Oxygen Audit and Carbon Neutrality Potential of Campus

Introduction:

An oxygen audit was conducted at institute to assess the current state of oxygen produced by the trees available on the campus and to estimate the carbon sink it has created.

The audit was conducted by a team of 2 faculty members of Civil Engineering department and 24 Civil engineering students of Third Year B. Tech. The team conducted a comprehensive review of the current availability of trees on campus and estimated the quantity of oxygen produced by the trees. Along with this total carbon sink created was also estimated.

Methodology:

As a part of this audit, the survey of all types of trees available in the campus as well as trees planted along the road side of campus; planted and cared by the institute; was done. This has helped to find the total number of trees available as a source of oxygen as well as acting as carbon sink.

Using these things as input the quantity of oxygen production and estimation of carbon sink capability was done. Details of survey and occupancy are mentioned in following section.

Outcome of survey:

Table 1: Details of trees

Sr. No	Tree type	Remark
01	Mature trees	1156
02	Small trees and bushes	610

Oxygen Production:

Average Oxygen Production of a Tree = 118 Kg/Year *(www.plantsguru.com)*

Assuming average Oxygen Production of a small tree/bush = 40 Kg/Year

Total Production = (1156 * 118) + (610* 40)

= 1,60,808 kg/ year = 160.808 tonne/yr.

Carbon sink:

Average CO_2 absorbed by a tree = 25 kg/ yr. *(https://ecotree.green/en/how-much-co2....)*

Assuming average CO_2 absorbed by a small tree/bush = 8 kg/ yr.

Total CO_2 Sink = (25*1156) + (8*610)

= 33,780 kg/yr. = 33.78 tonne/tr.

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Findings:

The initiatives of planting tree and developing the sustainable campus by creating pleasant atmosphere is really working well for the campus. The campus is producing more than 160 tonnes of Oxygen and absorbing around 34 tonnes of CO_2. The pleasing atmosphere created by the institute is a live feedback of better air quality and enjoyable surrounding atmosphere.

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