



GREENING CHANDIGARH ACTION PLAN 2009-2010
Chandigarh Administration

GREENING CHANDIGARH:

**ACTION PLAN OF GOVERNMENT DEPARTMENTS/
AGENCIES:**

Though Chandigarh, the City beautiful, is a green city yet there is need to make it greener, clean and serene. The task is to be carried out at two levels, simultaneously, by the citizens of Chandigarh as well as by the Government agencies. Each level has its unique contribution. The citizens, while planting only a few trees each at best, will learn to care and nurture a tree, and be sensitised to the need for trees. Tree will then become more than a catchword and will be a symbol of a healthy and green city, in the making of which, the citizens would be proud to be a part.

However, these citizen's efforts must be supplemented by Government agencies by carrying out systematic tree plantations. The Departments like Forest Department, Municipal Corporation and Horticulture Wing of Engineering Deptt., have to play a significant role in such large scale plantations. In order to ensure better and higher survival rate of the saplings planted by various Govt. agencies, frequent watering, particularly in dry months should be ensured.



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Greening Action Plan of various Departments and Government Agencies during 2009-10:

1) **Forest Department, Chandigarh Administration:**

The Department of Forests and Wildlife has taken up multifarious activities to increase and improve the forest cover through massive plantation and seed sowing especially in the Reserve Forest areas, Sukhna Wildlife Sanctuary, Botanical Garden and southern sectors of Chandigarh.

Seedlings of various species are being raised in seven Nurseries located at different sites in Chandigarh. Seedlings from five Forest Department nurseries are distributed free of cost to educational institutions, religious institutions, non-Government organisations, Resident Welfare Associations, Market Associations and the public for planting on public and private lands. During the year 2009-10, the Department will be distributing 20,000 saplings of trees, shrubs & medicinal herbs free of costs. The Department will be planting 50,500 trees and 500 shrubs besides seed sowing of 1,50,000 patches of indigenous species and 1,00,000 stem cuttings of soil & moisture conserving species in Sukhna Wildlife Sanctuary. The details are given at Annexure-I.



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Detailed highlights of the plantation activities of Forest Department are as follows:-

A) Development of Botanical Garden:-

Chandigarh, the 'City Beautiful' is blessed with a climate that is suitable for accommodating large varieties of flora. It is worthwhile setting up a Botanical Garden with a purpose to conserve the flora of the region as well as exotic and of near extinct kind of flora. With this background, Chandigarh Administration has established a Botanical Garden near village Sarangpur. This garden has been inaugurated by the Administrator of U.T. Chandigarh on 2nd January, 2007. The Botanical Garden is spread over 176 acres of land.

The garden consists of 15 Botanical sections:-

- 1. Medicinal Plants Section:** Medicinal Plants Garden has been developed over 30 acres of land. In the Medicinal Plants Garden, medicinal trees of more than 80 species like *Harar, Bahera, Amla, Neem, Arjun, Maulsari, Bael, Kathal, Kachnar, Camphor, Lasura, Gular, Rudraksha, Jamun, Sita Ashok, Khirhi, Putrinjeeva* etc. have been planted alongwith more than 70 varieties of medicinal herbs like *Giloe, Akarkara, Gokhru, Ghritkumari, Aswagandha, Sarpagandha, Tulsi, Mehndi, Kalmegh Bhrigraj, Mandukparni, Brahmi, Bansa, Vacha* etc.



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2. **Bambusetum:** 20 varieties of bamboo have been planted along two seasonal nallahs passing through the Botanical Garden.
3. **Ficus grove:** 19 varieties of ficus sp. have been planted in the Ficus grove section. Few more species will also be added.
4. **Arboratum:** About 80 varieties of different kinds of trees have been planted. More than 50 species of trees will be added to this section in future.
5. **Ornamental section:** 40 species of ornamental trees have been planted in this section.
6. **Pinetum:** 12 coniferous species including pines have been planted. 5 more will be added to this section.
7. **Palmatum:** 19 species of Palms have already been planted.
8. **Sacred groves:** Sacred trees like Rudrakashya, Bael, Sal, Pipal, Bar, Ber, Christmas tree, Khejri, Teak, etc. have been planted in this section. This section has been developed in the form of a 'cosmic tree'. Each branch of this tree represents a sacred vatika.
9. **Cactus & Succulent section:** Large varieties of cactus & succulents will be planted in this section during this year.
10. **Aquatic Plants section:** The section is having more than 30 species of aquatic plants.



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11. **Japanese garden:** A Japanese garden is under the process of development over 4 acres of land.
12. **Rare Plants section:** This section will cover 5 acres of land. Plants of rare and endangered species will be planted in this section.
13. **Tropical rain forests section:** This section will cover 4 acres of land to accommodate trees of tropical rain forests region.
14. **Bulbous garden:** This section consists of bulbous plants of different varieties.
15. **Nutrition garden:** This section is having more than 15 species of fruit trees.

The other salient features of Botanical Garden are:

- i) Three Waterbodies along seasonal rivulets;
- ii) A small lake which spreads over 6 acres of land;
- iii) Meditation huts and watch towers,
- iv) A water feature and channel in cactus garden.
- v) 5 km. long cycle track,
- vi) 6 km. long cement concrete pathways,
- vii) A Nursery with green shade net house and poly house,
- viii) Office-cum-Nature Interpretation Centre.

A Cafeteria has been constructed during 2008-09.

Tourism Department and Forest Department of Chandigarh Administration are establishing Reception-cum-Nature



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Interpretation Centre, Medical Tourism Huts, Meditation Huts, Tree top & Public conveniences in the Botanical Garden during 2009-10 under Eco-Tourism scheme of Ministry of Tourism, Govt. of India.

1000 saplings of rare varieties of trees and shrubs will be planted during 2009-10.

The Botanical Garden has been given continuity to natural forests (Patiali-ki-Rao forests) spreading over 350 acres of land with the help of a causeway built on Patiali-ki-Rao. This natural forest will act as 'Nature Park'.

This natural forest is a thick forest with trees of *Shisham*, *Khair*, *Jamun*, *Kikar*, *Arjun* etc. A Nature track about 3 km. Long has already been developed in this forest which will also be upgraded and maintained. A small Nursery and Orchidarium have also been developed in this forest. Two beautiful lakes spreading over 15 acres and 3 acres of land have been created in these forests during 2006-07 & 2007-08. About 500 migratory birds have arrived in this new lake during this winter.

Under Eco-Tourism scheme, Meditation Huts, Reception Centre and Public conveniences will be developed along Patiala-ki-Rao opposite Lakes in Patiala-ki-Rao Reserve Forests during 2009-10 to promote eco-tourism.



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B) Establishment of Herbal Gardens:

To promote awareness & education about Ayurveda & Indian System of Medicines, Department is assisting & advising AYUSH Department, schools, colleges & University to establish small Herbal gardens. With the active involvement of Schools and Colleges, Herbal Gardens in 32 schools, 5 Colleges & one in Panjab University, have been established upto January, 2009. During 2008, three Herbal gardens have been developed in Ayurveda Dispensaries. During 2009-10, more herbal gardens will be added in the city.

C) Soil Conservation and Habitat improvement in Sukhna Wildlife Sanctuary (Sukhna Lake Catchment):

Sukhna Wildlife Sanctuary spreading over an area of 25.42 sq.km. is the part of Sukhna Lake catchment area. To control inflow of silt to Sukhna Lake and for the improvement of natural habitat for the wildlife, the Department has carried out soil conservation measures like construction of silt retention dams and development of water bodies, check dams, gully plugging, choe training works, spurs and grade stabilizers. Kana and arundo-donox have been planted along the choe bank to stabilize the soil. Silt retention dams and check dams have been successful in



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retaining water, which is available throughout the year for the wildlife. Massive plantations and seed sowing of indigenous species in the sanctuary is responsible for the development and improvement of natural habitat for the wildlife in the sanctuary. Due to tremendous improvement in the natural habitat for the wildlife, there is a proliferation of wildlife in the sanctuary. Wild animals like Sambhar, Spotted deer, Wild boar, Porcupine, Jackals, Civet, Rabbit and a wide variety of birds including Red Jungle fowl and Peacocks are found in abundance in the Sanctuary. Massive afforestation supplemented with soil conservation measures in the Sukhna catchment area have resulted in sharp decrease in the inflow of silt to Sukhna Lake.

During 2009-10, construction of two silt retention dams, 10 check dams, desiltation of 10 dams, raising of existing water holes—4 nos., construction of watch towers-2 nos. and opening of choe bed – 500 cubic meter, will be carried out. 19,000 saplings of the species like *Neem, Khejri, Phalahi, Peepal, Bamboo, Jungle Jalebi, Shisham, Mango, Jamun, Guava and flowering species* will be planted. Sowing of the seeds of *Jungle Jalebi, Khejri, Phalahi, Neem, Kikar and Shisham* will be carried out over 1,50,000 patches in the wildlife sanctuary. To conserve the soil along choe banks, 1,00,000 stem cuttings of *Arundo-donex & ipomea* will be planted along choe banks.



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D) Enrichment planting in the Reserve Forest areas:-

The Department is regenerating, protecting and conserving 700 hectares of Reserve Forests in the form of Sukhna choe Reserve Forests, Lake Reserve Forests and Patiala-ki-Rao forests. To improve the quality and density of vegetation in these forest areas. 30,000 saplings of the fruit species like *Neem, Mango, Guava, Jamun, Peepal* etc. and flowering trees like *Kachnar, Amaltas, Tecoma, Gulmohar, Semul, Jacranda* etc. will be planted during 2009-10. These forests provide a dense green belt which act as an effective wind break.

E) Plantations in the Southern Sectors of the City:-

In southern sectors, department has raised mixed plantations over 110 hectares of land from Sector 39 to Sector 55 on both sides of outer Dakshin Marg. These plantations have been maintained regularly. Apart from providing good shade and green cover, these plantations will act as carbon sink and windbreak and will thus help in soothing the microclimate of the highly populated southern sectors. 1000 tree saplings will be planted in the southern sectors during 2009-10.



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F) Establishment of Butterfly Park in Sector-26:

The Department is under the process of establishment of Butterfly Park spread over 7.0 acres of land in Sector-26. This site will also house Museum on Butterfly, Cafeteria, Visitors shed. The Park will be established during 2009-10.

G) Free distribution of saplings:

The Department will be distributing 20,000 saplings free of cost of the following species from its five nurseries mentioned at page no.21 (G-2):-

Neem, Arjun, Amla, Amaltas, Bahera, Peepal, Shisham, Bakain, Kathal, Kachnar, Jamun, Maulsari, Milletia, Papri, Makhan tree, Putrinjeeva, Bhindi tree, Kusum, Lagerstroemia, Cassia glauca, Gulmohar, Bottle brush, Silver Oak, Guava, Siris, Alstonia etc. and wide varieties of medicinal shrubs, herbs & climbers.

H) Linkages between department and NGO's, Resident Welfare Associations and Educational Institutions:-

The list of all the five Forest Nurseries will be circulated to all NGO's, Resident Welfare Associations and educational institutions from where saplings free of cost may be obtained and a massive campaign will be undertaken to sensitise students, NGO's & Resident Welfare Association's to participate in afforestation activities. Students may act as conduits to help increase awareness about the need to improve green cover through



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greening of Colleges and Schools. This has a potential to lead into a massive green movement. To impart environmental education and create awareness among students, Environment Department has formed Environmental Societies & Eco-Clubs in more than 140 educational institutions of Chandigarh. The project of the formation of Eco-Clubs in all Government Schools, Government aided Schools and all recognised schools in U.T. Chandigarh have already been completed by Department of Environment. Under this Scheme, Government will provide financial assistance and other publicity materials to the Eco-Clubs for plantation activities, raising of Nursery, organising nature camps, debates, seminars, quiz and essay competitions etc. on environmental issues.

2) **Municipal Corporation of Chandigarh:**

The Municipal Corporation of Chandigarh will undertake a massive tree plantation drive in all Sectors. Municipal Corporation is managing about 2150 small and big Parks in the city. 1800 parks have already been developed and the rest are in the process of development. The Corporation will be planting 12956 tree saplings and 28398 shrubs & 488 climbers during 2009-10 along roads, parks, green belts, Rehabilitation Colonies, City Centre Sector 17, Manimajra Complex, Dadu Majra Dumping Ground, Shivalik garden, Manimajra etc. The details of the plantations are at **Annexure-II.**



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On the road side plantations, the emphasis will be on pollution abating and shade giving trees like Pilkhan, Arjun, Kusum, Mohagony, Bahera, Alstonia etc. In Parks, gardens and green belts, ornamental & flowering trees will be planted in group to give mass effect. This will beautify these areas as different trees will be in bloom in different timings throughout the year. Municipal Corporation is maintaining various Gardens like Terraced Garden Sector-33, Fragrance Garden Sector 36, Shanti Kunj Sector-16, Mini Rose Garden in Sector-24, Moonlit Park Sector-22, Shivalik Garden, Manimajra, Pinkcassia Garden, Sector-29, Garden of Annuals Sector-44, Hibiscus Garden Sector 36, Jawahar Park Sector-9, Dream Park Sector-23, Floral Garden Sector 15, Topiary Park Sector 35, Leisure Valley Sector 36, Garden of Shrubs Sector-46, Poinsettia and Ixora Garden Sector-11, Jasmine Garden Sector-28, Gulmohar Garden Sector-27 and Mango grove along Purav Marg. Special emphasis is laid on the cleanliness and beautification of these gardens. Some green belts are also developed & maintained by the Municipal Corporation such as green belt of Sector; 15, 18, 19, 20, 21, 23, 27, 28, 30, 32, 33, 34, 35, 37, 38, 40, 42, 43, 44, 45, 46, 47 and a small Cactus Park at Ram Darbar area.

Municipal Corporation is also maintaining a Plant Nursery in Sector 29-B in which shade giving and ornamental trees and shrubs are propagated which cater the needs of the plantation in



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the city as well as these are sold to the public. A small Rose Plant Nursery is being maintained in which varieties of Roses are propagated and sold to the public.

Municipal Corporation will ensure treatment of each and every diseased and infected tree within their jurisdiction. Special campaign will be undertaken by Municipal Corporation against Mango mealy bug and white ant attack in the city. Considerable number of dead and dry trees has also been removed by the Municipal Corporation. Dead & dry trees will be removed.

New tubewells have been provided for development of gardens/ green belts in Sectors 8, 9, 16, 17,18, 19, 21, 22, 24, 25, 28, 29, 32, 35, 37, 41, 42 & 45 of Chandigarh and during the year 2006-07, Shivalik Garden, Manimajra, Mini Rose Garden Sector-24, Moonlit Park, Sector-22, green belt, Sec.42, Pinkcassia Garden Sec.29 were inaugurated in 2006 and Poinsettia and Ixora Garden Sector-11 have been inaugurated by the Administrator in the month of February, 2007. Green belt Sector-29, Green belt Sector-17, Green belt Sector-47, Jasmine Garden Sector-28 & Gulmohar Garden Sector-27 were inaugurated in 2008-09.

Chrysanthemum Show is being held every year in the Terraced Garden in the month of December in which Government, semi Government, private institutions and individual growers take part. This show is appreciated by one and all.



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3) **Horticulture Division of Engineering Department:-**

The Horticulture Division has different roads for maintaining the road side plantations. Further, this Division has Leisure Valley and other Gardens to maintain & provide a healthy environment to the residents.

During 2009-10, Horticulture Division of Engineering Department will be planting 5,625 nos. of trees and 19,520 nos. of shrubs, creepers etc. along different roads, parks and Leisure valley etc. Hardy, shade giving and pollution abating species like *Arjun, Harar, Bahera, Ficus retusa, Mousari* will be planted along road sides and gardens. At all the entry points of the roads to Chandigarh and at various vintage points in gardens, green belts & parks, the Department will plant flowering trees in group to give mass effect to the flowers in bloom. Different group of trees will be in flowering during different season. This will add to the aesthetics of the area. Details are available at **Annexure-III**.

In addition to road side plantations, the Department is looking after the following Gardens:-

- a) **Rose Garden:** The beautiful Zakir Rose Garden is situated in Sector-16, Chandigarh. The foundation stone of the garden was laid by Dr. M.S. Randhawa, then Chief Commissioner of Union Territory, Chandigarh. The total area of the Rose Garden is 42.07 acres with an area of fine grass 28.96 acres,



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Rose Beds 6.61 acres, Footpath 2.00 acres. 1200 nos. of different ornamental trees, 4700 nos. Rose plants of 548 varieties were planted in the Rose Garden.

- b) **Leisure Valley:** The Leisure Valley was developed along the bank of a choe (Nallah), Sector-10, Chandigarh. The total area of the valley is approximate 70 acres. There are 3065 plants of various kinds. Along with choe (nallah) big bamboo plants are planted which give good look and greenery. Footpaths of the valley are cemented. There are 200 flowerbeds of different colour and varieties in the valley.
- c) **Bougainvillea Garden:** The Bougainvillea garden is situated in Sector-3, Chandigarh. The total area of the Bougainvillea garden is approximate 20 acres. There are 668 nos. of different varieties of bougainvillea plants in the garden and 525 nos. of ornamental plants of different kinds are also planted. For irrigation purpose, irrigation sprinkler system is also installed in the garden to irrigate lawns, plants and grass.
- d) **Bulbous Garden:** Bulbous garden was developed on the bank of a choe (Nallah) in Sector-23, Chandigarh by the Horticulture Wing of Chandigarh Administration, Chandigarh. The total area of the garden is approximately 3.6 acres. There are 59 nos. of bulbus



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beds of different colours, different varieties in the garden. There are 560 nos. of shrubs and 135 nos. of different kind of trees in the garden.

- e) **Rajindra Garden:** The beautiful Rajindra Park is situated in Sector-1, Chandigarh. The total area of the garden is approximately 98 acres. 3287 nos. of Mango plants of different kinds of varieties like Safeda, Chausa, Dusheri, Langra, Kalmi etc. and 350 nos. Chiku, 323 nos. of Amla and 73 nos. of Ber plants are there in this garden.

4) **Educational Institutions and other organisations:**

During 2009-10, 7000 numbers of trees and 13,000 nos. of shrubs/herbs are proposed to be planted by school & college students in and around school & college premises/ complexes. These saplings will be nurtured and maintained by the students.

Other institutions and organisations like Central Public Works Department [Horticulture], Chandigarh Housing Board, Hospitals, Dispensaries, Rotary Clubs, Lion's Club, N.G.O.'s, Resident Welfare Associations, village Panchayats, farmers, Market associations, religious institutions and individuals etc. will also be planting 8,000 trees and 12,000 shrubs/herbs altogether during 2009-10. The details of the proposed plantations are shown at Annexure-IV.



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Saplings will be distributed free of cost to all these institutions/organizations by Forest Deptt. of U.T. Administration. The Horticulture Wings of Municipal Corporation as well as Engineering Department will also be distributing/selling plants at subsidized rates.