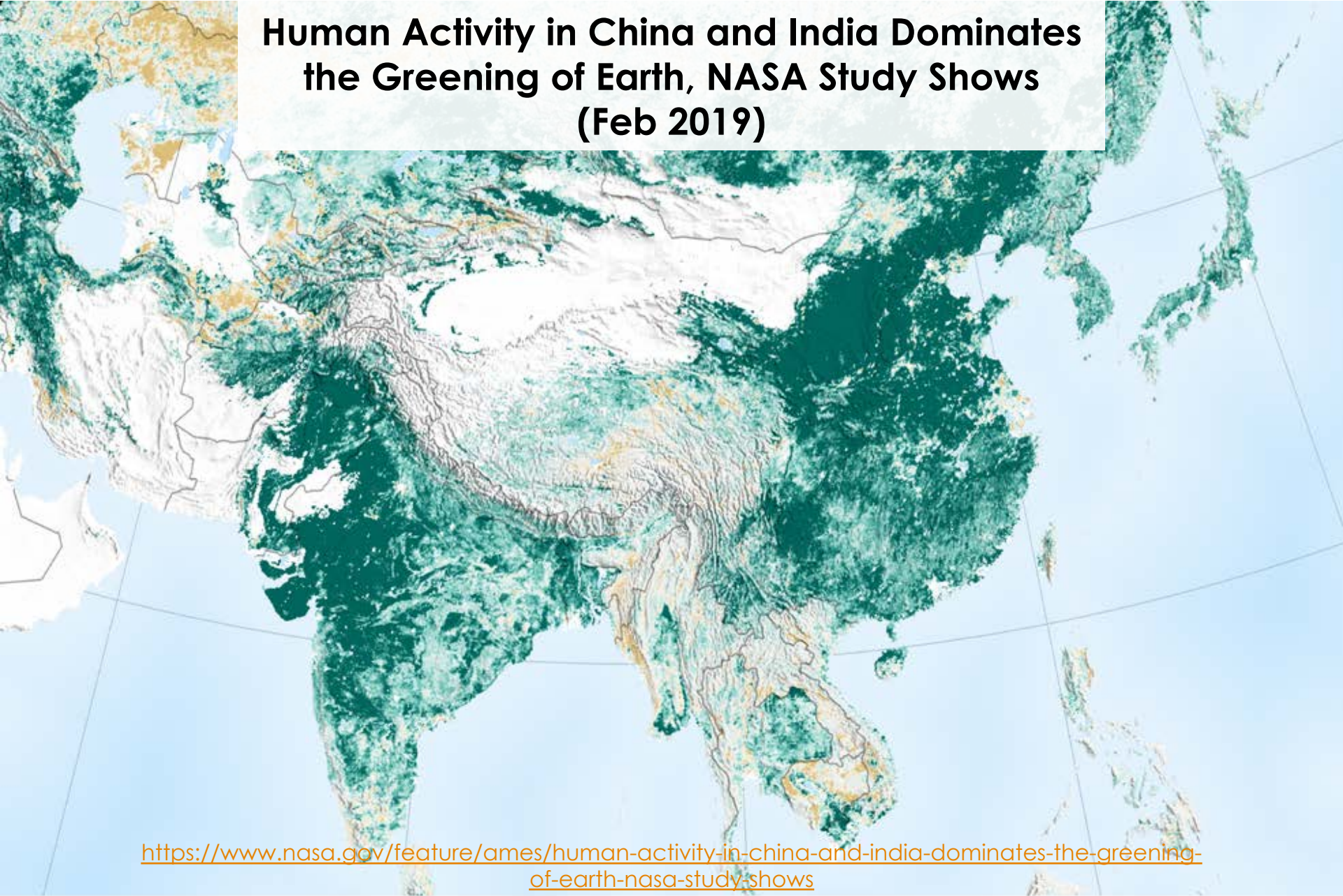


Updated: Aug 10, 2019, 09:02 IST | [A correspondent](#)

BMC says will soon invite tenders for the greenery project



Human Activity in China and India Dominates the Greening of Earth, NASA Study Shows (Feb 2019)



<https://www.nasa.gov/feature/ames/human-activity-in-china-and-india-dominates-the-greening-of-earth-nasa-study-shows>

Trend in Annual Average Leaf Area (% per decade, 2000-2017)



Infrastructure Projects

GDP

India 5% (Q1 2019)

USA 2% (Q2 2019)

UK 0.5% (Q1 2019)

15+ Indian Cities to have
metro rail

Bridges, Railways,
Coastal Roads,
Highways, High Speed
Rail

<https://tradingeconomics.com/articles/06282019085915.htm>

https://en.wikipedia.org/wiki/Economy_of_the_United_States

<https://economictimes.indiatimes.com/news/economy/indicators/indias-gdp-growth-slows-to-5-in-april-june-2019/articleshow/70910682.cms>

Arboriculture Industry in India



Arboriculture: a lesser known term

Lack of arb experts

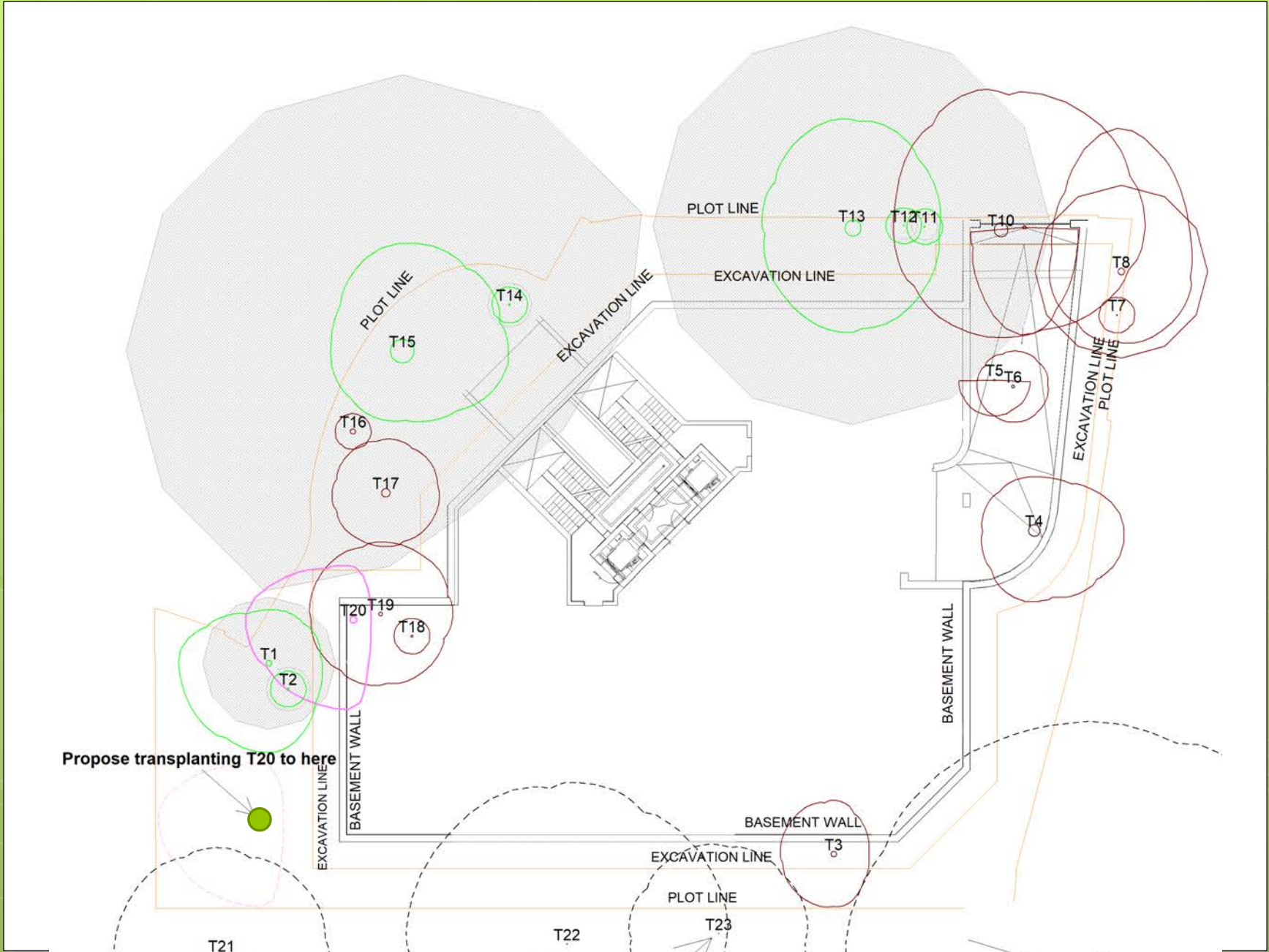
Dominated by Horticulture, Landscapers, Nurserymen, Botanists, Foresters

Huge potential in India

Our Story so far...

1st Arboriculture Impact Assessment in Mumbai





Propose transplanting T20 to here

T21

T22

T23

PLOT LINE

EXCAVATION LINE

PLOT LINE

EXCAVATION LINE

EXCAVATION LINE
PLOT LINE

BASEMENT WALL

BASEMENT WALL

EXCAVATION LINE

PLOT LINE

T13

T12

T11

T10

T8

T7

T5

T6

T4

T16

T17

T1

T2

T19

T18

T3





**Pune Municipal Corporation
Pune Smart City
Landscape Industries Association of India**

**International Speakers
from UK, Singapore & India**

1st International Seminar on
ARBORICULTURE
Plan. Integrate. Conserve. Sustain



INDIA

BROUGHT TO YOU BY



Landscaping
Outdoor Living

Pune – 17th Feb 2019

**Government agencies,
Horticulturists, Consultants,
Engineers, Architects, Corporates**



200+ delegates attended

Stall displays & Exhibition



1st Professional Safe Tree Climbing Demo



BMC's plan to trim trees hit by lack of experts

Mumbai Mirror | Updated: Feb 17, 2019, 06:00 IST

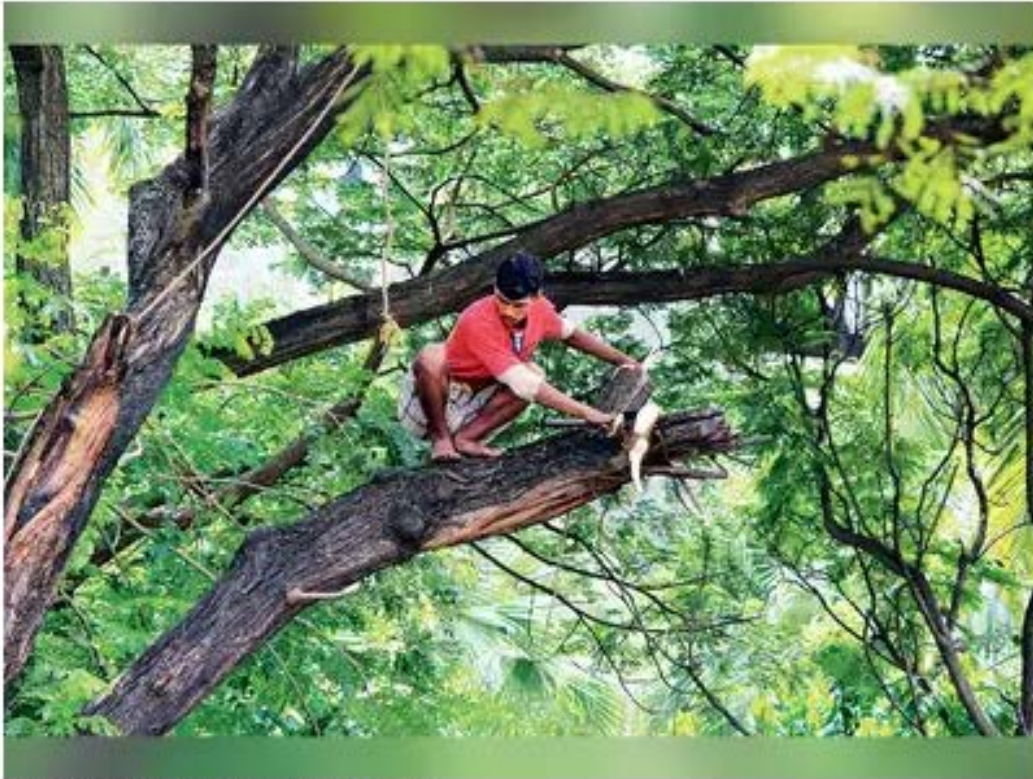


PHOTO BY DEEPAK TURBHEKAR



A-

A+

Tender to hire contractors to carry out urgent work to be re-floated after controversy.

The BMC's Rs 120 crore plan to trim trees, and identify and remove those that pose a threat to people and property, will go ahead without an arborist or horticulturist.

The BMC said it had to remove the clause from the contract because of a lack of qualified arborists in the city.

<https://mumbaimirror.indiatimes.com/mumbai/civic/bmcs-plan-to-trim-trees-hit-by-lack-of-experts/articleshow/68030697.cms>

Colaba residents rope in private expert to audit trees in their area

By Chaitanya Marpakwar, Mumbai Mirror | Updated: Jul 23, 2019,
07:37 IST



Arborist Vaibhav Raje (left) auditing trees at Colaba (Photo by Deepak Turbhekar)



A-

A+

As BMC hands out tree trimming contracts to desilting and transport contractors, residents take matters in own hands.

With the BMC handing out tree trimming contracts to desilting and transport contractors and rising cases of people getting injured or killed by falling trees, residents of Colaba have roped in a private expert to audit trees in their area. With the help of arborist Vaibhav Raje, residents

have audited more than 100 trees on main roads and have found that at least 10 of them are in a dangerous condition and need immediate treatment. If they stand unattended they can fall, putting at risk lives of people.

17 Colaba trees in high-risk category

By Chaitanya Marpakwar, Mumbai Mirror | Updated: Aug 29, 2019,

06:00 IST



Photo by Deepak Turbhekar



A-

A+

Colaba residents say their tree survey can serve as guideline and suggestion for the BMC on how to conduct a tree audit.

A citizens-led audit of trees in Colaba has revealed that 17 of the 100 trees surveyed on JD Somani Marg and Captain Prakash Pethe Marg face the risk of falling down. A detailed report – prepared by the group, My Dream Colaba, with the help of an expert arborist – states that while two trees are

in the extremerisk category, 15 others are high-risk and can fall any time, causing loss of lives and damage to property. The other 79 trees are in moderate-risk category and only four face low risk. The survey is the brainchild of local BJP corporator Makarand Narwekar, who is also a member of the Colaba residents' group.

Our Objectives for India

Setup Arb Society

**10,000+ Certified
Arborists**

0.0000083% of 1.2 billion

**Training / Support in
Arboriculture**

**International
Collaborations**

Multi-million \$ industry

THANK YOU!



TREECOTECH
ARBORICULTURE SOLUTIONS

www.treecotech.com

+91 9820291698

info@treecotech.com