

# ANNUAL PROGRESS REPORT

(2018 -2019)

SUBMITTED TO  
MINISTRY OF ENVIRONMENT, FOREST AND 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 2018-19 (As on 31-Mar-2019) 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)

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**Factsheet of 2018-19 (As on 31-Mar-2019) on Activities of ENVIS  
Centre**

<b>1.</b>	<b>Name of Host Organization:</b>	Department of Chemistry, Thiagarajar College of Engineering, Madurai.
<b>2.</b>	<b>Assigned Subject Area:</b>	Plastic Waste Management
<b>3.</b>	<b>Date/Month/Year of establishment of ENVIS Centre:</b>	MoU signed between MoEF and University of Madras, D.O. Letter No. 11/5/17-EI, dated Feb 07, 2018
<b>4.</b>	<b>Name and designation of ENVIS Coordinator (2018-19):</b>	Dr. R. Vasudevan, Professor Chemistry & Dean ECA, Thiagarajar College of Engineering, Madurai.
<b>5.</b>	<b>Has the Host Organization constituted an Advisory Committee for guiding the activities of the Centre?</b>	Yes
	<b>Composition of the Advisory Committee:</b>  (Select YES or NO: if YES kindly fill the right column space; if NO kindly leave it blank)  <input type="radio"/> YES ✓ <input checked="" type="radio"/> NO	Dr.V.Abhaikumar, TCE Principal, Chairman, Thiagarajar College, Madurai.  Dr. R. Vasudevan, TCE Dean, Convener, Thiagarajar College, Madurai.  Dr. M. Kottaisamy, TCE Prof & Head Department of Chemistry, Thiagarajar College, Madurai  Dr. RA. Alaguraja, TCE Assoc. Prof., Department of ECE, Thiagarajar College, Madurai  Dr. S. Muthuramalingam, TCE Assoc. Prof., Department of IT, Thiagarajar College, Madurai  Dr. D. Tamilselvi, TCE Assoc. Prof. Department of IT, Thiagarajar College, Madurai  Mr. G. Balaji, TCE Assoc. Prof, Department of Arch, Thiagarajar College, Madurai  Dr. A. Ramalinga Chandra Sekar, TCE ENVIS Program Officer, Thiagarajar College, Madurai

**Factsheet of 2018-19 (As on 31-Mar-2019) on Activities of ENVIS Centre**

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6. Current ENVIS Staff Structure:							
Name	Position held	Qualification and Experience	Joining Date in ENVIS Centre	Joining Date in current position	2016-17		
					Leaving Date (if applicable)	Emoluments drawn (Rs.)	
						Monthly	Annual
Dr. A. Ramalinga Chandra Sekar	Programme Officer	M.Sc., Ph.D., 1 Year 1 Month	01-03-2018	01-08-2018	---	38586.90/-	463042.80/-
Mr. B. Sundarakannan	Information Officer	M.Sc., 1 Year 1 Month	01-03-2018	01-03-2018	---	32228.90 -	386746.80/-
Mr. M. Chander Kumar	Information Technology Officer	MCA., ME., 1 Year 1 Month	01-03-2018	01-03-2018	---	26065.60	312787.20/-
Mrs. S. Gomathi	Data Entry operator	M.com., 1 Year 1 Month	01-03-2018	01-03-2018	---	12100.00 -	145200.00/-

7. Mandate of the Host Organization	Mandate of the ENVIS Centre
<p>Founded in 1957 by philanthropist and industrialist Late Shri. Karumuttu Thiagarajar Chettiar <b>Thiagarajar College of Engineering (TCE)</b> is an ISO 9001:2008 certified institution affiliated to Anna University and situated in Madurai, the Temple City. The college is funded by Central &amp; 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 programmes have been accredited by the National Board of Accreditation(NBA). TCE offers 8 undergraduate programmes, 13 postgraduate programmes and doctoral programmes in Engineering, Science and Architecture.</p>	<p>Systematic collection, collation and disseminating of data on "Microorganisms and Impact on Public Health", which is an open access resource for students, research scholars, faculty, NGO and public. This would facilitate awareness of existing microbes and their involvement in public health management. For academicians &amp; researchers, this would provide base-line data for interdisciplinary research on microbes and environment.</p>

**8. Databases:**

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

Name of Database	Description ( <i>in brief</i> )	Data type ( <i>descriptive/ graphical/ geospatial/ etc.</i> )	Status of Updation/ Periodicity/ Data Points Compiled ( <i>including date/month/year of last data point</i> )	Source(s) of data	Online Availability ( <i>Whether uploaded on ENVIS Website</i> )
Introduction to Plastic	A brief details about the plastics	Descriptive & graphical	Once	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

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Name of Database	Description ( <i>in brief</i> )	Data type ( <i>descriptive/ graphical/ geospatial/ etc.</i> )	Status of Updation/ Periodicity/ Data Points Compiled ( <i>including date/month/year of last data point</i> )	Source(s) of data	Online Availability ( <i>Whether uploaded on ENVIS Website</i> )
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

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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	Upcoming	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	Upcoming	Internet, Universities, libraries & national institutions	Yes
E-Waste	A detailed report on the E-waste and E waste plastics	Descriptive & graphical	Monthly once	Internet, Universities, libraries & national institutions	Yes

**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)
<b>News &amp; Events</b>	TCE ENVIS announcements & Regular ENVIS Events	Regularly	Online	Available online
<b>Live News</b>	Live News provides the news about our theme area from various source	Daily	Automated NEWS Catcher Program	Available online
<b>Opportunity</b>	Provide information about opportunity in the assigned topic for students, scholars and job seekers	Upcoming	Online	Shortly Available
<b>Interesting facts</b>	Recent discoveries, interesting information	Upcoming	Online	Shortly Available
<b>Image of the week</b>	Providing detailed information about Waste Management	Upcoming	Online	Shortly Available

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)
<b>Kids corner</b>	Website for children. Provides simple information about our theme area plastics & its waste management	Monthly Minimum One	Online	Available online
<b>Experts</b>	Database with list of eminent scientist and professors in respective field	Final List Consolidated and Awaiting for Approval	Online and offline	Shortly Available

**8.3. New Databases developed during the Financial Year (2017-18)**

**8.3.1. Non-numeric Databases:**

Name of Database	Description (in brief)	Data type (descriptive/ graphical/ geospatial/ etc.)	Status of Updation/ Periodicity/ Data Points Compiled (including date/month/year of last data point)	Source(s) of data	Online Availability (Whether uploaded on ENVIS Website)
Video gallery	Under Construction (Contents: How to Start Plastic Waste Management Facility, Detailed Video Lecture on Plastic Waste Management by Our Coordinator Dr. R. Vasudevan, Padma Shri Awardee & Etc., )			Online	Shortly Available
Photo Gallery	TCE ENVIS & GSDP Activities	Images	Frequently	Online	Available online



**8.3.2. Numeric and Time-series Databases:**

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)







**9. Information/ Knowledge Products:**

**9.1. ENVIS Newsletters published during the Financial Year (2018-19):**

Cover snapshot	Quarter/ Volume/ Issue/ Theme Main Articles	Number of copies printed and circulated	URL of the PDF file in ENVIS website
	Volume I, Issue 1, April – June 2018	200	<a href="http://tceenvvis.in/newsletter/TCE_ENVIS_NL_APR_JUN_18.pdf">http://tceenvvis.in/newsletter/TCE_ENVIS_NL_APR_JUN_18.pdf</a>
	Volume I, Issue 2 & Issue 3, Jul-Sep 2018 & Oct – Dec 2018	200	<a href="http://tceenvvis.in/newsletter/TCE_ENVIS_NL_JUL_DEC_18.pdf">http://tceenvvis.in/newsletter/TCE_ENVIS_NL_JUL_DEC_18.pdf</a>

**9.2. Other publications/ information products brought out during the Financial Year (2018-19):**

Cover snapshot	Publication/ Product Theme(s)/ Subject Area(s)	Number of copies printed and circulated	URL of the PDF file in ENVIS website
	Rethink, Refuse, Reduce, Reuse and Recycle	50	Hard Copy Only

Cover snapshot	Publication/ Product Theme(s)/ Subject Area(s)	Number of copies printed and circulated	URL of the PDF file in ENVIS website
	Waste Segregation Chart	50	Hard Copy Only
	Plastic Ban – Is it a Solution	50	Hard Copy Only
	Not to Ban Plastic But to Plan	50	Hard Copy Only
	Simple guidelines for Plastic Waste management	50	Hard Copy Only
	Don't Throw Plastic Waste on Road Instead Use It on Laying the Road	50	Hard Copy Only

**9.3. Information Products published/ released during last five years:**

Publication / Product	Theme(s)/ Subject Area(s)	Year of Publication	URL of the PDF file in ENVIS website
Not Applicable			

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

**10.4. URL:** <http://tceenvvis.in>

**10.5. Status of restructuring of Website:** Not restructured

**10.6. Frequency of updating Website 2018-19:** Daily

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

**10.8. Publication uploaded/ updated on Website:** Frequent

**11. User Engagement and Interaction**

<i>User engagement and interaction</i>	<i>FY 2018-19</i>
i. Total number of visits	450
ii. Number of unique visits	120
iii. Reports Downloaded/Read	210
iv. Total Number of Queries received	150
v. Number of Queries responded	138
vi. Grade received	A

**11.1. Total number of visits on Website (2018-19): 17120**

**11.2. Number of unique visits on Website (2018-19): 7127**

**11.3. Number of reports downloaded/ read by stakeholders: 4523**

**11.4. Query-Answer Statistics 2018-19: As on 31-Mar-2019**

Mode of Query Receipt	Number of Queries Received	Number of Queries Responded	Reasons for shortfalls, if any, and action taken to rectify
<b>Online</b> (CMS based website)	12	12	NA
<b>Email</b> (official IN server)	15	15	NA
<b>Postal/Telephonic</b> (incl. hand post)	45	45	NA
<b>Physical</b>	20	20	NA

**12. Implementation of Annual Plan of Activities of the Financial Year (2018-19):**

Activity/ Target	Achievements	Shortfalls, if any, and reasons therefore
ENVIS Newsletters, Volume – 1 (Issue 1, Issue 2 & Issue 3) will be published  Database Development (Plastic Waste Management)  Impact / Analysis	3 issues published  Completed  Completed	
<b>13.</b>	<b>New initiatives taken during the Financial Year (2018-19):</b>	<ol style="list-style-type: none"> <li>1. Hands on Training given to Engineers to Use waste Plastic for Laying Plastic Tar Road (Kerala &amp; Pondicherry), 2018.</li> <li>2. Handled Plastic waste Management Classes at other ENVIS centre as part of GSDP</li> <li>3. Awareness Program for School Students, 2018.</li> <li>4. Participated in World Environment Day Celebration and Exhibited our theme to all and notably to our honorable Prime Minister at Vigyan Bhawan organized by United Nation Organization, 2018.</li> <li>5. Conducted Survey on Single Use Plastic at Various Colleges &amp; Villages, 2019.</li> <li>6. Established Solid waste Management Facility in our Host institute as a outcome of GSDP, 2019.</li> <li>7. Under Guidance of our Principal Advisor, Dr. Anandi Subramanian, we came up with New Mini Plastic Waste Management Facility, 2019.</li> <li>8. Applied for a DST project to take a study on plastic waste management for 38 Years from 1990 to 2018, 2019.</li> </ol>
<b>14.</b>	<b>Date of most recent physical verification by the Ministry:</b>	Nil

## **Outreach activities for 2018-19**

### **1. World Environment Day Celebration:**

Stall at Vigyan Bhavan Delhi:

At New Delhi, On 19 February 2018 , Dr. Harsh Vardhan, Minister of Environment, Forest and Climate Change, and Erik Solheim, United Nations Under-Secretary-General and Head of UN Environment, jointly announced that India will be hosting the global World Environment Day celebrations on 5 June 2018.

India is the global host of 2018 World Environment Day which will take place on June 5, 2018. With "Beat Plastic Pollution" as the theme for this year's edition, the world is coming together to combat single-use plastic pollution.

WED Festival is a celebration of our unique environment with live performances, wholesome food, sustainable stall holders, a fun kids program, live art, innovative displays, community and environment groups to meet and learn from, and more activities.

As a part we TCE ENVIS Team had a stall to exhibit the recycled plastic products to support the theme "Beat Plastic Pollution" from 01.06.2018 to 05.06.2018.



## **2. Asia Media Summit 2018:**

The 15th Asia Media Summit (AMS) 2018 is being hosted by the Ministry of Information and Broadcasting, Government of India, jointly with the Indian Institute of Mass Communication (IIMC), New Delhi and Broadcast Engineering Consultants India Limited (BECIL), from 10th -12th May, 2018 in New Delhi. Union Minister for Information & Broadcasting and Textiles, Smt. Smriti Zubin Irani would be presiding as the Chief Guest over the Inaugural ceremony of the Summit on 10th May. Our TCE ENVIS Co-ordinator Dr. R. Vasudevan (Padma Shri Awardee) took part at Asia Media Summit and handled a session on Sustainable development Stories.



## **3. Outlook - Sustainable Plastics: Issues, Challenges and Remediation:**

On May 18, two of South Delhi's massive shopping malls, played host to a symposium on probably the most abundant and the least thought of materials in the modern world—plastic. The event was an initiative of the Outlook group's 'knowledge series' and played host to a diverse group of people from all over the country: experts in the field, government leaders and agencies and various other stakeholders.

The symposium was inaugurated by Vijay Sampla, Minister of State for Social Justice and Empowerment and the key note address was given by P. Raghavendra Rao, secretary, Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers. While Sampla talked about his own experience with recycling waste, Rao gave the necessary perspective on the Indian plastic industry, a point further elaborated by MD of ONGC Petro Additions Limited.

An insightful part of the event was the address by Padma Shree awardee Rajagopalan Vasudevan,

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dean of the Thiagarajar College of Engineering, Madurai. Vasudevan has been successful in providing an important solution to the country's plastic woes—by using plastic waste in the construction of roads. He mentioned the advantages his 'polymer blended bitumen roads' have over other roads which are more durable in comparison to other roads and also water resistant. Vasudevan's ideation in the lab started as an independent, solution-based program and has, over the years, caught the government's eye.



#### **4. India Eye International Human Rights Observer: Think Environment:**

The India Eye International Human Rights Observer (IHRO) will commemorate the World Environment Day here on 5 June. It will deliberate on issues concerning the environment. The event “Pollution Explosion: Threat to Environment” will be held at the India Islamic Cultural Centre on Tuesday.

Union Minister of State for Health and Family Welfare Ashwini Kumar Choubey will be the chief guest. Managing Director of India Eye IHRO, Rakesh Sharma, said there will be a keynote address by Sadhvi Bhagwati Saraswati. Some leading environmentalists and prominent personalities will be felicitated.

They include Rajya Sabha MP Vijay Darda, M.C. Mehta, Rajagopalan Vasudevan, Mahamandaleshwar Martandpuri ji Maharaj, Anil Prakash Joshi, and Nila Madhab Pandan. Talking about the event. Sharma said: “Despite all our efforts, we continue to reel under the threat of pollution. We have not been able to achieve even 1% of the purpose. Entire world is celebrating world environment day this year. The theme for this year is ‘Beat the Plastic’ and India is the host country. We all must resolve to the make our mother Earth clean from pollution.”“As the pollution levels are

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increasing, there is a question mark on whether this Earth will be livable or not in the days to come. Today it’s late, tomorrow it will be disaster,” Sharma added.

India Eye IHRO has been spreading awareness to protect the environment, especially among the students.



### **5. Technical Presentation - Innovative Ideas for Plastics Recycling, by ICPE**

Hall of Culture, Nehru Centre, Mumbai. Technical Presentation by our coordinator Dr. R. Vasudevan on Innovative Ideas for Plastic Recycling in International Conference on Plastic Recycling & Waste Management Opportunites & Challanges organised by ICPE, Mumbai.





**6. 8th International Exhibition on Plastics Seminar - "Waste to Wealth", Indplas`18, Kolkata.**



**7. "Reuse of Waste Plastic in Road Laying - Live Demo" by KILA - Kerala Institute of Local Administration.**

As a another initiative by TCE ENVIS with Clean Kerala Pvt Ltd (JOINTLY PROMOTED BY GOVERNMENT OF KERALA & LOCAL SELF GOVERNMENT INSTITUTIONS) Organised a Training Program on "Reuse of Waste Plastic in Road Laying - Live Demo" for the Engineers of LSGD & PWD, Govt. of Kerala.



**8. Survey on Single Use Plastic and BAN at Meenakshi College Madurai:**

As a another initiative of TCE ENVIS we started a Survey with 20 questions which mainly focuses on Single Use Plastic and its BAN scenario with various audience such as College Students, Public and Corporate Employees. Also we consolidating the survey response to know the awareness of public in respect to single use plastic and its ban.



**9. Village Cleaning and Survey Camp with TCE NSS Team:**

Environmental Information System (ENVIS) Centre at Thiagarajar College of Engineering along with our host institution NSS team organized a Cleaning and Survey Camp at a village near Madurai district to create an awareness and help them to update/use their surrounding clean and green, also our coordinator Padma Shri Dr. R. Vasudevan interacted with the village elementary school students to handle the waste efficiently without throwing it in environment.



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**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 2017-18 as on 31-March-2017 and reasons for shortfalls, if any:**

	Head of Expenditure	Sanctioned amount (Rs.)	Actual Expenditure (Rs.)	Reasons for Shortfall/ Excess
Recurring Annual	Manpower	13, 07, 776.80	9, 62, 129.00	Fund not received
	Others	4,65,300/-	3, 03, 145.00	75, 592.00
	Travel	55,000/-	54, 350.00	650.00

**17. Issues/ hurdles faced in undertaking ENVIS activities:**

1	Request for prompt release of grant from the Ministry at earliest (least by May) for every Financial year.
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