

TCE ENVIS RP



ANNUAL PROGRESS REPORT (2020 -2021)

SUBMITTED TO

**MINISTRY OF ENVIRONMENT, FOREST
& CLIMATE CHANGE,
GOVERNMENT OF INDIA**

**THEME AREA OF THE CENTRE
“PLASTIC WASTE MANAGEMENT”**

SUBMITTED BY

DR. R. VASUDEVAN

COORDINATOR

TCE ENVIS – RP

DEPARTMENT OF CHEMISTRY

THIAGARAJAR COLLEGE OF ENGINEERING,

MADURAI, TAMIL NADU

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

Government of India

Ministry of Environment, Forest & Climate Change

(EI Division)

Fact sheet of 2020-2021 (As on 31.3.2021) on Activities of ENVIS Centre

1	Name of Host Organization:	Department of Chemistry, Thiagarajar College of Engineering, Madurai.
2	Assigned Subject Area:	Plastic Waste Management
3	Date/Month/Year of establishment of ENVIS Centre:	07-02-2018
4	Name and designation of ENVIS Coordinator (2020-21):	Dr. R. Vasudevan, Professor of Chemistry & Dean ECA, Thiagarajar College of Engineering, Madurai.
5	Has the Host Organization constituted an Advisory Committee for guiding the activities of the Centre?	Yes
	Composition of the Advisory Committee: (Select YES or NO: if YES kindly fill the right column space; if NO kindly leave it blank) <input type="radio"/> YES <input type="radio"/> NO	Dr. S. Mercy Shalinie, Chairman, Principal Thiagarajar College of Engineering, Madurai. Dr. R. Vasudevan, Convener, Dean, Thiagarajar College of Engineering, Madurai. Dr. M. Kottaisamy, Member, Prof & Head Department of Chemistry, Thiagarajar College of Engineering, Madurai Dr. RA. Alaguraja, Member, Assoc. Prof., Department of ECE, Thiagarajar College of Engineering, Madurai Dr. S. Muthuramalingam, Member, Assoc. Prof., Department of IT, Thiagarajar College of Engineering, Madurai Dr. D. Tamilselvi, Member, Assoc. Prof. Department of IT, Thiagarajar College of Engineering, Madurai Dr. G. Balaji, Member, Assoc. Prof Department of Arch, Thiagarajar College of Engineering, Madurai Dr. A. Ramalinga Chandra Sekar, Program Officer, Thiagarajar College of Engineering, Madurai

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

6	Current ENVIS Staff Structure:							
	Name	Position	Qualification & Experience	Joining Date in ENVIS	Joining Date in current position	2020-21		
						Leaving Date (i.a)	Emoluments drawn	
							Monthly	Annual
	Dr. A. Ramalinga Chandra Sekar	Program Officer	M.Sc., M phil Ph.D., 3 Year 1 Month	01-03-2018	01-03-2018	---	46690	560280
	Dr. B. Sundara kannan	Information Officer	M.Sc., Ph.D., 3 Year 1 Month	01-03-2018	01-03-2018	---	38997	467964
	Mr. M. Chander Kumar	Information Technology Officer	MCA., ME., 2 Year 4 month	01-06-2020	01-06-2020		28672	286720
	Mrs. S. Gomathi	Data Entry Operator	M.com, 3 Year 1 Month	01-03-2018	01-03-2018	---	14641	175692
7	Mandate of the Host Organization				Mandate of the ENVIS Centre			
	<p>Founded in 1957 by philanthropist and industrialist Late Shri. Karumuttu Thiagarajan Chettiar Thiagarajar College of Engineering (TCE) is an ISO 9001: 2008 certified institution affiliated to Anna University and situated in Madurai, the Temple City. The college is funded by Central & State Governments and Management. The courses offered in TCE are approved by the All India Council for Technical Education, New Delhi. TCE was granted Autonomy in the year 1987 and the programs have been accredited by the National Board of Accreditation(NBA).</p> <p>TCE offers 8 undergraduate programs, 10 postgraduate programs and doctoral programs in Engineering, Science and Architecture.</p>				<p>Systematic collection, collation and disseminating of data on "Plastic Waste Management" which is an open access resource for students, research scholars, faculty, NGO and public. This would facilitate awareness of the present status of Plastic Waste Management and its role in the environment. The ENVIS centre also focuses on the NES on different parameters as suggested by MOEF & CC. The ENVIS centre will play a vital role in providing newer data for researchers, who works on Plastic Waste Management.</p>			

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

8. Databases:

8.1. Catalogue of Non-Numeric Databases compiled by the ENVIS Centre till date:

Name of Data base	Description	Data type (descriptive/graphical/geospatial/ etc.)	Status of updation/ periodicity/ Data points complied (including	Source (s) of the data	Online availability (whether uploaded on ENVIS Website)
Introduction to Plastic	A brief details about the plastics	Descriptive & graphical	Standard Data	Internet, Universities, libraries & national institutions	Yes
History of Polymers	A brief details about the polymers	Descriptive & graphical	Once a year	Internet, Universities, libraries & national institutions	Yes
Plastic Time Line	A brief details about the growth of polymers	Descriptive & graphical	Every Month	Internet, Universities, libraries & national institutions	Yes
Chemistry of Polymers	A brief details about the chemical nature and structure of polymers	Descriptive & graphical	Every Month	Internet, Universities, libraries & national institutions	Yes
Development of Plastic Product	A brief details about the systematic developments in plastic industries	Descriptive & graphical	Every Month	Internet, Universities, libraries & national institutions	Yes
Plastic Production	A brief details about the production of plastics in India and in abroad	Descriptive & graphical	Every Month	Internet, Universities, libraries & national institutions	Yes

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”

Plastic Processing	A brief details about the processing of plastics	Descriptive & graphical	Monthly once	Internet, Universities, libraries & national institutions	Yes
Plastic & Environment	A detailed report on the plastics and its role in the environment.	Descriptive & graphical	Monthly once	Internet, Universities, libraries & national institutions	Yes
Chemicals in Plastic	A detailed report on the plastics and its chemical nature	Descriptive & graphical	Monthly once	Internet, Universities, libraries & national institutions	Yes
Consumption of Plastic – Global Scenario	A detailed report on the plastics and its consumption international.	Statistics	Once/year	Internet, Universities, libraries & national institutions	Yes
Consumption of Plastic – India Scenario	A detailed report on the plastics and its consumption Indian.	Statistics	Once/Year	Internet, Universities, libraries & national institutions	Yes
Disposal of Plastic	A detailed report on the plastics and its methods of disposal	Descriptive & graphical	Monthly once	Internet, Universities, libraries & national institutions	Yes
Plastic Pollution	A detailed report on the plastics and the pollution generated when it is disposed in the environment	Descriptive & graphical	Monthly once	Internet, Universities, libraries	Yes
E-Waste	A detailed report on the E- waste and E waste plastics	Descriptive & graphical	Monthly once	Internet, Universities, libraries & national institutions	Yes

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

8.2. Catalogue of Numeric and Time-series Databases compiled by the Centre till date:

Name of Database	Description (in brief)	Time period (starting Year-ending year) and Periodicity (annual/Monthly/ other)	Source (s) of data	Online Availability (Whether uploaded on ENVIS Website)
News & Events	TCE ENVIS announcements & Regular ENVIS Events	Regularly	Online	Available online
Live News	Live News provides the news about our theme area from various source	Daily	Automated NEWS Catcher Program	Available online
Opportunity	Provide information about opportunity in the assigned topic for students, scholars and job seekers	Upcoming	Online	Available online
Interesting facts	Recent discoveries, interesting information	Upcoming	Online	Available online
Image of the week	Providing detailed information about Waste Management	Upcoming	Online	Available online
Name of Database	Description (in brief)	Time period (starting Year-ending year) and Periodicity (annual/Monthly/ other)	Source (s) of data	Online Availability (Whether uploaded on ENVIS Website)
Kids corner	Website for children. Provides simple information about our theme area plastics & its waste management	Monthly Minimum One	Online	Available Online
Experts	Database with list of eminent scientist and professors in respective field	Final List Consolidated and Awaiting for Approval	Online and offline	Available online

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”


8.3. New Databases developed during the Financial Year (2020-21)

8.3.1. Non-numeric Databases:

Name of Database	Description (in brief)	Data type (descriptive/ Graphical/ Geospatial/ Etc.)	Status of Updation/ Periodicity/Data points Complied (including date/month/year of last data)	Source (s) of data	Online Availability (Whether uploaded on ENVIS Website)
Knowledge Products	Posters, Handouts & Booklets	Descriptive, picture	Monthly Once	Online	Available Online
Newsletter	Theme based Newsletters	Descriptive, picture	Once in Three month	Online	Available Online


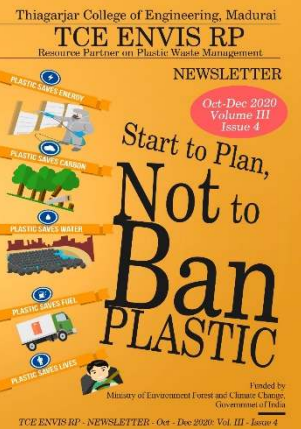
9. Information/ Knowledge Products:

9.1. ENVIS Newsletters published during the Financial Year 2020-21


Cover snapshot	Quarter/ Volume/ Issue/ Theme / Main Articles	Number of copies printed and circulated	URL of the PDF file in ENVIS website
	Volume III, Issue 1 April to June 2020 COVID – 19	100	www.tceenvi.in/Newsletter

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”

	<p>Volume III, Issue 2 July to September 2020 Plastic Waste Management Recent Information</p>	<p>100</p>	<p>www.tceenvvis.in/Newsletter</p>
	<p>Volume III, Issue 3 October to December 2020</p>	<p>100</p>	<p>www.tceenvvis.in/Newsletter</p>

9.2 Other publications/ information products brought out during the Financial Year (2020-21):

Cover Snapshot	Publication / Product Theme (s) /Subject Area (s)	Number of copies printed and circulated	URL of the PDF file in ENVIS website
	<p>World Environment Day</p>	<p>50</p>	<p>www.tceenvvis.in/posters</p>



Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

<p>World NATURE CONSERVATION DAY 2020</p> <p>TCE ENVIS RP, TCE, Madurai Centre for Plastic Waste Management</p> <p>"Earth provides enough to satisfy every man's needs, but not every man's greed" - Mahatma Gandhi</p>	<p>Nature Conservation Day</p>	<p>50</p>	<p>www.tceenvis.in/posters</p>										
<p>INTERNATIONAL TIGER DAY TCE ENVIS RP, Madurai</p> <p>27KG</p> <p>ENDANGERED</p> <p>KEY FACTS</p> <table border="1"> <tr> <td> diet</td> <td>Wild Boar, Deer, Badgers & Pigeon Doves</td> </tr> <tr> <td>Weight</td> <td>Males: 100-150KG Females: 75-100KG</td> </tr> <tr> <td>Location</td> <td>Far East Russia to North East China</td> </tr> <tr> <td>Habitat</td> <td>Forests</td> </tr> <tr> <td>Lifespan</td> <td>Wild: 10-15 years Captive: 20 years</td> </tr> </table> <p>MoEF & CC</p>	diet	Wild Boar, Deer, Badgers & Pigeon Doves	Weight	Males: 100-150KG Females: 75-100KG	Location	Far East Russia to North East China	Habitat	Forests	Lifespan	Wild: 10-15 years Captive: 20 years	<p>International Tiger Day</p>	<p>50</p>	<p>www.tceenvis.in/posters</p>
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Location	Far East Russia to North East China												
Habitat	Forests												
Lifespan	Wild: 10-15 years Captive: 20 years												
<p>TCE ENVIS RP MADURAI</p> <p>INTERNATIONAL DAY OF THE WORLD'S INDIGENOUS PEOPLE 09th AUGUST 2020</p> <p>Recognise the innate and inseparable relationship of indigenous people with nature and their contribution as custodians of natural resources.</p> <p>Traditional Knowledge, Food Systems, Biodiversity Conservation</p>	<p>International Day of World Indigenous People</p>	<p>50</p>	<p>www.tceenvis.in/posters</p>										
<p>Asian Elephants (<i>Elephas maximus</i>)</p> <p>ENDANGERED</p> <ul style="list-style-type: none"> * Tallest at arch of back, 10' Tall * Small Ears * Two bulbous bumps on forehead * Five front toenails * Four back toenails * Single lobe on the tip of the trunk <p>WORLD elephant DAY 2020</p> <p>TCE ENVIS RP (Plastic Waste Management) Madurai</p>	<p>World Elephant Day</p>	<p>50</p>	<p>www.tceenvis.in/posters</p>										

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

	<p>Ozone Day</p>	<p>50</p>	<p>www.tceennis.in/posters</p>
	<p>National Pollution Control Day</p>	<p>50</p>	<p>www.tceennis.in/posters</p>
	<p>World Soil Day</p>	<p>50</p>	<p>www.tceennis.in/posters</p>

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”

	<p>International Mountain Day</p>	<p>50</p>	<p>www.tceenvvis.in/posters</p>
	<p>International Youth Day</p>	<p>50</p>	<p>www.tceenvvis.in/posters</p>
	<p>World Wetland Day</p>	<p>50</p>	<p>www.tceenvvis.in/posters</p>

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”

	<p>World Cancer day</p>	<p>50</p>	<p>www.tceenvvis.in/posters</p>
	<p>World Water Day</p>	<p>50</p>	<p>www.tceenvvis.in/posters</p>
	<p>Ecosystem Restoration Forest On Small Forest Thangalacheri Village, Thirumankalam Taluk, Madurai.</p>	<p>50</p>	<p>www.tceenvvis.in/posters</p>

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

9.3. Information Products published/ released during last year:

Publication/Product	Theme (s)/ Subject Area (s)	Year of Publication	URL of the PDF file in ENVIS Website
Booklet	Ozone Day	2021	WWW.tceenvis.in

10. ENVIS Website (ENVIS Centers whose Website has been restructured may provide the Performance Report/Graphs generated therein wherever possible):

10.4. URL: <http://tceenvis.in>

10.5. Status of restructuring of Website: Not restructured

10.6. Frequency of updating Website 2020-21: Daily

10.7. Subject-specific database updating (numeric/ others): Frequent

10.8. Publication uploaded/ updated on Website: Frequent

11. User Engagement and Interaction

User engagement and interaction	FY 2020-21
i. Total Number of Visits	118075
ii. Number of Unique Visits	22933
iii. Reports Downloaded / Read	849
iv. Total Number of Queries Received	177
v. Grade Received	A

11.1. Total number of visits on Website (2020-21): 118075

11.2. Number of unique visits on Website (2020-21): 18345

11.3. Number of reports downloaded/ read by stakeholders: 849

11.4. Query-Answer Statistics 2020-21: As on 31-Mar-2021: 177


Mode of Query Receipt	Number of Queries Received	Number of Queries Responded	Reasons for shortfalls, if any, and action taken to rectify
Online (CMS based website)	27	27	NA
Email (official IN server)	150	150	NA
Postal/Telephonic (incl. hand post)	-	-	-
Physical	-	-	-

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

12. Implementation of Annual Plan of Activities of the Financial Year (2020-21):

Activity/ Target	Achievement	Shortfalls, if any, and reasons therefore
ENVIS Newsletters, Volume – 3 (Issue 1,2,3) will be Published	Completed	NA
Database Development (Plastic Waste Management)	Completed	NA
Impact / Analysis	Completed	NA
Other activities: 1. Conducting awareness camps among publics, students and other people in the society in connection with the theme "plastic waste management" –10 2. Celebration of other important environment related days in the calendar 3. Distribution of hand outs and posters – 10 4. Publication of Newsletter – 04	Completed Completed Completed Completed	NA NA NA NA

<p>13</p>	<p>New initiatives taken during the Financial Year (2020-21):</p>	<p>1. Plastic Waste Management Training for Government Employers</p> <p>A. Public Works Department Engineers from Tamil Nadu.</p> <p>B. Formation of “Kurungkadu”- a small forest to restore ecosystem</p> <p>C. Development of Mobile App</p> <p>D. Started Preliminary works on AI Based Plastic Waste Categorization</p> <p>Brochure: 2 (Annexure 1)</p> <ul style="list-style-type: none"> • Ozone Day • குறுங்காடு <p>Mobile APP:</p> 
<p>14.</p>	<p>Date of most recent physical verification by the Ministry:</p>	<p>Nil</p>

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

15. Status of existing hardware:

	Hardware item	Specification	Sanction Order with Date	Date of procurement
Procured from ENVIS Grant	Desktops - 4	Intel i5, DDR 3, HDD 1TB, RAM 4GB, Monitor 18.5", OS: windows 10 original	26-02-2019; No: F. No. 23/18/2018-EI	17/09/2018
	Printer - 1	EPSON L565 All In One - Ink Tank Printer	26-02-2019; No: F. No.23/18/2018-EI	20/07/2018

16. Status of utilization of grant during the financial year 2020-21 as on 31-March-2021 and reasons for shortfalls, if any:

	Head of Expenditure	Sanctioned amount (Rs.)	Actual Expenditure (Rs.)	Reasons for Shortfall/ Excess
Recurring Annual	Manpower	14,90,657.00	1490657.00	NIL
	Others	4,65,300.00	2,16,860.00	NIL
Total		19,55,957.44	17,07,517.00	

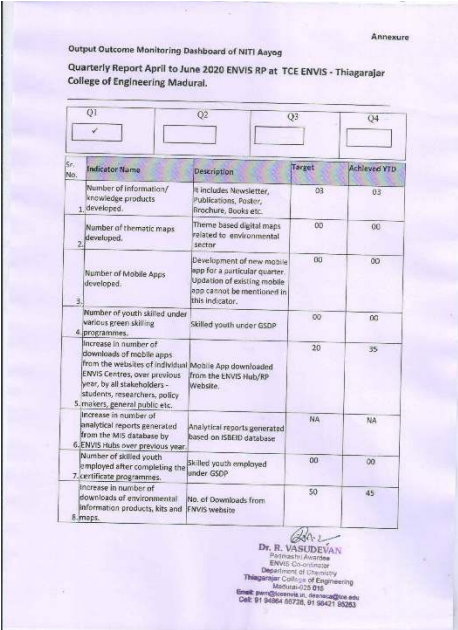
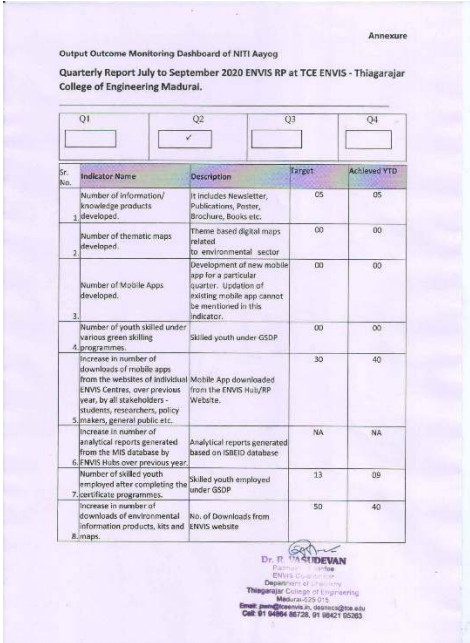
17. Issues/ hurdles faced in undertaking ENVIS activities:

1	NIL
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Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

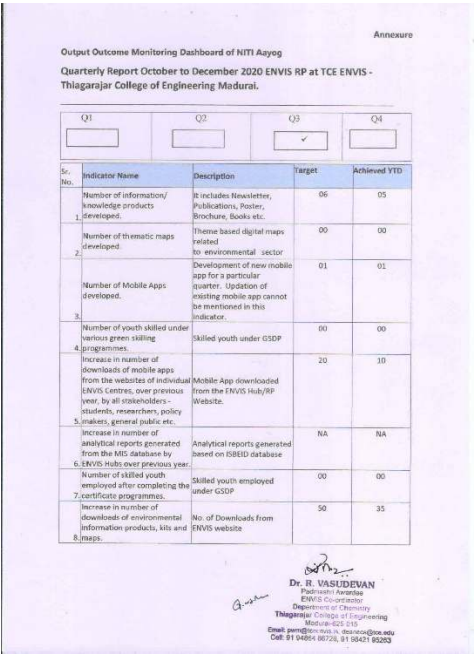
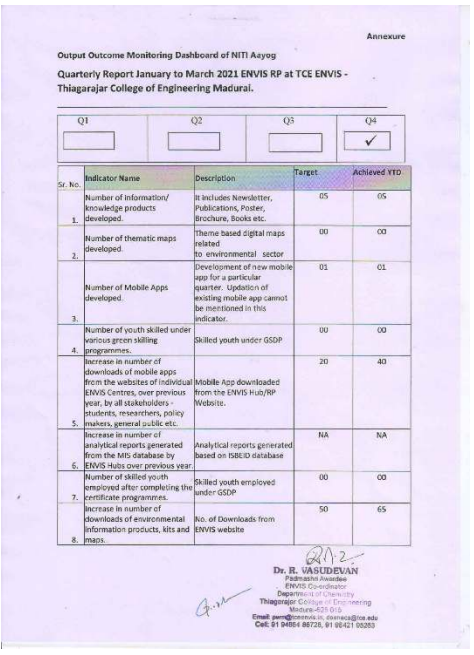
Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”

Quarterly TCE ENVIS (RP) reports for FY-2020-2021.

S.NO	Reports	Image																																																																																								
1.	April-June, 2020P	 <p style="text-align: right; font-size: small;">Annexure Output Outcome Monitoring Dashboard of NITI Aayog Quarterly Report April to June 2020 ENVIS RP at TCE ENVIS - Thiagarajar College of Engineering Madurai.</p> <table border="1" style="width: 100%; border-collapse: collapse; font-size: x-small;"> <thead> <tr> <th colspan="4"></th> <th style="text-align: center;">Q1</th> <th style="text-align: center;">Q2</th> <th style="text-align: center;">Q3</th> <th style="text-align: center;">Q4</th> </tr> </thead> <tbody> <tr> <td colspan="4"></td> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <th>Sr. No.</th> <th>Indicator Name</th> <th>Description</th> <th>Target</th> <th colspan="4">Achieved YTD</th> </tr> <tr> <td>1</td> <td>Number of information/knowledge products developed.</td> <td>It includes Newsletter, Publications, Poster, Brochure, Books etc.</td> <td>08</td> <td colspan="4">03</td> </tr> <tr> <td>2</td> <td>Number of thematic maps developed.</td> <td>Theme based digital maps related to environmental sector</td> <td>00</td> <td colspan="4">00</td> </tr> <tr> <td>3</td> <td>Number of Mobile Apps developed.</td> <td>Development of new mobile app for a particular quarter. Updation of existing mobile app cannot be mentioned in this indicator.</td> <td>00</td> <td colspan="4">00</td> </tr> <tr> <td>4</td> <td>Number of youth skilled under various green skilling programmes.</td> <td>Skilled youth under GSDP</td> <td>00</td> <td colspan="4">00</td> </tr> <tr> <td>5</td> <td>Increase in number of downloads of mobile apps from the websites of individual ENVIS Centres, over previous year, by all stakeholders - students, researchers, policy makers, general public etc.</td> <td>Mobile App downloaded from the ENVIS Hub/RP Website.</td> <td>20</td> <td colspan="4">35</td> </tr> <tr> <td>6</td> <td>Increase in number of analytical reports generated from the MIS database by ENVIS Hubs over previous year.</td> <td>Analytical reports generated based on ISREI database</td> <td>NA</td> <td colspan="4">NA</td> </tr> <tr> <td>7</td> <td>Number of skilled youth employed after completing the certificate programmes.</td> <td>Skilled youth employed under GSDP</td> <td>00</td> <td colspan="4">00</td> </tr> <tr> <td>8</td> <td>Increase in number of downloads of environmental information products, kits and maps.</td> <td>No. of Downloads from ENVIS website</td> <td>50</td> <td colspan="4">45</td> </tr> </tbody> </table> <p style="text-align: right; font-size: x-small;">Dr. R. VASUDEVAN Principal ENVIS Co-ordinator Department of Chemistry Thiagarajar College of Engineering Madurai-625 016 Email: enviscen@tce.edu Call: 91 8482 49726, 91 84821 03263</p>					Q1	Q2	Q3	Q4					<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sr. No.	Indicator Name	Description	Target	Achieved YTD				1	Number of information/knowledge products developed.	It includes Newsletter, Publications, Poster, Brochure, Books etc.	08	03				2	Number of thematic maps developed.	Theme based digital maps related to environmental sector	00	00				3	Number of Mobile Apps developed.	Development of new mobile app for a particular quarter. Updation of existing mobile app cannot be mentioned in this indicator.	00	00				4	Number of youth skilled under various green skilling programmes.	Skilled youth under GSDP	00	00				5	Increase in number of downloads of mobile apps from the websites of individual ENVIS Centres, over previous year, by all stakeholders - students, researchers, policy makers, general public etc.	Mobile App downloaded from the ENVIS Hub/RP Website.	20	35				6	Increase in number of analytical reports generated from the MIS database by ENVIS Hubs over previous year.	Analytical reports generated based on ISREI database	NA	NA				7	Number of skilled youth employed after completing the certificate programmes.	Skilled youth employed under GSDP	00	00				8	Increase in number of downloads of environmental information products, kits and maps.	No. of Downloads from ENVIS website	50	45			
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Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”

3.	October – December 2020	 <p style="text-align: right; font-size: small;"> Dr. R. VASUDEVAN Principal In-charge ENVIS Co-ordinator Department of Chemistry Thiagarajar College of Engineering Madurai-625 015 Email: env@tceenvvis.in, drvasud@tce.edu CMC-31 94854 88726, 91 95421 92853 </p>
4	January – March 2021	 <p style="text-align: right; font-size: small;"> Dr. R. VASUDEVAN Principal In-charge ENVIS Co-ordinator Department of Chemistry Thiagarajar College of Engineering Madurai-625 015 Email: env@tceenvvis.in, drvasud@tce.edu CMC-31 94854 88726, 91 95421 92853 </p>

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”

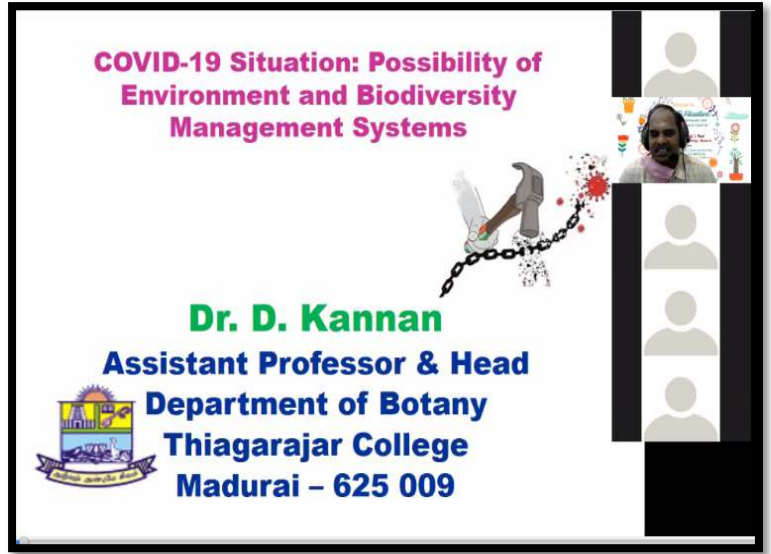
TCE ENVIS – Activities Report FY 2020 – 2021

Name of the Program: As a part of the celebration of World Environment day on the following webinars

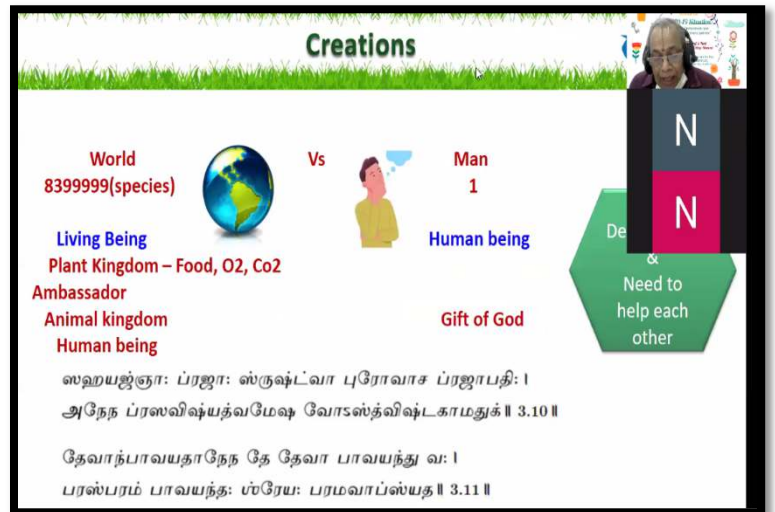
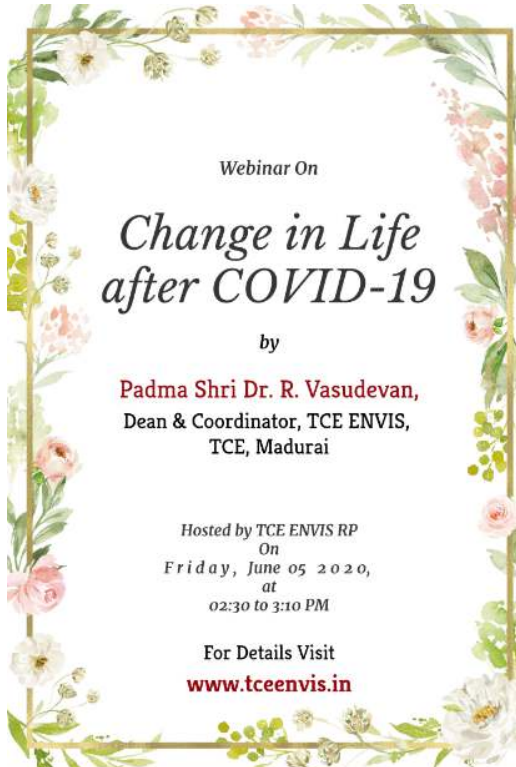
Date: 05/06/2020

Details:

- i) Dr. D. Kannan, Ass. Professor & Head Department of Botany, Thiagarajar college, delivered a Lecture on “Possibility on Environment & Biodiversity Management Systems.”



- ii) Dr. R. Vasudevan, TCE ENVIS, Coordinator, delivered a lecture on “Change in Life after COVID – 19.”



Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

Name of the Program: Online webinar conducted by DESKU - ENVIS Centre, University of Kalyan ('A' Grade Accredited by NAAC) West Bengal, India.

Date: 18.07.2020

Details:

- Dr. R. Vasudevan, TCE ENVIS Co-Ordinator, Delivered a lecture dated 18.07.2020 on "say not to plastic pollution" in the online webinar conducted by DESKU - ENVIS Centre, University of Kalyan ('A' Grade Accredited by NAAC) West Bengal, India.

WEBINAR on Say no to Plastic Pollution

Date: 18th July, 2020, **Time:** 12.00 noon
Programme streaming in: Youtube & Facebook (after 2 p.m.)

Venue: Skype

Organised by: ENVIS RP on Environmental Biotechnology, University of Kalyani
Under the aegis of: University of Kalyani ("A" Grade Accredited by NAAC) West Bengal, India
Sponsored by: MoEF & CC, Govt. of India

Welcome Address: Dr. Kausik Mondal, Coordinator, ENVIS RP, KU
Inaugural Address: Prof. (Dr.) Sankar Kumar Ghosh, Hon'ble Vice Chancellor, KU

Theme lecture: Prof. (Dr.) Ashis K Panigrahi, Pro Vice-Chancellor, University of Burdwan, Ex-Coordinator, ENVIS RP.

Key note Speaker: **THE PADMA SHREE Prof. R. Vasudevan**
Thiagarajar College of Engineering (TCE)
Madurai, Tamil Nadu, India.

Invited Speaker: Dr. Sukalyan Chakraborty, Endeavour Fellow, Birla Institute of Technology, Mesra, Ranchi.

Programme Hosting: Dr. Anusava Mallick, Programme Officer, ENVIS RP, KU

Free Registration: <https://forms.gle/>
e-Certificates will be provided to registered participants

Visit us: <http://deskuenvis.nic.in/>, Facebook: [deskuenvisrp](https://www.facebook.com/deskuenvisrp), Email: deskuenvisrp@gmail.com

Name of the Program: Online Webinar Conducted by SRM university, Chennai

Date: 19.07.2020

Details:

- Dr. R. Vasudevan, TCE ENVIS Co Ordinator ., Delivered a Lecture dated on 19.07.2020 on "PLASTIC as a Construction Material" in the Online Webinar Conducted by SRM university , Chennai

SRM **AARUSH'20**

DOMAIN ACADEMICS

Konstruktion TOPIC

PLASTIC AS A CONSTRUCTION MATERIAL

• Intuitive session on cost effective and conservative methods of using plastic as a construction material.

DR. RAJAGOPALAN VASUDEVAN
RECIPIENT OF PADMA SHRI 2018,
PLASTIC MAN OF INDIA, Professor
at Thiagaraj college of Engineering.

Register here or scan:
links.aaruush.org

19TH JULY
11 AM IST

Webinar platform:
zoom

For more queries contact- Abhishek: +91 82506 98101 | Sai Kiran: +91 79891 22117

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

Name of the Program: Online International webinar conducted by AKS University Satna Department of chemistry govt PG College, Chunar, Mirzapur, (U. P)

Date: 20.07.2020

Details:

- Dr. R. Vasudevan, TCE ENVIS Co Ordinator ., Delivered a Lecture dated 20.07.2020 ON "Plastic today, not to ban but to plan " in the online International webinar conducted by AKS University Satna Department of chemistry govt PG College, Chunar, Mirzapur, (U. P) (International Webinar Webinar Recent Innovations in Chemical Sciences- RICS-2020)

INTERNATIONAL WEBINAR
Recent Innovations in Chemical Sciences (RICS-2020)

Organised by **AKS University Satna** Department of Chemistry
In association with **Govt. PG College, Chunar** Mirzapur, (U.P.), India

Date : 18 - 20 July 2020, Time : 11 am to 3 pm, Platform : Google Meet • Live Broadcast at <https://www.aksuniversity.ac.in/live>

Plenary Speakers			Keynote Speakers		
 Chair Professor Punjab University of Petroleum and Minerals Saudi Arabia	 Professor Dept of Chemistry Tribhuvan University, Kathmandu, Nepal	 Professor, School of Metallurgical and Engineering South West Petroleum University, India, Ahmed, Chengde City Sichuan Province, China	 Professor, Department of Chemistry, Research & Training Development Centre Sarda University, Greater Noida India	 Principal Scientist ICIT, Hyderabad India	 Professor, Department of Chemistry, Dr. Hari Singh Gour University, Sagar India
 Professor Thapar College of Engineering, Patna India	 Professor & Head School of Biological Science & Chemical Science FIJ	 Associate Professor Industrial/Material Chemistry Unit, University of Ibadan Nigeria	 Professor, Department of Chemistry, Dr. Hari Singh Gour Central University, Sagar India	 Professor & Head Department of Chemistry A.P.S. University, Rewa India	 Professor B.H.U., Varanasi India
 Associate Professor, Dept of Life Science, & System Engineering, Kyushu Institute of Technology, Japan	 Associate Professor Pittsburg state university U.S.A.		 Associate Professor MNT, Jaipur India	 Associate Professor Department of Chemistry DAI College, Kanpur India	 Prof. & Lectur Bundelkhand Chhatrapati University, Chhatrapur India

Invited Speakers			Organizing Committee		
 Principal Govt Girls PG College, Satna India	 Associate Professor Research Scientist ACRD, Haryana India	 Associate Professor K.P.G Chakravarti, Jaipur (VRSQA) U.P. India	 Pro-Chancellor AKSU, Satna	 Vice-Chancellor AKSU, Satna	 Professor (Associate Prof.) AKSU, Satna
 Analytical Scientist U.S.A.	 Associate Professor & Head S.D Agricultural University, Palampur, Gujrat India	 Assistant Professor & Associate Dean NIT Uttarakhand India	 AKSU, Satna	 AKSU, Satna	 AKSU, Satna
 Senior Specialist U.S.A.	 Research Associate Maryland University Baltimore U.S.A.	 Senior Scientific Officer Forensic Science Laboratory, Bhopal India	 Professor (Associate Prof.) AKSU, Satna	 Dean, B.H. Saran AKSU, Satna	 Emeritus Prof., Chemistry AKSU, Satna
			 Dr. Dinesh K Mishra AKSU, Satna	 Mr. Manoj K Sharma AKSU, Satna	 Dr. Shalendra Yadav AKSU, Satna
			 Dr. Ranshwarban AKSU, Satna	 Dr. R.S. Tripathi AKSU, Satna	 Dr. K.S. Nigam AKSU, Satna

Name of the Program: International Youth day celebrate TCE ENVIS RP organized online webinar

Date: 12.08.2020

Details: International Youth day celebrate TCE ENVIS organized online webinar Dr. R. Vasudevan, TCE ENVIS Co ordinator ., delivered a lecture dated 12.08.2020 on "Youth – Dream for Tomorrow"

TCE ENVIS RP
(Plastic Waste Management)

As a part of International Youth Day 2020,
TCE ENVIS organizes a Webinar on

Youth - Dream for Tomorrow
(Understand, Plan, Execute)

International Youth Day - 2020

Speaker
Padma Shri Dr. R. Vasudevan,
Dean & Coordinator,
TCE ENVIS RP, TCE, Madurai.

For More Details:
www.tceenvvis.in

Date: 12.08.2020
Time: 11:00 AM to 11:40 AM
Join Zoom Meeting:
Meeting ID : 834 1977 3866
Passcode : 3eW8Au

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

Name of the Program: One week online GIS training on Basics of GIS , Conducted by WWF India, ENVIS Resource Partner , New Delhi.

Date: 27 July to 01 August 2020.

Details:

- **Mr. Chander Kumar., TCE ENVIS Information Technology Officer., One week online GIS training on Basics of GIS , Conducted by WWF India, ENVIS Resource Partner , New Delhi.**



Name of the Program: TCE ENVIS team Visited Sundaram Brake Linings Ltd

Date: 03.09.2020

Details:

- TCE ENVIS team Visit to Sundaram Brake Linings Ltd, Madurai on 03.09.2020, for interactive session with engineers on reuse of the brake shoe waste and converting it in to useful products.
- Visit By
 - Dr. R. Vasudevan, ENVIS Co-ordinator,
 - Dr. A. Ramalinga Chandra Sekar, Program Officer
 - Mr. K. Sundara Kannan., Information Officer,



Name

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

of the Program: TCE ENVIS RP Centre Visited by Mr. Sridhar Vembu CEO ZOHO Corp

Date: 15.09.2020

Details:

- Mr. Sridhar Vembu CEO ZOHO Corp. Visited our ENVIS centre on 15.09.2020. He applauded the activities happening at our centre. He also appreciated our work on Plastic Waste Management



Name of the Program: TCE ENVIS RP Centre Visited by Justice Thiru . K. Venkatraman.,

Date: 17.09.2020

Details:

- Justice Thiru . K. Venkatraman., Visited our ENVIS Centre on 17.09.2020. He showed his appreciation on our ENVIS Centre activities and he had highly commended our research work on Plastic Waste Management



Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”



Name of the Program: Online Webinar Conducted by Srimathi Devakunvar Nanalal Bhatt Vaishnav College for Women at Madras.

Date:14.09.2020

Details:

- Guest Lecture delivered by Dr. R. Vasudevan., ENVIS Coordinator in a National Level Webinar on “Treading the path of Innovation” to Srimathi Devakunvar Nanalal Bhatt Vaishnav College for Women at Madras.

SHRIMATHI DEVKUNVAR NANALAL BHATT VAISHNAV COLLEGE FOR WOMEN (AUTONOMOUS)
AFFILIATED TO UNIVERSITY OF MADRAS - RE-ACCREDITED WITH 'A' GRADE BY NAAC

Institution's Innovation Council

Cordially Invite You To
NATIONAL LEVEL WEBINAR

Treading the Path of Innovation

Resource person:
Dr. R. Vasudevan
(Padma Shri Awardee)
Professor and Dean ECA
Department Of Chemistry
Thiagarajar College of Engineering

Plastic man of India

Save the Date:
14th September 2020
Time: 2:15 pm to 3:30 pm
Platform : MS Teams

TAP ANYWHERE ON THE INVITE TO REGISTER
Register for free !!!
E-Certificate will be provided!

Name of the Program: World Ozone Day” TCE ENVIS (RP) through organized Online Webinar

Date: 16.09.2020.

Details:

- The International Day for the Preservation of the Ozone Layer, more generally known as the World Ozone Day, is celebrated on the 16th of September every year, commemorating the date on which the Montreal Protocol for the abatement of substances that deplete the Ozone Layer was signed in 1987. Every year, the UN Environment Programme will declare a specific theme to protect and preserve the

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”

ozone layer. The theme for 2020 is “Ozone for Life - 35 Years of Ozone Layer Protection”.

- The Ozone Layer shields the Earth from most of the sun’s harmful ultraviolet radiation. In the late 1970s, scientists discovered that ozone- depleting substances used in aerosols and refrigerants in refrigerators and air-conditioners is creating a hole in this protective shield, popularly known as the Ozone Hole. This hole allowed the harmful UV rays penetrate through Ozone layer increased the cases of skin cancer and cataracts, and damaged plants, crops, and the ecosystems.
- Webinar session: Thirumathi N. Anitha., Social worker., Delivery Lecture on “Waste Management – Perspective of Social Workers”.
- The Speaker discussed about the process of waste management handling in Individual houses. The lecture was very thought provoking and informative



Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”

Name of the Program: Online Webinar Conducted by VJTI presents Technovanza 20 -21. GLS VJTI Guest Lecture Series Co-hosted by Gaya college of Engineering

Date: 23.10.2020

Details:

- Dr. R. Vasudevan, TCE ENVIS Coordinator, delivered a Guest Lecture on” Plastic – Gift of God “ organized by VJTI presents Technovanza 20 -21. GLS VJTI Guest Lecture Series Co-hosted by Gaya college of Engineering dated 23.10.2020



Name of the Program: Online Webinar organized by BSAC (Circulate Capital India)

Date:20.10.2020.

Details:

- Dr. R. Vasudevan, TCE ENVIS Coordinator, delivered a Guest Lecture on “Plastic Waste Management Discussion “ organized by BSAC (Circulate Capital India)

Prof. Vasudevan ~ BSAC (Circulate Capital) / Plastics Waste Discussion

Inbox x MEETING, CONFERENCE/webinar x

Premlata <premlata@bsac.net.in> to indianplasticman@gmail.com, me, Rajendran, Balinder

Thu, Oct 15, 11:30 AM

	Prof. Vasudevan ~ BSAC (Circulate Cap... View on Google Calendar	Agenda Tue Oct 20, 2020
	When Tue Oct 20, 2020 12pm – 12:30pm (IST)	<i>No earlier events</i>
	Where https://zoom.us/j/94082865713?pwd=UUk5czZoa3pMMkY5SCTSWjZaVGxFUT09&from=msft	12pm Prof. Vasudevan ~ BSAC (Circulate Cap...
	Who indianplasticman@gmail.com, Rajendran, Balinder Singh, Premlata*	<i>No later events</i>

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”

CIRCULATE CAPITAL

The Strategy:
Circulate Capital Ocean Fund (CCOF)
The US\$10M Circulate Capital Ocean Fund (CCOF), managed by Circulate Capital provides catalytic capital financing (debt and equity), bringing together the public and private sectors to invest for maximum impact in India, Indonesia, Thailand, Vietnam and the Philippines.

Announced during the 'Our Ocean Summit' in Bali in October 2018, CCOF was created with initial contributions from leading corporations, including PepsiCo, Procter and Gamble, Dow, Danone, CHANEL, Unilever, Coca-Cola, Chevron-Phillips Chemical and backed by the U.S. Development Finance Corporation (DFC) in collaboration with USAID.

The Strategic Tenets of CCOF

- Investments not grants:** Investments generate a level of return and measurable impact that prove the model
- Systemic change:** Capital is pooled to effect systemic change that no company, task body or entity can accomplish alone.
- Scalability and replicability:** Learnings will be shared to cultivate scalability and replicability.
- Unlock co-investment:** Circulate Capital will co-invest with private investors, thereby crowding in additional capital.

Investment in Plastic: Pollution reduction and the circular economy has direct and indirect impact on achieving key Sustainable Goals of Clean Water & Sanitation, Sustainable Cities and Communities, Decent Work and Economic Growth, Good Health and Well-being, and Climate Action, among others.

Investment Approach:
Identify, Incubate and Invest
CCOF has adopted a venture capital-like approach with an early stage equity or quasi equity or debt investments, in companies/projects that divert waste from the environment/ocean and into the recycling value chain and increase investible pipeline by providing nascent businesses with acquirer capital and resources.

The Opportunity:
Investment in Plastic Waste Management
There are 130 million tons of plastic in the oceans right now and growing by 8 million tons every year.^{1,2}
About 60% of plastic waste generated in India is either recycled or downcycled, which is considerably higher than the global average of 20%. Not more than 3.8 million tonnes of plastic waste is left uncollected or littered every year.³ These are dumped in landfills or get washed away by rivers into the ocean.
More efficient management of plastics, including marine plastic waste, that is currently not recycled in India could create around 1.6 million jobs and approximately \$2 billion in value.^{4,5}

India Investments

India is at the forefront of Circulate Capital's vision to advance its goal of a carbon-beneficial circular economy and prevent the flow of plastic waste into the world's oceans. The multi-investment strategy focused on incentivizing the informal sector through investments in businesses supporting value-adding to collection and sorting of waste, and expansion of plastic waste processing and recycling capacity. This is in line with Prime Minister's vision to manage plastic waste and waste generation under the Swachh Bharat Mission (SBM).

On April 26, 2020, CCOF announced its inaugural investments of USD 6m in India and Indonesia. This included Mumbai based Lustro Plastics, a homegrown manufacturer that developed an integrated process to collect, sort and recycle difficult-to-manage flexible plastic for its own production of flexible products (such as stretch wrap and films) and to sell as high-quality recycled plastic granules to manufacturers across the country.

Since then Circulate Capital has also made an unannounced second investment in a recycling company in Hyderabad which converts various types of plastic waste into value added products, such as containers.

Circulate Capital is working on further investment commitments in India which are at various stages of execution. It also intends to build sustainable partnerships, through its investments, with various stakeholders – both within the public and private ecosystem in India – to achieve its goals.

The Circulate Initiative: Supporting the Ecosystem

As preventing future ocean plastic requires a comprehensive approach that goes beyond providing investment capital, Circulate Capital has partnered with a number of non-profit organizations, including Ocean Conservancy, Partnership in Environmental Management for the Sea of East Asia (PEMSEA), and supported the establishment of The Circulate Initiative (TCI), a non-profit organization dedicated to ending marine plastic pollution and building thriving circular economies.

The Incubation Network (IN) is the flagship program of The Circulate Initiative (TCI) that focuses on supporting entrepreneurs and incubators, and on creating the enabling conditions they need to be successful. Ultimately, this approach increases the pipeline of investible opportunities for all investors, unimpeded by individual success and competition.

The Approach:

- Incubate:** Increase the number and quality of investors in the waste and recycling sector and create the conditions they need to succeed through the Incubation Network (IN), developed in partnership with SBM/Ministry.
- Measure:** Develop open source metrics for all investors to track environmental and social impacts.
- Amplify:** Share success stories and impacts of entrepreneurs, leaders and organizations to encourage replication and scaling.

Name of the Program: Online Webinar Conducted by St. claret College, Bengaluru

Date: 24.11.2020

Details:

- Dr. R. Vasudevan, TCE ENVIS coordinator, delivered a Guest lecture on “Business Opportunities in Waste Plastic Management & Bio fuel” organized by St. claret College, Bengaluru, dated 24.11.2020.

St. Claret College, Bengaluru
NAAC Accredited | Recognized under sections 20 & 12(B) of the UGC Act, 1956
Permanently affiliated to Bangalore University | A Christian Missionary Institution

Department of Humanities in Association with Institutional Innovation Council and IQAC Presents

Online Workshop on
BUSINESS OPPORTUNITIES IN WASTE PLASTIC MANAGEMENT & BIO FUEL

Speakers:

- Padma Shri Dr. Rajagopalan Vasudevan**, Plastic Man of India
- Dr. Sameer Joshi**, Hon Secretary Governing Council of Indian Plastics Institute, Guinness World Book Record Holder
- Sharang Ambadkar**, Managing Director Feelgood EcoNurture LLP
- Dr. B K Sahu**, Regional Manager, NRDC, Govt. of India, Innovation Valley

Patron: Dr Sabu George, Principal
Event Co-Ordinators: Dr. Vineeth Sahadevan, Ms. Sonal Singh
IIC Observer: Dr Rashmi BH
IQAC Observer: Dr Supriya Singh

DATE: NOVEMBER 24, 2020
TIME: 9.30 AM - 2.30 PM
FREE REGISTRATION

Registration link: <https://forms.gle/V1W7A3mDzH9rQ7r>

Student Co-Ordinators: Mr Abhilesh Chitrangi, Ms. Shilpa Rose, Vth Sem BA

Participants: All Humanities Students, 1st Year students of BBA, B.Com, Bsc
E Certificate will be provided

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

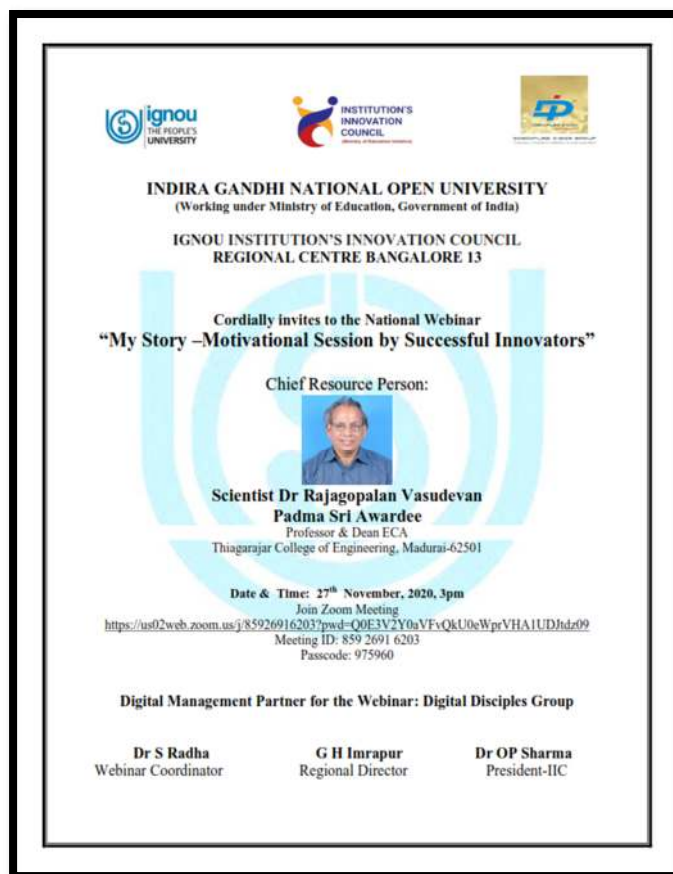
Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”

Name of the Program: Online Webinar Conducted by Indira Gandhi National Open University (working under ministry of education, government of india) IIGNOU Institution’s Innovation Council Regional Centre Bangalore

Date: 27.11.2020.

Details:

- Dr. R. Vasudevan, TCE ENVIS coordinator, delivered a Guest lecture on “My Story –Motivational Session by Successful Innovators” organized by Indira Gandhi National Open University (working under ministry of education, government of india) IIGNOU Institution’s Innovation Council Regional Centre Bangalore, dated 27.11.2020



Name of the Program: National Energy Conservation Day at TCE ENVIS RP organized Online webinar

Date: 14.12.2020

Details:

- National Energy Conservation Day at TCE ENVIS organized a webinar on “Need for Energy Conservation” invited lecture was delivered by Dr. K. Balaraman, Director General National Institute of Wind Energy R &D Institute under the MNRE GOI, Chennai dated 14.12.2020

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

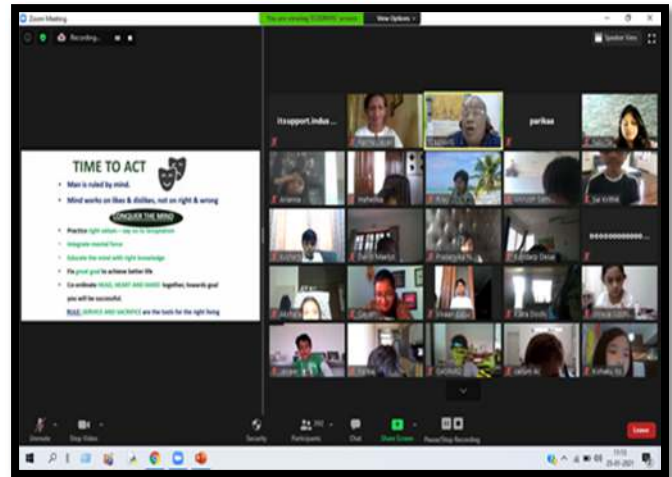
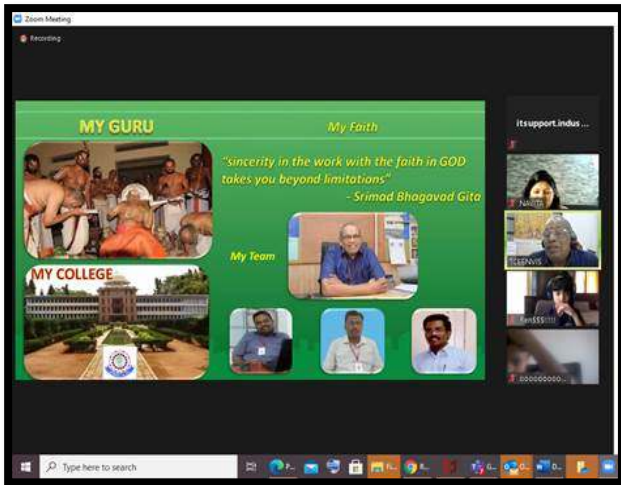
Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

Name of the Program: Online Webinar Conducted by Indus International School Bangalore

Date: 25.01.2021

Details:

- Indus International School Bangalore, organized an online webinar session on "Innovation and Plastic Waste Management" on 25.01.2021. Dr. R. Vasudevan, Coordinator TCE ENVIS RP has delivered a guest lecture on Plastic Waste Management



Name of the Program: TCE ENVIS RP Organized Online Webinar

Date: 31.01.2021

Details:

- TCE ENVIS organized a webinar on Extended Producer Responsibility On Plastic Waste Management. Dr. Sameer Joshi Industrialist, Hon secretary, Governing council Indian plastics Institute has delivered a guest Lecture On "Extended Producer Responsibility On Plastic Waste Management" Dated 31.01.2021

"Extended Producer Responsibility on Plastic Waste Management" **WEBINAR**

THIAGARAJAR COLLEGE OF ENGINEERING, MADURAI,
TCE ENVIS RP

ENVIS - Resource Partner on Plastic Waste Management

Speaker

Dr. Sameer Joshi Industrialist

Webinar QR Code

Date: 30.01.2021
Time: 11:00 AM

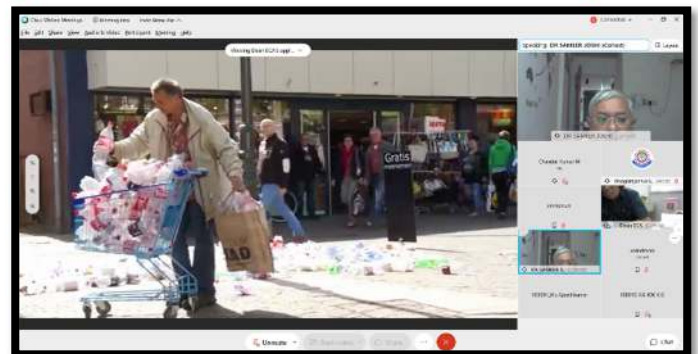
Webinar @ CISCO Webex:
176 616 8938
MvaidU@934

First Secretary Governing Council Indian Plastics Institute and Senior Member Society of Plastic Engineers India.

OUR FIRST WORLD'S LARGEST 1.5 LITRE BOTTLE OUT OF PLASTIC RECYCLED BOTTLES

TAKE YOUR SOCIAL RESPONSIBILITY TO THE NEXT LEVEL

WWW.TCEENVIS.IN



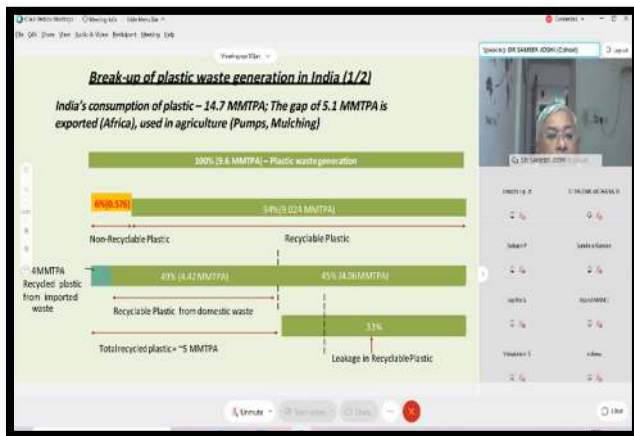
Extended Producer Responsibility Evolution

EPR is an environmental protection strategy to reach an environmental objective of a decreased total environmental impact from a product, by making the manufacturer of the product responsible for the entire life-cycle of the product and especially for the take-back, recycling and final disposal of the product. The Extended Producer Responsibility is implemented through administrative, economic and informative instruments. The imposition of these instruments determines the precise form of the Extended Producer Responsibility.

Year	Event
1990	First EPR Legislation introduced in Sweden by the Ministry of Environment
1991	First EPR Legislation introduced in Germany
2000	13 more countries in European Union implement EPR legislation
2001	First EPR rules comes to India through E-waste rules
2011	EPR rule applied to plastics through plastic waste management rules, 2015. Targets not specified for plastics
2015	EPR framework for plastic waste under preparation in India

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

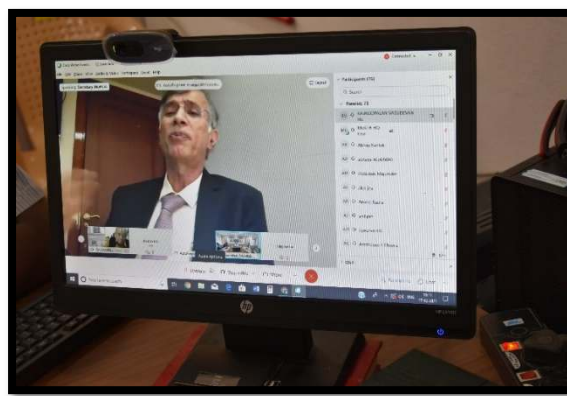
Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"



Name of the Program: Online Webinar Meeting on Roadmap for effective implementation of Union budget 2020-21 in the Infrastructure Sector- Plenary Session. Swachh Bharat Mission-Grameen (SBMG), Date: 16.02.2021 to 17.02.2021

Details:

- Webinar on Roadmap for effective implementation of Union budget 2020-21 in the Infrastructure Sector- Plenary Session. Swachh Bharat Mission-Grameen (SBMG), a Centrally Sponsored Scheme Dr. R. Vasudevan., coordinator on TCE ENVIS RP participated as panelist (Meeting on 16.02.2021 to 17.02.2021)



Name of the Program: TCE ENVIS RP Visit of PWD AE From all over Tamil Nadu

Date: 19.02.2021

Details:

- Visit of PWD AE From all over Tamil Nadu to TCE ENVIS RP on 19.02.2021 for a training on Plastic Waste Management and Plastic Tar Road Laying. The program was organized by Tamil Nadu Institute of Urban Studies, Coimbatore



Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"



Name of the Program: TCE ENVIS RP organized a webinar

Date: 25.02.2021

Details:

- TCE ENVIS RP organized a webinar on "Sustainable Sanitation" Dr. Marachi Subburaman, Padmashri Awardee delivered a lecture on Sustainable sanitation and its importance dated 25.02.2021

Thiagarajar College of Engineering
TCE ENVIS RP

The first principle of Sustainable Sanitation is to recognise that excreta and wastewater are not wastes, but resources that are valuable and can be reused and recycled. The main objective of sanitation is to provide a healthy and clean environment and breaking the cycle of disease.

Join Our **WEBINAR** On
"Sustainable Sanitation"

23.02.2021
12:00 - 01:00 PM

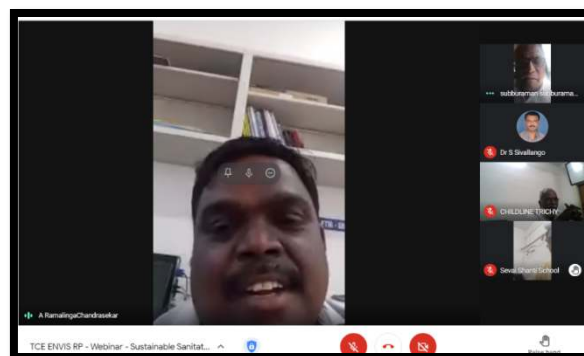
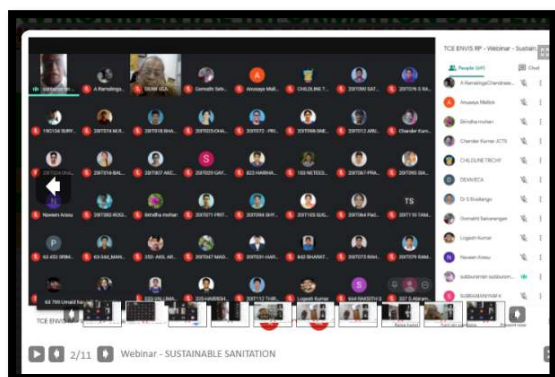
Google Meet

Meeting ID
ibz-aenw-amg

Password
772 082 876 #

Speaker
Padma Shri Awardee
Shri Marachi Subburaman
Managing Trustee,
Society for Community Organisation and People's Education (Scope) & Executive Member of State Sanitation Society

Ministry of Environment, Forest & Climate Change, Govt. of India www.tceenvvis.in



Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

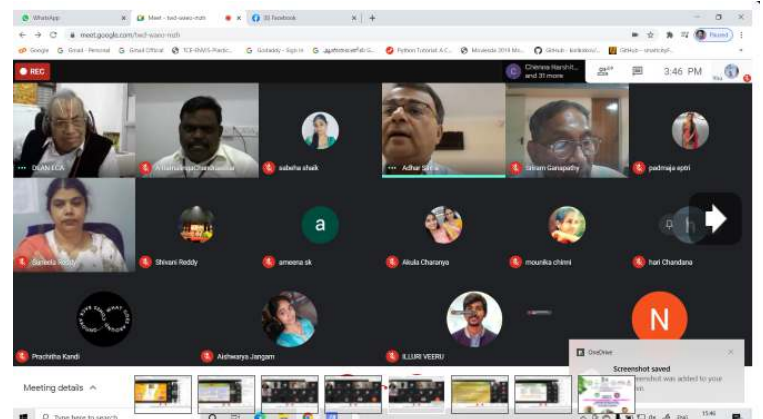
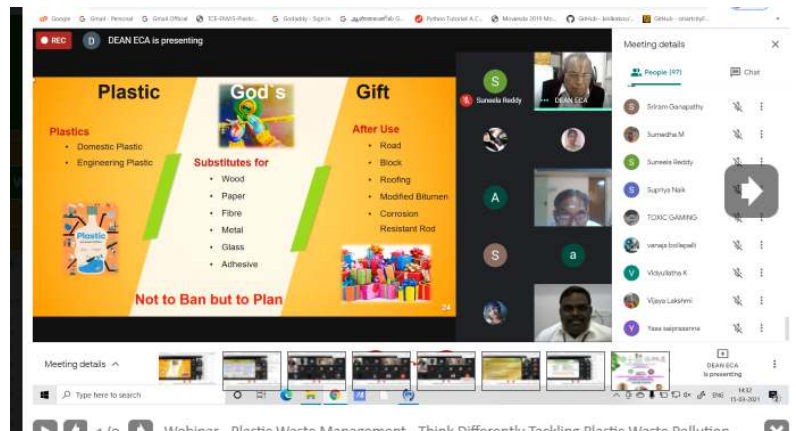
Name of ENVIS Centre “TCE ENVIS – RP - Plastic Waste Management”

Name of the Program: Online Webinar session conducted by EPTRI ENVIS HUB/RP, Telangana

Date:15.03.2021

Details:

- On account of World Consumer Rights Day, EPTRI ENVIS HUB/RP, Telangana organized on line webinar session on the theme “Tacking of Plastic Pollution” on 15.03.2021 Dr. R. Vasudevan., coordinator, TCE ENVIS RP delivered a guest lecture on the topic “Plastic Waste Management Think Differently”.



Name of the Program: Online Webinar session conducted by MSME Chamber of Commerce and Industry of India

Date: 18.03.2021

Details:

- MSME Chamber of Commerce and Industry of India organized a webinar on Plastic waste Management Dr. R. Vasudevan., coordinator, TCE ENVIS RP delivered a guest lecture on “Plastic Waste Management” Dated 18.03.2021

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

MSME Chamber of Commerce and Industry of India

18th | March | 2021 | 4.00 pm. IST

ZOOM MEETING

Topic : Global Recycling Day

Padmashri Dr. Rajagopalan Vasudevan
Professor
Thiagarajar College of Engineering

Mr. Ranjit S Baxi
President
Global Recycling Foundation,
Belgium

Dr. Sameer Joshi
Hon Secretary GC, IPI
(Mumbai)

Dr. Indrajit Ghosh
Global Chairman
MSME Chamber of Commerce
and Industry of India

Dr. Nayan Prakash Gandhi
Global Secretary
MSME Chamber of Commerce
and Industry of India

Ms. Ekta Narain
Director
Recykal (Rapidus Technologies
Pvt. Ltd.)

NASSCOM, Henkel, Iba, SMEBIZZ, Add'ng Sm'les, Digital Partner

Online zoom event
<https://us04web.zoom.us/j/6869886294>
zoom meeting id-6869886294

Name of the Program: Online Webinar session conducted by IUCEE Foundation

Date: 19.03.2021

Details:

- IUCEE Foundation organized webinar on Plastic Waste Management Dr. R. Vasudevan., coordinator, TCE ENVIS RP delivered a guest lecture on "Plastic Waste Management -Plastic for Road Technology" dated 19.03.2021

mail.google.com/mail/u/0/?search/IUCEE/FMfcgmiLwHhZMZNiPKVWhFvpiZwWpr

IUCEE

Sridhar N
to kishina.vedula.me, Saravani -
Tue, Mar 16, 5:18 PM (11 days ago)

Thank you Prof Vasudevan,
If you have never used GoToWebinar before, we can schedule a quick practice session before your webinar on Friday. Do let us know what time is convenient for you.
Below is the link to your webinar.
Please register for IUCEE Virtual Academy: Plastics for Road Technology on Mar 19, 2021 4:00 PM IST at:
<https://attendee.gotowebinar.com/register/9185752718308820223>

Thank you,
Sridhar Noni
<https://iucce.org/>
xxx

Sure, will do that. Thank you for the information. I am not interested.

Brochure (Annexure 1)

Ozone Day

TCE ENVIS
Resource partner on Plastic Waste Management

Hosted by
Thiagarajar College of Engineering, Madurai.

Funded by
Ministry of Environment, Forest and Climate Change,
Government of India

Content Credit: <https://madison.com/gbhekarinc>

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Resource partner on Plastic Waste Management

Introduction

On 19 December 1994, the United Nations General Assembly proclaimed 16 September as the world ozone day commemorating the Vienna convention and Montreal protocol, to cut 99 percent of ozone-depleting substance out of the atmosphere and make people aware of the depletion of the ozone layer and finding possible ways to preserve it.

History Behind World Ozone Day

Scientists were researching in the late 1970s and found a developing hole in the atmospheric shield of earth i.e ozone layer. It was due to the ozone-depleting gases mostly produced by aerosols and cooling systems such as refrigerators, air conditioners, etc. penetrating ultraviolet rays through the depleted ozone layer can cause skin cancer and cataracts, and damage plants, crops, and ecosystems. Then the world comes together and In 1985, the world's governments adopted the Vienna Convention for the Protection of the Ozone Layer. Under the Convention's Montreal Protocol, governments, scientists, and industry worked together to protect the ozone layer by taking tangible actions for controlling the substances that deplete the ozone layer. In support of the Protocol, the Kigali Amendment, which came into force in 2019, will work towards reducing hydrofluorocarbon (HFCs), greenhouse gases with powerful climate-warming potential, and damaging to the environment.

The Vienna Convention and the Montreal Protocol became the first treaties in the history of the United Nations to achieve universal ratification on 16 September 2009.

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Vienna Convention

"The Vienna Convention for the Protection of the Ozone Layer" is a formally concluded and ratified framework for international cooperation concerning the protection of the ozone layer, which was adopted in 1985 and entered into force in 1988. It provides observations, research, and information exchange on the ozone layer.

Montreal Protocol

"The Montreal Protocol for controlled action against ODSs" is the formally signed document by developed countries around the world to take action ending the production of halons and CFCs which comes in the ozone depletion substance category. Cooperation of the Vienna convention results in the signing of the Montreal Protocol, however, the Vienna Convention does not require the taking control action against ODSs, rather it comes in the Montreal protocol.

What is the Ozone Layer?

The ozone layer is the high concentration protecting layer in the earth's stratosphere nearly 15 to 30 km above the earth's surface. Almost 90% of the ozone gas that the earth contains is found in the stratosphere as the ozone layer. Ozone is made up of three atoms of oxygen(O₃), a very reactive gas in nature, shielding the planet earth from the harmful ultraviolet radiation of the sun that can destroy the living things on earth. On account of this we can figure out how important this layer is, so this year theme is based on this anthem that we need to save our lives and future generations by preserving our guard — OZONE LAYER

- Exosphere
- Thermosphere
- Mesosphere
- Stratosphere
- Ozone
- Troposphere

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Why is Ozone so important?

In the history of the earth, there is always a helper like a shield over Earth, thin but very protective i.e Ozone layer. It plays an important role in beholding some special capabilities to absorb most of the ultraviolet rays coming from the sun which can affect our planet so badly that life could come to an end. It is our responsibility to preserve the ozone layer by decreasing carbon emission.

There are some ozone-depleting substances:

- Chlorofluorocarbons (CFCs)
- Hydrochlorofluorocarbons (HCFCs)
- Methyl bromide
- Carbon tetrachloride
- Methyl chloroform

Excessive depletion of the ozone layer due to these substances is leading to life-threatening diseases like skin cancer, cataract, loss of immunity to diseases. It will impact the ecosystem also. Plant growth will be affected. Ultraviolet radiation has an adverse reaction with plastic too.

A threat to Ozone Layer: Hole in the Ozone

The thickness of the ozone layer around the globe varies according to proximity to the sun and fluctuations of ozone molecules in different climatic conditions

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A threat to Ozone Layer: Hole in the Ozone

- The thickness of the ozone layer around the globe varies according to proximity to the sun and fluctuations of ozone molecules in different climatic conditions
- According to researchers, scientists discovered that the layer is depleting gradually due to the excess carbon emission by man-made activities.
- Ozone molecule density or ozone layer strength is measured in Dobson units
- The thickness of the ozone layer around the globe varies according to proximity to the sun and fluctuations of ozone molecules in different climatic conditions
- According to researchers, scientists discovered that the layer is depleting gradually due to the excess carbon emission by man-made activities.
- Ozone molecule density or ozone layer strength is measured in Dobson units
- A large hole has made over Antarctica(southern hemisphere) and arctic(northern hemisphere) which allows the ultraviolet radiation to reach the earth's surface
- Ozone layer holes widen up in winter through the early springs almost 1-2 months for the arctic and 5-6 months for Antarctica. An 'ozone hole' is formed due to the formation of polar stratospheric clouds(PSCs), which only take place around -80°C

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- Sun rays initiate the reaction between ozone molecules and chemically active forms of chlorine and bromine present in the atmosphere
- Recent information from Copernicus Atmospheric Monitoring Service (CAMS) reveals that the ozone hole in the arctic is fully healed and closed and it is not because of any air quality changes

Is it the Montreal Protocol behind Ozone Layer healing till now?

Thanks to the Montreal protocol, the initiative for which nations united in 1987 to protect the shield of the earth comes with good news. According to a NASA report, it reveals that the ozone layer is recovering effectively.

- The Antarctic ozone hole reaches its smallest annual peak on record since 1982. Milestones are not meant to be destinations. So we need to keep on progressing to phase out all the ozone-depleting chemicals from the atmosphere.
- According to NASA and the NOAA, the annual ozone hole — which consists of an area of heavily depleted ozone high in the stratosphere above Antarctica, between 7 and 25 miles (11 and 40 kilometers) above the surface — reached its peak extent of 6.3 million square miles on September 8 and then shrank to less than 3.9 million square miles during the rest of September and October.

If the Montreal protocol was not signed against CFCs to protect the ozone layer, this will be the actual condition of our planet.

Factsheet of 2020-21 (As on 31-Mar-2021 on Activities of ENVIS Centre)

Name of ENVIS Centre "TCE ENVIS – RP - Plastic Waste Management"

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What can we do to preserve the Ozone layer?

- REDUCE THE EMISSION OF OZONE-DEPLETING SUBSTANCES: Excess of aerosols and the use of air-conditioners that produce ozone-depleting substances increase the depletion of the ozone layer by providing a surface for CFCs(chlorofluorocarbons), halogenated hydrocarbon, methyl bromide, and nitrous oxide to destroy ozone molecule in the stratosphere. We should limit our usage of AC's & aerosols.
- MINIMAL USE OF AUTOMOBILES: The most Eco-friendly way of transportation is a bicycle or walking but if you can not do this, try to use public transport or carpool but with proper precautions as per the 2020s scenario of COVID-19
- USE HOMEMADE AND ECO-FRIENDLY CLEANERS: Almost all of the cleaners available in the market are chemical-based, those have harmful solvents and fumes that can affect health and the environment too. So try to use a homemade cleaner like citrus fruit peel with vinegar, baking powder with vinegar, etc.
- USE LOCAL PRODUCTS: In this way, you not only get fresh products but you avoid consuming food that has traveled long distances. As the more distance traveled, the more nitrous oxide is produced due to the medium used to transport that product.
- PROPER MAINTENANCE NEEDED FOR AIR-CONDITIONERS: Proper cleaning and maintenance of air-conditioners is needed as their malfunctioning could cause CFCs to release into the atmosphere.

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How India is contributing to the perseverance of the Ozone layer?

India contributed and signed the Vienna convention's Montreal Protocol for the protection of the Ozone layer in 1992 on phasing out the ozone-depleting substances from the atmosphere signaling the country's commitments to the global cause for the preservation of the ozone layer depletion.

- Since 1993, India has contributed to the United Nations development program, phasing out of ozone-depleting substances implementing USD 40 million in multilateral fund projects
- As a result of the support, India completely phased out all man-made chemicals responsible for the depletion of the ozone layer like Chlorofluorocarbons, carbon tetrachloride, and halons.
- India is the biggest exporter of steel and in the production of steel, there is a harmful chemical used in the cleaning of steel known as carbon tetrachloride. But now, many steel companies have stopped using that and replaced it with tetrachloroethene which is less harmful to the environment. The National Ozone Unit (NOU) has undertaken a comprehensive public awareness campaign to ensure that both the public and the companies responsible for actually phasing out the ODS understand and support
- In 2002, A book named "The Montreal Protocol-India's success story" was published by Ozone cell, ministry of environment and forests, the government of India. It was all about the efforts made by the Indian government and people to protect the ozone layer and succeeding efforts following the Montreal protocol.

குறுங்காடு

Thiagarajar College of Engineering, Madurai

Growing Trees to restore our Eco System

குறுங்காடு
Small Forest

Ecosystem Restoration FORMATION OF SMALL FOREST

THANGALACHERI VILLAGE,
TIRUMANGALAM TALUK,
MADURAI, TAMILNADU
PINCODE: 625706

TCE ENVIS RP
Resource Partner on Plastic Waste Management

Funded by
Ministry of Environment, Forest &
Climate Change, Govt. of India

with
TCE NSS
National Service Scheme

*Neem Tree *Marudham Tree
*Punga Tree *Poovarasu Tree

www.tceenvis.in

TCE ENVIS RP
THIAGARAJAR COLLEGE OF ENGINEERING
ENVIRONMENT INFORMATION SYSTEM (ENVIS)
RESOURCE PARTNER ON PLASTIC WASTE MANAGEMENT

Ecosystem Restoration- Formation of Small Forest

(குறுங்காடு) - Growing trees.

TCE ENVIS RP in coordination with TCE NSS cell had adopted the village "Thangalacherri" in Madurai district under the ENVIS activities. Every year as a part of our NSS – ENVIS collaboration activities we are conducting our NSS camp activities at the village. The activities include cleaning of the village, conducting awareness camps to the public and so on. In addition to these activities, we are also helping the village administration by providing them some financial assistance from our college ENVIS RP to carry out cleaning and greening activities in the village. Earlier we have donated plastic waste collection boxes to the village through our TCE ENVIS centre.

In connection with this, we have formed a small forest (குறுங்காடு) in their village. The small forest formed had rare varieties of trees, which are helpful in biodiversity maintenance, soil conservation and water restoration. It is the need of the hour as more and more deforestation is taking place. It also is a source of generation of new saplings for many plants.

The following are the varieties of plants we have planted.

1. Neem Tree
2. Punga Tree
3. Marudham Tree
4. Poovarasu Tree

Development of these kind of small forest will definitely help the eco system in restoring its value. This year we have also planned to extend these activities in 5 more villages which we have adopted under TCE NSS.

Encl:

1. Photographs of the small forest.



TCE ENVIS RP

**THIAGARAJAR COLLEGE OF ENGINEERING
ENVIRONMENT INFORMATION SYSTEM (ENVIS)
RESOURCE PARTNER ON PLASTIC WASTE MANAGEMENT**

Ecosystem Restoration- Formation of Small Forest

(குறுங்காடு) - Growing trees.



**Our Coordinator giving fund to village representative to form small forest,
along with TCE ENVIS RP - Program Officer & TCE NSS - Coordinator**



**The Team started the basic ground work to form the small forest - Thangalacheri
Village located at Tirumangalam Taluk, Madurai District, Tamilnadu**



**Recent photos of well grown trees planted at small forest - Thangalacheri
Village located at Tirumangalam Taluk, Madurai District, Tamilnadu**