



## CHAPTER-5

### STRATEGIES FOR IMPLEMENTING THE GREENING ACTION PLAN 2018-19

#### 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]

Partnership Initiative Programme (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

102 NGOs has been registered with the Forest Department, UT Chandigarh for the tree plantation drive. Various NGOs co-ordinate with Forest Department for spreading awareness among various stakeholders, Carry out Plantations & act as extended hands of Forest Department, UT Chandigarh.

#### • 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:-

- 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) Coordinating 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 to more than one lakh eco-clubs

involving 60 Lakh (6 million) 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 have contributed to the success of this programme.

#### **Role of Eco-Clubs of UT Chandigarh:**

Under the N.G.C. scheme, 147 numbers of Eco-Clubs have been constituted in Schools and colleges of UT Chandigarh for conservation and protection of environment. Besides this Environment Societies are also working in 13 numbers of colleges/societies 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 27 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 Biodiversity.

*One who does not love the nature, cannot love anything in life.*



- 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.

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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, NGO's, Resident Welfare Associations individual residents of the city 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

*If we care and love our environment, it will return much more to us.*





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 plants at subsidized rates from its nursery in Sector-23, Chandigarh. The department is to plant Avenue Trees along Roadside as per site availability & specific tree species.

**f) 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.

**g) 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.

**h) Role of Department of Science & Technology & Renewable Energy & 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 Renewable Energy and Science & Technology Promotional Society (CREST) under the aegis of Department of Science & Technology & Renewable Energy Chandigarh Administration, is the Nodal Agency for executing Solar & other RE Projects.

**Energy Consumption Scenario in UT Chandigarh**

The peak Electricity Demand of UT Chandigarh is around 400 MW which is being met from different Central/ State level power utilities / Generating stations. The UT Chandigarh has no generation capacity of its own.

*Make it a habit to live in a green and clean environment.*



## **Solar Energy Initiatives/Strategies proposed for Solar City**

Solar Energy planning is essentially a process of developing long range policies to help guide the future of a local, national, regional even the global energy/solar system. It is the most important step towards ensuring sustainable energy supply. A solar city should encompass all the measures to use the natural resource available and also to reduce the energy demand. This is possible only through intelligent planning and diligent implementation.

### **1. Solar Photo Voltaic Power Generation (Grid Connected)**

- Rooftop based Solar Power Generation

- Use of landfill site for Solar Power 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 of 2.5 MW and long term target of 10 MW (10 years, 2022) was set to start with. As per master Plan, the Short term target of roof top based SPV Power generation of 5 MWp in 12th five year plan (2012-2017), and long term target is fixed at 10 MWp in 10 years.

However, MNRE, Government of India, has revised this target to 50 MW to be achieved by 2022 by UT Chandigarh.



*Sh.V.P.Singh Badnore, Hon'ble Governor of Punjab and the Administrator, U.T. Chandigarh inaugurated 300 kWp Grid tied Rooftop Solar Power Plant installed on 39 Porta Cabins in IRB Complex, Sarangpur, Chandigarh on 04th July, 2017*

*Do not avoid the environment; it is our basic need of life.*





### **Progress so far:**

The Department of Science & Technology & Renewable Energy, 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, Burail (100 kWp).



*Sh.V.P.Singh Badnore, Hon'ble Governor of Punjab and the Administrator, U.T. Chandigarh inaugurated 2000 kWp Grid tied Rooftop Solar Photovoltaic Power Plant at Water Works Station, Sector-39, Chandigarh on 6th September, 2017*

*Don't let environment be dirty if you really need a healthy life!*



As on 31st December, 2017 around 13.281 MWp Roof top SPV Plant has been commissioned on 209 Govt. Buildings of UT Chandigarh and 2865 kWp at 166 Nos. different buildings installed by private residential, institution & Commercial Sectors in U.T. Chandigarh. In terms of Government intervention, UT Chandigarh is at number one position. The largest capacity 2000 kWp at Water Works, Sec-39, Chandigarh, has been commissioned. CREST has been able to install rooftop SPV Plants on 82 Govt. Schools and 13 Nos. Govt. College of UT Chandigarh.

#### **Climate Change Initiative**

- As on 31st December, 2017, Chandigarh has already generated 31.04 MU of solar energy (in last 4.5 years) which is equivalent to reduction of 21,417 metric ton of CO<sub>2</sub> and in turn equivalent to planting of 23.21 lakh trees.

- Chandigarh plants about 2 lakh saplings every year as part of Greening Chandigarh Action Plan and hence above efforts in Solar City is equivalent to planting another 3.5 lakh saplings every Year.

Besides this, CREST has installed Rooftop SPV Plants on 33 Government residential Houses for demonstration purposes. Further, CREST is going for installation of SPV Power Plant on another 45 nos. Government Residential Houses are under Execution capacity of 4.35 MWp rooftop SPV power plants at 04 Nos. Water Works, UT Chandigarh.

CREST has already empanelled many Solar agencies from which any individual Private Household & Institutional Sector can install Solar Plant on its rooftop & can avail 30% subsidy, as decided by MNRE, GOI.



*Sh. Siddhanta Das, IFS, Director General of Forests & Special Secretary, Ministry of Environment, Forests & Climate Change, Govt. of India inaugurated 70 kWp Rooftop Solar Power Plant at Government Model Senior Secondary School, Sector 38 (West), Chandigarh on 03rd November, 2017*

*We cannot generate the new environment but we can protect it.*





*Sh.V.P.Singh Badnore, Hon'ble Governor of Punjab and the Administrator, U.T. Chandigarh inaugurated 450 kWp Rooftop Solar Photovoltaic Power Plant at Two Wheeler Parking area, Govt. Medical College & Hospital, Sec.32, Chandigarh on 20th December, 2017*



*450 kWp Rooftop Solar Photovoltaic Power Plant at Two Wheeler Parking area, Govt. Medical College & Hospital, Sec.32, Chandigarh*

*There is nothing to compromise with a healthy environment.*





MNRE, Govt. of India have given the following awards to the CREST:-

CREST have received following National Excellence Awards from the MNRE, Govt. of India on 7th June, 2016 at Vigyan Bhawan, New Delhi for its excellent performance in the field of Solar Energy.

1. National Excellence Award 2016 for Rooftop Solar Projects as number one Solar city of the country.
2. National Excellence Award 2016 to CREST as top performing State Nodal agencies for Renewable Energy among

UTs & special category states.

## II) ORGANISATIONAL ASPECTS

### Sapling Distribution

Department of Forests & Wildlife, UT Chandigarh 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:

#### Location of Nurseries & Contact Person:

S.N.	Name of Nursery	Contact official	Contact No.
<b>FOREST &amp; WILDLIFE DEPARTMENT, UT, CHANDIGARH</b>			
1.	Hallomajra Nursery on Ambala – Chandigarh National Highway	Mr. Jatinder Singh, Block Officer	9216428398
2.	Nursery at Daria Forest Rest House opposite Railway Station	Mr. Jatinder Singh, Block Officer	9216428398
3.	Kishangarh Nursery at Kishangarh village	Mr. Jatinder Singh, Block Officer	9216428398
4.	Forest Nursery in Patiala-ki-Rao Forests (behind Punjab Univ.)	Mr. Bhupinder Singh, Block Officer	9417216523
5.	Forest Nursery near Lake Club.	Mr. Bhupinder Singh, Block Officer	9417216523
6.	Medicinal Plants Nursery at Botanical Garden, Sarangpur	Mr. Bhupinder Singh, Block Officer	9417216523
<b>ENGINEERING DEPTT (HORTICULTURE DIVISION), UT CHANDIGARH</b>			
7)	Government Nursery, Sec.23, Chandigarh	Mrs. Neena Thakur	9418211423
<b>MUNICIPAL CORPORATION, UT CHANDIGARH</b>			
8)	Plant Nursery, Sector-29, Chandigarh	Mr. Narinder Kumar	9417926016
<b>Following Range Forest Officers of Forest Department can also be contacted</b>			
1.	Range Forest Officer, Chandigarh/Nepli	Sh. Pradeep Gulia	7087041948

*Never let your greed overcome with green.*