

Conclusions

CONCLUSIONS

From the present study following conclusions can be made

- * Meteorological components such as rain fall and wind flow pattern influenced the impact of air pollution on vegetation.
- * Rain fall had promoted tree growth by washing canopy surfaces and also by diluting air pollutant loads.
- * Wind flow pattern was responsible for dispersal of pollutants from the sources to the receptors (trees). Patterns of dispersal and settlement influenced growth of the trees.
- * Soils at all the sites did not vary much due to industrialisation.
- * Air quality data showed heavy SO₂ concentration. Other pollutants such as NO_x and suspended particulate matter also were in higher concentration.
- * Changes in air pollutant concentrations were a common field-level experience which were responsible for the changes of site-level response. Few of the pollutants had micro-level impact on tree growth.
- * Visible symptoms at polluted sites were developed depending on the proximity of trees to a particular source. It was observed that trees present close in the vicinity of the sources had maximum damage.
- * In the close canopy associations, damages such as decolouration and leaf fall were minimal on the sheltered crowns. Trees present in open fields had damage symptoms.
- * Growth parameter study showed that both evergreen and deciduous tree species had altered growth pattern at polluted sites.
- * There were minimal growth reductions in slow growing species like *Cordia*, *Mimusops* and *Streblus*.
- * Reduced leaf area by means of reductions in leaf size, longevity and leaf let number had resulted in reduced biomass production.

- * Growth measurements revealed that there were less growth reductions in evergreens as compared to deciduous species.
- * Deciduous species showed less affected reproductive phase. Evergreens had reduced leaf life spans even then they maintained foliage round the year. Their reproductive phase was adversely affected.
- * The present study revealed that *Anogeissus*, *Azadirachta*, *Cordia*, *Holoptelea*, *Mimusops* and *Streblus* are tolerant trees. *Acacia*, *Bauhinia* and *Pithecellobium* are moderate ones and *Mangifera*, *Moringa* and *Tamarindus* are sensitive trees.
- * Depending on the industrial scenario, two types of green belt plantations are modelled.

Suggestions for the extension of the study

1. Continuous monitoring of phenological alterations in tropical trees growing under different environmental regimes.
2. Recording the alterations in the allocation of biomass to different parts of the tree.
3. Throughfall studies on tropical trees to work out deposition pattern of atmospheric pollutants on tree canopies and canopy interactions with the deposits.