

## **Environment Protection Training and Research Institute (EPTRI)**

Environment Protection Training and Research Institute (EPTRI) was set up as an autonomous institute of the Department of Environment, Forest, Science and Technology in 1992 by the State Government with support from the Government of India and technical collaboration from the Swedish International Development Agency (SIDA).

EPTRI is managed by Board of Governors headed by the Chief Secretary to the Government with the Special Chief Secretary to the Government being the Chief Executive Officer (CEO). And has representatives from the Ministry of Environment, Forest and Climate Change, Government of India (MoEF & CC, GoI), leading research organisations, educational institutions, industry and NGO's working in the field of environment.

The main objective of EPTRI is to provide training, consultancy, applied research services and advocacy in environmental management and governance.

EPTRI is an Independent Engineer for Hyderabad Integrated Municipal Solid Waste Management (HiMSWM) and also the Nodal Agency for Climate Change and provides policy support to the Government.

## **Solid Waste Management (SWM) Course**

### **About the course:**

This course will provide an overview of SWM concepts, data, technologies and costs while presenting innovations in SWM technologies and the changing perceptions of the waste sector towards resource management.

### **Course Modules:**

1. Module I: Overview of Solid Waste Management
  - i. Introduction
  - ii. Understanding Solid Waste Management (SWM)
  - iii. Core Concepts
  - iv. Waste Quantities, Types and Projections
  - v. Sustainable Development Goals (SDGs)
  - vi. Impacts of Solid Waste on Environment and Climate Change
  - vii. Solid Waste in World's Oceans
  - viii. Assessment/Quiz
2. Module II: The SWM Chain – 1 (Principles, technologies and costs)
  - i. Introduction
  - ii. The Solid Waste Management (SWM) Chain
  - iii. Source Segregating Waste
  - iv. Collecting Municipal Solid Waste (MSW)
  - v. Transporting Collected Waste
  - vi. Use of Transfer Stations
  - vii. Assessment/Quiz
3. Module III: The Solid Waste Management Chain – 2
  - i. Introduction
  - ii. Recycling

- iii. Treating Organic Waste
  - iv. Thermal Treatment of Waste
  - v. Disposal
  - vi. Assessment/Quiz
4. Module IV: Financing and Policies and Institutions
    - i. Introduction
    - ii. Solid Waste Management Policies
    - iii. Solid Waste Management Institutions
    - iv. Upgrading the Solid Waste Management Sector
    - v. The Informal Sector
    - vi. Assessment/Quiz
  5. Module V: Circular Economy, Design Thinking, Role of Informal Economy, Innovations
    - i. Introduction
    - ii. Circular Economy
    - iii. Innovations in SWM Sector
    - iv. Assessment/Quiz
  6. Module VI: End of the Course Project

**Course Objectives:**

- Gain a solid understanding of the core concepts of SWM with a focus on municipal solid waste (MSW) and relevant technologies, costs and applications.
- Learn about financing MSW infrastructure and services
- Understand the impact of the sector and the shift towards circular economy
- Gain an awareness of the technological innovations and solutions for sectoral improvements

**Mode of Evaluation:**

- Participants will be required to engage in discussion forums with their peers
- Participants are required to complete quizzes and assignments throughout the course.
- Participants will make presentation on existing and future of action in their respective countries. This exercise will provide a chance to the participants to think through what they have learnt, new things they can adopt.

**Learning Platform:**

NeGD EPTRI Learning Management System (LMS) with live sessions on Zoom which is integrated into the LMS. Participants access the live sessions through the LMS. Further details will be shared with the confirmed participants.

**e-ITEC EPTRI Short Course on Solid Waste Management (SWM),  
08-22 December 2021  
DRAFT Programme Schedule**

<b>Sponsored by</b>	<b>: Ministry of External Affairs (MEA), Government of India</b>
<b>Organised by</b>	<b>: Environment Protection Training and Research Institute (EPTRI), Government of Telangana</b>
<b>Session Timings</b>	<b>: 12:00-17:00 hrs Indian Standard Time (IST)</b>
<b>Course Coordinator</b>	<b>: Smt. A. Leelavathi, ESD I/C, EPTRI</b>
<b>ITEC Course Coordinator</b>	<b>: Shri. Sanjeev Peethala, Training Officer, EPTRI</b>

<b>Date</b>	<b>Time</b>	<b>Topic</b>	<b>Resource Person</b>	
<b>08-12-2021</b> Wednesday	<b>12:00-13:00'</b>	Welcome and Introduction of Participants, Resource Persons and the Guests	<b>Training and Capacity Building Centre, EPTRI</b>	
		About the Course	<b>Smt. Leelavathi Anagani., i/c ESD, EPTRI</b>	
		<b>Address by Shri. Adhar Sinha IAS, Special Chief Secretary to Government of Telangana and Director General, EPTRI</b>		
		<b>Chief Guest's Address: Joint Secretary (DPA-II), Ministry of External Affairs, Government of India<sup>ii</sup></b>		
		<b>Guest of Honour: Shri. Lokesh Kumar, IAS, Commissioner, Greater Hyderabad Municipal Corporation (GHMC), Hyderabad<sup>iii</sup></b>		
		Vote of Thanks	<b>Shri. K. Sree Harsha, Project Faculty, EPTRI</b>	
<b>Get some fresh air</b>				
	<b>13:15-13:45</b>	<b>#learn, discuss, experience: How to use NeGD EPTRI LMS</b>	<b>Shri. K. Sree Harsha, Project Faculty, EPTRI</b>	
	<b>13:50-14:35</b>	<b>#learn, discuss: Why Solid Waste Management is a Universal Issue that requires immediate attention</b>	<b>Sanjeev Peethala, Training Officer and ITEC Coordinator, EPTRI</b>	
	<b>14:45-15:00</b>	<b>#experience: Coffee Lounge: Get to know your peers</b>		

<b>09-12-2021</b> Thursday	<b>12:00-12:30</b>	<b>#learn, discuss, experience: Case Study – Hyderabad or Navi Mumbai</b>	<b>A short video</b>
	<b>12:30-13:30</b>	<b>#learn, discuss: Understanding Solid Waste Management – What is Solid Waste? Solid Waste Management (SWM); Municipal Solid Waste (MSW)</b>	<b>Smt. Leelavathi. A i/c ESD, EPTRI</b>
	<b>13:30-14:30</b>	<b>#learn, discuss: Core Concepts; Waste Quantities, Types and Projections</b>	<b>Smt. Leelavathi. A i/c ESD, EPTRI</b>
	<b>14:30-14:50</b>	<b>Get some fresh air</b>	
	<b>14:50-15:50</b>	<b>#learn, discuss: Impacts of Solid Waste on Environment and Climate Change; Solid Waste in Oceans</b>	<b>Sanjeev Peethala, Training Officer and ITEC Coordinator, EPTRI</b>
	<b>15:50-17:00</b>	<b>#learn, discuss: The Solid Waste Management Chain: Sources and Properties of Municipal Solid Waste; Generation and Source Segregation</b>	<b>Smt. Leelavathi. A i/c ESD, EPTRI</b>

10-12-2021 Friday	12:00-12:30	<b>#learn, discuss, experience:</b> Case Study: Sustainable Source Separation, Panaji, India	TBD <sup>iv</sup>
	12:30-13:30	<b>#learn, discuss:</b> Agenda 2030 and the Sustainable Development Goals (SDG's)	<b>Sanjeev Peethala,</b> Training Officer and ITEC Coordinator, EPTRI
	13:30-14:00	<b>#learn, discuss, assessment:</b> A way in Waste	<b>Discussion/Quiz/Assessment</b> Training Centre, EPTRI
	14:00-14:20	<b>Get some fresh air</b>	
	14:20-15:20	<b>#learn, discuss:</b> Waste Collection- Primary and Secondary Waste Collection Methods	<b>Smt. Leelavathi. A</b> i/c ESD, EPTRI
	15:25-16:25	<b>#learn, discuss:</b> Transportation of Solid Waste: Local Conditions, Needs and Modes	<b>Smt. Leelavathi. A</b> i/c ESD, EPTRI
	16:25-17:00	<b>#learn, discuss, assessment:</b> Open Dump in a developing country	<b>Discussion/Quiz/Assessment</b> Training Centre, EPTRI

### Saturday and Sunday: Holiday

Take home:

1. Book Review: The Book/s will be shared with the participants during the course
2. Assignment I

13-12-2021 Monday	12:00-13:00	<b>#learn, discuss:</b> Transfer Stations (TSs); Secondary Collection and Transfer Points (SCTPs)	<b>ESD Centre, EPTRI</b>
	13:05-14:05	<b>#learn, discuss:</b> Recycling	<b>ESD Centre, EPTRI</b>
	14:05-14:20	<b>Get some fresh air</b>	
	14:20:15:20	<b>#learn, discuss:</b> Organic Treatment- Composting	<b>ESD Centre, EPTRI</b>
	15:25-16:25	<b>#learn, discuss:</b> Organic Treatment- Anaerobic Digestion	<b>ESD Centre, EPTRI</b>
	16:25-17:00	<b>#learn, discuss, assessment:</b>	<b>Discussion/Quiz/Assessment</b> ESD and Training Centre, EPTRI

14-12-2021 Tuesday	12:00-13:00	<b>#learn, discuss:</b> Thermal Treatment - 1	<b>ESD Centre, EPTRI</b>
	13:05-14:05	<b>#learn, discuss:</b> Thermal Treatment - 2	<b>ESD Centre, EPTRI</b>
	14:05-14:20	<b>Get some fresh air</b>	
	14:20-15:20	<b>#learn, discuss:</b> Disposal Options	<b>ESD Centre, EPTRI</b>
	15:20-15:25	<b>Get some fresh air</b>	
	15:25-17:00	<b>#learn, discuss, experience:</b> Book Review	<b>ESD and Training Centre, EPTRI</b>

15-12-2021 Wednesday	12:00-13:00	<b>#learn, discuss:</b> Financing SWM: Types of costs required for SWM infrastructure and programmes	ESD Centre, EPTRI
	13:05-14:05	<b>#learn, discuss:</b> Financing SWM: Cost recovery	ESD Centre, EPTRI
	14:05-14:20	<b>Get some fresh air</b>	
	14:20-15:05	<b>#learn, discuss:</b> Private Sector participation	ESD Centre, EPTRI
	15:05-15:30	<b>#learn, discuss, experience:</b> Case Study: Private Sector Participation Alumni Speak: Learnings from Tanzania	Shri. Elihibati Kimaro <sup>v</sup> ITEC EPTRI MSWM Alumni 2019, Tanzania
	15:30-17:00	<b>#learn, discuss, experience:</b> Case Study: Hyderabad Integrated Municipal Solid Waste Management Project	ESD Centre, EPTRI

16-12-2021 Thursday	12:00-13:30	<b>#learn, discuss:</b> SWM Policies	ESD Centre, EPTRI
	13:35-14:35	<b>#learn, discuss:</b> SWM Institutions and Upgrading the SWM Sector	ESD Centre, EPTRI
	14:35-14:45	<b>Get some fresh air</b>	
	14:50-15:50	<b>#learn, discuss:</b> The Informal Sector	ESD Centre, EPTRI
	15:55-16:55	<b>#learn, discuss:</b> Circular Economy	ESD Centre or Training Centre, EPTRI

17-12-2021 Friday	12:00-13:00	<b>#learn, discuss:</b> Innovations in SWM Sector	ESD Centre, EPTRI
	13:05-14:25	<b>#learn, discuss:</b> Design Thinking for Social Innovation	Sanjeev Peethala, Training Officer and ITEC Coordinator, EPTRI
	14:25-14:40	<b>Get some fresh air</b>	
	14:40-16:00	<b>#discuss:</b> Briefing on Final Assessment	ESD Centre, EPTRI
		<b>#learn, discuss, experience:</b> Virtual Field visit	
16:00-17:00	<b>#learn, discuss, experience:</b> Alumni Speak – Implementation of learnings in Mexico	Ms. Zentli Rodriguez <sup>vi</sup> , ITEC EPTRI MSWM 2019	

**Saturday and Sunday: Holiday**

Take home:

1. Assignment II

<b>20-12-2021</b> Monday	<b>12:00-13:00</b>	<b>#learn, discuss:</b> Other Waste Streams and their management	<b>ESD Centre, EPTRI</b>
	<b>13:05-14:35</b>	<b>#learn, discuss:</b> Other Waste Streams and their management	<b>ESD Centre, EPTRI</b>
	<b>14:35-14:40</b>	<b>Get some fresh air</b>	
	<b>14:40-15:40</b>	<b>#peer learning, assessment:</b> Share Fair	<b>Participants/ESD/Training Centre, EPTRI</b>
	<b>15:45-16:25</b>	<b>#peer learning, assessment:</b> Share Fair	<b>Participants/ESD/Training Centre, EPTRI</b>

<b>21-12-2021</b> Tuesday	<b>12:00-13:00</b>	<b>#peer learning:</b> Presentation by Countries	<b>Participants/ESD/Training Centre, EPTRI</b>
	<b>13:05-14:35</b>	<b>#peer learning:</b> Presentation by Countries	<b>Participants/ESD/Training Centre, EPTRI</b>
	<b>14:35-14:40</b>	<b>Get some fresh air</b>	
	<b>14:40-15:40</b>	<b>#peer learning:</b> Presentation by Countries	<b>Participants/ESD/Training Centre, EPTRI</b>
	<b>15:45-16:25</b>	<b>#peer learning:</b> Presentation by Countries	<b>Participants/ESD/Training Centre, EPTRI</b>

<b>22-12-2021</b> Wednesday	<b>14:00-15:00</b>	<b>#peer learning:</b> Presentation by Countries	<b>Participants/ESD/Training Centre, EPTRI</b>
	<b>15:00-16:00</b>	<b>#Social Hour</b>	<b>Participants</b>
	<b>16:00 onwards</b>	<b>Valedictory<sup>vii</sup></b>	

<sup>i</sup> Timings are in Indian Standard Time (IST). Participants are requested to synchronise their class times according to IST.

<sup>ii</sup> TBC: To be confirmed

<sup>iii</sup> TBC: To be confirmed

<sup>iv</sup> TBD: To be decided

<sup>v</sup> TBC: To be confirmed

<sup>vi</sup> TBC: To be confirmed

<sup>vii</sup> Details will be available three (3) days prior to end of the course