TRAINING PROGRAMME FOR ENVIRONMENTAL REGULATORS

Centre for Science and Environment   **Ministry of Environment and Forests**   **Central Pollution Control Board**

जहाँ है हरियाली ।
वहाँ है खुशहाली ॥

BRIDGING THE GAPS

As India steps into its second decade of strong economic performance, its urban-industrial infrastructure capital is poised to grow at an astounding pace. The country will be building more homes, malls, industries and power plants, opening more mines, and laying a network of new roads, ports and airports.

Managing the environmental impacts which will inevitably accompany this fast-paced growth would become a pressing concern in such a scenario. Pollution control boards and environmental regulatory agencies, naturally, will be at the forefront of this task. Their role will expand with the changing nature of the environmental challenges.

Environmental regulators will be required to understand and act according to the growing number of legislations on environment. They will have to deal with new sources of pollution, and with newer types of prevention and control technologies. They will be called upon to undertake area-specific environment management and compliance-assistance.

Centre for Science and Environment (CSE), in collaboration with the Union ministry of environment and forests (MoEF), has proposed to help Indian environmental regulators in their expanded roles as new managers – by introducing state-of-the-art training programmes for building their capacity.

These training programmes have been designed exclusively for state pollution control boards (SPCBs) and other environmental regulatory agencies, and are tailor-made to bridge the knowledge gaps that may emerge in these institutions in the coming years. CSE is offering short-term one-week training programmes as well as longer term one-month programmes in a calendar year.

Eligibility

- One week – advance training programme: About 10 years of working experience
- One month – national minimum training programme: Newly recruited officials or officials with 1-5 years of experience

Training calendar for 2010-11

December 14-18, 2010
Action Plan for Critically Polluted Areas

January 10-14, 2011
Compliance and Monitoring of Centralised Wastewater Treatment Plants and the Role of Decentralised Wastewater Management

February 14 to March 14, 2011
National minimum-training programme on Compliance, Monitoring and Enforcement

December 2010 – One week – Advanced training programme

ACTION PLAN FOR CRITICALLY POLLUTED AREAS

Module 1: Critically polluted areas (CPAs) based on Comprehensive Environmental Pollution Index (CEPI)
- CEPI – calculation, benefits and limitations
- CPAs as defined by CEPI
- Key environmental pollution challenges in CPAs

Expected learning: The rationale behind CEPI for recognizing the CPAs and its advantages and limitations. To identify the pressing issues of air quality management in CPAs for futher strategization

Module 2: Standards and monitoring
- Air, water and land standards used to calculate CEPI and the overall standards' implementation in the CPA
- Monitoring of CPAs – environmental monitoring and action plan implementation monitoring

Expected learning: To understand the challenges associated with enforcement of the standards. Indepth coverage of environmental monitoring and the monitoring required for the action plan implementation.

Module 3: Action plan for CPAs: chemical clusters
- How CEPI was calculated for the area
- Key environmental pollution challenges of the area
- Strategies for environmental pollution prevention and control

Expected learning: Understanding the challenges in controlling industrial air pollution in CPAs and the suggested area specific mitigations tools and techniques.

Module 4: Action plan for CPAs: mining, metallurgical and themal power plant
- How CEPI was calculated for the area
- Key environmental pollution challenges of the area
- Strategies for environmental pollution prevention and control

Expected learning: Understanding the challenges in controlling industrial water and land pollution in CPAs and the suggested area specific mitigations tools and techniques.

Module 5: Action plan for CPAs: urban areas
- How CEPI was calculated for the area
- Key environmental pollution challenges of the area
- Strategies for environmental pollution prevention and control

Expected learning: Hands-on excercises in developing an area specific plan for reduction in air pollution using different permutation and combination of strategies in CPA.

SKILL DEVELOPMENT (part of all modules)

- Class exercise
- Group discussion
- Presentation

January 2011 – One week – Advanced training programme

COMPLIANCE AND MONITORING OF CENTRALISED WASTEWATER TREATMENT PLANTS AND THE ROLE OF DECENTRALISED WASTEWATER MANAGEMENT

Module 1: Municipal wastewater treatment
- Municipal wastewater generation and treatment: overview and challenges
- Municipal wastewater treatment technology – best practices
- Inspection, monitoring and compliance assistance – best practices

Expected learning: Understanding the best practices employed in the municipal wastewater treatment systems, its inspection, monitoring and compliance assistance. Acquiring sound knowledge of the latest treatment technologies and their operational performances.

Module 2: Common Effluent Treatment Plants (CETPs)
- CETPs: overview and challenges
- CETP technology – best practices
- Inspection, monitoring and compliance assistance

Expected learning: Understranding the challenges faced by CETPs in India and the best practices of inspection, monitoring and compliance assistance applied in them. Acquiring sound knowledge of the latest treatment technologies and their operational performances.

Module 3: Field visits
Expected learning: Practical exercise through field visits on the best practices of inspection, monitoring to ensure compliance of the municipal wastewater treatment systems and CETPs.

Module 4: Decentralised wastewater treatment
- Decentralized wastewater treatment system
- Bioremediation
- Reuse of treated wastewater

Expected learning: To make explicit the role of decentralized wastewater treatment system in India including the latest treatment options being practiced.

Module 5: Field visits
Expected learning: Practical exposure to decentralised wastewater management systems and interaction with practitioners and regulators on implementation of decentralized wastewater treatment system.

SKILL DEVELOPMENT (part of all modules)

- Class exercise
- Group discussion
- Presentation

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February 2011 – One month – National Minimum Training Programme

COMPLIANCE, MONITORING AND ENFORCEMENT

Module 1: Paradigms of environment and development in India
- The environmental challenges of India and the challenges of environment governance
- The environmental movement and its agenda
- Role of environmental regulators especially PCBs' in environment management in the country

Expected learning: To understand the unique nature of the environmental and developmental challenges facing India and how India has tried to reconcile these challenges over the years. The expanding role of environmental regulators with the changing nature of environmental governance.

Module 2: Environmental jurisprudence
- Key environment policies, acts, rules, notifications, regulations and standards (Water Act'1974, Air Act'1981and EP Act'1986)
- Tools and techniques for legal action
- Role of National Green Tribunals (NGT), environmental courts and PIL

Expected learning: The role and power of environment regulators defined under different acts and rules. Understanding process and procedures for evidence collection and filling cases. Role of judiciary, PILs, environmental courts and tribunals and important cases on environment and the response of the judiciary to them.

Module 3: Environmental standards
- Ambient air quality and water standards
- Emission standards for air and water polluting industries

Expected learning: Knowledge of the various environmental standards, their rationale and how they are developed.

Module 4: Monitoring, compliance and enforcement
- Monitoring and inspection – processes and procedures
- Compliance assurance and administrative actions
- Self-monitoring, self-recordkeeping and self-reporting, including the tools and techniques for data verification

Expected learning: Elucidates various administrative tools to perform monitoring and inspection for ensuring compliance. Developing tools and techniques for verification of self-monitored data.

Module 5: Pollution monitoring techniques and instrumentation
- Water and air quality monitoring and its challenges- techniques, sampling protocol, calibration of instruments, QA/QC procedures
- Use of modern technologies (GIS/GPS) for pollution monitoring
- On-line and Continuous monitoring systems
- Laboratory exercise

Expected learning: Knowledge of existing monitoring techniques and procedures. Visit to CPCB and CSE laboratory and air quality monitoring station to get a hands-on experience of various pollution monitoring techniques, instrumentation, data generation and its analysis.

Module 6: Vehicular pollution control and urban air quality
- Public health and energy challenges of urbanization and motorization.
- Approach and strategy to control vehicular pollution
- City specific action plans

Expected learning: The environmental challenges posed by urbanization-current and future. Status of vehicular pollution in India, its challenges and the best available approaches to control it. Developing city specific action plans for pollution extenuation.

Module 7: Pollution control from industries
- Thermal power plant and cement industry
- Integrated iron and steel industry, aluminum, zinc, copper and lead industry
- Pulp and paper industry, distillery and sugar industry
- Oil refinery, petrochemical, oil drilling and chlor-alkali industry
- Drug and pharmaceuticals and pesticides industry
- Mining industry

Expected learning: Understanding the pollution characteristics of different sectors, their impact and the best available pollution prevention technologies. Approaches and strategies for monitoring and inspection to ensure compliance.

Module 8: Tools for managing pollution from small scale industries (SSI)
- SSI challenges
- SSI management – compliance assistance and fiscal incentives
- Clean technologies and waste minimization

Expected learning: Challenges of SSIs and their environmental management employing various administrative and fiscal instruments. Best available pollution prevention and control technologies.

Module 9: Hazardous waste management and municipal solid waste management
- Challenges in managing hazardous and municipal solid waste
- Hazardous waste management- rules, monitoring , compliance and enforcement
- Municipal solid waste management – best practices
- TSDF design and operations – best practices
- Clean technologies for minimizing waste generation

Expected learning: Challenges encountered in disposing and treating hazardous and municipal solid waste. Best practices and technologies involved in efficient waste disposal and treatment.

Module 10: Municipal wastewater management
- Challenges of municipal wastewater management
- Urban water and sewage management- best practices
- CETP design and operation - best practices

Expected learning: Challenges encountered in treating municipal wastewater. Best practices and technologies involved in wastewater management. Indoctrinating the environmental challenges in controlling river pollution and regional wastewater management plan to prevent and control river pollution.

Module 11: Consent management
- Concept of consent management
- Drafting, evaluating and processing of consent applications

Expected learning: Using science and engineering while writing and reviewing consent application. Techniques useful for reviewing consent applications.

Module 12: Tour

Expected learning: One-week extensive tour to various industries to get hands-on experience on inspection and monitoring in different sectors

SKILL DEVELOPMENT (part of all modules)
- Public speaking
- Report writing
- Computer training

Structure of the programme

Depending on the type and duration of the programme, the training will include the following:

● Classroom activities: Lectures, group discussions, role-playing, assignments and exercises. Lectures will be done by in-house experts from CSE as well as by key external experts in the field. Each session will have select expert faculty. Interactive sessions will be organised with practitioners and policy-makers.

● Especially designed field visits to industries, landfill sites, TSDF sites, CETPs/STPs, proposed project sites, etc: Participants will be taken to the site to conduct hands-on exercises on inspection, monitoring, compliance assurance and audit.

● Laboratory activities: Sampling, monitoring and measurement. Exposure to various sampling, monitoring and measurement instruments, including hands-on exercises.

● Industrial interaction: For understanding compliance mechanism, self-monitoring and reporting mechanism, etc.

● Interaction with local community: Visits will be organised to local communities living closed to polluting sources to understand their problems and concerns.

● Governmental interaction: Interactions with the MoEF, CPCB, SPCBs, Planning Commission, etc to understand the policies and procedures of the government.

The training programme has been designed around teaching as well as self- learning.

What will be the outcome of the training programmes?

After undergoing this training, the participants will have:

● Increased appreciation of the environmental challenges facing the country and their role and responsibility in addressing those challenges;

● Increased theoretical and practical knowledge about inspection, monitoring, compliance and enforcement actions;

● Increased theoretical and practical knowledge about the best practices in various domain areas and how to achieve them;

● Better communication skills;

● Increased capacity to integrate social and environmental issues in the decision making process;

● Increased knowledge, experience and ability to review and make decisions based on multi-disciplinary approaches; and,

● Increased knowledge and ability to enhance public participation and transparency, thus strengthening the democratic processes in the country.

The Centre for Science and Environment (CSE) is a public interest research and advocacy organisation based in New Delhi. CSE researches into, lobbies for and communicates the urgency of development that is both sustainable and equitable.

The scenario today demands using knowledge to bring about change. In other words, working India's democracy. This is what we aim to do.

The challenge, we see, is two-pronged. On the one hand, millions live within a biomass-based subsistence economy, at the margins of survival. The environment is their only natural asset. But a degraded environment means stress on land, water and forest resources for survival. It means increasing destitution and poverty.

Here, opportunity to bring about change is enormous. But it will need a commitment to reform — structural reform — in the way we do business with local communities.

On the other hand, rapid industrialisation is throwing up new problems: growing toxification and a costly disease burden. The answers will be in reinventing the growth model of the Western world for ourselves, so that we can leapfrog technology choices and find new ways of building wealth that will not cost us the earth. This is the challenge of the balance.

Our aim is to raise these concerns, participate in seeking answers and — more importantly — in pushing for answers and transforming these into policy and so practice. We do this through our research and by communicating our understanding through our publications. We call this knowledge-based activism. We hope we will make a difference.