

# GREENING CHANDIGARH ACTION PLAN 2013-14



**FOREST & WILDLIFE DEPARTMENT, CHANDIGARH ADMINISTRATION**

## Greening Chandigarh

ACTION PLAN 2005-2006



FOREST DEPARTMENT, CHANDIGARH ADMINISTRATION

## Greening Chandigarh

ACTION PLAN 2006-2007



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## Greening Chandigarh

ACTION PLAN 2007-2008



FOREST DEPARTMENT  
Chandigarh Administration

## Greening Chandigarh

ACTION PLAN - 2008



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## GREENING CHANDIGARH ACTION PLANS IN YEARS GONE BY



## Greening Chandigarh

ACTION PLAN - 2009-10



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## Greening Chandigarh

ACTION PLAN - 2010-11



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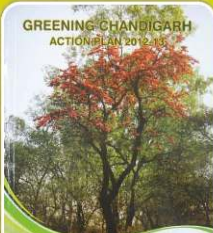
## Greening Chandigarh

ACTION PLAN - 2011-12



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## GREENING CHANDIGARH ACTION PLAN 2012-13



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## Butterfly Park Chandigarh



FOREST & WILDLIFE DEPTT. CHD. (U.T.)



## MIGRATORY BIRDS AT SUKHNA LAKE CHANDIGARH



## Sukhna Wildlife Sanctuary, At a glance



DEPARTMENT OF FORESTS AND WILDLIFE, UNION TERRITORY CHANDIGARH



**Sector -19, Chandigarh**

**DEPARTMENT OF FORESTS & WILDLIFE  
CHANDIGARH ADMINISTRATION**



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**CHAPTER I**  
**INTRODUCTION**

**Chandigarh And Its Environment**

Chandigarh is a modern city with prehistoric past. Known for its unique architecture and well planned landscaping, the 'City Beautiful' was designed by famous French Architect Le Corbusier. The city derives its name from a temple 'Chandi Mandir' located in the vicinity of the site selected for the city. It is a modern city, housing the Capital of two States Punjab and Haryana and the seat of 'Union Territory' Administration. Bounded on two sides by two seasonal rivulets, the northern edge of the city is the Capital Complex against the panoramic backdrop of the Shivalik hills. A harmonious blend of buildings, trees and other landscape elements enhances its aesthetic value. The most fascinating feature of the City's landscaping is perhaps the "Tree plantation" along avenues, open spaces and around building complexes. A number of beautiful avenues with conspicuous tree species, well wooded forests along the periphery, 'Sukhna Lake' against the backdrop of Lake Reserve Forest, green belts running across the length and breadth of the city and beautiful 'Sukhna Wildlife Sanctuary' on its periphery, further enhances the ecological, environmental and aesthetic richness of the city. Geographical area of U.T. Chandigarh is 139.92 sq. km which includes 25.98 sq. km. of hilly area (which has been declared as 'Sukhna Wildlife Sanctuary) acquired for soil conservation works.

The galloping increase in population and rapid increase in the number of vehicles have led to a rising trend in pollution levels in Chandigarh. The population of the city is about 13.0 lakhs and the number of vehicles including the floating vehicles is more than 9.00

*"There is sufficient in the world for man's need but not for man's greed."*

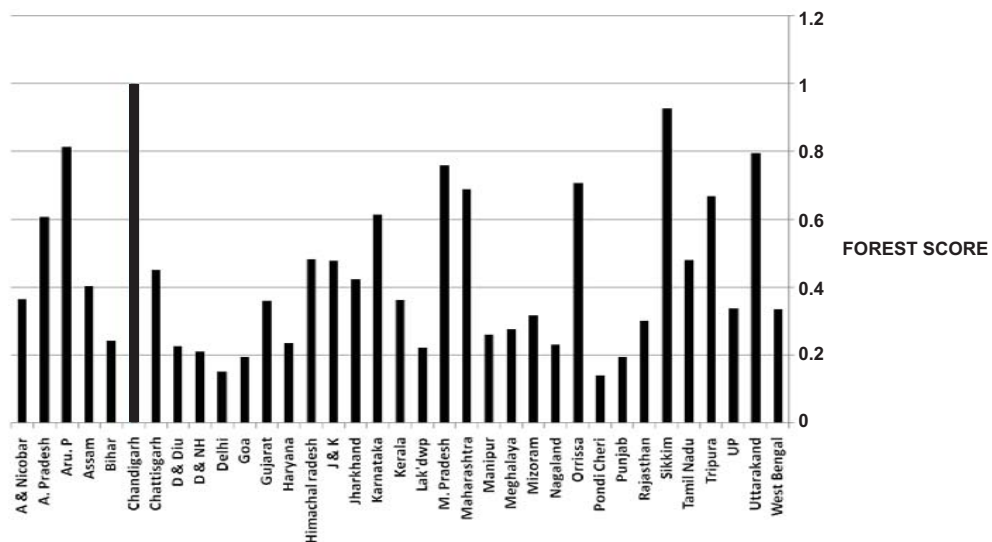


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Lakhs. The sharp increase in number of vehicles is a matter of concern. As per monitoring data of Chandigarh Pollution Control Committee, SO<sub>2</sub> and NO<sub>x</sub> levels in Chandigarh are very low, however, RSPM levels are matter of concern which always remains on higher side. However it is significant to mention that despite of remarkable increase in no. of vehicles, which are the main source of air pollution in Chandigarh, in previous years there is no major change in RSPM levels. One of the main reason for Check on air pollution is increased green cover of the city during the last decade.

**Chandigarh bestowed with Indira Priyadarshini  
Vriksha Mitra Award-2010**

UT Chandigarh was awarded with the prestigious Indira Priyadarshini Vriksha Mitra (IPVM) Award for States and Union Territories (Category: Union Territories) for the year 2010 for outstanding work in increasing forest & tree cover in the city. The forest cover in U.T. Chandigarh is 43 sq km and another 10 sq km area is under tree cover.



*"What's the use of a fine house if you haven't got a tolerable planet to put it on?"*



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## ENVIRONMENTAL PERFORMANCE INDEX

The economic growth of any country is strongly related to the environmental well being of the state i.e; the states/UTs with a score of 1 are characterised by cleaner environment, adherence to environmental standards including implementation of legislation and institutional mechanisms and efforts towards National resource conservation. Considering the influence of natural resource depletion & unabated pollution on many sectors of the economy, an Environmental Performance Index (EPI) has been evolved to recognize the efforts made by the states to arrest degradation of environment.

There are various methodologies to calculate the EPI. One of the methodologies is 2012 Environmental Performance Index. This Index offers a composite index of current national environmental protection efforts. The quantitative metrics underlying the 2012 EPI encompass 22 Indicators.

### **The Planning Commission EPI (PC-EPI):**

After careful perusal of all variables & categories considered under 2012 EPI, Planning Commission of India has prepared a Planning Commission EPI. The PC-EPI is based on five categories comprising of 16 indicators.

S.N.	CRITERIA	INDICATORS	No. of VARIABLES 2012
1	Air Pollution	1.Nitrogen Oxide, 2.Sulphur dioxide, 3.Respirable Suspended Particulate Matter	3
2	Forests	1.Total Coliform Count as % of state GA and contribution to national average,2.increase/decrease in forest cover,3.Growing stock and 4. Afforestation efforts	4
3	Water Quality	1.% Dom. Waste water and 2. Surface Water Quality (DO,BOD & TFC),3.Ground Water extraction %	3
4	Waste Management	1 MSW,2.Biomed., and 3.Hazardous Wastes	3
5	Climate Change	1.Preparation of SAPCCS,2.RE growth Rate including mini Hydro.,3. Electricity intensity of SGDP.	3
		Total	16

Among these criteria, Forests in Chandigarh has been accorded score of **“ONE” (maximum)** and UT Chandigarh has been assigned **Rank-1** among all states & UTs in the Country.



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**ROLE OF THE FORESTS IN AMELIORATION OF THE  
ENVIRONMENT**

Rising pollution level and degrading environment of the city particularly by vehicular pollution highlights the need for remedial steps to combat pollution. Though the best way to reduce pollution at source is by adoption of clean technology and clean fuel, proper maintenance of roads & vehicles, maximum use of bicycles, strict enforcement of Air (Prevention and Control of Pollution) Act, 1981, Water (Prevention and Control of Pollution) Act, 1974 and the Environment (Protection) Act, 1986 etc. Yet another effective way to reduce air and noise pollution is through a well planned and realistic afforestation strategy. Apart from giving shade, aesthetic beauty, recreational spots and playing host to a wide variety of birds and insects, trees play an important role in amelioration of environment due to their tremendous potential to act as:

1. Source of vital oxygen.
2. Organic sponges to absorb gaseous pollutants via their leaf stomata (the tiny pores on the leaves) breaking them down into less harmful molecules during the process of Photosynthesis.
3. Storehouse of Carbon dioxide (CO<sub>2</sub>) by assimilating the carbon dioxide in the form of sugar.
4. Natural air conditioners.
5. Vegetative measures for Soil and water conservation.

***"In our every deliberation, we must consider impact of our decisions on next generations."***





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In the city, Trees enhance its visual character by adding variety and richness to urban landscape with their different foliage and blossoms. They provide habitat for the wildlife, improve microclimate. Green Cover significantly affects the building heating budget. It helps in reducing the noise pollution to the acceptable level.

Plants play an important role both in reducing the environmental pollution load as well as acting as pollution indicator. Vegetal cover is, therefore, a pollution scavenger as it absorbs gases and gathers particulate matter through leaves having large surface areas. The green portion of the trees and plants has the capacity to filter dust, smoke and other pollutants in the air. Some species like Ficus, Mango, Neem etc. also act as good dust collectors.

Well laid out gardens and parks with selected ornamental and shady trees provide good recreational spots and enhance the beauty of the city.

Well-designed green belts prove to be very effective wind break and help in soothing the microclimate of the surroundings.

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*“The earth, the air, the land and the water are not an inheritance from our fore fathers but on loan from our children. So we have to handover to them at least as it was handed over to us.”*



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**CHAPTER II**

**STRATEGY TO IMPROVE THE FOREST AND GREEN COVER**

A need based model dovetailing environmental considerations, will have to be adopted by all Greening Agencies in their plantation drives. The selection and quality of species play most important role in the success of greening and improving the survival percentage of the plantations. Therefore, the selection of species has to be judicious for which a number of indicators have been short-listed as follows:-

- Location of plantation site,
- Site conditions like, soil, ground water table,
- Climatic conditions like rainfall, temperature,
- Ornamental and aesthetic requirement,
- Environmental considerations like pollution abatement.
- Distance of the plantation site from the residential building, public utility services

To ensure greater survival percentage of saplings planted, salient *requirements* have been identified which are as follows:-

- Proper Site Selection.
- Selection/choice of species
- Raising healthy seedlings in the Nursery.
- Planting healthy and tall saplings
- Protection from grazing
- Post plantation care.
- Monitoring and concurrent evaluation

***"Tell me, I forget. Show me, I remember. Involve me, I understand."***



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To increase efficiency and effectiveness of forest areas as carbon sink and green lungs of the city, it has to be recognized clearly by all greening agencies that every effort should be made for horizontal expansion of the forest cover/ green cover in & around Chandigarh. Simultaneously, efforts have to be made as well for vertical expansion of existing green areas by way of developing them into multi-strata forests.

**POTENTIAL AREAS AVAILABLE FOR GREENING**  
**DURING 2013-14**

**I) Enrichment Plantation in the Catchment area of Sukhna Lake:**

1. Plantation of Fruit bearing species such as Mango, Jamun, Amrood, Imli, Amla, Gular etc in dedicated plantation plots in Sukhna Wildlife Sanctuary.
2. Plantation of indigenous & palatable variety of trees & shrubs on gentle slopes & plain area of Wildlife sanctuary.
3. Hill tops & slopes of Sukhna Wildlife Sanctuary will be enriched with green cover by patch sowing of seeds by contour trenching and trench-cum-ridge method.
4. Plantation of stem cuttings of soil conserving species like Arundo-donax (Nara-a soil binder plant) along choe (rivulets) -banks to reduce erosion of choe banks by runoff water during monsoons.

**II) Enrichment plantation in forest area in city**

The Reserved and Unclassed Forests in & around the city are:-

- 1) Lake Reserved Forest
- 2) Sukhna Choe Reserved Forest
- 3) Patiala - ki - Rao Reserved Forest
- 4) Unclassed forests in Sukhna Choe, Lake & Patiala - ki - Rao

*"We still do not know one thousandth of one percent of what nature has revealed to us."*



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As per the India State of Forests Report-2011, density of these forests ranges from dense to moderately dense. However at places there are open patches also. Wildlife is found in abundance in these forests. Plantation of Fruit Bearing Species in dedicated plots will be carried out within the city Forest Areas also, to improve the quality and the biodiversity of the forests area.

### III) **Plantation within the city other than Forest area**

- 1) Plantation of trees and shrubs in Parks and green belts under the jurisdiction of Municipal Corporation and Engineering Department.
- 2) Vacancy filling by planting along the roads, green belts etc. by Municipal Corporation and Engineering Department.
- 3) Enrichment plantation in southern sectors.

### IV) **Plantation in Schools, Colleges, Offices and residential houses and other vacant spaces**

Since the Plantation area is limited in Chandigarh, therefore apart from the above mentioned areas, plantations on private lands, complexes of Schools, Colleges, University, Hospitals, Police Lines and Residential Complexes and offices will be undertaken in collaboration with students, Resident Welfare Associations, Market Associations, Environmental N.G.O.'s etc.

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*“Water: Vital Resource for Life”*