

CHAPTER-5

STRATEGIES FOR IMPLEMENTING THE GREENING ACTION PLAN 2017-18

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:

- To co-ordinate with Resident's Welfare Associations & Market Associations for plantation.
- To co-ordinate with the Eco-Clubs in Schools & Colleges for massive plantation.
- To train people, particularly children to plant trees properly.
- To identify such associations and schools which will be participating in the programme and identify a nodal person in each association to work with.
- To assess the number of seedlings required, as also the species which will be required.
- The NGO's will be advised to identify

"Men love to wonder and that is the seed of science"



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) 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 (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 has contributed to the success of this programme.

Role of Eco-Clubs of UT Chandigarh:

Under the N.G.C. scheme, 135 numbers of Eco-Clubs have been constituted Schools and colleges 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.

"One tree by each family means one billion new trees on Earth"

- 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.

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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.

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

"Use the power of the sun to charge all of your fun !"



His Excellency Prof. Kaptan Singh Solanki, Governor Punjab & Haryana and the Administrator, U.T., Chandigarh inaugurated 90 kWp rooftop Solar Power Plant at Govt. Home Science College, Sector-10 Chandigarh on 14th July, 2016

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.

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

"Solar power brightening up your world"



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, in tune with Revised Power Tariff Policy of 2016.

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, Burrail (100 kWp).



Shri Ajay Narayan Jha, IAS, Secretary, Ministry of Environment, Forests & Climate Change, Govt. of India inaugurated 50 kWp Solar Power Plant at Govt. Girls Model Sr. Sec. School, Sector-18, Chandigarh on 15th February, 2017

"Clean & safe energy, the Solar energy"

As on today, around 7.7 MWp Roof top SPV Plant has been commissioned on 145 Govt. Buildings of UT Chandigarh and 1946 kWp at 118 Nos. different buildings installed by private residential, institution & Commercial Sectors in U.T., Chandigarh. This has put Chandigarh on First position overall in entire Country among all States & UT in Rooftop Solar Plant installation. In terms of Government intervention, UT Chandigarh is at number one position. Another one plant of overall capacity 1000 kWp at Punjab Engineering College, Sec-12, Chandigarh, has been commissioned. CREST has been able to install rooftop SPV Plants on 59 Govt. Schools and 11 Nos. Govt. College of UT Chandigarh.

Climate Change Initiative

- As on 31st Dec, 2016, Chandigarh has already generated 16.5 MU of solar energy (in last 3.5 years) which is equivalent to reduction of 11,385 metric ton of CO₂ and in turn equivalent to planting of 12.2 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 28 Government residential Houses for demonstration purposes. Further, CREST is going to installing a largest capacity



500 kWp Solar Photovoltaic Power Plant at IRB complex, Sarangpur, Chandigarh

"Solar powered electrical generation relies on heat engines and photovoltaic's"



10 kWp floating Solar Photovoltaic Power Plant with fountain at Dhanas Lake, Chandigarh

of 2MWp rooftop SPV power plants at Water Works, Sector-39, 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.

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.

"Recycle your wastes to maintain nature life cycle of environment"