



SIES Indian Institute of Environment Management

Affiliated to University of Mumbai as a Research Institute
Recognized by Department of Scientific and Industrial Research, Govt of Maharashtra

INSTITUTE

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SIES Indian Institute of Environment Management
Sri.ChandrasekarendraSaraswatyVidyapuram
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2020- 2021

VISION

To be a premier Research, Academic and Training institute in Environment Management, to serve as a valuable resource for Industry and Society; and evolve as a Policy and Advocacy centre for government agencies.

MISSION

Harness the power of Science, Technology and Innovation in pollution control, management of natural resources and excellence in academics to promote environmental, social and institutional sustainability.

ABOUT THE INSTITUTE

- SIES IEM is a premier autonomous institute under South Indian Education Society (SIES) since 1999.
- Affiliated to University of Mumbai as a Research Centre in Environmental Sciences.
- Recognized as Scientific and Industrial Research Organization by Department of Scientific and Industrial Research, Min. of Science and Technology, GoI.
- Established to support Sustainable Development principles by identifying tools to analyse the effectiveness of different policy options, and by developing and demonstrating sustainable solutions through need based research activities for environment management, industrial process improvement and social upliftment.
- Groom and nurtures future environment leaders through academic and training programmes.
- Have well developed R&D lab with latest instruments and facilities to conduct advance research.
- Execute CSR initiatives of industries by strategy planning, development and implementation of activities through community mobilization, stakeholder engagement .and capacity development.



MAJOR ACTIVITIES

Academics

- Ph. D in Environmental Sciences under University of Mumbai
- M.Sc. in Sustainable Development and Environment Management, University of Mumbai
- PG Diploma in Sustainable Environment Management

Research

- Sponsored basic and applied research in Sustainable Environmental Sciences and Management
- Industrial R&D

Consultancy

- Technological solutions for industries in the areas of waste management, product development, lab designing etc.
- Lab testing of samples
- Implementation of the 2030 agenda for SD in industries and other institutions
- Assistance to industries in defining CSR policy and management of activities

Outreach Activities

- Environmental advocacy and capacity building
- Stakeholder engagement
- Support to NGOs and other community institutions in designing of programmes with the principles of sustainability

RESOURCES OF SIES IIEM

Dr. Seema Mishra

Ph. D., PDF IITD, LEAD Fellow
Director, SIES IIEM
Areas of Expertise: Waste Management, sustainable agriculture, biofertilizer and biopesticide, technology dissemination and community mobilization



Dr. Devayani Savant

Ph. D., PDF Agharkar Research Institute, Pune
Area of Expertise: Biomethanation, coastal pollution, master trainer on solid waste management Rules, 2016,



Dr. C. Srinivas

Ph. D. Ex. BARC
Areas of Expertise: Management of industrial waste, treatment of organic pollutants, Total water management, master trainer on solid waste management Rules. 2016



Dr. Saumya Singh

Ph. D., MNIT, Allahabad
Areas of Expertise: Mapping of resources, drinking water resource management, Outreach activities



SPECIFIC AREAS OF EXPERTISE IN INDUSTRIAL R&D AND CONSULTANCY



Environmental Pollution Monitoring, Assessment and Control

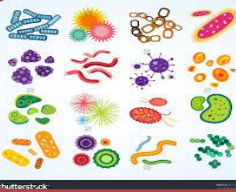
- Waste water treatment technologies
- Zero discharge
- Air Pollution Monitoring
- Hazardous waste management
- Lab analysis services and desginig of lab



Environment

Ecology and Biodiversity

- Biomonitoring, Assessment of ecosystem services and biodiversity indexing
- Mapping of resources and modelling
- Eco restoration of resources



Microbial interventions in Environment Management

- Bioremediation and phytoremediation
- Mass production of Biofertilizers and biopesticides



Environment Management

Designing of policies and plans as per agenda 2030 of Sustainable Development for industries and institutions
Climate change vulnerability assessment, identification of adaptation and mitigation technologies
CO₂ neutrality assessment in industries, Carrying Capacity studies



Execution of CSR Initiatives

Defining of strategy, planning, implementation and execution of activities
Capacity building and skill development
Community mobilization for livelihood generation by developing theme based hubs



Other services

Survey and data analysis
Preperation of DPR, proposals, SOPs
Training Programmes, Customized events

MAJOR R&D AND CONSULTANCY PROJECTS CONDUCTED IN LAST 5 YEARS

Sr. No.	Title of the Projects	Funding Agencies	Significant Achievements Expected / Achieved
R&D Projects			
1.	Vulnerability assessment of onion crop to climate change	Women Scientist Fellowship Scheme-B, Department of Science and Technology, GoI	Identification of technologies for climate change adaptation under stress conditions Involvement of farmers, policy planners and voluntary organizations
2.	Development of electrochemical oxidation methods for treatment of radioactive organic waste'	Board for Research in Nuclear Sciences, DAE, GoI	Low cost, photooxidation based technology for hazardous waste management Low carbon emission
3.	Addressing Drinking Water Issues in Slums in Greater Mumbai and its Mapping using GIS	Département of Science and Technology, GoI	Identification of drinking water quality from 24 wards of Greater Mumbai, Promotion of low cost water purification technologies by awareness generation
4.	Testing, development and awareness generation of water purification techniques in municipal schools	Mumbai Metropolitan Region- Environment Improvement Society (MMR- EIS)	Identification of drinking water quality in villages of Raigad (M.S.), Promotion of low cost water purification technologies by live demo and awareness generation
5.	Production of biosurfactants from marine bacteria using cost effective media by fermentation	Women Scientist Fellowship Scheme-B, Department of Science and Technology, GoI	Identification of native biosurfactant and low cost media for application Training programmes in coastal communities
6.	Optimization and Up Scaling of Fly Ash Utilization for Sustainable Production of	Department of Science and Technology, GoI	Standarization of pond ash with biofertilizers for improving

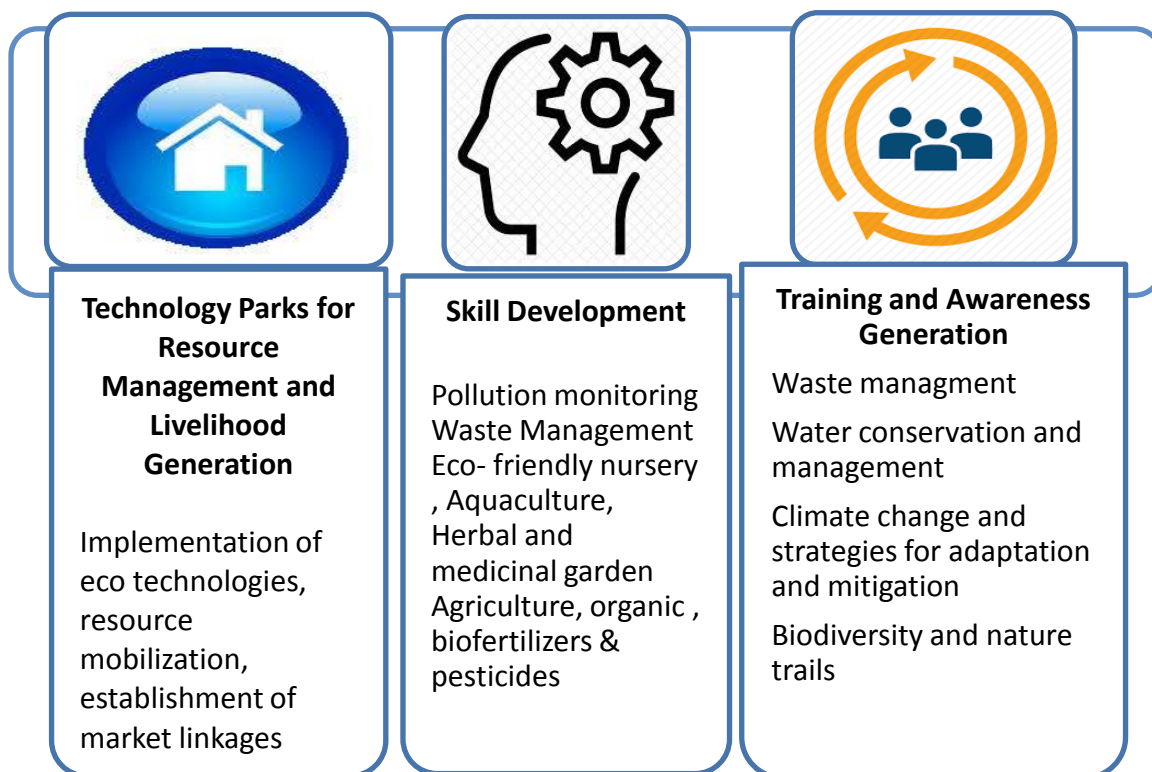
	Grapes and Onion		quality of onion and grapes Awareness generation of farmers, policy planners and researchers.
7.	Evaluation of comparative performance of available technologies for removal of pathogenic organisms and turbidity from drinking water	Department of Science and Technology, GoI	Quality performance analysis of commercial drinking water purifier units in market
8.	Synthesis and characterization of bipolar ion exchange membrane sheets and performance evaluation for treatment of aqueous sodium nitrate streams by bipolar electro dialysis process.	Board of Research in Nuclear Sciences, Department of Atomic Energy	Development of membrane for desalination
9.	Exploration of AM Fungi from Mangrove Forest of Western Coast in and Around Mumbai.	Ashoka Trust for Research in Ecology and the Environment, sponsored by Sir Jamshed Ji Tata Trust	Identification of AM fungi diversity along polluted mangrove forest of Western coast
10.	Study of ANAMMOX bacteria and their application in wastewater treatment	Department of Science and Technology, GoI	Standardization of Annamox bacteria for treatment of waste water
11.	Design, biotechnological production, in-vitro evaluation of Camptothecin analogues for improved anti tumor activity.	Department of Biotechnology, GoI	Identification of best analogue of Camptothecin for anticancer activity
12.	Development of biotechnological process for the production of cellulose, bioplastics and carotenoids from lignocellulosic biomass	Department of Biotechnology, GoI	Standardization of cellulose from aquatic plants for application in waste management
13.	Development of recombinant insulin like polypeptide –p from <i>Memordica Charatia</i> .	Indian Council of Medical Research, GoI	Development of product from karela for antidiabetic drug.
Consultancy Projects			

1.	Biomonitoring and Indexing of 56 rivers of Maharashtra at 156 NWQMP stations	Maharashtra Pollution Control Board	Bio monitoring and Indexing for evaluation of river health
2.	Environment Impact Assessment of Ramky Mumbai Waste Management Ltd.	Ramky Mumbai Waste Management	Assessment of environmental and social impacts due to the industrial activities in the areas of hazardous and biomedical waste management
3.	Environment Impact Assessment of Oil and Gas Industry	BPCL	Assessment of water, air and soil monitoring in and around the industry in Mumbai
4.	C Neutrality studies in BPCL Depots	BPCL	Estimation of carbon emission and sequestration from industrial complex
5	Mass culturing of AM Fungi	Agrisearch India Pvt. Ltd., Nashik (M. S.)	Development of novel culture of AM fungi for mass application Development of lab for culturing of AM fungi and other biofertilizers
6.	Ethanol Production from Rice Industry Waste	Raitebandhu Aharodhyam Pvt. Ltd., Mangalore, Karnataka	Feasibility studies on ethanol extraction from rice industry waste
7.	Treatment of leachate from Hazardous Waste	Ramky's Mumbai Waste Management, Taloja, Raigad (M. S.)	Low cost efficient technology for leachate treatment from hazardous waste management facility
8.	Disinfection of Ballast Water	Paarkadel Ballast Technology Pvt. Ltd., Mumbai (M. S.)	Low cost disinfection techniques for ballast water
9.	Sewage Treatment Recycling Plant at Seawoods	Seawoods, CIDCO, Navi Mumbai (M. S.)	SBR model for the treatment of sewage waste

FUTURE PLANS FOR R&D BASED PRODUCT DEVELOPMENT AND CONSULTANCY

- Accreditation of lab from CPCB and NABL
- Impact assessment and biomonitoring studies
- Mass production and commercialization of novel cultures of beneficial microorganisms having potential in N fixing, P solubilizing, Zn solubilizing, endophytes, AM Fungi, degraders of cellulosic materials and activated sludge process.
- Development of microbial products for improving climate change adaptation of crops and stress resistance.
- Extraction and commercialization of enzymes for pharma and food industry.

MAJOR AREAS COVERED UNDER OUTREACH ACTIVITIES AND COMMUNITY MOBILIZATION



OUR PARTNERS

Government

- Department of Science and Technology
- Board of Reserch in Nuclear Sciences
- Department of Biotechnology
- MOEFCC, CSIR, DRDO
- Maharashtra Pollution Control Board
- MCGM & NMMC

Non -Government

- MMR- Environment Improvement Society
- Ashoka Trust for Research in Ecology and Environment
- Indian Centre for Plastics in Environment
- Balwant Rai Mehta Panchayati Raj Kendra
- SEAL Ashram
- Society for Services to Voluntary o rganizations

Industries

- BPCL
- Kukyo Camlin
- JSW
- RCF
- Mumbai Waste Management Ltd.
- Agrisearch India Pvt. Ltd.
- Diva Envitech Pvt. Ltd.

COMMUNITY MOBILIZATION THROUGH TECHNOLOGY TRANSFER, IMPLEMENTATION AND SKILL DEVELOPMENT



Community mobilization of onion and grapes growers on sustainable agricultural practices and livelihood improvement



Safe low cost drinking water technologies demonstration to different stakeholders.



Skill improvement of coastal communities in sustainable fisheries and low cost technologies on pollution control



Plantation drive in ashramshala, forest land and NGOs under CSR activities of corporate



Skill Development on Sustainable Development at Nashik (M. S.)



Sensitization to government and non government stakeholders on Solid Waste Management rules, 2016 at Goa

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