

# URBAN TREE DIVERSITY OF KARWAR, KARNATAKA

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# INTRODUCTION

- 50% of global population live in cities which occupy only 3% of the land area
- Rise to 67% in the next 50 years
- In developing countries, 44 % of the population currently live in urban areas
- During the last 50 years, population of India has grown 2.5 times, but urban population has grown nearly 5 times
- Urban overcrowding – Deteriorating Ecosystem
- Carbon emissions, Air/water/Soil Pollution, Heat islands ...

# INTRODUCTION...

- Green spaces **comprising of urban trees and forests** - **important for quality urban environment.**
- **URBAN TREES** – **several functions in urban ecosystems:**
  - **climate change mitigation by carbon sequestration,**
  - **air quality improvement by air pollution abatement,**
  - **oxygen generation,**
  - **noise reduction,**
  - **mitigation of urban heat- island effects,**
  - **stabilization of soil, ground water recharge,**
  - **prevention of soil erosion,**
  - **biodiversity conservation and**
  - **source of ecosystem goods to urban inhabitants.**
  - **aesthetic, socio-religious and recreational value in urban contexts.**

But not received much scientific attention in India.  
Studied only in Bangalore, Chandigarh, Nagpur, Delhi...

# OBJECTIVES/STUDY TOWN

**Survey and Documentation of the species diversity and population density of urban trees of Karwar, Karnataka.**

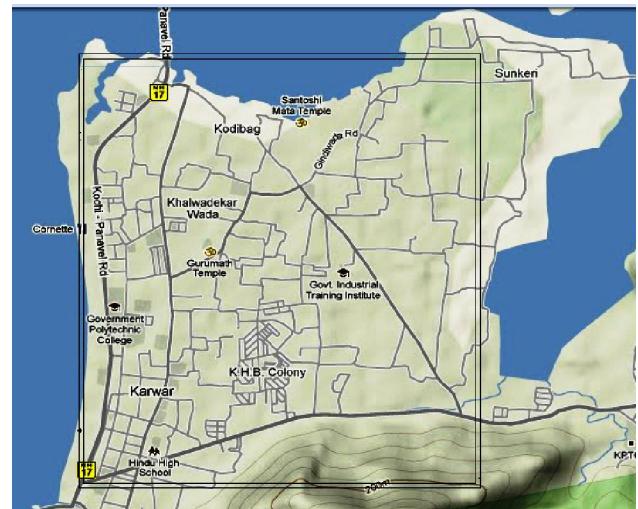
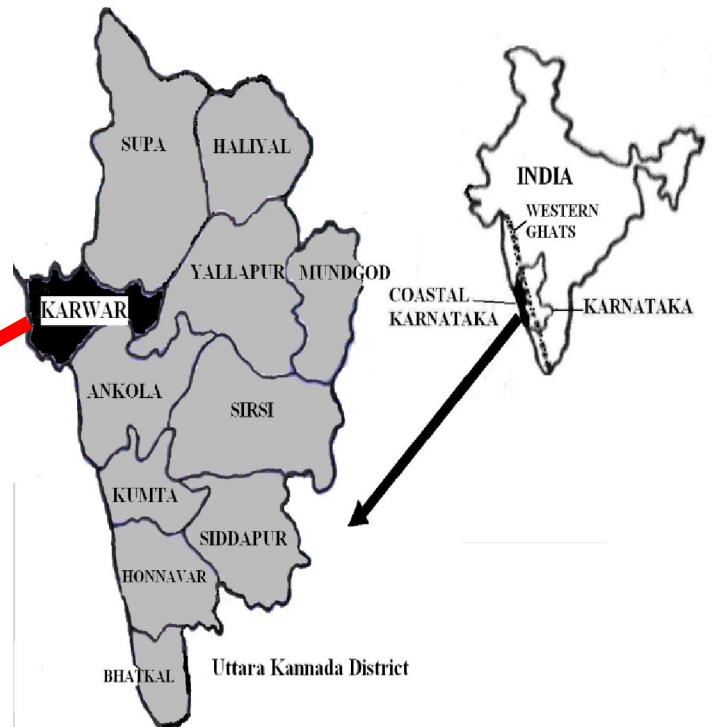
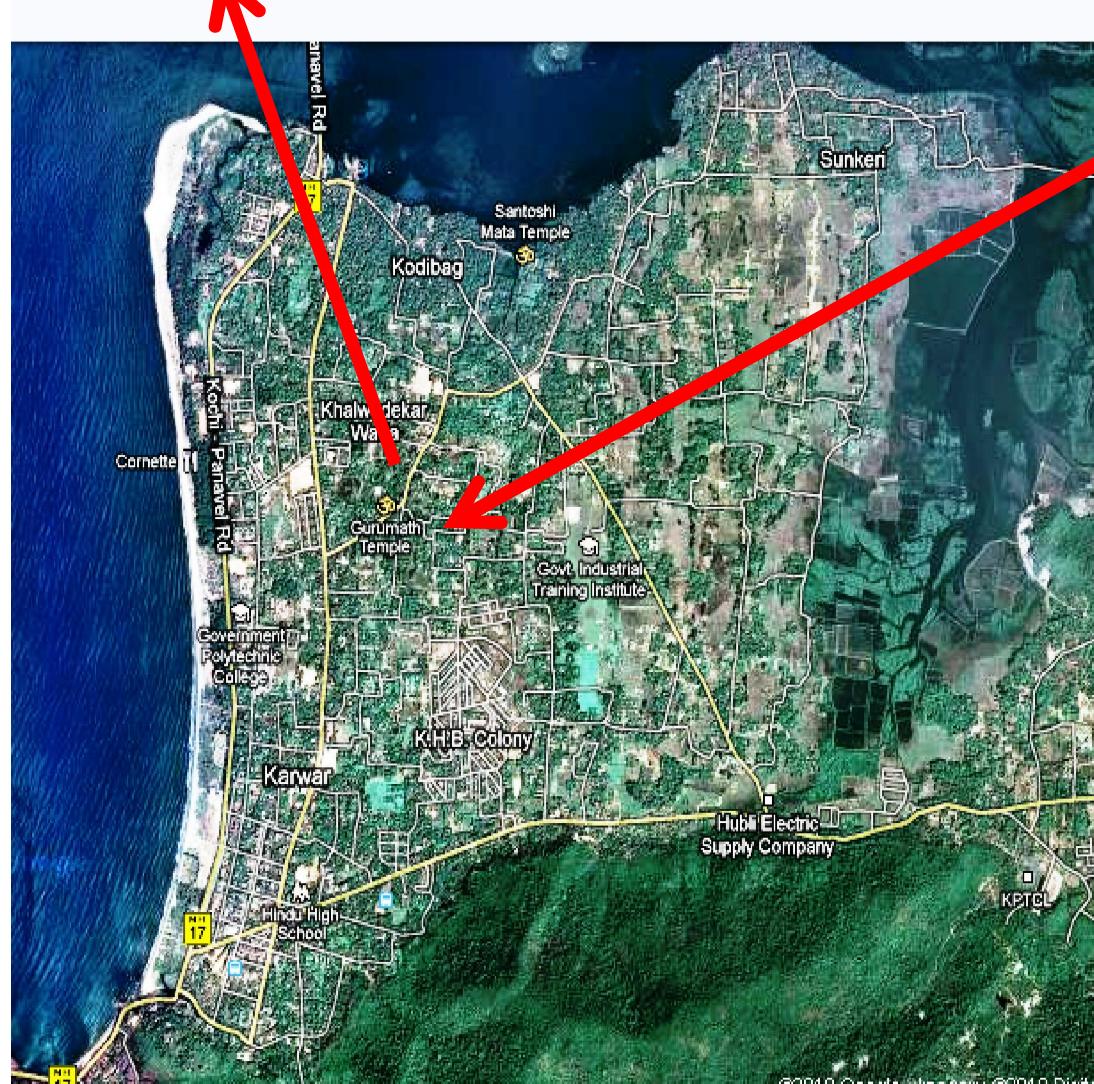
**A small coastal town on the west coast of India. Administrative headquarters of Uttara Kannada district .**

**Total area - 27.15 km<sup>2</sup> .**

**Population is 62,973 (2001 census).**

# STUDY AREA

## KARWAR TOWN



# RESULTS

- **106 species of trees (104 angiosperms + 02 gymnosperms).**
- **86 Genera, 40 Families**
- **Total 3667 trees counted.**
- **70% indigenous species – mainly found in private land**
- **30 % Introduced species – mainly avenue trees, in parks, government land.**

# Top Ten most common tree species

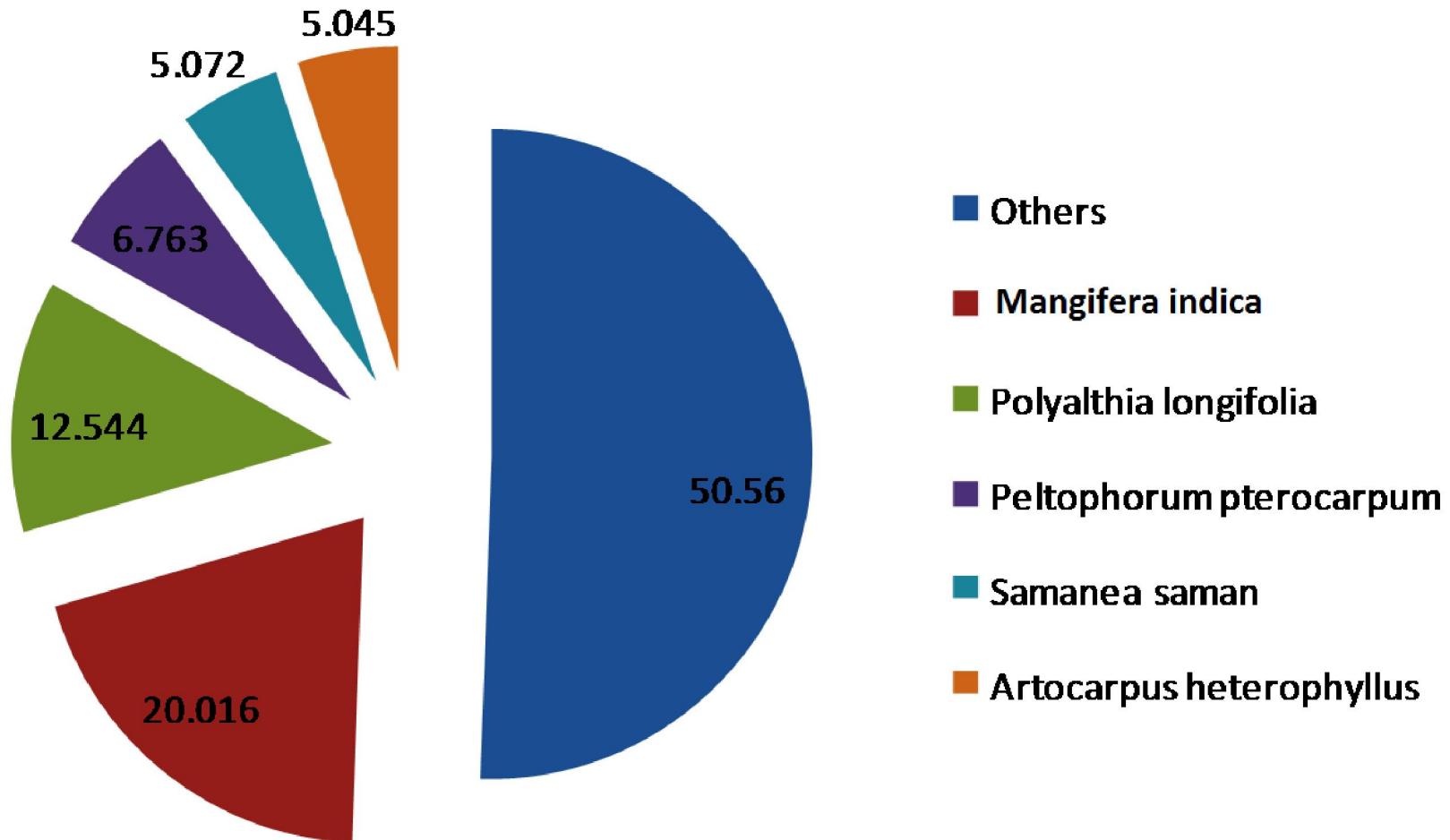
- *Mangifera indica* (Mango, 20.016%),
- *Polyalthia longifolia* (False Ashoka, 12.544%),
- *Peltophorum pterocarpum* ( Yellow flame tree, 6.763%),
- *Samania saman* (Rain tree, 5.072%),
- *Artocarpus heterophyllus* (Jackfruit, 5.045%),
- *Terminalia catappa* (Wild almond, 3.625%),
- *Tectona grandis* (Teak, 3.599%),
- *Psidium guajava* ( Guava, 3.408%),
- *Manilkara zapota* (Sapota, 2.291%) and
- *Artocarpus incisus* ( Breadfruit, 2.4%).
- These 10 species together account for about 65% of the total trees of Karwar

# Very Rare Trees..

- about 40 species represented by only five or less number of trees each.
- *Artocarpus gomezianus*(01 tree), *Adenanthera pavonia*(02 trees), *Averrhoa bilimbi*(02 trees), *Couropita guianensis*(04 trees), *Ceiba pentandra*(03 trees), *Dichrostachys cinerea*( 03 trees), *Dalbergia latifolia*(02 trees), *Haldina cordifolia*(03 trees ), *Kigellia pinnata*(02 trees), *Mimusops elengi*(04 trees), *Santalum album*(03 trees), *Streblus asper*(01 tree), *Strychnos nux-vomica*(01 tree) and *Zanthoxylum rhetsa*(02 trees).

# Use Categories..

- Wild and cultivated fruit yielding trees (**Mango, jackfruit, bread fruit, sapota, etc**)
- Shade and ornamental trees( **Peltophorum, Samanea, Delonix, Spathodea, T. catapa, etc**)
- Sacred and religious trees (***Ficus*spp., Saraca asoca, Aegle marmelos, Syzygium cumini, etc.**)
- Medicinally useful trees (***Garcinia indica, Saraca asoca, Terminalia bellirica, Phyllanthus emblica, etc***)



**Fig. 1. Most common tree species and their % population**



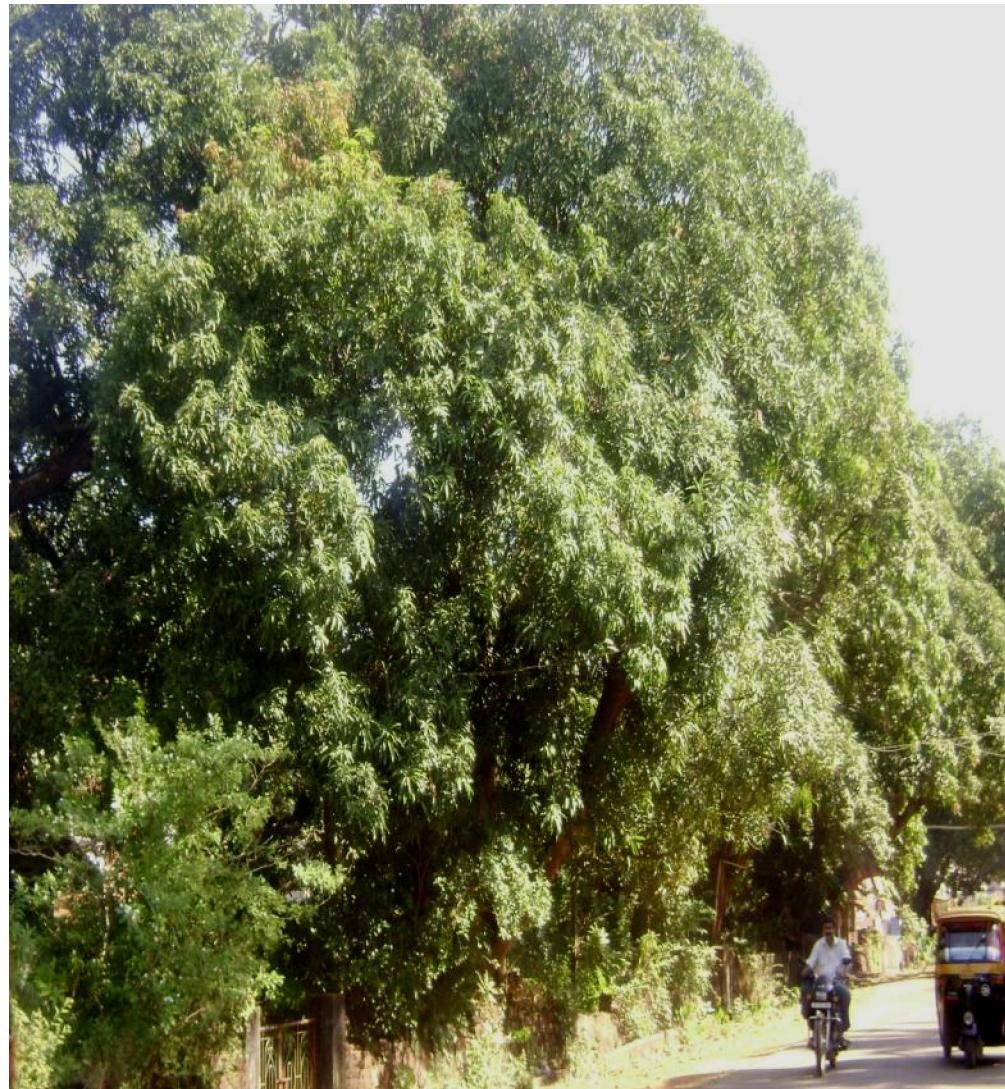


## Sacred trees

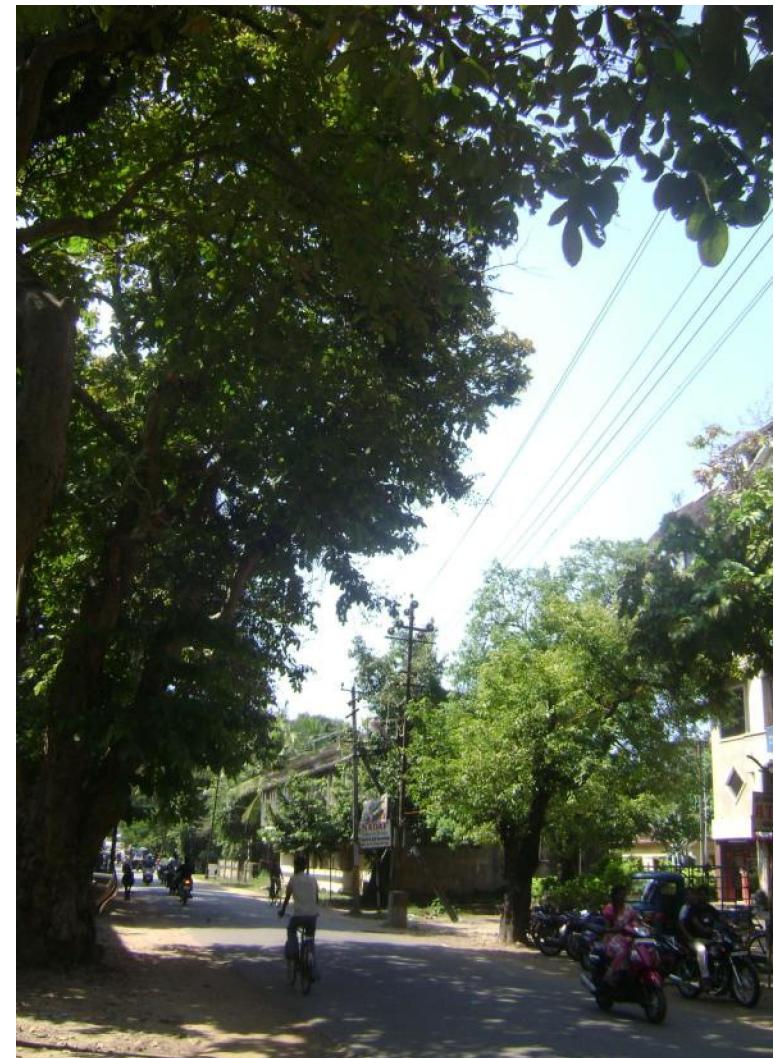


Older avenue trees





Wild mango trees



Avenue trees

**THANK YOU**