



GREENING CHANDIGARH ACTION PLAN 2015-2016 Chandigarh Administration

CHAPTER-V

STRATEGIES FOR IMPLEMENTING THE GREENING ACTION PLAN 2015-16

I) MOTIVATING PEOPLE TO PLANT TREES

The main objective of this exercise is to motivate people to plant trees, to increase awareness among the citizens particularly the students about the importance of trees by inculcating tree consciousness among the citizens, to create a sense of responsibility among people to nurture and look after the trees and to motivate communities and colonies together to actively participate in combating pollution at local level.

No afforestation activity can be successful without people's participation. To nurture the trees and to motivate people & communities to actively participate in combating pollution at local level, Awareness among citizens and students will be created through print & electronic media, posters, banners & by organizing various debates, seminars & quiz competitions on nature themes.

a) PARTNERSHIP INITIATIVE PROGRAMME [PIP]

PIP was launched by the Chandigarh Administration. The motive of PIP is to generate awareness among public about the activities to be undertaken by the departments and to seek participation of the public in the works of the departments. Under PIP, a total number of 96 NGOs has been registered with the Forest Department for the tree plantation drive. Various NGOs co-ordinate with Department of Forest for spreading awareness

among various stakeholders, Carry out Plantations & act as extended hands of Forest Department.

- **Strategies to be adopted by Non-Government Organizations and Voluntary Bodies**

NGO's, Environmental Groups, Rotary Clubs, Lions Club, N.S.S., will have following roles to play:

- i) To co-ordinate with Resident's Welfare Associations & Market Associations for plantation.
- ii) To co-ordinate with the Eco-Clubs in Schools & Colleges for massive plantation.
- iii) To train people, particularly children to plant trees properly.
- iv) To identify such associations and schools which will be participating in the programme and identify a nodal person in each association to work with.
- v) To assess the number of seedlings required, as also the species which will be required.
- vi) The NGO's will be advised to identify and adopt old/ heritage trees growing in and around Chandigarh. For this, they could take help of financial institutions/ cooperative sectors.

- **Strategies to be adopted by Resident's Welfare Associations**

Resident Welfare Associations will act as basic co-coordinating unit in the programme. Their work will include:-

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



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- i) Informing the residents about the tree plantation drive.
- ii) Collecting saplings (free of cost) from Forest Nurseries.
- iii) Gathering volunteers for planting.
- iv) Identifying the places for planting.
- v) Co-ordinating with the NGO's and Govt. Agencies and chalking out programme for plantations in their respective colonies.
- vi) Ensuring proper protection and regular watering of plants.

(b) National Green Corps

Introduction :

"Initiated in 2001", National Green Corps, has since achieved significant success. Eco-Clubs under the programme of National Green Corps are playing an important role for the protection and conservation of environment. Working through Eco-Clubs, established in schools, MOEF had initially aimed at establishing 50,000 eco-clubs in this nationwide programme. The phenomenal response that the NGC has received has made the network grow than one lakh eco-clubs involving 60 Lakh (6million) students across the country in 10 years, making it one of the largest conservation networks. The unique partnership between the MOEF, the State government agencies along with dedicated NGOs working in the field of environmental education has contributed to the success of this programme.

Role of Eco-Clubs of UT Chandigarh:

Under the N.G.C. scheme, 129 numbers of Eco-Clubs have been constituted in 129 Schools of U.T. Chandigarh for conservation and

protection of environment. Besides this Environment Societies are also working in different colleges for the same purpose. In order to enhance the Environment education amongst the students, teachers and public sector of Chandigarh Administration, the department of Environment formed 21 Cluster/ group of Eco-Clubs for performing the environment awareness activities more efficiently in different Eco-clubs formed in the schools of Chandigarh.

Activities of Eco-Clubs:

- Creation of Herbal Gardens in the school/ college premises.
- Plantation of different Herbal & Medicinal Plants species and their dedicated follow up.
- Participating in Vanmahotsava.
- Construction of water ponds to understand the concept of water Bio-diversity.
- Production of organic manure from dry leaves.
- Production of Vermi-compost.
- Distribution of medicinal & Herbal plants to various schools, NGO's individuals and other institutions to popularize the use of Medicinal Plants among masses.
- Preparation of eco-friendly Holi Colours to promote use of Herbal Colours among the citizens.
- Carrying out Cracker free Diwali campaigns.
- Participating in educational trips to various bio-Diversity rich area of UT Chandigarh such as Sukhna Wildlife Sanctuary, Botanical Garden Sarangpur, Chandigarh.

"Our Earth Our Future Just Save It!"



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Massive plantation of different species, establishment of herbal corners, construction of ponds for the knowledge of water Bio-diversity, manure from dry leaves, vermi-compost, distribution of medicinal plants, collection of seeds of medicinal plants etc. are some of major eco-related activities of various Eco-Clubs besides the celebration of environmental days.

c) Strategies to be adopted by Forest Department

Forest Department will co-ordinate the programme at various levels. It will distribute the saplings free of cost from its six Nurseries to the Educational institutions, Medical institutions, N.G.O.'s, Resident Welfare Associations etc. The Department will give technical know how about planting trees and its post planting care, choice of species etc. It will also look after the plantation being created and already created earlier in forest area of UT Chandigarh.

d) Strategies to be adopted by Municipal Corporation

Municipal Corporation is having large numbers of parks and green belts. Due to financial and manpower constraints, it is not feasible for Municipal Corporation,

Chandigarh to develop all these parks and green belts in one go. Therefore, Municipal Corporation may require Resident Welfare Associations in association with the local Councilor, other departments and Corporate Sector to develop and maintain these parks, green belts and roundabouts and to adopt them on certain kind of Memorandum of Understanding. Municipal Corporation is also selling ornamental, flowering and fruit plants at nominal price. Municipal Corporation will also extend technical knowhow to the visiting individual/ organizations. Executive Engineer (Hort.), Municipal Corporation will be the nodal officer for co-ordination of plantation drive to be undertaken by Resident Welfare Associations. Municipal Corporation will also allow, wherever feasible, the citizens to put a small name plate near the sapling planted by him/ her. It will give a sense of belonging to affect post planting care. The local area Councilor, being the public representative will be the Prime Mover in this campaign.

e) Strategies to be adopted by Horticulture Division of Engineering Department

Horticulture Division may guide all Government Schools and institutions to plant right kind of saplings depending upon the space availability and site conditions. The Department will be in constant touch with the Institutions. The Department is selling horticultural and forest plants at subsidized rates from its nursery in Sector-23. The department is to plant Avenue Trees along Roadside as per site availability & specific tree species.

"Reputation is precious, but character is priceless"



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f) Role of Department of Science & Technology & CREST:

Promotion of Renewable energy in Chandigarh

MNRE (G.O.I), New Delhi selected Chandigarh to be developed as Model Solar City.

Solar City: The Concept

A "Solar City" is an urban area that aims to:

- Reduce dependence on fossil fuels for its energy needs.
- Limit emission levels to sustainable levels even while maintaining the desired socio-economic development growth. Chandigarh Renewal Energy Science & Technology Promotional Society (CREST) under the aegis of Department of Science & Technology, Chandigarh Administration, is the Nodal Agency for executing Solar & other RE Projects.

g) Energy Consumption Scenario in UT, Chandigarh.

The peak Electricity Demand of UT Chandigarh is around 350 MW which is being met from different Central/ State level power utilities / Generating stations. The UT Chandigarh has no generation capacity of its own.

Out of 350 MW, 37 % is being used by the Domestic Sector, 29 % by the Commercial Sector, 25 % by the Industrial Sector, 8 % by Agriculture and 1 % by others. As per guidelines issued by MNRE, Govt. of India, 3 % of total energy consumption is to be obtained from renewal energy sources under RPO [Renewable Purchase Obligation] for UT Chandigarh and doubt of this 0.0 % is to be

from solar energy. Thus, about 5.4 million units are to be produced/obtained from solar energy. In order to meet its RPO obligation, UT Chandigarh has conceived Roof Top based SPV Power Projects as use of other renewable sources like Wind Power, Hydel Power etc. is minimal in the Union Territory.

h) Solar Energy Initiatives/Strategies proposed for Solar City.

1. Solar Photo Voltaic Power Generation (Grid Interactive)
 - i. Roof Top Based Solar power Generation
 - ii. Land Based Solar PV Generation
2. Solar Water Heating System
3. SPV Street Light System in Parks, Gardens Etc.

1. Roof top Based Solar PV system:

As per master Plan, the Short term target (3 years, 2014) for Roof top Solar PV system is **2.5 MW and long term target is 10 MW (10 years, 2022)**

As per Master plan of Model Solar City, following **targets are proposed**. These targets are based on the detailed energy audits in Chandigarh and renewable resource potential assessment.



"I would rather go naked than wear a fur."



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Targets in order to develop Chandigarh as a Model Solar City.

Sr. No.	Description	Targets		
		Short Term (till 2014)	Medium Term (till 2017)	Long Term (till 2022)
1.	Energy Conservation*	Reduction in present energy consumption		
1.1	Residential sector	10%	15%	20%
1.2	Commercial sector	10%	15%	20%
1.3a	Municipal sector (Water pumping)	5%	8%	12%
1.3b	Municipal sector (Street lighting)	10%	20%	25%
2.	Coverage of solar water heating systems (as a proportion of total heating demand in residential and commercial sectors)	10%	25%	45%
3.	Roof Top solar energy based electricity generation	2.5 MW	5.0 MW	10.0MW
4.	Large solar energy based electricity generation at Landfill site	3.0 MW	5.0 MW	5.0 MW
5.	Large solar energy based electricity generation at Patiala-ki-Rao site	5.0 MW	15.0MW	25.0MW
	GHG emission reduction (tCO ₂ /annum)	90973	214051	404969

•The above Rooftop SPV Plants target has been recently revised and increased to 30 MW by 2022.

Progress so far:

The Department of Science & Technology, UT Chandigarh has established a "Solar City Cell" in CREST and has developed capacity building through interactions/ Seminars/ Field Visits of other Solar Plants in the Country. CREST is preparing Detail Project Report (DPR) for Grid Interactive Power Plant in house and sending it to MNRE, GOI for sanction.

Chandigarh as Model Solar City was formally launched by Dr. Farooq Abdullah,

Hon'ble Minister, MNRE, GOI on 3rd July, 2013 with the inauguration of two Roof top Grid Interactive SPV Plants at Paryavaran Bhawan, Sec-19/B, Chandigarh (50 kWp) and at Model Jail, Burrail (100 kWp).

As on today, around 5.2 MWp Roof top SPV Plant has been commissioned on more than 75 Govt. Buildings of UT Chandigarh. This has put **Chandigarh on 3rd position overall in entire Country among all States & UT in Rooftop Solar Plant installation.** In terms of Government intervention, UT Chandigarh is at

"Extinction is forever, endangered means we still have time."



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number one position. Another one plant of overall capacity 1000 kWp at Punjab Engineering College, Sec-12, Chandigarh, has been commissioned recently. CREST has been able to install rooftop SPV Plants on 35 Govt. Schools of UT Chandigarh in 2014-15.

Besides this, CREST has installed Rooftop

SPV Plants on 19 Government residential Houses for demonstration purposes.

CREST is planning to advertise a new scheme in which any Individual Private Household can also install Solar Plant on its rooftop & can avail 30% subsidy.



Shri Shivraj V. Patil, the Governor of Punjab and Administrator, UT, Chandigarh inaugurating 200 kWp Grid tied Rooftop Solar Photovoltaic Power Plant on 22 Huts (Porta cabins) at IRB Complex, Sarangpur, in the presence of Shri Vijay Dev, IAS, Adviser to the Administrator, UT, Chandigarh.



200 kWp Grid tied Rooftop Solar Photovoltaic Power Plant on 22 Huts (Porta cabins) at IRB Complex, Sarangpur.

"All the creatures are in need! I will help them, yes indeed!"



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Smt. Kirron Kher, Hon'ble Member of Parliament, Chandigarh inaugurating 210 kWp Grid tied Rooftop Solar Photovoltaic Power Plant on 28th January, 2015 at Postgraduate Government College, Sector 46, Chandigarh.



Dr.S.S.Garbyal, IFS, Director General of Forests & Special Secretary, Ministry of Environment, Forests & Climate Change, Govt. of India inaugurating the 60 kWp SPV Power Plant at G.M.S.S.School, Sector 19-C, Chandigarh on 28th February, 2015.

"Nature is a treasure save it for pleasure"



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1000 kWp Rooftop Solar Plant installed at Punjab Engineering College, Sector-12, Chandigarh.



Sh. Vijay Dev, IAS, Adviser to Administrator, Chandigarh Administration, UT Chandigarh inaugurating 60 kWp Grid tied Rooftop Solar Photovoltaic Power Plant on 15th January, 2015 at Govt. Model Senior Secondary School, Sec 16-D, Chandigarh.

"Wildlife: Save it to cherish or leave it to perish"



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i) Strategies to be adopted by Chandigarh Housing Board

The Housing Board may motivate the residents of its housing colonies to plant & protect maximum number of trees in & around the colonies. The Housing Board needs to plant trees in newly completed slum Rehabilitation Project.

j) Strategies to be adopted by Rural Development Department

The Department may motivate village Panchayats to plant and protect tree saplings in

and around the villages to improve the environmental ambience.

II) ORGANISATIONAL ASPECTS

Sapling Distribution

Forest Department is having following 6 (six) nurseries from where saplings free of cost may be collected by citizens, NGO's, Schools and other institutions. Horticulture Wing of Municipal Corporation and Engineering Department, Chandigarh Administration also sell Ornamental, Flowering and Fruit Plants on subsidized rates from its following Nurseries:

S.N.	Name of Nursery	Contact official	Contact No.
FOREST & WILDLIFE DEPARTMENT, UT, CHANDIGARH			
1)	Range Forest Officer, Nepli.	Sh. Pradeep Gulia	7087041948
2)	Range Forest Officer, Chandigarh	Sh. Karan Singh	9417059520
3)	Hallomajra Nursery on Ambala Chandigarh National Highway	Mr. Balwinder Singh, Forest Guard	9872851011
4)	Nursery at Daria Forest Rest House opposite Railway Station	Mr. Jatinder Singh, Forester	9216428398
5)	Kishangarh Nursery at Kishangarh village	Mr. Jatinder Singh, Forester	9216428398
6)	Forest Nursery in Patiala-ki-Rao Forests (behind Punjab Univ.)	Mr. Rajpal, Forester	9216414572
7)	Forest Nursery near Lake Club.	Mr. Rohit Kumar, Forest Guard	9888999800
8)	Medicinal Plants Nursery at Botanical Garden, Sarangpur	Mr. Bhupinder Singh, Forester	9417216523
ENGINEERING DEPTT (HORTICULTURE DIVISION), UT CHANDIGARH			
9)	Government Nursery, Sec.23, Chandigarh	Mr. Shri Narayan	7508185589
MUNICIPAL CORPORATION, UT CHANDIGARH			
10)	Plant Nursery, Sector-29, Chandigarh.	Mr. Narinder Kumar	9417926016

"Trees in the world we depend upon! where will we go when tree is gone?"