



## 7.3 Institutional Distinctiveness

### 7.3.1 Portray the performance of the Institution in one area distinctive to its priority and thrust within 1000 words

#### Response:

The rapid development in infrastructure at local, regional and global level has led to various environmental issues. Being a leading institution of higher Technical Education, Sinhgad Institute of Hotel Management & Catering Technology, Lonavala initiates the Green Campus activity which will support environmentally sustainable development. 'The Green Campus' actively promotes the various programs for the environment protection and sustainability such as, use of bicycles, public transport, and pedestrian friendly roads, promotes plastic free campus, green landscaping with various types of trees and plants.



#### 1. Green Campus Initiatives

The Sinhgad Institute of Hotel management & Catering Technology, Lonavala acknowledge the importance of Eco-friendly campus, in order to protect the environment by making use of the available resources in a sustainable and responsible manner. The institute has plan to plant 10% more trees every year which resulted in availability of moreover 7500 well grown tree cover in campus. Institute has constituted green policy and implementation of it is strictly observed.



Sinhgad Institutes

Sinhgad Technical Education Society's

**SINHGAD INSTITUTE OF HOTEL MANAGEMENT & CATERING TECHNOLOGY**

(Approved by AICTE, New Delhi, Recognized G.. of Maharashtra Es Affiliated to Savitribai Phule pune University)

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## 1. Implementation of Tree Plantation:

SIHMCT Lonavala is well known for its greenery. We received the green campus award by AICTE. Today this campus has moreover 7500 well grown trees of various species. This count is increasing day by day. We conduct tree plantation activities on various occasions like,

- Independence day
- Republic day
- World environment day
- Foundation day of society
- Birthday Celebrations
- NSS day etc.

We have dedicated gardening team of campus to look after these activities of plantation and further nurturing of plants. At the end of every year, CO<sub>2</sub> absorption capacity is analyzed.

## 2. Green Audit

While transforming ourselves from regional campus to national level campus it is the responsibility of such campus to face the global future challenges and try to find out possible solutions for them. As SIHMCT campus is provided with skillful human resource supported by analytical infrastructure, it is our duty to bring such ideas in practice. While understanding the call of time our team has decided to enumerate the green cover of campus and quantify the carbon sequestration of existing tree population.

### 1. Objectives

1. To study woody green cover of the campus.
2. To study species diversity of woody vegetation in the campus.
3. To understand biomass and carbon stock accumulated by woody vegetation in the campus.
4. To explore carbon sequestration potential of woody vegetation in the campus.
5. To explore potential of woody vegetation of the campus as an oxygen source.
6. To measure canopy cover of the trees on the campus.



## 2. Study Area

SIHMCT Lonavala campus is situated on hills of Sahyadri range east of Lonavala city Maharashtra, at 18.7341911 latitude, 73.430742 longitudes. SIHMCT Lonavala covers an area of about 200 acres. The major area of the campus is covered with vegetation.

## 3. Data Analysis

All the collected data is tabulated and analyzed with the help of MS- Excel spreadsheets and the findings are extracted by using various factors given by Intergovernmental Panel on Climate Change (IPCC). Following parameters are measured for analysis purpose.

- MEASUREMENT OF CIRCUMFERENCE OF THE TREE
- HEIGHT MEASUREMENT
- ABOVE GROUND BIOMASS (ABG) OF TREE
- ESTIMATION OF CARBON
- DETERMINATION OF WEIGHT OF CARBON DIOXIDE (CO<sub>2</sub>)

SEQUESTERED IN THE TREE: - CANOPY COVER:

## 4. Findings

Following are the findings of green audit:-

- **Carbon Sequestration:**

Carbon sequestration is long-term storage of carbon dioxide or other forms of carbon to avoid climate change. It has been considered as a way to slow the atmospheric and marine accumulation of greenhouse gases, which are released by burning fossil fuels.

- **Oxygen released**

Woody vegetation in SIHMCT Lonavala campus release 416.34 tons of oxygen in a year. Thus, it is supposed to release 416.34 tons of oxygen annually.

A single tree supports oxygen demand of two people for their life. Thus, 7500 woody trees on the SIHMCT Lonavala campus are supporting 15000 people on and around the campus.

- **Canopy cover**

The vertical projection of plant foliage onto a horizontal surface is called as Canopy cover. Forest canopy structure regulates radiation interception through the canopy, affects the



canopy microclimate, and consequently influences the energy, water, and carbon fluxes between soil, vegetation and atmosphere through interactions with leaf photosynthesis. The total canopy area calculated around the campus is 78 acres. The total canopy cover area on the campus is 39 % and is more i. e. 33% forest cover decided for country or state

### 3. Carbon foot prints:

As the SIHMCT Lonavala campus considered as institutional organization, the various energy resources like electricity, fuels, Liquefied petroleum gas (LPG) are used. It is necessary to calculate the carbon footprint of the campus to upgrade the Clean Developmental Mechanism (CDM) in various processes.

- **Electricity carbon footprint:**

In the campus, electricity is used for various purposes like residential, office use and in the laboratories. The total electricity used in the campus is around 4000 MWh/annum which (approximately) liberates 12240000 kg of CO<sub>2</sub> per year.

### Conclusion:

- India's CO<sub>2</sub> emission is increased by an estimated 4.6 % in 2017, despite a turbulent year for its economy.
- The carbon footprint of nation is measured per person; India's emissions are still very low at only 1.8 tons of CO<sub>2</sub> per capita- which is much lower than the world average of 4.2 tons. But those emissions have been increasing steadily, with an average growth rate of 6% over the past decade.
- The educational institutes are the organizations which are having large areas that consume high quantities of electricity and LPGs for many purposes.
- The SIHMCT Lonavala Campus emits 12282.53 tons of CO<sub>2</sub> per year approximately.
- The present Clean Development Mechanism (CDM) or practices reduces the 22.51 tons CO<sub>2</sub> per year approximately.

The SIHMCT campus covers total 200 acres area which is having the green cover of 75000 mature woody trees which capture 138.78 tons of CO<sub>2</sub> per year.