

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.

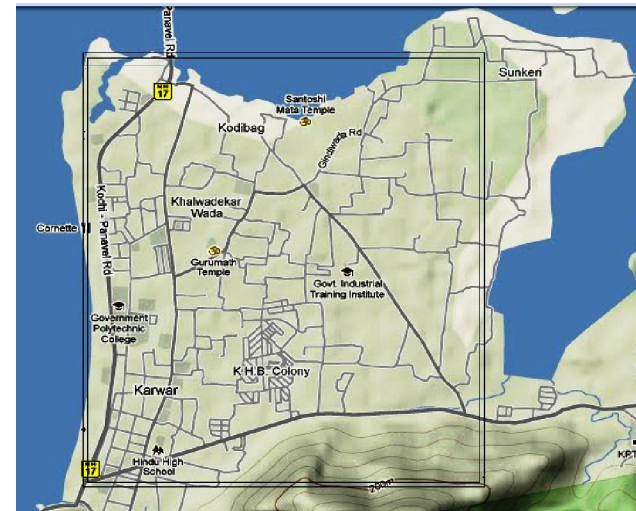
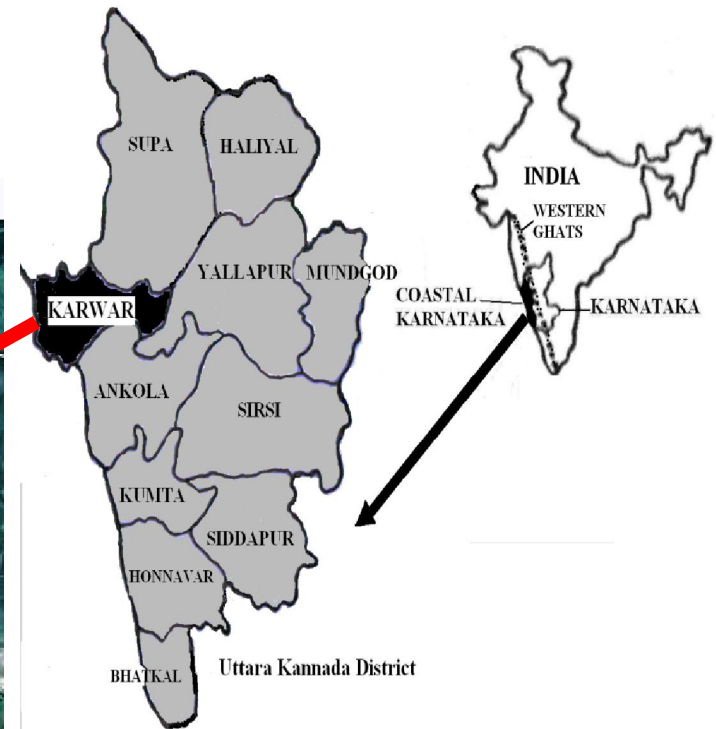
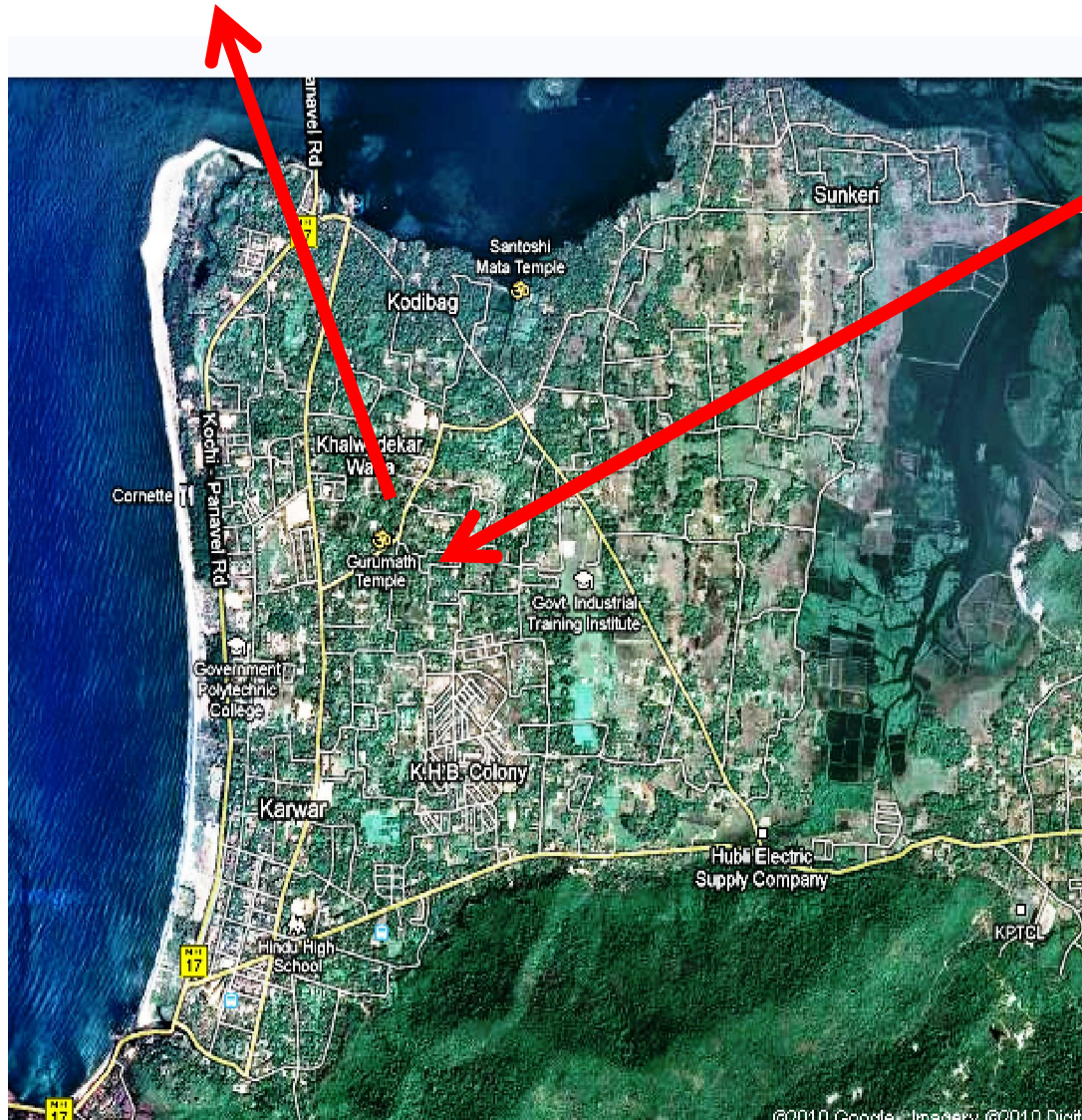
A small coastal town on the west coast of India. Administrative headquarters of Uttara Kannada district .

Total area - 27.15 km² .

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 catapa* (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)

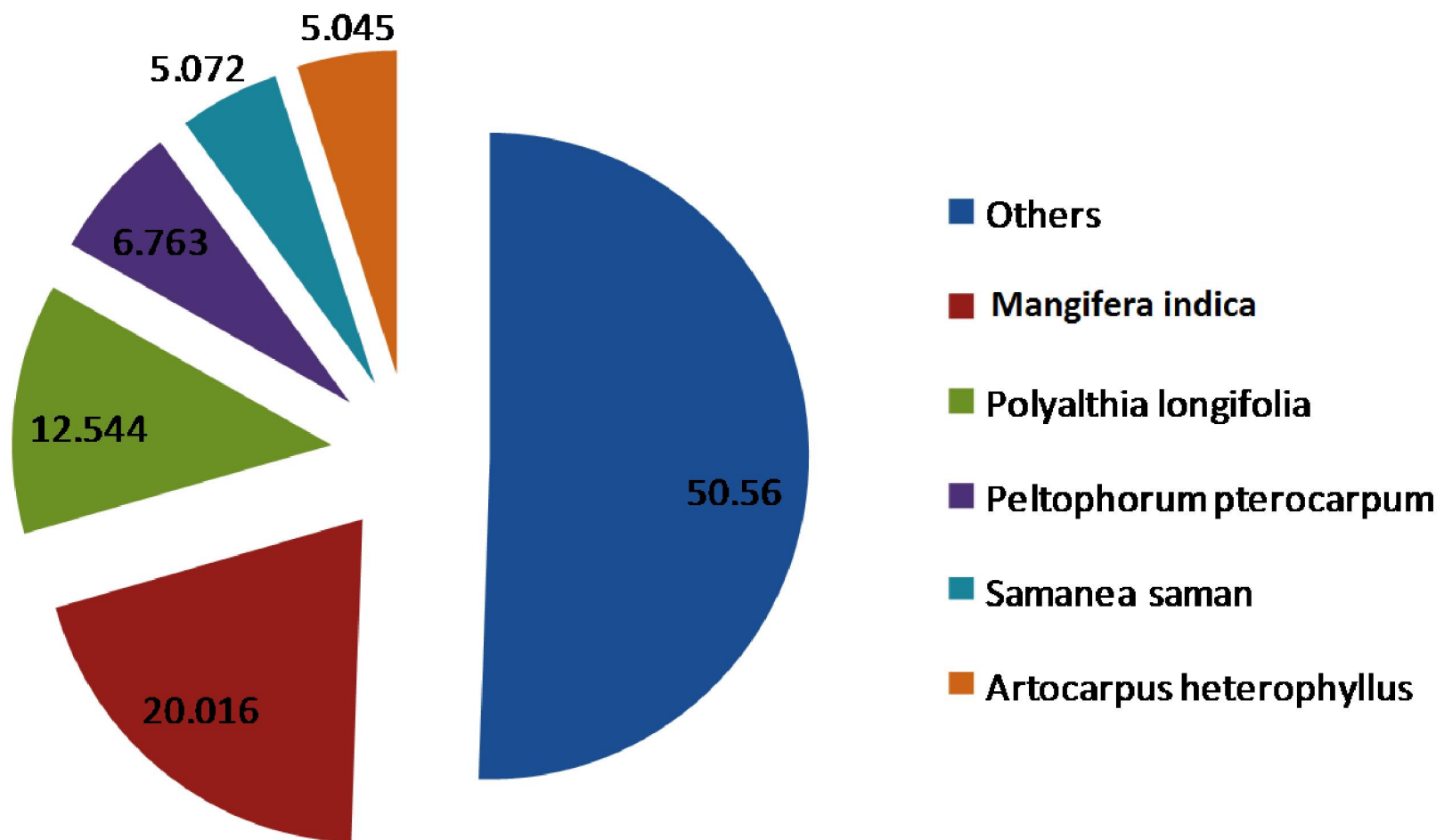


Fig. 1. Most common tree species and their % population



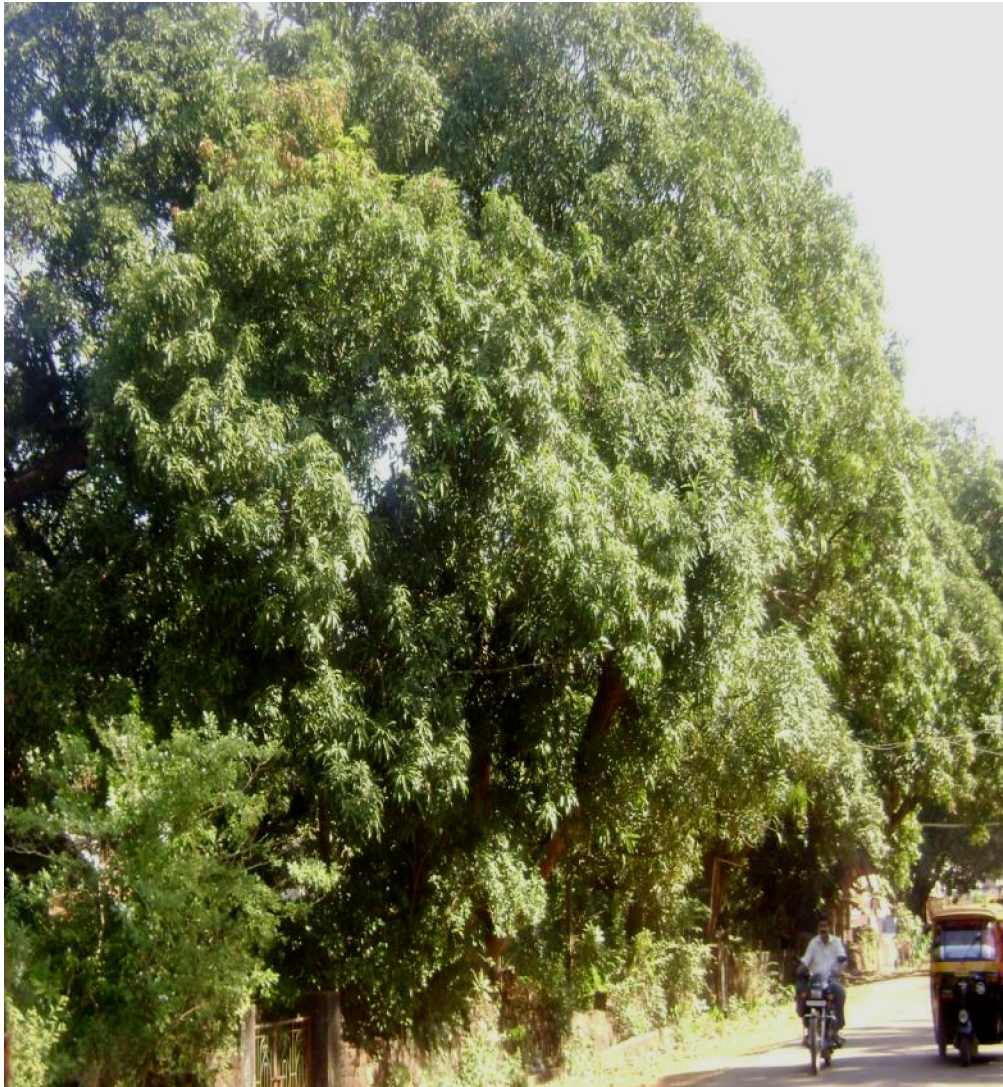


Sacred trees

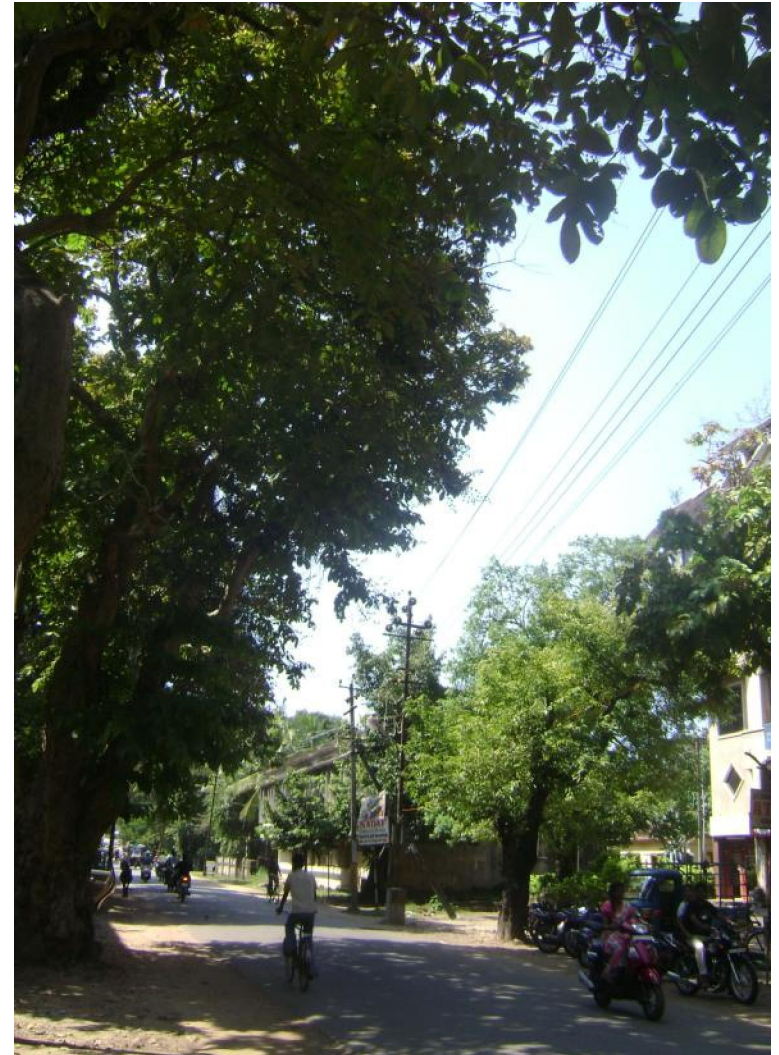


Older avenue trees





Wild mango trees



Avenue trees

THANK YOU