REPORT

on the Assessment of Training Needs of the Pollution Control Boards

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A Training Needs Assessment (TNA) survey of the pollution control boards was undertaken by Centre for Science and Environment (CSE) during January-March 2009, with support and assistance from the Union ministry of environment and forests (MoEF). The focus of the TNA exercise was to find out about the training requirements of the boards' staff members that are relevant to their core functions.

Methodology

The methodology adopted for TNA included primary survey, secondary information collection and interviews with officers and experts.

- Separate TNA questionnaires designed for member secretary and chairperson, senior/middle level officers and junior officers of the pollution control boards were sent to all the state pollution control boards and union territory pollution control committees.
- Secondary information on the status of training and capacity building in different boards was collected from annual reports, websites and other published literature.
- Interviews were conducted with officers from the MoEF, the Central Pollution Control Board (CPCB), the State Pollution Control Boards (SPCBs) and with experts working on environmental issues.

Sample size

- Number of pollution control boards who responded to the questionnaire: 9
- Number of respondents to the questionnaire: 44
  - Chairperson: 3
  - Member secretary: 2
  - Senior/middle level officers: 32
  - Junior level officers: 7
- Number officers interviewed: 7
- Number of experts interviewed: 5

Current status of training and capacity building in pollution control boards

Training and capacity building of the pollution control boards has been a major concern for long. Realising this, the National Environment Policy, 2006 has stressed the need to *"ensure continuous upgradation of knowledge and skills of the scientific and technical personnel involved in environmental management in public institutions at all levels, Central, state and local, through dedicated capacity building programmes".*

An assessment of the current status of training and capacity building indicates that most of the pollution control boards have no structured programmes in place to upgrade knowledge and skills of their scientific and technical

personnel. The boards' expenses on training and capacity building are abysmally low. The Maharashtra Pollution Control Board (MPCB), which has the highest financial resources at its disposal, spent -- on an average -- just Rs 8 lakh (about 0.25 per cent of its total expenditure) per annum for training and capacity building during 2003-04 and 2005-06. Besides, its expenditure also shows a gradual decline over the years, dipping from Rs 8.25 lakh in 2003-04 to Rs 3.25 lakh in 2005-06. The Gujarat Pollution Control Board (GPCB), another extremely well-funded board, does not have a separate budget for training and capacity building. The boards of the northeastern states, Bihar, Punjab, Haryana, Chhattisgarh and Jharkhand do not have any records on expenditure or the kind of training programmes attended by their personnel.

Most boards have no in-house training facilities; those that have such facilities are not using them to train the regulators. Instead, over the years, these facilities have been turned into general training centers catering to a wide range of audiences including industry, students, NGOs etc. For instance, the Environmental Management and Policy Research Institute (EMPRI), set up by the Karnataka State Pollution Control Board (KSPCB) with technical and financial support from DANIDA to provide need-based training to the officials of the board, has not conducted even one training programme for KSPCB in the last three years. The Gujarat Environment Management Institute (GEMI) set up by the Department of Forest and Environment of the government of Gujarat mainly conducts seminars and workshops for a wide target group. It has not conducted any need-based training for GPCB personnel. Environment Training Institute (ETI), setup by the Tamil Nadu Pollution Control Board (TNPCB) seems to be most active in building capacity of TNPCB personnel.

The CPCB has set up an Environmental Training Unit (ETU), which organises training programmes of three-five days' duration through various institutes. These programmes are open to officers of SPCBs. In 2008-09, 24 such training programmes were conducted by institutes like the Indian Institute of Technology, Roorkee; the Indian Statistical Institute; the Disaster Management Institute, Bhopal; and the Indian Institute of Toxicology Research, Lucknow.

Overall, there seems to be a serious lack of clear-cut planning and strategy for capacity building and training among the boards. The board's efforts are random and employees are sent for training without any assessment of their training needs. Training programmes attended by board officials are quite general in nature and do not address the specific needs of the boards. The MPCB in its response to CSE's questionnaire indicated that its personnel require training on network and on-line monitoring, consent management, data analysis and interpretation including modeling, etc. However, none of the training programme attended by its employees addressed these topics. This is because none of the institutes engaged by the boards are designing training programmes that target special requirements and are in line with the need for regulators' skill development. This is true even with the boards that have an in-house capacity. **Most training programmes are supply-side driven and not based on actual needs and demands.**

The number of courses designed specifically for improving knowledge and skills of compliance and enforcement are extremely limited. In fact, most of the boards expressed their concern about the lack of compliance and enforcement training material, manuals and programmes. They also pointed out that there was a need for compulsory induction training for the boards' employees at the time of joining the jobs.

Result of the TNA exercise

Three sets of structured questionnaires were designed for chairperson/member secretary, senior/middle level officers and junior level officers respectively to assess training needs vis-à-vis their core functions. The results of the survey reveal important aspects of existing training programmes and the nature of training requirements.

1. Senior/middle level officers
Thirty-two senior/middle level officers from nine pollution control boards responded to the questionnaire. Their profile is given in Table 1.

Table 1: Profile of Senior/Middle Level Officer

	No. of Respondents	Average Age (year)	Sex (Male/ Female)	Level of Education 1= M.Sc/Ph.D 2= B.Sc/B.Tech	Average length of service (year)	Average tenure on current post (year)
Andhra Pradesh Pollution Control Board	1	52	1/0	1=1	16	6
Central Pollution Control Board	4	49.5	4/0	1=4	8.5	5.5
Gujarat Pollution Control Board	3	36.5	3/0	1=2, 2=1	11	8
J&K State Pollution Control Board	1	41	1/0	2=1	9	9
Karnataka State Pollution Control Board	2	37.5	2/0	1=2	9.5	6
Meghalaya State Pollution Control Board	11	39	6/5	1=5,2=6	10	7
Tripura State Pollution Control Board	3	41	3/0	1=1, 2=2	10	10
Tamil Nadu Pollution Control Board	3	50	3/0	1=3	25	4
Rajasthan Pollution Control Board	4	51	4/0	1=3, 2=1	24	7
All	**32**	**44**	**27/5**	**1=21, 2=11**	**14**	**7**

The following inferences can be drawn from Table 1:

- With an average age of 44 years, the senior/middle level staff of the pollution control boards still have about 15 years of service remaining.
- The middle and senior level staff members are highly qualified, with about 65 per cent of them holding at least an MSc/M.Tech degree. Some of them have doctoral degrees as well.
- The average tenure of middle and senior level staff members at their current posts has been found to be about seven years. However, their total average length of service is more that 14 years. This indicates stagnation as far as career growth is concerned.

The training availed of by the senior/middle level officers in last five years is given in Table 2.

Table 2: Training availed by senior/ middle-level officers in last five years

Duration of training	No. of respondents who availed training	No. of respondents who availed in-house training	No. of respondents who availed outside training in India	No. of respondents who availed training in foreign country
3-5 days	8	2	6	
1 week	1		1	
2 weeks				
3 weeks				
4 weeks				
More than a month	1			1
Total	10	2	7	1

The following inferences can be drawn from Table 2:

- Out of 32 respondents, only 10 (about 30 per cent of the total) attended at least one training in last five years.
- The maximum number of training programmes that any one respondent attended in five years was three.
- The majority of these respondents attended the training programmes that were of three-five days' duration.
- Only one respondent reported attending a training programme of one month in a foreign country (Germany).
- Of the respondents who attended training in last five years, three-fourth went for the training outside their organisations. The others attended in-house training programmes, but conducted by outside agencies.
- The survey results show that not much training is provided to middle/senior level officers. Pollution control boards do not have a clear-cut strategy in place for training them. These officers attended training depending on availability and in an ad hoc manner.

Table 3 shows the key areas/issues relevant to the jobs, training needs and programmes attended by the senior/middle level officers of pollution control boards.

Table 3: Key areas/ issues relevant to the job, training availed and training requirement for the senior/middle-level officers

Key areas/ issues/ competencies	Relevance to the job Yes = 1; No = 2	Attended training in last three years Yes = 1; No = 2	Training Required Yes = 1; No=2
Consent management	1=25, 2=7	2=32	1=22, 2=10
Inspection, compliance and enforcement of industries	1=32	1=7, 2=25	1=32
Inspection, compliance and enforcement of mines	1=25, 2=7	2=32	1=25, 2=7
Inspection, compliance and enforcement of Centralized treatment plants (TSDF, incinerators, CETP)	1=30, 2=2	2=32	1=30, 2=2

Continued…

Table 3: continued...

Key areas/ issues/ competencies	Relevance to the job Yes = 1; No = 2	Attended training in last three years Yes = 1; No = 2	Training Required Yes = 1; No=2
Pollution prevention tools and techniques	1=30, 2=2	1=6, 2=26	1=17, 2=15
Hazardous waste management, monitoring and enforcement	1=32	1=8, 2=24	1=26, 2=6
Bio-medical waste management, monitoring and enforcement	1=16, 2=16	1=2, 2=30	1=16, 2=16
Municipal solid waste management, monitoring and enforcement	1=22, 2=12	1=5, 2=27	1=20, 2=12
Environmental law	1=32	2=32	1=20, 2=12
EIA- tools and techniques	1=30, 2=2	1=4, 2=28	1=22,2=10
Regional/urban air quality management	1=25, 2=7	2=32	1=20, 2=12
Monitoring & Testing –Hazardous waste	1=32	1=8, 2=24	1=10, 2=22
Monitoring & Testing –water pollution	1=32	2=32	1=5, 2=27
Monitoring & Testing –air pollution	1=32	2=32	1=7, 2=25
On-line and continuous monitoring	1=32	2=32	1=25, 2=7
Environmental statistics	1=32	1=2, 2=32	1=22, 2=10
Urban Water, Sewage Management and River pollution	1=17, 2=15	2=32	1=10, 2=22
Climate change	1=25, 2=7	2=32	1=25, 2=7
Energy efficiency in industries	1=10, 2=22	2=32	1=12, 2=20
Energy efficiency in building	1=5, 2=27	2=32	1=5, 2=27
Energy audit	1=5, 2=27	2=32	1=5, 2=27
Renewable energy	1=2, 2=30	2=32	1=7, 2=25
Environmental issues in building sector	1=20, 2=12	2=32	1=15, 2=17
Life Cycle Assessment	1=5,2=27	2=32	1=5, 2=27
Environment Audit	1=32	2=32	1=7, 2=25
Environmental communication	1=30, 2=2	2=32	1=30, 2=2
Documentation/ Reportmaking	1=32	2=32	2=32
Computer skills	1=32	2=32	1=28, 2=4
Organisational management	1=32	2=32	1=32

The following inferences can be drawn from Table 3:

- There is a gap between the core functions of the respondents, the kind of training availed and the kind of training required.
- Consent management, inspection, compliance and enforcement, environment audit, environment statistics etc were identified as highly relevant to the job, but very few respondents attended training on these issues -- though a large proportion of respondents had felt that training is required in these areas.
- The training availed by few respondents were quite limited in scope. The broad topics under which they received training includes: sector-specific industrial pollution issues, hazardous, municipal and bio-medical waste management, EIA and environmental statistics. Training on larger issues like regional air quality management, urban water and waste management, environmental issues in building sector etc were not availed/ available.
- Few key areas where the respondents showed keen interest in availing training included issues linked with hazardous waste and municipal solid waste, on-line and continuous monitoring of pollution, climate change and environmental statistics. Most interestingly, this list also included environmental communication, documentation/report-making, computer skills and organisational management.

All the respondents expressed their willingness to have training so that they can perform better. In the questionnaire, information was also sought about the nature and duration of training programmes the respondents would like to attend. A large majority of them felt that the programmes should not be more than a week long. They also wanted residential accommodation; some felt the TA/DA given by their respective boards was not sufficient.

2. Junior level officers

Seven junior officers from four pollution control boards responded to the questionnaire. Their profile is given in Table 4.

Table 4: Profile of Junior Level Officer

	No. of Respondents	Average Age (year)	Sex (Male/ Female)	Level of Education 1= M.Sc/Ph.D 2= B.Sc/B.Tech	Average length of service (year)	Average tenure on current post (year)
Andhra Pradesh Pollution Control Board	1	39	1	1=1	10	10
Central Pollution Control Board	3	29	3	1=3	3.5	3.5
Meghalaya State Pollution Control Board	2	35	1/1	1=1,3=1	3.5	3.5
Rajasthan Pollution Control Board	1	36	1	2=1	10	10
All	7	33	5/1	1=5, 2=1, 3=1	5.3	5.3

The following inferences can be drawn from Table 4:

- The junior level officers of the pollution control boards are highly qualified, with more than 70 per cent of them holding at least an Msc/M.Tech degree.
- The average tenure of junior level officers at their present posts has been found to be over five years. This again shows stagnation in career growth. In fact, in the Rajasthan board, the junior officer has been at the same post for the last 10 years.

The training availed of by the junior level officers in last five years is given in Table 5.

Table 5: Training availed by junior-level officers in last five years

Duration of training	No. of respondents who availed training	No. of respondents who availed in-house training	No. of respondents who availed outside training in India	No. of respondents who availed training in foreign country
3-5 days	3		3	
1 week	2	2		
2 weeks				
3 weeks				
4 weeks				
More than a month				0
Total	5	2	3	0

The following inferences can be drawn from Table 5:

- Of the seven respondents, five have attended at least one training in last five years.
- Only one respondent attended more than one training programme in five years.
- Other than two CPCB staff members who attended a one-week in-house induction training, no one from the other pollution boards went through it.
- The member secretary, Tamil Nadu Pollution Control Board, informed CSE that the board's new recruits go through some induction training before joining the job.

Table 6 shows the key areas/issues relevant to the jobs, training needs and training attended by junior level officers of pollution control boards.

Table 6: Key areas/ issues relevant to the job, training availed and training requirement for the junior-level officers

Key competencies	Relevance to the job Yes = 1; No = 2	Attended training in last three years Yes = 1; No = 2	Training Required Yes = 1; No=2
Environmental Pollution –Basic Knowledge and Awareness	1=7	1=2, 2=5	1=7
Pollution monitoring techniques and instrumentation	1=7	1=2, 2=5	1=7
Monitoring, inspections, compliance and enforcement	1=7	1=2, 2=5	1=7
Environmental law	1=7	1=2, 2=5	1=7
Environmental planning and EIA	1=7	2=7	1=7
Pollution prevention tools and techniques	1=7	2=7	1=7
Environmental statistics	1=7	2=7	1=7
Environmental Communication	1=7	2=7	1=7
Documentation/ Reportmaking	1=7	2=7	1=7
Computer skills	1=7	2=7	1=7
Organisational management	1=7	2=7	1=7

The following inferences can be drawn from Table 6:

- Other than the two officers of CPCB, none of the respondents from the other pollution control boards have availed of any training relevant to their job. There is a gap between their core requirements and the training provided.
- All the respondents expressed the willingness to have training in core-functional areas so that they can perform better.
- In the questionnaire, information was also sought about the nature and duration of training programmes the respondents would like to attend. Most of the respondents felt that the programme should not be more than two weeks long. They also wanted practical experience and field visits. On the logistics side, they wanted residential accommodation; some felt the TA/DA given by their respective boards was not sufficient.

Chairpersons and member secretaries

Three chairpersons (Karnataka, Meghalaya and Tripura) and two member secretaries (Tamil Nadu and Meghalaya) of the SPCBs responded to the questionnaire. Given below is a summary of their responses:

- The chairpersons and member secretaries were aware and concerned about the lack of training and capacity building of the staff.
- They all felt that there was a large gap in the knowledge and skill levels of the staff and that training and skill upgradation was required for both senior/middle-level and junior officers.
- Other than the member secretary of the Tamil Nadu Pollution Control Board, all chairpersons and member secretaries reported that there was no in-house structured training programme for their staff.
- The member secretary of the TNPCB reported that the board had a basic induction training programme (of 10 days' duration) for its new recruits. No such induction training is being provided by the other boards. All of them, however, agreed to the concept of induction training for new recruits.
- The chairpersons and member secretaries who responded to the questionnaire believed that their senior/middle-level officers needed more training than their entry/junior-level officers (see Table 7: *A snapshot of the chairpersons'/member secretaries' perspective on training priorities for*

Table 7: A snapshot of the chairpersons'/member secretaries' perspective on training priorities for junior and senior/middle-level officers

	Job relevance and training requirement	For entry/junior-level staff				For senior/middle-level staff			
		High	Med	Low	NA	High	Med	Low	NA
1	Environmental pollution – basic knowledge and awareness	4	1			3	2		
2	Pollution monitoring techniques and instrumentation	3	2			3	2		
3	Inspection, compliance and enforcement	3	2			4	1		
4	Environment planning and EIA	1	2	1		4	1		
5	Environmental jurisprudence	4	1			4	1		
6	Global environmental issues	1	1	2	1	2	2	1	
8	Environmental communication	1	2	1		3	2		
9	Documentation/report-making	2	3			3	2		
10	Organisational management	1	2	2		4	1		

junior and senior/middle-level officers).

- All chairpersons and member secretaries felt that they could send only a few staff members at a time for training because of the high workload.
- For senior/middle-level officers, they recommended a training period of a maximum of one week, while for junior-level officers the maximum training period recommended was two weeks.
- Monitoring, compliance inspection and enforcement, pollution prevention and control, environmental law and other legal aspects were highlighted as key areas where training is required. According to the chairperson, the Karnataka State Pollution Control Board, special and immediate training needs include consent management, industry inspection, principal of criminal justice system, evidence collection and filing cases and administration.
- In skill upgradation, training on communication, report-making and administrative skills were highlighted by all the chairpersons and member secretaries.
- All chairpersons and member secretaries highlighted certain logistical needs. Primarily, they all wanted accommodation to be organised by the institute conducting the training. The member secretary, TNPCB, highlighted certain restrictions on course fees imposed by the state government. The chairpersons of the Meghalaya and Tripura SPCBs highlighted the lower TA/DA rates of the government and the need for subsidising the training.

Conclusions

- Secondary information, results of the TNA survey and interviews with officers and experts all point to the fact that there is a large gap between training needs, training availability and the actual training availed by the officers of the pollution control boards.
- Other than the CPCB and the TNPCB, no pollution control board seems to have an induction training for their new recruits. These two boards also organise the maximum number of trainings for their staff members.
- Training availed of by the staff of the boards does not match their core requirements. The available training programmes are largely supply-side driven. Very few training programmes (expect for some organised by the CPCB) are based on the demands and needs of the pollution control boards.
- There is a need for instituting a national minimum training programme for new recruits/junior-level officers of pollution control boards. Systematic training is also required for senior/middle-level officers.
- Training is required both for domain knowledge and skill upgradation.