ISSN: 0975 - 9387

C.P.R. ENVIRONMENTAL EDUCATION CENTRE





ECO-HERITAGE.COM EIACP Newsletter



Thematic Area: Conservation of Ecological Heritage and Sacred Sites of India

January - March 2023, Vol. XXI, No. 4



······	~~~
In this issue	
❖ From the EIACP Desk	02
* River Sarabanga - A once clean river in Salem and its restoration measures	03
❖ News - Killing tigers is not a solution	06
* News - Captive elephant numbers on the decline in Kerala	
❖ In-focus	10
❖ Abstracts of Recent Publications	15



From the EIACP Desk...

The Environmental Information, Awareness Capacity Building and Livelihood Programme (EIACP) at CPREEC of the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India is the Programme Centre – Resource Partner (RP) for the thematic area of "Ecological Heritage and Sacred Sites of India".

Heritage is the cultural, social and spiritual legacy that we inherit from our past and pass on to the future. Indian heritage is unique in its reverence for Mother Nature in all her manifestations. Ancient traditions, rituals and practices have embedded this reverence in religion and even in normal day-to-day living. The respect for nature and the belief that every organism on earth has a special role in life's cycle forms the core of our ecological heritage.

To maintain humankind's resilience in the face of change, it is necessary to draw on the best available knowledge, regardless of its origins. The process of updating knowledge systems provides opportunities to develop a deeper understanding of observed events and their consequences. It facilitates and leads to a joint assessment of information, resulting in new insights and innovations, and in better informed actions.

The main purpose of this "Newsletter" is to bring forth and publish articles concerning all aspects related to the knowledge of ecological traditions in India as well as novel interpretations and theoretical issues related to the conservation of the same.

This issue covers an article on "River Sarabanga – A Once Clean River in Salem and its Restoration Measures". River Sarabanga is located in Tamil Nadu in Salem and Namakkal districts. It is a seasonal river and the water is unfit even for washing / cleaning due to extreme pollution caused by various industrial units in and around Salem, Namakkal and Attur. Several check dams were constructed to save the rain water and to improve the groundwater level. Yet, the filth in the water refuses to leave it as the industrial units refuse

to stop their illegal dumping of effluents into the river. In order to restore / revive the river several measures such as removal of encroachments, sealing of industrial units that are functioning without licenses, construction of check dams, common effluent treatment plants, planting of saplings and drone survey for demarcation of flood prone zones and units that discharge their effluents are being undertaken.

CPREEC EIACP – RP has already published books about the "Ecological Traditions" of fifteen (15) states of India, viz., Assam, Andhra Pradesh, Goa, Gujarat, Jharkhand, Karnataka, Kerala, Madhya Pradesh & Chhattisgarh, Maharashtra, Meghalaya, Odisha, Punjab, Rajasthan, Tamil Nadu, and West Bengal. The Centre has, over the years, promoted and encouraged communities to adopt local traditions, practices and rituals that possess ecological significance.

The Centre also focuses on eco-restoration, conservation, creation of environmental assets and advocates the sustainable use of natural resources. The Centre has restored several degraded sacred groves in Andhra Pradesh, Karnataka and Tamil Nadu.

The Centre has also documented sacred groves/ forests (10,377), sacred gardens (61), sacred plants (90), sacred animals (57), sacred rivers (25), sacred water bodies (365), sacred mountains (188), sacred cities/sites (232), sacred seeds (10), sacred caves (209) and sacred pilgrimages (37), traditional ecological knowledge (44) and UNESCO World Heritage Sites in India (36) till date.

We would like to thank our readers for sharing their articles, photographs and also for their queries and feedback regarding our newsletters, publications and about information provided in our website www.cpreecenvis.nic.in

We cordially invite other scholars and interested persons to share their knowledge and information by contributing popular articles and good quality photographs on the subject areas present in our website.

Cover Story

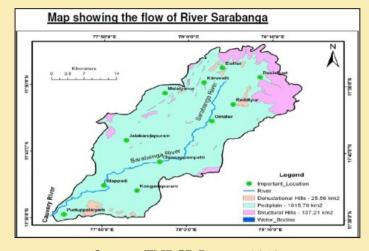
RIVER SARABANGA – A ONCE CLEAN RIVER IN SALEM AND ITS RESTORATION MEASURES

by Dr. G. Srinivasan*

River Sarabanga is one of the rivers in Salem and flows through Salem and Namakkal districts. It originates from Yercaud, flows Danishpet, through Omalur, Thoppur, Tharamangalam, Thevur and other suburbs and joins river Cauvery near Tiruchengode before flowing into the Bay of Bengal. The total length of the main stream is about 70 km from Omalur to Edappadi. The river water has been a source of irrigation and drinking purposes both during pre-monsoon and post-monsoon period when there were no textile units around Salem. The mushrooming of textile units, indiscriminate discharge of domestic sewage and polluting industries have made the river water filthy and unusable. The point of sources for sewage discharge includes Thathiyampatti, Omalur vegetable market and habitations nearby Omalur (all suburbs of Salem). The solid waste dumping points include places that come under Omalur Town Panchayat.

There are several industries located in the villages in Omalur Taluk that include granite polishing units, milk chilling units, stone crushers, stone quarry and sago industries. These industries discharge their effluents directly into the river stream or channelize to some other water body / cess pool that ultimately ends up in the river.

industrial Apart from and municipal sewage being dumped, certain tannery units functioning near the Omalur bus stand let their untreated effluents into the river. This has led to bad odour and health hazards to the local community; also several meat stall owners dump their unsold / spoiled mutton and chicken into the river (Saqaf, 2015). Apart from river Sarabanga, the other river Vasishta, which flows in Attur is no more clean. In late 1960s, the water in Vasishta Nadi was sparkling clean and the sub-surface water was used for drinking



Source: TNPCB Report, 2019

^{*} C P R. Environmental Education Centre, Chennai

and other purposes. But, in 2019, it is officially one of the dirtiest rivers as per the Central Pollution Control Board (CPCB) data. The Biological Oxygen Demand (B.O.D) in the river is nearly 200 to 250 times more than the standard limit.

As of 2021, Tamil Nadu State Ground and Surface Water Resources Data Centre provided monitoring wells for observation of groundwater quality in Danishpet, Omalur, Edappadi, Thevur and Tharamangalam areas. The Total Dissolved Solids (TDS) of this



Source: pinterest.com

Periodical inspection has revealed the presence of heavy metals, fecal coliforms, high level of BOD at various sampling points such as Danishpet, Nalukalpalam lake, Omalur and Edappadi, where there are several industrial units. A Water Quality Index (WQI) analysis (spatial distribution of WQI) both during pre-monsoon and post-monsoon the periods shows that the water quality of river Sarabanga is poor in areas such as Kottaimettupatti, Kullamanayakkanpatti, Omalur bus stand, Naranampalayam, Mungilpadi, Ariyampatti, Ilavampatti and other places; moderate water quality was observed in Karukkalvadi, Alagusamudram, Pappambadi, and Chellapillaikuttai; Gopinathapuram water quality was good in Kamalapuram, Mailappalaiyam, Selavadai and Ramireddipatti; excellent water quality was observed in Manattal, Amarakundhi, Karuppannapatti, Mallikuttai and Pachchanampatti (Balamurugan et al., 2020).

stretch was around 400 – 1900 mg/l. The TDS was of good quality in Danishpet alone. For effective ground water management and prevention of textile effluents and tannery wastes permeating into the groundwater, illegal units near and around Omalur have to be closed. Periodical monitoring of ground water quality, random inspection of stone crushing units or tannery industries to check whether they are following the norms for treating the wastewater have to be undertaken. In case of river Sarabanga, Public Works Department (PWD) constructed 5 structures of rainwater harvesting and another 2 structures are under construction; construction of around 10 recharge wells have been proposed.

In order to save rain water, several check dams were constructed across the river *Sarabanga*, which improved groundwater level and enabled farming activities and solved the drinking water

problem. Also, to improve afforestation and biodiversity, drone survey was carried out in 2021; this can also demarcate the flood prone zones and identify the illegal encroachments and units that are functioning without licenses. To maintain the e-flow / environmental flow of this river, sewage treatment plants have to be constructed. As of 2021, the sewage water enters the river in Edappadi, Omalur and Poolampatti. After treatment, the treated water will flow as environmental flow. Also, around 33,000 tree saplings have been proposed to be planted along the river; development of a biodiversity park is also under consideration (TNPCB, Monthly Progress Report (MPR), 2021).

References

❖ Tamil Nadu Pollution Control Board Report (2019). Action plan on Rejuvenation of River

- Sarabanga Thathayampatti to T Konagapadi Stretch (Priority I).
- ❖ Saqaf S M (2015). River Sarabanga turns dump yard. The Hindu. https://www.thehindu.com/news/national/tamil-nadu/river-sarabanga-turns-dump-yard/article6992628.ece
- Pinterest.com. https://www.pinterest. com/pin/sewage-water-mixes-withsarabanga-river-in-the-outskirts-ofsalem--304696731047682411/
- ❖ Balamurugan P, Kumar P S and Shankar K (2020). Dataset on the suitability of groundwater for drinking and irrigation purposes in the Sarabanga River region, Tamil Nadu, India. Data in Brief, 105255, 1 14.
- ❖ Tamil Nadu Pollution Control Board Report (2021). Monthly Progress Report on Action Plans for the Polluted River Stretches in Tamil Nadu.



—— News ——

Killing tigers is not a solution

by Dr. Nanditha Krishna

Historian, environmentalist and writer based in Chennai (nankrishna18@gmail.com)

Kerala has come out with an outrageous proposal to permit the killing of tigers. Killing will open Pandora's box. It will become a free-for-all and bring down trophy hunters from elsewhere in India.



Image used for representational purpose only. (File Photo | PTI)

When you enter Kochi airport, there is a large statue of an elephant with chains around his feet and body. That says everything about Kerala's attitude towards wildlife: capture and torture or kill.

Kerala has come out with an outrageous proposal to permit the killing of tigers. "The Wildlife Protection Act is no longer useful in dealing with the issues that arise now, like human-animal conflict. It was drafted at a time when there were no cases of wild animals attacking humans and farmland," to quote Forestry Minister A K Saseendran. The state government has identified the tiger, elephant, wild boar, peacock, deer and monkey as "threats" to human lives and livelihoods. The deer? It was the Buddha's symbol of peace. The minister supports the demand of local farmers to kill tigers. A Rajya Sabha MP supported by

the ruling party, Jose K Mani, added that an order must be issued to shoot wild animals that raid human habitations and kill, and a permanent solution found to 'wildlife encroachment'. He proposes to move a private member's bill to review wildlife and forest conservation laws. Meanwhile, 395 km of new roads will come up in Kerala's forests.

What is shocking is that so-called environmentalist Madhav Gadgil has supported the state government with a demand for culling tigers and licensed hunting outside national parks. The Church, which demands the same, supports him. He is the same who had once recommended declaring 37 per cent of the Western Ghats as 'ecologically fragile' and ending all commercial activities. He says that humans have hunted animals through the ages. But those were hunter-gatherers who

killed for food, not people who took over forests, converted them into farmlands and then killed the wildlife which once lived there. Who surveyed the wildlife carrying capacity of the forests, asks the activist group Wayanad Prakruthi Samrakshana Samithi. Wayanad's tigers could belong to either Bandipur or Mudumalai. They don't know state boundaries.

The tiger has lived in India since the Late Pleistocene age. There are tigers on the seals of the Indus Civilisation, and the animal finds mention in Vedic literature. Habitat destruction decimated the population in the colonial period. The British offered special rewards for every tiger killed, and hunting was a favourite pastime. The tiger was drummed out of its hiding place by 'beaters' who were often mauled or killed by the animal: their lives were cheap and expendable. Only 1,827 tigers were counted in the first-ever all-India census in 1972, prompting Indira Gandhi to promulgate the Wildlife Protection Act. Twenty-nine tiger reserves were created. There are 53 today. The National Tiger Conservation Authority reported 2,967 tigers in 2018, still a very poor number for a national animal.

The problem in Kerala is that people are encroaching on forest lands. For example, on January 22, the forest department captured a tusker named PT-7 (renamed Dhoni). His crime? He used to raid crops in the Dhoni, Malampuzha and Mundur regions of the Palakkad district. These were forested areas where the land was converted to cropland. He was damned as 'rogue', 'villain' and 'unruly'. He is held in a kraal, to be 'trained' to become a kumki — an elephant used to capture wild pachyderms. The training will be cruel. The animal will be beaten continuously, prodded with bull hooks and frightened in any which way till his spirit is broken. He is chained like the airport figure and tamely answers the commands of a cruel mahout. All this for eating in his own forest. Since it is difficult to capture tigers, the Kerala

government's solution is to hunt and kill them, euphemistically called 'culling'. Killing will open Pandora's box. It will become a free-for-all and bring down trophy hunters from elsewhere in India and abroad.

According to Samuel Baker, a naturalist and big game hunter, "...the tiger seldom attacks to actually kill, unless it is driven, or wounded in a hunt. It will frequently charge with a short roar if suddenly disturbed, but it does not intend to charge home, and a shout from a native will be sufficient to turn it aside; it will then dash forward and disappear, probably as glad to lose sight of the man as he is at his escape from danger." Relocation is a solution in this hostile atmosphere, but nobody anywhere in Kerala wants tigers.

The Mahabharata (Udyogaparva, XXXVII) says: "Do not cut down the forest with its tigers! Let not the tigers be driven from the forest! There can be no forest without tigers, and no tigers without a forest. The forest shelters the tigers, and tigers guard the forest!" The tiger has religious significance for several indigenous tribes in India. Kerala's Irulars worship the tiger, Gonds and Korku worship Baghdeo, and Bharias, who believe that the tiger will never kill them, worship Bageshwar. There are many other tiger deities like this: Vaghdeo in Maharashtra, Huliraya in Karnataka and Bonbibi in Bengal. Tribals who share their lands with this top predator do not kill him.

Traditionally, India has had a culture of conserving forests and wildlife. But Kerala is showing a lack of that culture. Governments must allow wildlife to live in their forest habitats and prevent human encroachment. Wildlife tourism can earn good money. That is the only solution for man-animal conflicts.

Source : https://www.newindianexpress.com/opinions/2023/feb/12/killing-tigers-is-not-a-solution-2546578.html

____ News ____

Captive elephant numbers on the decline in Kerala by Mini Muringatheri

Scorching heat, torture, long hours of parade, and unscientific management take a toll

Caparisoned jumbos in their majestic look are a treat for eyes. But this sought-after sight may become a thing of the past soon if the fastdeclining number of captive elephants in Kerala is any indication.

Scorching heat, torture, long hours of parade, and unscientific management are taking a toll. While 29 elephants died in 2021, three elephants have died - two in Thiruvananthapuram and one in Kottayam - so far in 2022. In all 75 elephants have died after the elephant census in 2018, reducing their numbers from 521 to 446.

These gentle animals suffer at the hands of their caretakers when the rules and regulations for their management turn toothless, according to animal activists.

"There is a directive by the Supreme Court in 2018 itself against parading injured elephants. According to it, the owner of the elephant can be arrested under no-bailable charges if an injured elephant is paraded for a function. The Chief Wildlife Warden issued another notice in 2019 that it should be reported if an elephant is sick for more than a week. The elephant will be examined and treated by a committee of veterinary doctors. This notice came after 34 elephants died in 2018 alone," says V.K. Venkitachalam, Director, Heritage Animal Task Force.

Another directive of the Chief Wildlife Warden says forest officials should visit the place elephants are tethered in 15 days. Most of these laws are violated by the caretakers and no action has been taken against them, he says.



Ankush, a stick with iron hooks on its end, used by mahouts to control elephants. | Photo Credit: SPECIAL ARRANGEMENT

Recently an elephant attacked another elephant during the famous Arattupuzha Pooram. "Elephants were paraded without maintaining the mandatory four-m distance between them," says the task force. In all, 65 elephants were paraded during the pooram.

A statutory shelter shed is another thing insisted on by the Supreme Court. "Many elephants are tethered under trees. When it rains, they are forced to stand in a slush pool of their own dung, urine, and rainwater. They develop infection on the soft pad under their feet and



The owner can be arrested under no-bailable charges if an injured elephant is paraded for a function. | Photo Credit: SPECIAL ARRANGEMENT

will find it difficult to stand. It slowly affects their food intake. They become weak and develop diseases such as tuberculosis. Foot infection, tuberculosis, and impaction (Erandakettu) are common reasons for the death of elephants in Kerala," says the task force.

Festering wounds

Man-made wounds are another major reason for the death of captive elephants. Mahouts often inflict wounds deliberately on sensitive parts of the body, including around the foot, sides of the hip and above the tusk. The mahouts pierce the wounds with sharp objects to manage them easily.

"Use of weapons such as *ankush* (long and short sticks with sharp iron hooks on its ends) have been banned long back. But mahouts openly use them for parading. No action has been taken against them," says M.N. Jayachandran, member on the elephant monitoring committee for Thrissur and Idukki. Capture belts, with sharp iron hooks, are another deadly and unscientific weapon used to control unruly elephants. They inflict serious wounds on their legs, he says.

The elephant management rules here are not made for the protection of elephants, says Mr. Jayachandran. They are meant for elephant owners and festival conductors. Cases taken for torture of elephants seldom reach court.

The festivals are conducted here in the peak of summer. The elephants, which lack sweat glands, find it difficult to survive in the heat. Though there are rules to prevent continued parading, it is only on paper. Many elephants seldom get rest during the festival season.

Elephants, which feast upon a variety of foods such as leaves, bark and grass in the wild, are given only palm leaves while in captivity. There is a tendency to give ayurveda and allopathy medicines to them during rejuvenation therapy, says Mr. Jayachandran.

Elephants in the wild usually walk around 18 km and drink around 250 litres of water a day. During festivals they are seldom given water fearing that they may spray water over themselves when people are atop.

However, veterinarians say many of the elephants have died due to age-related issues.

"If you look at the age of the elephants that died in these periods, most of them are above the age of 60. Lack of proper exercise during the COVID period too has taken a toll on their health. Tuberculosis is also seen in captive elephants here," says P.B. Giridas, veterinary doctor and member on the Animal Welfare Board.

The government should create awareness among people whether we needed such torturing parades of elephants during festivals, ask animal activists.

Source:https://www.thehindu.com/news/national/kerala/captive-elephant-numbers-on-the-decline-in-kerala/article65240384.ece



—— In-focus ——

Essay Writing Competition – January 10, 2023

CPREEC EIACP – RP, Chennai celebrated the Year of Millets 2023 under the theme of Sustainable Food System Adopted and Healthy Lifestyle Adopted. In which CPREEC EIACP-RP conducted an Essay Writing Competition on 'Millets' for School students under the categories of Std. VI to VIII and Std. IX to XII. More than 86 students under the both categories participated and wrote about the importance and use of millets in either English or Tamil.







Press clipping - Essay writing Competition

Awareness Programme on LiFE

CPREEC EIACP-RP, Chennai organised an awareness programme on #MissionLiFE #ChooseLiFE #ProPlanetPeople under the theme of Save Energy and Conserve Water and Single Use Plastic Reduced at Chennai High School, Kamaraj Avenue, Adyar, Chennai-600 020 on **January 24, 2023**.

A total of 125 students and 3 teachers participated in the Mission LiFE Awareness Programme.















CPREEC EIACP-RP, Chennai organized an awareness programme on #MissionLiFE #ChooseLiFE under the theme of Save Energy and Conserve Water and Single Use Plastic Reduced at C.P.R. Environmental Education Centre Chennai on **February 02, 2023**.

A total of 65 students and 10 teachers participated in the Mission LiFE Awareness Programme.











National Workshop on LiFE – January 30, 2023

National Workshop on LiFE was organized by the MoEF&CC, New Delhi on 30.01.2023. CPREEC-EIACP RP, Chennai participated in the National Workshop on LiFE and displayed handicrafts made out of Non-Timber Forest Produce (NTFPs) like Coconut shell handicraft and Bamboo handicraft.

The Hon'ble Minister Shri. Bhupender Yadav, Smt. Leena Nandan, IAS, Secretary, and several other Ministry officials interacted with the staff about the products. Dr. P. Sudhakar, EIACP Coordinator interacted with the Secretary and said that TRIFED is marketing the artefacts made by the Kota tribes. He further said that CPREEC – EIACP has helped the trainees of Port Blair to register with MSME to obtain loans to become self-employed. School students from Mother's Global School, S.D. Public School, New Delhi and other schools interacted with the staff. Several MoEF&CC officials and persons from EIACP Hub / RPs also visited the stall.









Seminar on Ecological Traditions of Sikkim – February 27, 2023

CPREEC EIACP PC RP, Chennai conducted the one day Seminar on Ecological Traditions of Sikkim in collaboration with the Sikkim EIACP PC HUB, Gangtok on February 27, 2023.



The seminar had six key subject experts who presented papers on diverse ecological traditions of the State. About 70 students and faculty members from colleges and universities in and around Gangtok participated.











- Abstracts of Recent Publications -

❖ Wagh, V. V., and Jain, A. K., "Healing sacred forest in western Madhya Pradesh, India", *Current Science*, Vol. 116 (7), pp.1060-1061, 2019.

This paper describes a healing sacred forest in western Madhya Pradesh in India. It is located in Aalirajpur district and the tribal communities have been conserving these forest patches due to religious beliefs. Results are also presented of an exhaustive field survey undertaken, covering all seasons. The ethnobotanical information on medicinal plants was obtained through a series of semi structured interviews with traditional healers and the threat status of plant species was analysed based on the criteria suggested by The International Union for Conservation of Nature (IUCN). The floral diversity of Ishwar Baba sacred grove shows 144 plants belonging to 57 families and 134 genera. Fabaceae is the dominant family followed by Asteraceae, Convolvulaceae, Acanthaceae, Poaceae, Lamiaceae, Malvaceae, Combretaceae and Amaranthaceae. The study confirms that 28 plant species are facing severe threat due to uncontrolled exploitation for medicinal purposes, loss of habitat, trading for parts, forest fire, drought, etc. Therefore, conservation of these dwindling species is the need of the hour. It is vital not only for the conservation of medicinal plant diversity and indigenous knowledge but also for ecosystem health and socioeconomic upliftment of local tribal communities.

Keywords: Conservation, dwindling species, medicinal plants, Forest, wildlife.

Divya, G., Lippe, M. V. D., and Kowarik, I., "Sacred sites as habitats of culturally important plant species in an Indian megacity", *Urban Forestry and Urban Greening*, Vol. 32, pp. 113-122, 2018.

Cultural ecosystem services related to urban green spaces contribute significantly to liveable cities. Previous studies highlighting the intersection of cultural ecosystem services with societal values, spiritual or religious values associated with urban nature have received less attention. In India, as in other parts of the world, sacred sites are known for their biological richness, but analyses from urban sacred sites are largely missing. Based on a stratified random sampling approach, we analysed the cultivated and wild plant species assemblages of 69 sacred sites in the megacity of Bengaluru, India, in relation to biological and cultural features, and parameters related to the urban matrix and type of sacred sites (temple vs. katte). Unlike other urban studies, we found a dominance of native species in the cultivated and spontaneous species' pools (121 species in total), with Ficus religiosa and Azadirachta indica as most frequently planted species. Culturally relevant species prevailed in the species pool (89%), with overlaps between religious (36%), medicinal (50%) and ornamental (62%) plants; only 11% of species were weeds. Urban matrix parameters (age of development, housing density) and size and type of sacred sites were related to differences in species assemblages. We identified key species for different classes of age and housing density, and for types of sacred sites. Our study demonstrates that urban sacred sites have an important potential in harbouring both native and culturally significant species that can support urban livelihoods in developing countries by a range of cultural and provisioning ecosystem services, including medicinal uses. As such sites are conserved by communities for spiritual or cultural beliefs, local biodiversity can be enhanced, e.g. by adapting management practices through community participation. This would strengthen the important contribution of sacred sites within the green infrastructure of rapidly growing megacities.

Keywords: Cultural ecosystem services, Plant invasions, Spiritual-religious values, Urban biodiversity, Urbanization.

e-mail: cpreec@envis.nic.in

Website: www.cpreecenvis.nic.in



CPREEC EIACP RP Team

Dr. P. SudhakarDirector / EIACP Co-ordinator

Dr. A. AbiramiProgramme Officer

R. Sathya Narayanan Information Officer

M. Vaithiyanathan
IT Assistant

M. Lakshmi Sree
Data Entry Operator

Contact Address:

CPREEC - EIACP Resource Partner on

CONSERVATION OF ECOLOGICAL HERITAGE AND SACRED SITES OF INDIA

C.P.R. ENVIRONMENTAL EDUCATION CENTRE

1 Eldams Road, Alwarpet, Chennai - 600 018, Tamil Nadu, India.

Phone : 044 - 48529990 / 42081758

E-mail : cpreec@envis.nic.in / cpreec@gmail.com

Website: www.cpreecenvis.nic.in