TURNAROUND

REFORM AGENDA FOR INDIA'S ENVIRONMENTAL REGULATORS

CENTER FOR SCIENCE AND ENVIRONMENT
New Delhi

2009

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RESEARCH AND DIRECTION
Chandra Bhushan

Research
Nivit Kumar Yadav
Anil Roy

Editor
Souparno Banerjee

Cover design
Surya Sen

Design and layout
Kirpal Singh

Production
Rakesh Shrivastava
Gundhar Das

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Centre for Science and Environment
41, Tughlakabad Institutional Area, New Delhi – 110 062
Ph: 91-11-2995 6110, 2995 5124, 2995 6394, 2995 6399
Fax: 91-11-2995 5879, 2995 0870
Email: chandra@cseindia.org **Website:** www.cseindia.org

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Acronyms and abbreviations

ADB	Asian Development Bank
APPCB	Andhra Pradesh Pollution Control Board
BSPCB	Bihar State Pollution Control Board
CDM	Clean Development Mechanism
CECB	Chhattisgarh Environment Conservation Board
CETP	Common Effluent Treatment Plant
CPCB	Central Pollution Control Board
CSE	Centre for Science and Environment
CTE	Consent to establish
CTO	Consent to operate
EIA	Environment Impact Assessment
EMPRI	Environmental Management Policy Research Institute
EMS	Environmental Management Systems
ENVIS	Environmental Information System
EPTRI	Environmental Protection Training and Research Institute
GDP	Gross Domestic Product
GHG	Greenhouse gases
GoI	Government of India
GPCB	Gujarat Pollution Control Board
GSPCB	Goa State Pollution Control Board
HSPCB	Haryana State Pollution Control Board
LCA	Life Cycle Assessment
MoEF	Ministry of Environment and Forests
MPCB	Maharashtra Pollution Control Board
MPPCB	Madhya Pradesh Pollution Control Board
NEP	National Environment Policy
NGO	Non-Government Organisations
OECD	Organisation for Economic Cooperation and Development
OSPCB	Orissa State Pollution Control Board
PCB	Pollution Control Board
PIL	Public Interest Litigation
RTI	Right to Information
SMEs	Small and Medium Enterprises
SPCB	State Pollution Control Board
SSI	Small-scale Industries
TNPCB	Tamil Nadu Pollution Control Board
UPPCB	Uttar Pradesh Pollution Control Board
USEPA	United States Environment Protection Agency
UTPCC	Union Territory Pollution Control Committee
WBPCB	West Bengal Pollution Control Board

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CHAPTER 1

Introduction

THE RATIONALE BEHIND THE STUDY

One of the key challenges faced by India today is how to maintain a high economic growth, and at the same time, ensure environmental sustainability and social justice. The high growth rate during the last decade has not gone hand in hand with the mandate of environmental sustainability. The air of cities is dirty, rivers are polluted, and hazardous wastes are ill-managed. This could be attributed to the increasing gap that has been created over the years in the overall capacity of environmental regulations and regulatory institutions to address the negative environmental impacts of rapid industrialisation. Environmental regulations are intended to ensure sustainable resource use and facilitate effective natural resource management. Regulatory institutions are entrusted to protect the natural environment from degradation by means of a well developed mechanism of monitoring, compliance and enforcement. However, there are certain inherent capacity constraints within the regulatory institutions that come in the way of effective compliance and enforcement of regulations. The capacity constraints of regulatory institutions such as the Union ministry of environment and forests (MoEF), the Central Pollution Control Board (CPCB) and the State Pollution Control Boards (SPCBs) need to be identified and removed or ameliorated, so that effective implementation of environmental regulations is ensured in the country.

ENVIRONMENTAL REGULATIONS AND INSTITUTIONAL CAPACITY: A REVIEW

Indian regulations for pollution control have a comparatively longer colonial history which dates back to the nineteenth century. The British had introduced some legislative measures such as the Shore Nuisance Act, 1853; the Indian Penal Act, 1860; the Indian Easement Act, 1882; the Bengal Smoke Nuisance Act, 1905; the Bombay Smoke Nuisance Act, 1912; and the Motor Vehicles Act, 1939. All these acts attempted at abatement of air, water and even noise pollution. During the post-independence era, environmental legislations were passed and enacted which, *inter alia,* also attempted to deal with some facets of pollution control and prevention. These included the Factories Act, 1948; the Industries (Development and Regulation) Act, 1951; the River Boards Act, 1956; the Atomic Energy Act, 1962; the Insecticides Act, 1968; the Merchant Shipping (Amendment) Act, 1970; and the Radiation Protection Rules, 1971.

A major development took place in Indian environmental legislation when the Water (Prevention and Control of Pollution) Act, 1974 was passed by the Parliament, earmarking the establishment of Boards for Prevention and Control of Pollution of Water. The passing of the Air (Prevention and Control of Pollution) Act in 1981 provided the much needed basis for an integrated approach on pollution control. The Water Pollution Control Boards were thereby authorised to deal with air pollution also and were henceforth called Central/State Pollution Control Boards.

Various committees were set up (the Bhattacharya Committee, 1984 and the Belliappa Committee, 1990) and reports prepared (the Administrative Staff College of India report, 1994 and the Planning Commission

report, 2001-02) examining the functioning and performance of regulatory institutions. These have pointed to the poor implementation and enforcement of environmental laws, rules and regulations by regulatory agencies, especially by the SPCBs. These reports have also looked at the capacity constraints of the state boards and the reasons behind their ineffective functioning.

More recently, in 2005, the United States Environment Protection Agency (USEPA), under a memorandum of understanding signed with the MoEF, undertook a study on 'environmental compliance and enforcement in India' and came out with an 11-point recommendation for corrective measures. Some of the major recommendations are developing policy and implementing guidelines for the SPCBs and zonal offices of the CPCB; using self-monitoring, self-recordkeeping and self-reporting as direct evidence of violation in courts of law; providing training to SPCBs; utilising statutory provisions to establish a civil administrative authority; developing a uniform database system; and establishing a support organisation to facilitate effective communication between CPCB and the SPCBs.

In 2006, the Secretariat of the Asian Environmental Compliance and Enforcement Network undertook a rapid assessment of India's environmental compliance and enforcement programme. This assessment reveals the constraints and challenges faced by the SPCBs and has recommended both short-term and medium-term solutions for better compliance and enforcement. It has also elaborated on the key challenges faced by the SPCBs' management system and has endorsed most of the USEPA, 2005 study's recommendations. The report finds that there is insufficient coordination between the CPCB and the SPCBs. The lack of nation-wide implementing guidelines, coupled with human and technical capacity constraints, comes in the way of effective compliance and enforcement.

Also in 2006, the World Bank published the Country Environment Analysis of India *(India: Strengthening Institution for Sustainable Growth*), which highlights the importance of capacity building for compliance and enforcement in line with environmental pressures. This analysis also identified the gaps between the regulators' capacity and the ever-expanding multiple regulatory mandate.

THE CSE STUDY AND ITS SCOPE

The present study aims to identify the gaps between existing regulatory provisions and implementing capacity of the SPCBs in India. The study's objectives and methodology are as follows:

- To critically assess the roles and responsibilities of the SPCBs;
- To examine the regulatory capacity of the SPCBs for monitoring, compliance and enforcement;
- To explore the training requirements and provisions for capacity building; and,
- To gather public opinion about the overall performance of the SPCBs.

The study aims to identify the strengths, weaknesses and challenges faced by the state boards. For this purpose, information has been collected from different SPCBs through a structured questionnaire. Secondary data from annual reports and websites of respective SPCBs have also been used. In addition, an opinion poll of the stakeholders (industry and civil society organisations) was conducted to know their perceptions about the performance of the SPCBs.

The result of the study is this report, which primarily deals with the environmental regulators' capacity to monitor and enforce laws, rules and regulations in the country. The current chapter introduces the various studies done on the performances of the SPCBs. It also explains the aims and objectives of the CSE study, followed by an account of the methodology. Chapter Two examines the regulatory capacity of the SPCBs in terms of financial and human resources. Chapter Three deals with the compliance and enforcement performance of SPCBs, and presents a status report on training and capacity building in the boards. Chapter Four provides an account of public perceptions about the performance of the SPCBs, while Chapter Five lists the recommendations.

CHAPTER 2

Regulatory capacity and resource mobilisation

INTRODUCTION

Environmental regulatory capacity in India, reflected through various functions of the SPCBs, has not been up to the mark; reports mentioned in Chapter One provide enough indications towards this. The SPCBs' capacity for effective monitoring, compliance and enforcement largely depends on a balanced composition of board members, technical and legal skills of the staff, pattern of staffing, workloads and the time and resources spent on monitoring and enforcement. These are the vital areas of the boards' capacity that ensure their proper functioning. Resource mobilisation – technical and financial – by the respective boards helps in building required capacity and infrastructure for effective functioning. The boards have been empowered to mobilise resources from a wide spectrum of sources. This chapter examines the regulatory capacity and the board's ability to mobilise resources.

COMPOSITION OF THE STATE POLLUTION CONTROL BOARDS

The Water Act, 1974 prescribes the broad composition of the SPCBs, with specific qualifications for the board members[1]. However, in many cases, the boards are by and large dominated by state bureaucracies in their overall composition, though there are exceptions like the West Bengal Pollution Control Board (WBPCB) which has technical and scientific members. It has three members each from the Calcutta Medical College; the Department of Chemical Engineering of Jadavpur University; and the Institute of Nuclear Physics. In addition to that, there is a fair representation of government departments, municipal corporations and state-controlled cooperatives.[2] The Andhra Pradesh Pollution Control Board (APPCB) also has technical staff from Andhra University and the Environment Protection Training and Research Institute (EPTRI).[3] These two boards are exceptions as far as a balanced board is concerned. Rest of the SPCBs in India are composed of members from state bureaucracies. For instance, the Gujarat Pollution Control Board (GPCB) comprises of nine board members, all of whom hail from government departments. There are no representations from local municipal authorities or academia.[4] On the other hand, representatives of local municipalities dominate the Madhya Pradesh Pollution Control Board (MPPCB).[5]

The posts of the member secretary and chairperson are also dominated by bureaucrats (see Table 1 on page 4: *Predominance of IAS/IFS officers as chairperson and member secretary in SPCBs*). Dilip Biswas, former chairperson of CPCB, has critical views on appointing IAS/IFS officers as chairperson and member secretary. He says: "The key person in an SPCB is the chairperson, who should be professionally qualified and appointed on a full-time basis. Several SPCBs are headed by part-time chairpersons without the requisite qualifications and experience. Most of them are often drawn either from the administrative

Table 1: Predominance of IAS/IFS officers as chairperson and member secretary in SPCBs

	Chairperson	Member secretary
Boards contacted	28	28
Vacant posts	2	0
Boards with IAS/IFS officers as	14	17
Percentage of boards with IAS/IFS officers as	54	61

Source: Information collected from various pollution control boards

service or the forest service and do not have the requisite technical background in pollution control. As a result, it becomes difficult for them to provide proper leadership and guidance to their subordinates."

Functioning of a board also depends on security of tenure. Frequent replacement of chairpersons hampers the overall functioning of the boards. By the time a chairperson becomes familiar with the functioning of the organisation, he/she is moved out. For example, the Uttar Pradesh Pollution Control Board (UPPCB) has changed 24 chairpersons in the last 24 years, whereas the Haryana State Pollution Control Board (HSPCB) has changed its chairperson 26 times since 1974, indicating an average tenure of only one year for each chairperson.[6] The Goa State Pollution Control Board (GSPCB) reflects comparatively better security of tenure of its chairperson – over three years on an average.[7]

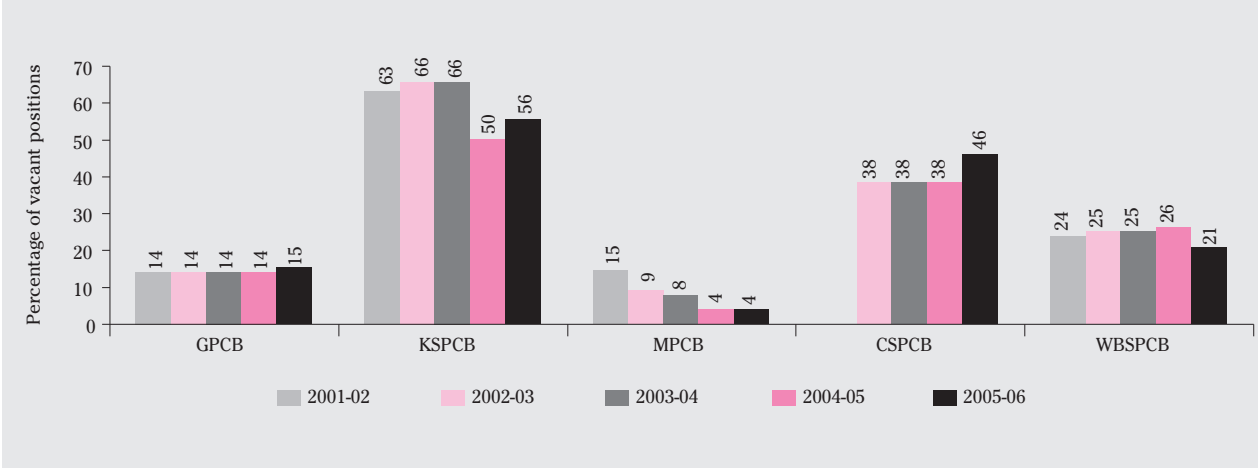
STAFFING PATTERNS: IDENTIFYING THE GAPS

Vacancy

The staff strength and composition of different boards have been assessed in this study, taking a reference period from 2001-02 to 2005-06.

It has been found that many of the boards faced a staff crunch during this period. A majority of the boards have failed to recruit personnel for their vacant posts, even after they have been sanctioned the requisite staff. The Karnataka State Pollution Control Board (KSPCB) had 60 per cent of its sanctioned positions lying vacant every year. This means that the board's day-to-day activities were being run by less than half of its sanctioned staff. Data shows that the percentage of vacant positions in the board has gone down marginally in recent years (see Figure 1: *Vacancies in SPCBs*). The KSPCB has now decided to hire staff on a contractual basis. The WBPCB had 24 per cent of its total sanctioned positions lying vacant, while the Chhattisgarh board had 32 per cent vacant posts every year. The Maharashtra Pollution Control Board (MPCB) has a comparatively better staff strength; it had only 8 per cent of its sanctioned posts lying vacant during the

Figure 1: Vacancies in SPCBs



Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme

same period. The number of vacancies also shows a progressively declining trend, indicating the MPCB's willingness to fill up the posts.

Responses from SPCBs reveal that many posts were sanctioned, but hiring did not take place due to the cumbersome process that requires approvals from the state government. In some cases, financial constraints and budgetary restrictions were highlighted as reasons for a large number of vacant posts. Communication with officials of the SPCBs revealed that the boards were unable to attract qualified staff due to poor pay scales (compared to the private sector), fewer promotions and lack of opportunities for growth. The CPCB also faces similar problems (see Box: *Humanpower crisis at CPCB*).

HUMANPOWER CRISIS AT CPCB

The Central Pollution Control Board is facing a shortfall of personnel, especially in the technical and scientific areas. One of the reasons for this problem is the cumbersome recruitment process. Also, existing staff are lured away by private sector organisations which offer better salaries and job profiles. Although the CPCB is a scientific and technical organisation responsible for advising the Union ministry of environment and forests (MoEF) and undertaking research on pollution control and abatement, salaries of its employees are not at par with those of other technical organisations like the DRDO, CSIR, Department of Space, Department of Atomic Energy, etc.

Although the Board is a highly specialised and scientific institution, its scientific and technical staff are not covered under the Flexible Complimentary Scheme (FCS), unlike the employees of organisations like CSIR, DRDO and MoEF. Under FCS, a time-bound promotion is applicable after every five years of tenure at one post. Denied this scheme, the scientific staff of CPCB are demotivated and their positions have stagnated due to lack of time-bound promotions. The employees of CPCB also do not get social benefits such as medical or accidental insurance despite the fair amount of risk of injuries and threats to their life while conducting laboratory work and inspection visits to industries.

Though the CPCB has tried to introduce computerisation, data management and information technology, it lacks computer specialists, which hampers its progress in this direction. There are no basic qualifications required for hiring staff at CPCB. Personnel recruited at junior levels do not have even basic computer training and knowledge.

There exists a gap between the pay scales of the chairperson and member secretary of the CPCB. The member secretary functions as the second-in-command after the chairperson. However, the salary of the member secretary is the same as that of the director/s in CPCB, whereas, as per the official hierarchy, these directors have to report to the member secretary. Also, the member secretary has been entrusted with more responsibilities compared to the directors.

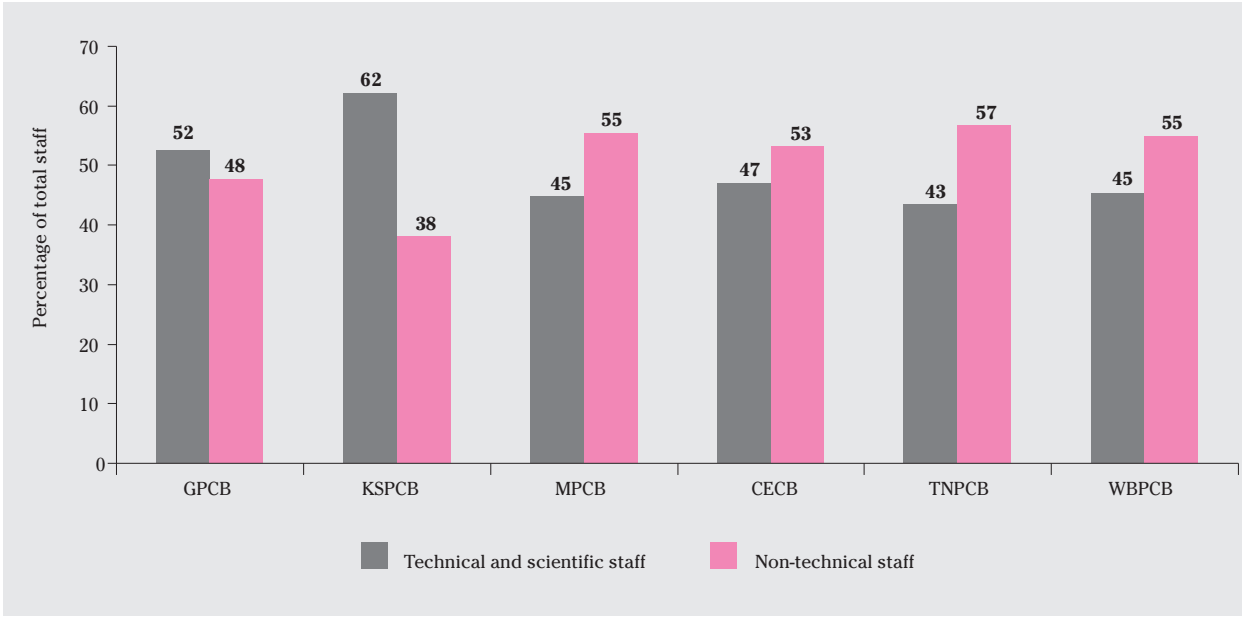
According to J M Mauskar, former chairperson of CPCB, "As CPCB functions with professionals recruited from a pool of scientists and engineers, the pay package should be made more lucrative. Being a low-paying organisation, talented professionals are leaving it and joining other private organisations where they are being paid handsomely." Mauskar also believes that a well-paid employee will be more honest and diligent and will help in weeding off the corruption in the Board.

The CPCB has given some suggestions to the Sixth Pay Commission to contain its loss of quality personnel. These suggestions include:

- **All scientific and technical employees in CPCB should be covered under the FCS.**
- **A special pay package/allowance should be given as incentive to high risk departments/laboratories along with accidental insurance covers.**
- **Pay scales of scientific and technical staff should be at par with other technical institutions such as CSIR, DRDO, etc.**
- **Lower-level staff should be recruited with basic working knowledge of computers and other office automation. They should also be graduates at least.**
- **Specialised professionals such as IT and legal experts should be hired.**
- **Pay scales for the post of member secretary should be raised to somewhere between that of the chairperson and the directors.**

The Sixth Pay Commission recommendations kept the pay scales of the members secretary and the directors at the same level. However, a source in the MoEF says the ministry has issued four orders in 2008 to regularise the contractual staff in CPCB.

Figure 2: Board-wise composition of staff



Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme
Notes: The data is an average of the years 2001-2002 to 2005-2006. Legal staff and scientists have been considered as technical.

To overcome the staff shortage, most SPCBs have resorted to hiring contractual staff. However, contractual employees cannot be used for any activities that may involve legal compliance and enforcement. These employees are also not eligible for standard benefits and therefore, have low work motivation.

Composition

The functions of a state board are highly technical in nature and involve monitoring of industries vis-à-vis the existing laws and regulations and implementing programmes and policies for pollution control. Though the SPCBs hire technical personnel comprising of technical officers and scientists, non-technical staff dominate the boards. The MPCB, which represents one of the most industrialised states in the country, has (on an average) 55 per cent non-technical staff on its payrolls. Similarly, the Tamil Nadu Pollution Control Board (TNPCB), the Chhattisgarh Environment Conservation Board (CECB) and the WBPCB are also dominated by non-technical staff (see Figure 2: *Board-wise composition of staff*). The KSPCB has a healthy ratio in favour of technical staff. However, the high ratio of technical staff in KSPCB may not represent a correct picture, as a significant number of positions lie vacant.

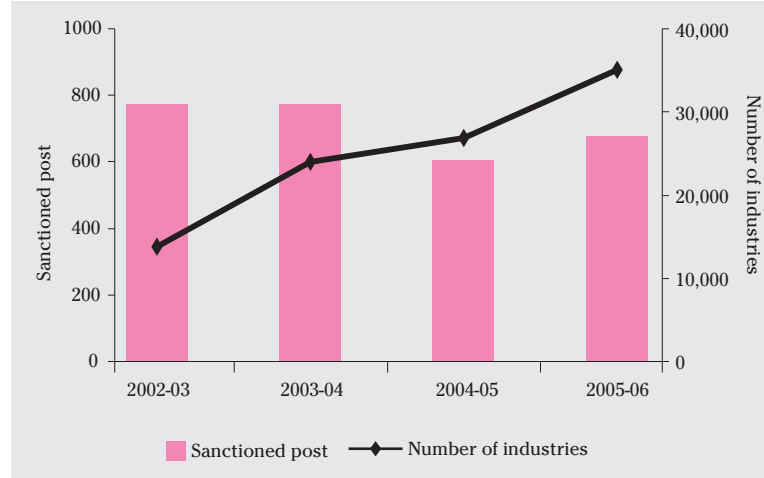
Workload

The SPCBs are facing this problem of inadequate staff amidst an increasing number of industries that need to be regulated. As a result, workload on the staff is increasing every year. The data shows an overall increase in number of industries, while sanctioned positions have remained more or less constant during 2001-02 and 2005-06 in most of the boards. For example, in Karnataka, the number of industries has increased 2.5 times over the five years (2001-02 to 2005-06), while the number of sanctioned posts has gone down from 769 to 675 during the same period (see Figure 3: *Staff vs industries: the case of the Karnataka State Pollution Control Board*). Considering that 60 per cent of the sanctioned posts are lying vacant at the KSPCB, the workload of the existing staff has increased manifold.

The case is similar in other SPCBs. While the number of industries in Gujarat has gone up by 70 per cent during 2002-03 and 2005-06, the sanctioned positions in the Gujarat board have remained constant at 549. The same was also observed in the case of CECB and MPCB.

An analysis of sanctioned positions vis-à-vis the number of industries is an indicator of workload, but actual workload can be assessed if the strength of the technical staff in a board is compared to the number of industries in the state, because actual monitoring and inspection are done by the technical staff. Most of the SPCBs do not have sufficient technical officers (excluding scientists). Each technical officer ends up looking after an ever-increasing number of industries (see Table 2: *Average workloads of technical staff: 2005-06*). For example, in the MPCB, one technical officer is responsible for 245 industries; the workload of the scientific staff is also very high. One scientific staff in Maharashtra handles as many as 706 industries. In the case of Karnataka, the number of industries per technical officer has gone up more than twice between 2001-2002 and 2005-2006.

Figure 3: Staff vs industries: the case of the Karnataka State Pollution Control Board



Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme

If we assume that the technical and scientific staff together undertake inspection and monitoring of industries (which was found in some of the SPCBs surveyed), the numbers look slightly more respectable but still inadequate. For example, one officer (technical plus scientific) is responsible for 68 industries in Gujarat; in the case of Maharashtra, it is 182 industries and in Karnataka, 142 industries. This workload estimate does not include implementation of new legislations like bio-waste management, municipal solid waste management, control of plastics and used batteries, etc.

Time spent on inspection and monitoring of industries

The low ratio of technical staff to the number of industries to be regulated implies that each staff member would be devoting less time monitoring industries as he/she is over-burdened with work. The CSE study has tried to assess the average number of days each staff member (technical, scientific and technical plus scientific) gave to an industry for consent management, monitoring, inspection, analysis, travelling, and preparation of report.

In the GPCB, a technical person got only 1.77 human-days to take care of an industry in one whole year. The number of human-days spent by the technical staff in KSPCB and MPCB were found equally low at 1.72 and 1.23 human-days, respectively. These human-days also included the time spent in commuting. The scenario remains the same in the case of scientific officers. When technical and scientific staff are

Table 2: Average workloads of technical staff: 2005-06

PCBs	No of industries per technical staff	No of industries per scientific staff	No of industries per (technical+scientific staff)
GPCB	176	109	68
KSPCB	193	552	142
MPCB	245	706	182

Source: Data provided by the PCBs for the regulator's programme, 2005-06

Table 3: Time spent by technical staff for industrial monitoring in a year

	No of days/ year	Technical staff work load (No of industries per staff)	No of days/ industry	Scientific staff work load (No of industries per staff)	No of days/ industry	Technical + scientific staff work load (No of industries per staff)	No of days/ industry
GPCB	300	176	1.77	109	2.87	68	3.9
KSPCB	300	193	1.72	552	0.60	142	1.9
MPCB	300	245	1.23	706	0.43	182	1.4

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme

taken together, the average time spent on one industry goes up marginally, but it still not enough for proper monitoring and enforcement (see Table 3: *Time spent by technical staff for industrial monitoring in a year*).

Most boards end up giving a range of responsibilities to their technical staff due to the shortage of human-power. An environmental engineer is made responsible for monitoring and inspection of industries, but he/she has to also look after administrative responsibilities of clearing day-to day files. A significant amount of human-days of the technical staff goes into paperwork that involves clearances and consents. In fact, according to most SPCBs, their technical staff spent maximum time and effort on consent management. Most SPCBs lack the resources to develop the necessary computerised systems to manage information flow and to track activities. As a result, much of their human-days are devoted to administrative activities instead of actions that may reduce pollution. In addition, the judicial activism ensuring the agenda of environmental improvement in India has added new roles and responsibilities to the boards, including the CPCB. The courts often ask boards to address priority programmes or provide information on a certain industrial unit or programme. Similarly, court cases (mainly PILs) by individuals against industries or boards also add to the workload. In the recent past, several new programmes have been introduced under the Environment Protection Act (such as hazardous waste management, bio-waste management, and control of plastics and used batteries) with significant start-up needs which have added to the workload of the boards without a corresponding increase in human resources.

FINANCIAL RESOURCE MOBILISATION

Financial resources of the SPCBs come from their own resources and from external assistance. Many boards are highly dependent on external sources of funds, even for salary and office expenses. The financial resources of an SPCB can broadly be categorised into the following:

- **Own resources** of a state board consist of cess reimbursement[8], consent fees[9] and interest on investments. Other minor sources include receipts from consultancy and sponsored projects, sample testing fees, appellate fees, receipts from the sale of forms, fines and forfeitures, etc.
- **External assistance** is composed of funds received by the board from the government of India, the concerned state government and the CPCB[10], grants-in-aid provided by the concerned state government and other grants from time to time.

There is a wide variation in the level of income generated by different boards. The Bihar State Pollution Control Board (BSPCB) has an average annual income of Rs 3.18 crore, whereas the KSPCB and MPCB earn as much as Rs 36.94 and Rs 35.91 crore, respectively (see Table 4: *Incomes of various pollution control boards*). This disparity exists mainly because the states of Maharashtra and Karnataka have a large number of industries and therefore, earn more revenues through consent fees and cess reimbursements. Similarly, the TNPCB, UPPCB and WBPCB have much larger financial resources.

Table 4: Incomes of various pollution control boards (Rs in lakh)

	BSPCB	GPCB	KSPCB	MPCB	OSPCB	WBPCB	UPPCB	TNPCB	CECB
2001-02	307.9	1313.4	3386.6	2794.6	NA	1501.3	1398.9	2029.9	69.1
2002-03	294.3	1324.7	2962.8	2480.6	291.4	1655.0	1242.3	2181.8	NA
2003-04	322.5	2570.6	4355.0	3328.8	525.5	2075.6	1031.3	2375.0	321.2
2004-05	NA	2428.1	3825.7	3933.2	850.8	1803.5	1647.3	2354.9	537.7
2005-06	NA	1397.8	3121.7	5421.4	866.5	3156.9	881.0	NA	NA
Average	**318.0**	**1806.9**	**3694.3**	**3591.7**	**722.1**	**2038.4**	**1240.1**	**2235.4**	**392.6**

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme

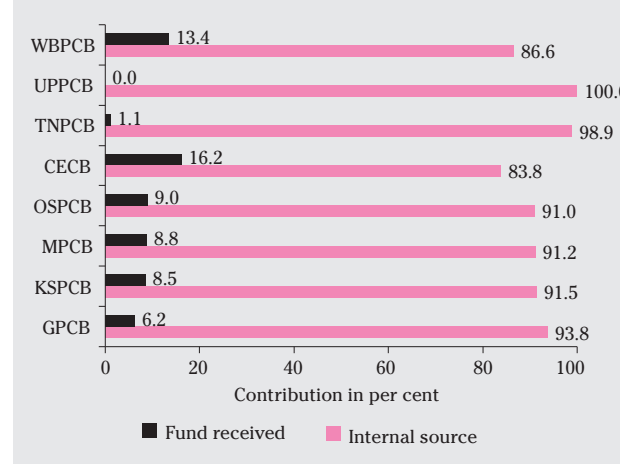
NA: Not available

Trends in financial resource mobilisation by select state boards show a progressive increase over time, except in the case of Karnataka, where the board shows a drop of 8 per cent in its income during 2001-02 and 2005-06. The KSPCB has registered a decline in aid from external sources, whereas the OSPCB and CECB – which are in states that are the new emerging destinations of industrialisation – have posted a healthy growth in their incomes. The income of the OSPCB has almost increased three times during 2002-03 and 2005-06, while that of the Chhattisgarh board has gone up by as much as eight times during the same period.

Sources of income: grants and internal resources

Internal resources such as water cess, fees from consent and NOCs are the major avenues of income for many boards. The WBPCB, UPPCB, MPCB, GPCB, KSPCB and the TNPCB have generated more than 80 per cent of their incomes from internal resources (see Figure 4: *Sources of funds for SPCBs*). On the other hand, the pollution control boards/committees in the northeastern states and in Jammu & Kashmir (J&K) depend heavily on external aid from their respective state governments. The Sikkim State Pollution Control Board (SSPCB) received Rs 22.5 lakh as grant from state government in 2007-08; other receipts were worth another Rs 8.55 lakh. The total grant received from state was utilised for the payment of salaries of SPCB officials. Therefore, the board was left with a mere Rs 8.55 lakh for all other expenses which included monitoring, inspection, laboratory, travel, etc. The boards of Kerala and J&K receive over 80 per cent of their funding through government grants.[11] This is because there are very few industries in these states and they face constraints in mobilising their own resources.

Figure 4: Sources of funds for SPCBs



Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme

Consent and NOC fees

Among the various sources of income of the boards in Maharashtra, Karnataka, West Bengal, Orissa and Chhattisgarh, consent (consent to establish and consent to operate) and NOC fees offer the major share of the income (see Table 5 on page 10: *Source-wise incomes of various pollution control boards*). However, many boards like the BSPCB do not benefit much from these fees. This is because they are less industrialised; another reason is the differential structure of the consent fees across the states of India. For instance, if an industrial unit that falls in an investment limit between Rs 50 lakh and Rs 100

Table 5: Source-wise incomes of various pollution control boards (Rs in lakh)

	BSPCB	%	GPCB	%	KSPCB	%	MPCB	%	OSPCB	%	CECB	%	TNPCB	%	UPPCB	%	WBPCB	%
Sale of forms and publications	1.24	0.39	4.43	0.25	0.65	0.02	20.16	0.56			0.10	0.03		0.0			9.59	0.47
Water cess	56.29	17.70	302.69	16.75	306.07	8.28	813.00	22.64	140.80	19.50	147.36	37.53	299.2	13.4	1035.48	83.50	935.52	45.89
Consent and NOC fees	95.32	29.98	954.47	52.82	1985.68	53.75	1703.03	47.42	354.31	49.06	173.89	44.29	1008.3	45.1	204.65	16.50	786.27	38.57
Interest on investment	129.05	40.58	287.00	15.88	236.90	6.41	416.59	11.60	47.74	6.61	7.85	2.00	523.9	23.4				
Receipt from consultancy and other project			3.16	0.17										0.0				
Sampling fees	12.21	3.84	139.33	7.71	33.83	0.92	217.66	6.06	6.21	0.86			327.7	14.7				
Appellate fees			0.05	0.00	0.01	0.00	0.02	0.00						0.0				
Fines and forfeitures etc			0.55	0.03	0.64	0.02	0.65	0.02						0.0				
Any other	1.49	0.47	2.36	0.13	814.71	22.05	104.13	2.90	108.03	14.96			51.2	2.3			33.56	1.65
Total own resources	**295.6**	**92.96**	**1694.03**	**93.75**	**3378.5**	**91.45**	**3275.25**	**91.19**	**657.07**	**90.99**	**329.21**	**83.85**	**2210.3**	**98.9**	**1240.13**	**100.00**	**1764.94**	**86.58**
Grant in aid from the state government			111.59	6.18	40.90	1.11	1.81	0.05	1.75	0.24	28.90	7.36					180.09	8.83
Other funds from the state government																	31.39	1.54
Funds received from the central government	15.54	4.89			69.20	1.87	238.96	6.65			7.36	1.87		0.03				
Funds received from the Central Pollution Control Board	6.84	2.15	1.30	0.07	8.40	0.23	75.67	2.11			15.00	3.82	0.6	1.10				
Any other funds, grants or aids received					197.36	5.34			63.32		12.17	3.10	24.6	1.12			62.02	3.04
Total external resources	**22.38**	**7.04**	**112.89**	**6.25**	**315.85**	**8.55**	**316.44**	**8.81**	**65.07**	**9.01**	**63.43**	**16.15**	**25.1**	**0.03**			**273.50**	**13.42**
Total income	**317.98**		**1806.92**		**3694.34**		**3591.69**		**722.14**		**392.63**		**2235.4**		**1240.13**		**2038.44**	

Source: Analysis based on Analysis of information provided by the SPCBs to CSE for the regulator's programme
Notes: The data is an average of the years 2001-2002 to 2005-2006.

lakh applies for consent in Haryana, it has to pay Rs 14,500 as fees, whereas if the same unit applied for consent in Gujarat, the fee would only be Rs 5,000. Despite this differential consent fees structure, the number of industries in most of the states has been going up, and so has been the collection from consent fees during the recent period. In the case of MPCB, earnings from consent fees and NOCs have gone up by 142 per cent during 2001-02 and 2005-06. The OSPCB has also registered a growth of 101 per cent during the same period.

Water cess

Water cess constitutes the second largest source of income for most of the boards. The Water (Prevention and Control of Pollution) Cess Act, 1977 provides for "the levy and collection of cess on water consumed by persons carrying on certain industries and by local authorities, with a view to augment financial resources of the Central Board and the State Boards". The Act extends to the whole of India, except J&K. The Act has specified industries that have to pay water cess. These include the ferrous and non-ferrous metallurgical industry, and mining, ore processing, petroleum, petrochemicals, chemicals, ceramics, cement, textiles, paper, fertilizers, coal, power, processing of animal or vegetable products and engineering sectors. Restricting the payment of water cess to these specific industries has a direct implication for the total revenues of SPCBs whose states do not have these industries; these boards lose their revenues. Many state boards have suggested that the water cess should be made applicable for all types of industries, thereby ensuring a steady flow of income to the exchequer.

Interest and fines

The income from interest on investments contribute significantly to the total revenues of some state boards. For example, about 25 per cent of TNPCB's revenues come from interest; the BSPCB generated 40 per cent of its total funds from the interest on its investments. Fines and forfeitures currently contribute below 1 per cent in most of the boards. Once the principle of **'polluter pays'** is adopted, fines and forfeitures could become an important source for most of the boards.

Bank guarantees

Some SPCBs (Maharashtra, Andhra Pradesh and West Bengal) have also started a bank guarantee scheme which is not only a source of income for them, but also an instrument to ensure compliance. Under this scheme, a state board requires the non-complying firm to post a bank guarantee to ensure the implementation of corrective actions in accordance with the negotiated compliance schedule. Renewal of consent to operate is conditional on posting the guarantee. Normally, 10 per cent of the estimated total compliance cost is required as bank guarantee. If a firm fails to comply on time, the SPCB forfeits a portion or the entire bank guarantee for its discretionary use. There is no official procedure to determine the amount of forfeiture, and the decision is made by the SPCB chairperson and member secretary. Between January 2005 and August 2006, the WBPCB imposed 92 bank guarantees worth US $3.5 million, of which two were forfeited.

The forfeiture is a powerful monetary penalty for a violator and a significant deterrent against future non-compliance. However, many issues related to the application of bank guarantees remain to be clarified: how the guarantee should be calculated, how forfeitures should be calculated and revenues used, and whether supplementary collateral should be required if the compliance schedule is extended. Most importantly, many boards believe that a bank guarantee is not allowed under current law and a legal clarification is required before it can be widely used.

NATURE AND PATTERN OF EXPENDITURE

The pattern of expenditure of state boards indicates fairly high variability, with some boards spending more than Rs 35 crore annually to some spending as low as Rs 2 crore. The KSPCB, on an average, spent as much as Rs 32.67 crore annually between 2001-02 to 2005-06. The CECB, on the other hand, spent Rs 1.89 crore every year (see Table 6 on page 12: *Expenditures of SPCBs*).

Table 6: Expenditures of SPCBs (Rs in lakh)

	GPCB	KSPCB	MPCB	OSPCB	CECB	TNCPB	WBPCB	UPPCB
2001-02	988.9	2771.9	1887.3	NA	102.0	1084.1	694.4	1365.9
2002-03	1092.1	4630.3	1485.8	333.4	195.4	1053.0	623.3	958.0
2003-04	1055.8	3046.8	2231.5	365.4	NA	1078.1	681.0	706.7
2004-05	1235.7	3113.9	4429.7	453.8	180.8	1092.1	1005.8	823.0
2005-06	1293.8	2775.9	2910.2	401.4	202.3	NA	871.7	697.3
Average	**1133.3**	**3267.7**	**2588.9**	**388.5**	**189.3**	**1076.8**	**775.2**	**910.2**

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme
NA: Not available

Table 7: Ratio of expenditure to income in SPCBs (in percentage)

	GPCB	KSPCB	MPCB	OSPCB	CECB	TNPCB	WBPCB	UPPCB
2001-02	75.3	81.8	67.5	NA	147.6	53.4	46.3	97.6
2002-03	82.4	156.3	59.9	114.4	NA	48.3	37.7	77.1
2003-04	41.1	70.0	67.0	69.5	NA	45.4	32.8	68.5
2004-05	50.9	81.4	112.6	53.3	33.6	46.4	55.8	50.0
2005-06	92.6	88.9	53.7	46.3	NA	NA	27.6	79.2
Average	**68.5**	**95.7**	**72.2**	**70.9**	**90.6**	**48.4**	**40.0**	**74.5**

Source: Data analysed based on information provided by various boards for the regulator's programme
NA: Data Not available

Most of the boards have a balanced income-expenditure ratio; however, the Karnataka, Madhya Pradesh and Orissa boards have spent more than their earnings in one or two years over the last five years (see Table 7: *Ratio of expenditure to income in SPCBs*). The Karnataka board has incurred a huge expenditure on infrastructure and equipment as well as on wages and salaries (see Table 8A and 8B: *Patterns of expenditure in SPCBs*). The KSPCB had hired more people on contract during this period.

There is a wide variation in resource utilisation pattern of different boards. While the Karnataka board has shown high resource utilisation, the GPCB, WBPCB and TNPCB indicate relatively lower resource utilisation rates. The WBPCB has been able to utilise only 27.6 per cent of its income in 2005-06. Excluding the year 2004-05, it has also shown a consistent decline during the last five years in income-expenditure ratio, indicating poor fund utilisation.

Some of the SPCBs that this study examined do not manage to spend even 60 per cent of their incomes; they, therefore, have surpluses. For example, the boards of Maharashtra and Gujarat were left with a surplus of Rs 25.19 crore in 2005-06 and Rs 22.97 crore in 2004-05, respectively. One of the reasons for this low resource utilisation is the control exerted by the respective state governments. The GPCB, for instance, requires prior permission of the state government for any capital expenditure towards purchase of assets, furniture, vehicles, land or buildings.

The degree of state control is much less in the case of MPCB; the board is free to plan and use its resources, but needs to present its budget to the state government and take an approval. Contrary to

Table 8A: Patterns of expenditure in SPCBs

Average: 2001-02 to 2005-06	BSPCB		GPCB		KSPCB		MPCB	
	Rs lakh	%	Rs lakh	%	Rs lakh	%	Rs lakh	%
Wages and salaries	168.2	79.8	778.2	68.7	720.2	22.3	1150.0	44.4
Legal fees and fees to consultant and specialists	1.7	0.8	12.4	1.1	0.0	0.3	7.7	0.3
Other administrative expenses	NA	NA	288.9	25.5	1516.5	3.6	653.5	25.2
Total revenue expenditure	**169.9**	**80.6**	**1079.5**	**95.3**	**2236.7**	**26.2**	**1811.3**	**70.0**
Testing and monitoring equipment and instruments	0.4	0.2	6.6	0.6	0.0	0.0	214.2	8.3
Office equipment	0.7	0.4	1.6	0.1	0.0	0.1	0.00	
Other capital expenses	39.7	18.8	45.5	4.0	1031	73.7	563.4	21.8
Total capital expenditure	**40.8**	**19.4**	**53.7**	**4.7**	**1031**	**73.8**	**777.6**	**30.0**
Total expenditure	**210.7**		**1133.3**		**3267.7**		**2588.9**	

Source: Data analysed based on information provided by various boards for the regulator's programme

Table 8B: Patterns of expenditure in SPCBs

Average: 2001-02 to 2005-06	OSPCB		CECB		TNPCB		WBPCB	
	Rs lakh	%	Rs lakh	%	Rs lakh	%	Rs lakh	%
Wages and salaries	247.3	63.7	45.0	23.8	925	85.9	349.2	45.1
Legal fees and fees to consultant and specialists	NA		0.4	0.2	7.6	0.7	NA	
Other administrative expenses	75.4	19.4	44.3	23.4	27.1	2.5	426.0	54.9
Total revenue expenditure	**322.8**	**83.1**	**89.7**	**47.4**	**959.7**	**89.1**	**775.2**	**100.0**
Testing and monitoring equipment and instruments	NA		4.8	2.5	20.5	1.9	NA	
Office equipment	NA		11.1	5.9	54.6	5.1	NA	
Other capital expenses	65.7	16.9	83.6	44.2	42.0	3.9	NA	
Total Capital expenditure	**65.7**	**16.9**	**99.6**	**52.6**	**117.1**	**10.9**	**NA**	
Total expenditure	**388.5**		**189.3**		**1076.8**		**775.2**	

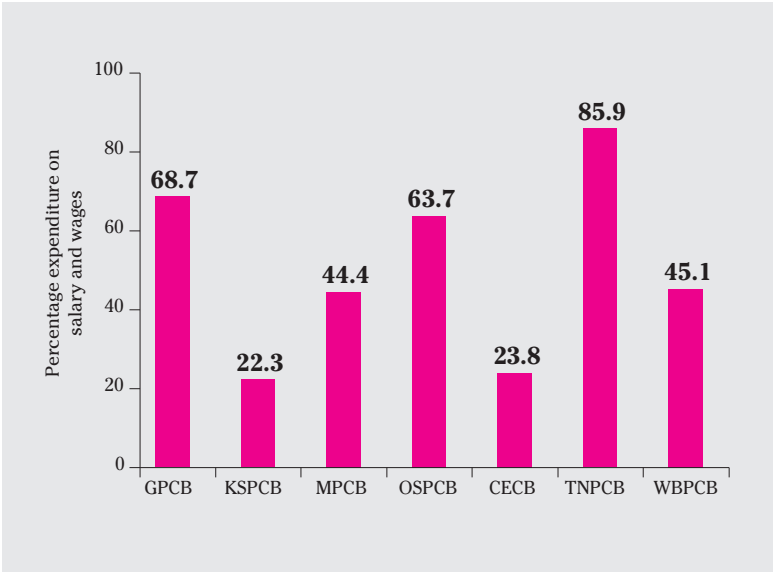
Source: Data analysed based on information provided by various boards for the regulator's programme

this, prohibitive spending restrictions have been imposed by the respective state governments on most of the northeastern state boards. The SSPCB, for example, does not even have a separate budget. Its entire budget comes from the Department of Forest, government of Sikkim.

Heads of expenditure

Wages and salaries, legal fees and charges for consultants etc are the major heads of expenditure of the SPCBs. With the exception of the KSPCB and the CECB, the rest of the boards spend almost half of their money on salaries (see Figure 5: *Expenditure on salaries*). The TNPCB, GPCB and OSPCB have spent as much as 85.9 per cent, 68.7 per cent and 63.7 per cent of their total expenses, respectively, on salaries. The Gujarat board has spent only 0.27 per cent of its total expenditure on testing, monitoring and office equipment, while this figure for the MPCB stands at 8.27 per cent. This indicates that most of the boards are not spending sufficiently on testing, monitoring and compliance assurance.

Figure 5: Expenditure on salaries



Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme

Table 9: Expenditure per industry (in Rs)

	GPCB	KSPCB	MPCB	OSPCB	CECB
2001-02	8503	NA	NA	NA	35905
2002-03	7325	33778	2976	22495	73187
2003-04	5923	12742	4205	20869	NA
2004-05	6884	11634	7937	18439	46608
2005-06	6348	7921	4899	14576	33220
Average	**6997**	**16519**	**5004**	**19094**	**47230**

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme
NA – Not available

Table 10: Expenditure per polluting industry (red + orange categories) (in Rs)

	GPCB	KSPCB	MPCB	OSPCB	CECB
2001-02	12284	NA	NA	NA	36418
2002-03	9450	62462	8300	NA	73187
2003-04	6684	NA	12776	NA	NA
2004-05	7777	NA	24491	NA	46608
2005-06	6959	NA	14831	17154	33220
Average	8631	62462	15100	17154	47358

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme

The other administrative costs also account for significant portions of the total expenditure. Except the KSPCB and the CECB, none of the other boards have made any significant capital investments. In fact, the KSPCB has the maximum capital investment of 74 per cent of the total expenditure in five years (2001-02 and 2005-06).

REGULATORY COSTS

The ratio of expenditure and industries gives an idea of the regulatory costs. There are wide variations between the SPCBs in regulatory costs per industry (see Table 9: *Expenditure per industry*). Available data indicates the MPCB spent only Rs 5,004 per industry, whereas the CECB spent as much as Rs 47,230. The most industrialised states of Gujarat and Maharashtra seem to have comparatively lower regulatory costs compared to other states. There is no explanation for this, other than the fact that the number of industries being covered under the regulatory basket in Orissa and Chhattisgarh is low compared to Gujarat and Maharashtra. The analysis of the number of inspections done, amount of monitoring and sample collection and compliance records of different states does not indicate any corelation between expenditure per industry and monitoring and enforcement performance (see Chapter Three).

While there are no fixed patterns of expenditure emerging across the boards, in most cases, the spending per industry has been declining over the years. The amount of money spent by the Karnataka board on monitoring an industry has declined almost 10 times between 2002-03 and 2005-06. This can be partly explained by the high capital expenditure incurred by the KSPCB in the initial years.

PERFORMANCE INDICATORS: THE MAHARASHTRA POLLUTION CONTROL BOARD

The MPCB is the most well-funded and well-staffed board in the country. However, a critical analysis of the board's performance indicates large scope for improvements. The board's average human-days spent on inspection amounts to 1.4 per year per industry. The average inspection per industry is 0.3, meaning that only 30 per cent of the regulated industries are inspected annually. Expenditure on testing and monitoring equipments is very low.

Performance parameters	Average of 2001-02 to 2005-06
Income (Rs in lakh)	3591.7
Expenditure (Rs in lakh)	2588.9
Expenditure as percentage of income	72 per cent
Percentage expenditure on testing and monitoring equipment	8.3 per cent
Percentage expenditure on wages and salaries	44.4 per cent
Percentage increase in technical and scientific staff	2 per cent
Percentage increase in number of industries	19 per cent
Workload (industries per technical and scientific staff)	182
Avg. human-days spent by technical and scientific staff per industry	1.4
Consent to establish issued (2005-06)	2999
Consent to operate issued (2005-06)	8504
Average inspection per industry per year	0.3

In the case of expenditure on monitoring of polluting (red and orange category) industries, the spending increases significantly in some boards. On an average, the board of Maharashtra spent Rs 15,100 per polluting industry, while the KSPCB spent as much as Rs 62,462 (see Table 10: *Expenditure per polluting industry*). The Gujarat board, which probably has to monitor the highest number of polluting industries, does not show much difference in its expenditure on them.

CONCLUSION

The boards need to improve the strength of their staff by filling the vacant posts and demanding creation of more technical posts. The performance of the boards indicates a serious lack of quality personnel, as existing staff members are over-burdened and hence unable to perform optimally. According to the member secretary of the Gujarat PCB, "The board should continuously build its technical staff capacity and competency as new rules, strictures and responsibilities are entrusted upon it from time to time… lack of staff, infrastructure, technical skills and legal powers are the major weaknesses which need strengthening." The current analysis also indicates that there are few legal personnel in the boards and no fresh recruitments have been done to amend this situation (see Chapter Three). It is important to develop expertise beyond the traditional skills to include legal professionals, programme analysts, computer experts, training experts, statisticians, communication specialists, etc.

In terms of financial performance of the boards, the study finds that no clear pattern is emerging. Many boards depend heavily on government grants. Some are self-sufficient in a sense that they earn more than their expenditures. However, what needs a detailed examination is whether the money would be adequate in case the staff strength is enhanced and more intense monitoring and inspection is done. In any case, a multi-faceted approach is required to increase and improve the human and financial resources of the boards.

CHAPTER 3

Compliance and enforcement performance

INTRODUCTION

The state boards are the primary compliance, monitoring and enforceable entities in the country. They have been entrusted with a wide range of responsibilities ranging from implementation of policies to creating public awareness. But the core responsibility of these boards lies in ensuring compliance with standards through inspection and monitoring; award of consent; implementation of the National Ambient Air and Water Quality Standards; conducting public hearings; generating environmental awareness; and imparting training to their own staff. The performance of the boards in implementing these functions has been analysed in this chapter.

GRANT OF CONSENT

Two types of consents are awarded by SPCBs – consent to establish (CTE) and consent to operate (CTO). Consent to establish is essentially a site clearance for establishing an industrial unit after an evaluation of the potential environmental impacts and proper design of pollution control installations. This is an important power and function of the SPCBs, as it enables them to maintain an inventory of new industries and examine each one of them on their levels of technological acumen, pollution control measures, impacts on natural resources and other related environmental impacts.

Consent to operate refers to a permission that an industrial unit must obtain in order to operate for discharge of wastes and emissions into water and air. Usually, a separate consent is granted under the Air, Water and Hazardous Waste Act, but states like Gujarat and Maharashtra issue consolidated consents for air and water pollution and hazardous wastes, based on a Common Consent Application (CCA).

In the five years starting 2001-2002, the KSPCB, WBPCB and MPCB respectively issued 30,299, 19,931 and 14,993 CTEs. Except the UPPCB and the WBPCB, the rest have shown an overall increasing trend in issuing consents to establish (see Table 11: *Status of consent to establish issued by SPCBs*). The increasing trend in granting CTEs points to fast and rapid industrialisation in the country.

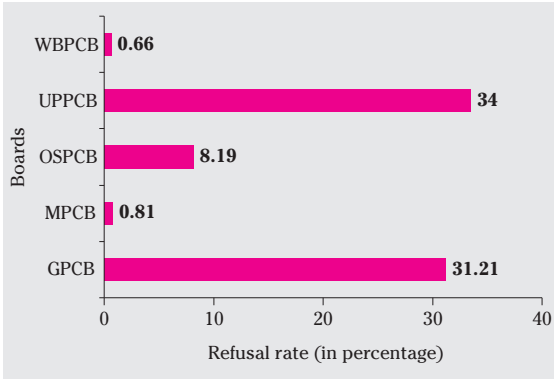
Refusal rate for CTEs varies across the boards. The WBPCB and MPCB have denied consents to establish to less than 1 per cent of the total applications they received (see Figure 6: *Refusal rate for consent to establish issued by SPCBs*). However, the refusal rate of the UPPCB and GPCB are as high 34 and 31 per cent, respectively. The OSPCB has denied the CTE to 8 per cent of the total proposals it received. In the case of West Bengal and Maharashtra, it seems that almost all the upcoming projects have complied with all the requirements and have therefore, got their CTEs. Conversely, it could also mean that the projects were not scrutinised and evaluated properly before the granting of CTEs, as the respective boards' staff were over-burdened and did not spend enough time to examine the projects.

Table 11: Status of consent to establish issued by SPCBs

	GPCB	KSPCB	MPCB	OSPCB	TNPCB	UPPCB	WBPCB
2001-02	345	1860	2183	NA	NA	1066	6736
2002-03	641	4405	2456	205	983	991	3040
2003-04	810	16748	2854	312	1170	848	3225
2004-05	928	3352	3668	355	1429	500	3225
2005-06	810	3934	3832	499	3832	586	3705
Total	**3534**	**30299**	**14993**	**1371**	**7414**	**3991**	**19931**

Source: Data provided by various boards for the regulator's programme
NA: Not available

Figure 6: Refusal rate for consent to establish issued by SPCBs



Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme
Notes: The data is an average of the years 2001-2002 to 2005-2006.

Issuing consents to operate is another function of the SPCBs. The board can either grant the consent or deny it. However, there is a provision called 'deemed consent'. The Water Act provides that the "consent shall, unless be given or refused within a period of four months of the making of an application, be deemed to have been given unconditionally".

All the boards, except the CECB, have claimed that all the consent applications received by them were disposed off within the stipulated time of four months. The number of deemed consents issued by the CECB is continuously increasing and went up from 82 in 2001-02 to 126 in 2005-06.

The refusal rate for CTOs has been found to be very low across SPCBs, except in GPCB which has refused the consent to 16.7 per cent of the total applications it received (see Table 12: *Status of consent to operate – 2005-06*). This indicates that either most industries are in compliance with the standards, or monitoring and enforcement is poor, or the SPCBs are reluctant to initiate action. In any case, it does indicate the non-use of a credible deterrence for non-compliance.

Table 12: Status of consent to operate (2005-06)

State	Consent to operate applied (sum of consent granted, deemed consent and consent rejected)	Consent to operate granted	Deemed consent	Consent to operate rejected	Percentage rejected
GPCB	3482	2900	-	582	16.7
KSPCB[1]	16463	16226	-	237	1.4
MPCB[1]	8559	8457	-	47	0.6
OSPCB	447	400	-	47	10.5
CECB	3066	2937	126	3	0.01

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme
[1]**Note:** Information for the year 2004-05

Information collected from boards indicate poor and time consuming consent management procedure in most boards. Most of the boards still collect, analyse and present the data on consent management, compliance and enforcement manually, which leads to a lot of

paper work. Some of the boards do not even have the resources or expertise to collect and present data; only a few have computerised systems to store information. The APPCB, MPCB and WBPCB have implemented online systems for storing and maintaining information and for receiving consent applications electronically. However, these systems are not standardised; each board has developed a data management system which is completely independent of the others. As a result, there may be issues of compatibility and comparison between and among the state-level information systems. Currently, there is no centralised database in the country which compiles data on consent or compliance status. The USEPA faced this problem when it tried to aggregate state-level information into a national system, and ended up spending a lot of money and resources to address the problem.[1] Such a situation should be avoided in India.

INSPECTIONS AND POLLUTION SAMPLE ANALYSIS

Under the Water and the Air Act, the pollution control boards have the authority to collect samples, inspect facilities, impose corrective action and prescribe compliance schedules. Inspection of industries involves checking compliance of consent conditions, collection of untreated/treated samples, collection of hazardous waste samples for analysis, and observation of the concentration of pollutants in the sample. Stack emissions are also monitored. The boards inspect facilities to ensure adequate treatment of wastewater and mitigation of air pollution. Arrangements made for reuse and disposal of solid and hazardous wastes are also verified. The number of inspections undertaken by a board gives an idea of its proactiveness in monitoring. Ideally, a greater number of inspections can keep board officials well-informed about the performance of the industrial unit in accordance with prescribed pollution norms.

The average number of inspections per industry per year remains very small for almost all the boards. For example, the officials of MPCB and KSPCB had not been able to inspect all the industries within their jurisdiction even once during 2001-02 and 2005-06 (see Table 13: *Number of inspections conducted by SPCBs*). The average number of inspections per industry for these two boards is less than one for the entire duration mentioned above.

The MPCB reported fewer inspections per industry and has shown a reducing trend. It undertook 18,210 inspections in 2001-02, which went down to 11,560 in 2005-06, showing an overall reduction of 36.5 per cent in five years. This is clearly a worrying trend, especially since the numbers of industries have been increasing in the state. The higher average number of inspections were undertaken by the GPCB and the OSPCB – each conducted two inspections per industry every year.

Monitoring and inspection are the key functions of the SPCBs. The frequency of on-site visits to verify compliance is determined by the pollution potential (red/orange/green) and size (based on the value of capital investment) of the industry. The CPCB has issued a guidance manual on the frequency of regular inspections (see Table 14: *Inspection schedules of the CPCB and SPCBs*). However, different SPCBs seem to have varying interpretations of the guidance and have adopted their own inspection

Table 13: Number of inspections conducted by SPCBs

	GPCB	KSPCB	CECB	MPCB	OSPCB
2001-02	26968	12726	300	18210	
2002-03	26421	15172	600	19218	2492
2003-04	35254	16748	658	16172	3519
2004-05	44021	17771	738	16046	4088
2005-06	45612	15907	908	11560	2839
Average	**35655**	**15665**	**641**	**16241**	**3235**
Average inspection per industry per year	**2**	**0.63**	**1.7**	**0.3**	**2**
Average inspection per technical staff per year	**380**	**120**	**64**	**74**	**135**

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme

Table 14: Inspection schedules of the CPCB and SPCBs

	CPCB guidance	TNPCB	GPCB	APPCB	WBPCB
RED CATEGORY					
Large	Once every 3 months	Once in a month	Once in a month	Once in 2 years	Once in 2 years
Medium	Once every 3 months	Once in 2 months			
Small	Once a year	Once in 3-4 months			
ORANGE CATEGORY					
Large	Once a year	Once in 2 months	Once in 6 months	Once in 3 years	Once in 3 years
Medium	Once a year	Once in 3 months			
Small	Once in 3 years	Once in 4-6 months			
GREEN CATEGORY					
Large	Once in 2 years	Once in 3 months	Once in a year	Once in 5 years	Once in 5 years
Medium	Once in 2 years	Once in 6 months			
Small	Once in 5 years	Once in a year			

frequencies. For instance, red category facilities are supposed to be inspected once a month in Gujarat and Tamil Nadu, once per quarter in Orissa, and once every two years in West Bengal and Andhra Pradesh. It is difficult to understand how an SPCB can be certain about compliance by a large-scale red category industry by inspecting it only once in two years.

Given the available resources, many of the established evaluation frequencies are either too unrealistic or too lenient. Regardless of the frequency used, the quality of inspection itself remains questionable. In India, there are no standardised guidelines for inspection. Most boards do not have an inspection manual. In such a scenario, the quality of inspection depends on the interpretation of the officer conducting the inspection, as well as the time he/she has to conduct the inspection.

The quality of inspection can perhaps be judged by looking at the case of the Gujarat board: 94 technical staff members of the GPCB conducted 45,612 inspections in 2005-06. This translates into 485 inspections for each technical staff member – **approximately two inspections by each technical staff per day**. In comparison, the inspection workload in other boards is relatively lower. The 131 technical staff of KSPCB conducted 15,907 inspections in 2005-06 (about 120 inspections per staff member). Each CECB and OSPCB technical staff member conducted 90 and 135 inspections in 2005-06, respectively. It is important that a uniform and realistic inspection schedule is implemented by all SPCBs.

SAMPLE COLLECTION AND TESTING

Pollution control boards also collect random samples of wastewater and hazardous wastes during inspection. They conduct stack monitoring to ascertain that the air pollution standards are maintained. Effective monitoring and inspection is reflected by greater numbers of samples collected and tested.

The boards are often more comfortable collecting and testing wastewater samples, rather than collecting hazardous waste samples or conducting stack monitoring. There is a reason for this. Water samples are relatively easy to collect, with minimal time and effort. Sampling points are normally mentioned in the CTO and industries are accustomed to this type of routine sampling. In the case of air sampling, however, legal sampling can only be done through a stack test which requires specialised instruments and trained

Table 15: Samples analysed by various SPCBs

	2001-02	2002-03	2003-04	2004-05	2005-06	Average
GPCB						
No of industrial effluent and water samples collected and tested	13742	13067	13156	13169	14807	**13588**
No of effluent samples per water polluting industry	1.34	1.28	1.27	1.07	0.93	**1.18**
No of stack emissions monitored	4917	4567	5927	6289	6992	**5738**
No of stack monitoring per air polluting industry	0.55	0.51	0.65	0.58	0.48	**0.55**
No of hazardous waste samples collected	862	1090	1135	507	240	**767**
No of hazardous waste samples per hazardous waste industry	0.12	0.15	0.33	0.08	0.03	**0.14**
KSPCB						
No of industrial effluent and water samples collected and tested	8955	10086	8133	7913	3339	**7685**
No of effluent samples per water polluting industry	0.78	0.88	0.63	0.56		**0.71**
No of stack emissions monitored	344	606	362	337	357	**401**
No of stack monitoring per air polluting industry	0.03	0.05	0.03	0.02		**0.03**
No of hazardous waste samples collected	178	333	419	153	312	**279**
No of hazardous waste samples per hazardous waste industry	0.16	0.30	0.31	0.09		**0.22**
MPCB						
No of industrial effluent and water samples collected and tested	13131	13629	11451	11367	12893	**12494**
No of effluent samples per water polluting industry	1.47	1.59	1.38	1.61	1.15	**1.44**
No of stack emissions monitored	742	1608	1419	1659	1236	**1333**
No of stack monitoring per air polluting industry	0.08	0.16	0.14	0.16	0.12	**0.13**
No of hazardous waste samples collected	1843	2118	2097	2159	1516	**1947**
No of hazardous waste samples per hazardous waste industry	0.50	0.57	0.59	0.50	0.33	**0.50**
CECB						
No of industrial effluent and water samples collected and tested	2603	3418	2474	2392	1829	**2543**
No of effluent samples per water polluting industry	2.4	1.9	1.7	1.9	1.6	**1.9**

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme

personnel. Also, sampling points are not generally specified in the CTO and in many industries, sampling ports are not available or are inaccessible. **In the case of hazardous wastes, the sampling procedure itself is not well-defined and most inspecting officers do not know what to collect, how to collect and where to collect.**

However, it has been observed that the SPCBs are not collecting sufficient numbers of samples to assess the compliance and effectiveness of treatment facilities (see Table 15: *Samples analysed by various SPCBs*). Predictably, the situation is worse in case of stack monitoring and hazardous waste sampling. On an average, the GPCB, MPCB and KSPCB have monitored stack emissions of only 0.55, 0.03 and 0.13 per air polluting industry, respectively. In Maharashtra, samples from only half of the units producing hazardous wastes were collected and tested. The situation is far worse in the case of KSPCB and GPCB.

The number of wastewater samples monitored per industry by each of the four boards shows a declining trend. On one hand, boards are collecting lesser numbers of samples each year; on the other, the number of industries are increasing. The total number of wastewater samples tested by KSPCB has decreased by three times from 2001-02 to 2005-06. Similarly, there has been a sharp decline in the total number of samples tested for hazardous wastes (four times) by the GPCB. This trend shows a gross inadequacy in monitoring and assessment of industries by the SPCBs.

COMPLIANCE ASSURANCE

The CPCB has promulgated (a) industry-specific standards and (b) general standards wherever specific industrial standards are not applicable. These standards stipulate pollutant-specific limits beyond which air and water polluting units are not permitted to emit or discharge. The state boards are entitled to make these standards more stringent. The standards, as they exist, are quite poorly framed as they are based on concentration instead of load. This encourages dilution of effluents in order to achieve the desired level of concentration. Also, concentration-based standards discount the assimilative capacity of the environment. This is precisely the reason why despite the claims by SPCBs of industries meeting standards, rivers remain polluted and ambient air quality keeps worsening in India.

As far as compliance is concerned, most boards claim that a majority of industries are complying with the standards. However, compliance is defined quite uniquely in India: industries having pollution control equipment are considered to be in compliance with standards! The data on actual compliance status based on monitoring and inspection is not compiled by most boards.

For example, the GPCB claims that 94 per cent of air polluting units, 96 per cent of water polluting units and 99 per cent of units producing hazardous wastes comply with the standards (see Table 16: *Compliance status with standards*). But considering the fact that the GPCB conducted stack monitoring of less than half of the air polluting units and tested samples of just 3 per cent of hazardous waste units, this claim on compliance needs to be accepted with caution. Similarly, the MPCB has reported that 85 per cent of the total industrial units it checked on were compliant – but the MPCB inspected less than 30 per cent of the total units in a year.

As per data submitted by MPCB, the state's compliance status has deteriorated between 2003-04 and 2005-06. The percentage of non-complying units has increased from 9.7 per cent of the total regulatory basket in 2003-04 to 15.8 in 2005-06. On the other hand, the data submitted by CECB indicates that non-compliance is a non-issue in the state (less than 5 per cent units are non-complying). However, the CECB failed to provide data on the number of hazardous waste samples tested or stack monitoring conducted.

Table 16: Compliance status with standards

		2003-04		2004-05		2005-06	
		Complying	Non-complying	Complying	Non-complying	Complying	Non-complying
GPCB	**Water Act**	8974	1347 (15%)	13822	1094 (8%)	15400	604 (4%)
	Air Act	8183	900 (11%)	12745	675 (5.3%)	13910	664 (4.7%)
	Hazardous Act	3319	172 (5%)	6018	433 (7.2%)	7132	67 (0.9%)
MPCB		48361	4709 (9.7%)	50685	5126 (10%)	51289	8109 (15.8%)
CECB	**Water Act**			475	22 (4.6%)	649	23 (3.5%)
	Air Act			478	22 (4.6%)	707	25 (3.5%)

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme
Note: Figures in brackets indicate percentage of non-complying units.

In order to meet the standards, it is important that the industrial units have adequate effluent treatment facilities and air pollution control equipment. The CECB and GPCB claim that all industrial establishments in their states have adequate control equipment and treatment facilities. The Gujarat board also claims that 22 common effluent treatment plants (CETPs) in the state are performing satisfactorily. The MPCB, on its part, has said that there are industrial facilities in the state that do not have adequate or even partial treatment facilities. The board has also indicated that only 41 per cent of its CETPs are operating satisfactorily.[2]

It is surprising that despite various legislations and standards, industrial units that do not have any control equipment or treatment facilities continue to function. This is because in India, non-compliance is cheaper than meeting standards. There are also no deterrent mechanisms such as fines or penalties that could be imposed on non-complying industries. In order to fine a defaulting industry, the board has to initiate a long-drawn out process of filing a case in court of law. The court is entitled to impose punishments ranging from imprisonment of 18 months to six years, in addition to a fine. However, there is often a huge backlog of environmental cases as these are not a priority for the courts. It could take quite a long time before a case is disposed off.

It is important to underline the fact that data on compliance is not compiled by most SPCBs and whatever data is available, needs to be interpreted with caution. Compliance is not only about the accountability of industries; it is also about the accountability of the SPCBs themselves.

STATUS OF SHOW CAUSE AND CLOSURE NOTICES AND LITIGATIONS

The Environment Protection Act (EPA), 1986 has vested powers upon the state boards for issuing closure or prohibition notices to any industry, operation or process and/or stoppage or regulation of the supply of electricity or water or any other services (with regard to pollution control). However, these directions can only be issued by a board after hearing the views of the defaulting industry. Thus, to begin with, the board has to issue a show cause notice to a unit asking for an explanation for why it is not complying with the board's directives. If the company does not take corrective actions or the board is not satisfied with the company's response, it can then issue a closure order or file a legal case in court.

The percentage of industries against which show cause notices are issued by the boards varies from year to year, ranging from 5-15 per cent. For instance, the GPCB issued show cause notices to 6.3 per cent of the total regulated industries in 2002-2003. The figure went up to 13.6 per cent in 2003-04 and climbed down to 6.6 per cent in 2005-06 (see Table 17: *Show cause notices, closure notices and cases filed*). The MPCB issued show cause notices to 9.2 per cent of the total regulated industries in 2002-03, which went up to 12.3 per cent in 2005-06.

The important point is not the number of show cause notices issued, but the conversion of show cause notices into closure notices and then into legal cases.

- In the case of GPCB, about 35 per cent of the show cause notices get converted into closure notices and about 10 per cent of the closure notices get converted into legal cases. In other words, on an average, the GPCB issued show cause notices to 10 per cent of the total regulated industries and filed legal cases against 0.4 per cent during 2002-06.
- The CECB, on an average, issued show cause notices to about 11 per cent of the total regulated industries and filed legal cases against 1 per cent during 2002-06.
- The MPCB issued show cause notices to about 9 per cent of the total regulated industries annually between 2002-03 and 2005-06; closure notices to 0.8 per cent and legal cases were filed against 0.02 per cent of the total industries annually.

Majority of the show cause notices issued by the boards are in relation to compliance with standards. For example, 76 per cent of the total show cause notices issued by the MPCB were related to non-compliance with standards; 15 per cent were for industries failing to upgrade their treatment facilities, and the

Table 17: Show cause notices, closure notices and cases filed

	Show cause notices issued			Closure notices issued			Cases filed		
	CECB	GPCB	MPCB	CECB	GPCB	MPCB	CECB	GPCB	MPCB
2002-03	20 (7.5)	942 (6.3)	4596 (9.2)	0	278 (1.9)	58 (0.1)	0	1	22 (0.04)
2003-04	49 (15.6)	2419 (13.6)	4569 (8.6)	0	714 (4)	140 (0.3)	0	1	15 (0.03)
2004-05	68 (17.5)	2202 (12.3)	4236 (7.6)	40 (10)	915 (5.1)	890 (1.6)	22 (4)	282 (1.4)	4
2005-06	25 (4.1)	1335 (6.6)	7297 (12.3)	4 (0.7)	558 (2.7)	812 (1.1)	1 (0.2)	30 (0.1)	1
Average	**37 (10.6)**	**1664 (10.2)**	**4784 (9.4)**	**11 (2)**	**616 (2.9)**	**475 (0.8)**	**6 (1)**	**79 (0.4)**	**11 (0.02)**

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme
Note: Figures in bracket are percentage of total regulated industries

remaining 9 per cent for not installing a treatment facility. **It appears that most of the industries in these three states took appropriate action or were able to convince their boards, as few of the show cause notices were followed up by closure notices or legal cases.**

Table 18: Legal cases filed by different boards

	GPCB	KSPCB	MPCB	OSPCB	CECB	UPPCB
2001-02	NA	NA	NA	1	NA	NA
2002-03	1	NA	22	1	0	83
2003-04	1	24	15	110	0	70
2004-05	282	50	4	3	22	98
2005-06	30	NA	1	NA	1	188
Average	**79**	**37**	**11**	**29**	**6**	**112**

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme
NA: Not available

In fact, the statistics on legal cases filed by the boards indicate that the boards are filing cases against industries in an inconsistent manner. For instance, the GPCB filed one case a year in 2002-03 and 2003-04, but 282 cases in 2004-2005. The OSPCB filed 110 cases in 2003-04, but only two cases in the preceding two years. The MPCB on the other hand has more or less stopped filing cases. The number of cases filed by it has progressively declined from 22 in 2002-03 to one in 2005-06.

The UPPCB reported an average of 112 legal cases filed against industries, followed by Gujarat with an average of 79 cases each year during 2001-02 and 2005-06. The KSPCB, MPCB, OSPCB and CECB reported relatively lower number of court cases filed against industries in their respective jurisdictions (see Table 18: *Legal cases filed by different boards: 2001-02 to 2005-06*).

The most striking feature of all this is the **low rate of conviction**, no matter how many legal cases are being filed against industries.

Till 2006, the MPCB had filed 591 cases under the Water and Air Act; 484 of these were disposed off by the court, with 43 per cent going against the board (see Table 19: *Status of cases filed by the boards as in 2006*). The KSPCB suffered a similar fate. Another disturbing feature is the very long time taken by courts in disposing off such cases. This has resulted in a huge number of pending cases for each board. Of the cases filed by the CECB, OSPCB and KSPCB, as many as 96, 76 and 55 per cent, respectively, are pending in courts. The UPPCB seems to be slightly more effective in dealing with its cases; it filed 1,745 cases till 2006 and 62 per cent of these were disposed off.

The time taken in disposing off cases and the low conviction rate have combined together to act as a deterrent in effective compliance.

Table 19: Status of cases filed by the boards as in 2006

	GPCB		KSPCB		MPCB		UPPCB	OSPCB	
	Under Water Act	Under Air Act	Under Water Act	Under Air Act	Under Water Act	Under Air Act	Under Water Act + under Air Act	Under Water Act	Under Air Act
Complaint/application filed as on March 31, 2006	2440	635	176	102	442	149	1745	100	144
Conviction secured as on March 31	1381	222	56	20	160	115	1077	37	15
Complaint/application dismissed (against SPCB) as on March 31			40	16	175	34		5	2
Complaint/application pending as on March 31	1059	413	86	66	107	0	668	58	127

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme

Most of the boards also do not have the requisite staff to handle legal cases (see Table 20: *Legal staff in different PCBs*). For instance, the CECB operates without having a single legal staff on its rolls.

Responses from the SPCBs indicate that the boards are now beginning to rely less on the legal route because of lack of capacity and delays in courts. Many also believe that the legal route can no longer offer a 'credible deterrence for non-compliance'.

The USEPA has established a unique authority which looks after the legal cases and has power of legal enforcement. This arrangement has reduced the number of environmental cases going to judicial courts in USA, thereby reducing the time for immediate action to be taken against defaulting and non-compliant industrial units (see Box: *Use of administrative enforcement authorities as a credible deterrent*).[3]

Another problem with the compliance enforcement system in India is that SPCBs do not use self-monitored and self-reported data for initiating action against industries, though industries have to undertake large amount of self-monitoring and self-reporting as part of almost all statutes (see Box: *Use of self-monitoring data for compliance enforcement*).

Table 20: Legal staff in different PCBs

	GPCB	CECB	MPCB	KSPCB	WBPCB
2001-02	8	0	8	1	3
2002-03	8	0	8	0	3
2003-04	8	0	8	0	3
2004-05	8	0	8	3	3
2005-06	8	0	8	3	3
Average	**8**	**0**	**8**	**1**	**3**

Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme

USE OF ADMINISTRATIVE ENFORCEMENT AUTHORITIES AS A CREDIBLE DETERRENT

In the US, the federal and state EPAs can issue an administrative order to resolve a violation without going to the courts for relief. Administrative orders are legally enforceable, provide evidence of the violation, and afford the violator due process and an opportunity to be heard.

Under an administrative order, the violator will be required to take corrective actions within a prescribed time period, penalties may be assessed, and supplementary enforcement projects may be established. Where appropriate, the USEPA and state EPAs use administrative enforcement as their preferred first response for routine enforcement cases because it is viewed as more expedient than the judicial system.

USE OF SELF-MONITORING DATA FOR COMPLIANCE ENFORCEMENT

The SPCBs are accused of not bringing non-complying industries to the courts of law. The number of cases filed are very few; besides, the SPCBs lose a large number of the cases. This has posed a serious question on the working of the SPCBs and their effectiveness as pollution control agencies. In many cases, the boards have lost in court because of faulty sample collection and analysis.

In India, to bring an industry to court for non-compliance, SPCBs have to collect 'legal samples' as evidence. Even though self-monitoring, maintaining records and self-reporting are established parts of the compliance mechanism in India (they are integral parts of the consent to establish, consent to operate and environment clearance process), SPCBs don't use this data for enforcement actions.

The reason for this is the interpretation of Section 21 of the Water Act, Section 26 of the Air Act and Section 11 of the Environment Protection Act (EPA), which deal with the collection of samples. They have been interpreted by the boards as requiring legal samples as evidence in any enforcement action bought before the courts. Even in a case where Section 5 of the EPA (under which closure notice can be issued) is applied, if the closure notice is challenged in the court by the factory, the SPCB or CPCB cannot use self-monitoring data – the boards will have to produce the results of the legal sampling. This is the 'official' explanation widely resorted to by the SPCBs for not using self-monitoring data for compliance enforcement. However, there is an alternate view on this matter.

It can be successfully argued that under the current law, there are provisions to use self-monitored and self-reported data for enforcement.

All the three principal acts – Air, Water and EPA – have provisions which empower the government to obtain information (Section 20 in the Water Act, Section 25 in the Air Act and Section 20 in EPA). Similarly, all the three acts give powers of entry and inspection (Section 23 of the Water Act, Section 24 of the Air Act and Section 10 of the EPA), which includes powers to examine any record, register or document and seize any record, register, document or other material object, if the government has reason to believe that it may furnish evidence of the commission of an offense punishable under these acts or the rules made thereunder.

There are also provisions under the acts that require industry to intimate the government about non-compliance (Section 31 of the Water Act, Section 23 of the Air Act and Section 9 of the EPA).

It is quite clear that if the government can demand information, and if it needs to be intimated about cases of non-compliance, examine information and seize information, then it can also utilise all the above information to take an enforcement action and prove a violation in court.

Each of the statutes also authorises the government to take action where "it is apprehended" that contravention of the law has occurred or is likely to occur. In its literal sense, the word "apprehend" implies that the government can rely upon a mere understanding (by using self-monitored data) that a violation has occurred and does not need legal samples before taking legal action.

As far as integrity of self-monitored data is concerned, the statutes have a provision of penalty for falsification of data (Section 42(f) of the Water Act and Section 38(f) of the Air Act) which is rarely used.

In conclusion, there are powers under all three acts to use self-monitored data for enforcement and provisions to take action if the self-monitored data is false, but these powers have not been operationalised.

Not using self-reported information is a significant constraint in promoting compliance and enforcement. Self-monitored and self-reported data is used for compliance enforcement in most developed countries. In the US, data gathered through self-monitoring, recording and reporting is relied upon extensively to determine compliance and take enforcement actions. Both the Clean Water Act (CWA) and the Clean Air Act (CAA) require self-monitoring, recording and reporting. Senior company officials are personally liable for false reporting and falsification of data is considered to be one of the most serious offenses.

Public disclosure and grievance redressal

There are currently two sources of information on the working of SPCBs. The first are the annual reports and the second are the websites. The RTI can also be used to access specific information.

Annual reports: There is no prescribed format for disclosure of information in an annual report. Some annual reports are quite exhaustive, while others provide information which is skeletal. The annual report of the MPCB is quite comprehensive, giving details of staff strength (sanctioned, vacant, and filled); number of polluting industries (water and air) those generating hazardous wastes; activities undertaken under new rules and regulations such as Batteries Act; consent status; legal cases; and financial details. On the other hand, the annual report of the BSPCB provides very basic financial information with no details of the pollution and compliance status in the state.

Websites: Proactive disclosure in terms of information displayed on the websites of respective boards shows large variations. The PCBs of Maharashtra, Gujarat, Tamil Nadu, Orissa, Rajasthan and West Bengal provide significant amounts of information on their websites. This includes the number of industries, annual reports, executive summaries of EIA reports, publication lists, etc. On the other hand, the websites of Haryana, Kerala, Goa and Punjab boards provide just the basic information about the board – functions, acts and forms for consent. Many boards, including the BSPCB, do not have their own websites. In order to ensure more transparency in the working of a board, information disclosure has to improve significantly. The SPCBs should put all possible information on their websites. This should include status of compliance and non-compliance, status of consent to operate and establish, reports on public hearings for environmental clearance, status of court cases, monitoring and inspection reports, status of samples collected and tested, status of ambient environment quality, etc. This will also help the boards, as they will have to handle lesser numbers of RTI applications.

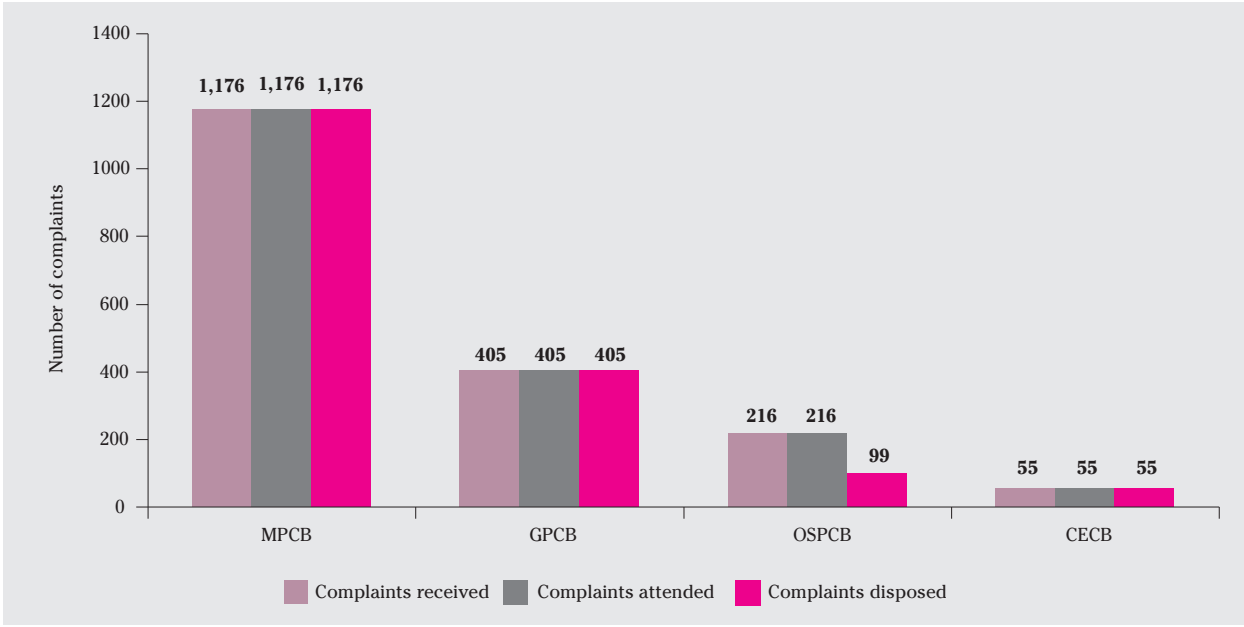
Grievance redressal

Every board has a procedure in place to address the complaints it receives. In the case of GPCB, as soon as a complaint is received, it is forwarded to the member secretary, who then passes it on to the concerned unit head/regional offices or vigilance squad to investigate and initiate action. While the WBPCB had set up a public grievance cell in 1994 to address complaints against environmental problems, the OSPCB also has a public grievance cell where complaints are divided into three categories – A, B and C – based on their importance. Category A complaints are priority complaints and are related to issues dealing with environmental accidents, widespread pollution, VIP references, issues raised by major NGOs and environmental organisations, complaints made by the courts and government offices, complaints relating to the 17 highly polluting industries and complaints relating to disposal of hazardous chemicals and wastes. Category B includes complaints related to pollution problems that are limited in nature, while Category C includes complaints that are not within the purview of the board, such as issues of public nuisance and other miscellaneous complaints. These categories thus indicate the priority in which the complaints are addressed.

Although the state boards have, on paper, a provision for redressal of public complaints and claim to address most of the complaints they receive, the stakeholders are by and large unhappy with the response of the boards (see Chapter Four). Civil society organisations feel that the boards take too much time to respond to their complaints, are unwilling to share information and do not want to provide consent and compliance related information.[4]

Most SPCBs acknowledged the role of the public as a watchdog to improve the environmental conditions in their respective states. They claimed that the redressal of public complaints is a priority area. The MPCB and GPCB have forms on their websites through which complaints and grievances can be registered. The TNPCB plans to have a dedicated phone line for public complaints. Recently, the Gujarat board has initiated a unique concept of whistle-blower. Under this experiment, the person who informs the board about violation of any environmental law within the state is financially rewarded and his/her

Figure 7: Status of complaint redressal



Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme
Note: The data for the Maharashtra board is only for two years – 2004-2005 and 2005-2006. The data for rest of the boards is an average of the years 2001-2002 to 2005-2006

name is kept confidential. Based on the information provided by the whistle-blower, actions are initiated by the vigilance squad to investigate the matter.

The MPCB on an average received 1,176 complaints annually and it claims to have successfully attended to all of them, while the GPCB received 405 complaints and it too claims to have successfully addressed all of them (see Figure 7: *Status of complaint redressal*). The OSPCB received, on an average, 216 complaints every year but was able to dispose off only 99 cases.

TRAINING AND CAPACITY BUILDING

As a primary function of the boards, training and capacity building have been a major concern for long. New rules and regulations are being implemented as a result of developments in the field of pollution. Updating the knowledge and improving the skills of the board officials is, therefore, an essential function of the boards. But most of the boards do not have a mechanism in place to train their staff. The boards of Tamil Nadu, Karnataka, Gujarat and Madhya Pradesh have some form of internal training provisions and facilities. The West Bengal, Andhra Pradesh, Bihar, Maharashtra, Orissa, Himachal Pradesh, and Rajasthan boards, on the other hand, do not have any in-house training facility; they send their officials to other institutions.

The boards' expenditure on training and capacity building programmes may be considered an indicator of their performance in this regard. The MPCB spent an average of Rs 8 lakh (only 0.25 per cent of the total expenditure) per annum for training and capacity building, with the spending registering a gradual decline over the years – it went down from Rs 8.25 lakh in 2003-04 to Rs 3.25 lakh in 2005-06. The SPCBs of Gujarat and Chhattisgarh do not have separate budgets for training.[5]

The strategies adopted by some boards on training of staff are listed below:

- **Environmental Training Institute (TNPCB):** The Tamil Nadu Pollution Control Board has developed a training centre called the Environmental Training Institute (ETI). It is headed by the chairperson of

the board and is technically supported by an advisory committee with members from industries, private/public institutions and NGOs.

The main objective of this training centre is to improve the board's environmental management capacity and to create awareness, thereby helping reduce pollution from industries and municipalities. The target groups that the centre trains include staff members of the board, industries, NGOs and government organisations.

The annual report of TNPCB does not provide any figures on the number of board officials trained at ETI. It only refers to the number of training programmes organised by the centre and the total number of participants in them.

- **Gujarat Environment Management Institute (GPCB)**: The Gujarat board does not have a training centre. However, the Department of Forest and Environment of the government of Gujarat has established the Gujarat Environment Management Institute (GEMI) to provide guidance through research and training to industry and board officials. The GEMI conducts seminars and workshops on various environmental issues such as disaster management, biomedical wastes, water conservation and rainwater management. The GEMI, however, does not organise specific training programmes for the GPCB. Instead, the GPCB sends its officials for training to other institutes.

- **The WBPCB** does not have any training facilities, and sends its officials to attend various training programmes across the country. In 2005-06, the board sent 40 officials to attend training programmes conducted on topics such as chemical waste management, aquatic eco-systems, strategic environmental assessment, pesticide management, lake management and restoration of lake water quality, disaster management, air pollution and its health impacts, municipal solid waste management, operation and management of wastewater systems, etc.[6]

- Though the **KSPCB** has set up a training institute (EMPRI) with technical and financial support from DANIDA, not many officers of the board attend EMPRI trainings. In fact, the EMPRI now does not conduct any specific training programmes for KSPCB. The board, therefore, sends its officials for training to other institutes.

- **The APPCB** has an established training centre called the EPTRI in Hyderabad. But it is an independent institute and does not conduct any specific training programmes for the board.

- **The BSPCB** also sends its officials for training to various training centres located across the country. In 2003-04, the board had sent 13 of its personnel for training on national air monitoring programme, solid waste management, climate technology market, environmental compliance, etc.

- **The MPCB** does not have in-house capacity for training; hence, it sends its staff to other organisations for training. The training undertaken by its officials have been on general environmental issues ranging from hazardous waste management to noise and water pollution.

The other state boards in India send their staff members for training to various external agencies and institutions. As many as 31 employees were sent for training by the OSPCB in 2005-06.[7] While the HPPCB sent 17 employees for training in 2004-05[8], the number of staff sent for training by the board never exceeded 20 in a single year during the last five years. The number of employees sent by the Rajasthan board has been found significantly higher at 55 in 2005-06; the training programmes ranged from environmental planning and recent legislations to CDM, fly ash utilisation, etc.[9]

It has been observed that **there is a serious lack of clear-cut planning and strategy for capacity building and training among the boards**. The boards' efforts can be termed random at best and the employees are despatched for training without any assessment of their real training needs. Training programmes

attended by the board officials are quite general in nature and do not address the specific needs of boards. The MPCB has indicated a requirement of training on network monitoring, online display of data, online consent management, data implementation and analysis including modelling, implementation of e-governance, etc. However, none of the training programmes attended by its employees addressed these topics. This is because none of the institutes engaged by the boards are designing training programmes that target these special requirements and are in line with the need for regulators' skill development. **This is true even with the boards that have in-house capacity.**

The number of courses designed specifically for compliance and enforcement are extremely limited. Most of the boards expressed their concern with regard to lack of compliance and enforcement training material and non-availability of training programmes in this regard.

There is no induction or compulsory training for the board employees at the time when they join service. In USA, the USEPA has an Inspector Training Order that stipulates mandatory training requirements to lead an inspection. All inspectors are required to complete annual trainings. In addition, the requirements of the inspectors vary depending upon the complexity of the regulated industry that needs specialised skill upgradation of the inspector.[10] It is important to consider training and capacity building as a core function of the SPCBs in addressing inherent shortcomings of the board.

CONCLUSION

Compliance assurance is a major challenge in India. There is no centralised database which can indicate the status of compliance in the country. There are also no indicators which can point to the success or failure of the monitoring, compliance and enforcement programme. On one hand, the SPCBs are structurally weak as they lack skilled staff; on the other, there is no accountability mechanism in place to hold the SPCBs responsible for non-performance.

What also comes out quite clearly is that there is no credible deterrence for non-compliance as the legal route of compliance enforcement is not working. The SPCBs conduct few inspections, collect fewer samples and file even fewer cases. Use of civil administrative authority and self-monitored and self-reported data for compliance enforcement can help overcome problems that plague enforcement actions in the country today.

There is an urgent need for capacity building and training for the technical, scientific and administrative staff of the boards. Most boards do not have any structured training programmes for their staff members and the skills of the staff, therefore, remain 'traditional'. Capacity building and specialised skill improvement training programmes are needed to improve efficiency of the state boards.

CHAPTER 4

Peoples' perception

INTRODUCTION

The earlier chapters in this report have thrown some light on the state of regulatory capacity in India. It is now important to understand how stakeholders – industry, civil society organisations and the people at large – perceive the SPCBs in terms of their performance. In many countries across the world, peoples' participation has been instrumental in building and improving upon regulatory mechanisms. India too has seen many examples of public participation that have ensured better compliance and enforcement (see Box on page 32: *CSE's Green Rating Project*). Citizen monitoring and stakeholder insights can be effectively involved in reviewing and getting a 'Report Card' on agencies or industrial units to ensure better compliance, monitoring, inspection and enforcement of laws and regulations (World Bank, 2006). The SPCBs, for instance, use the local area environment groups created by the Supreme Court's Monitoring Committee on Hazardous Wastes. The public interest litigation (PIL) – a citizens' legal monitoring and supervisory tool – is worth mentioning as an effective oversight mechanism in India.

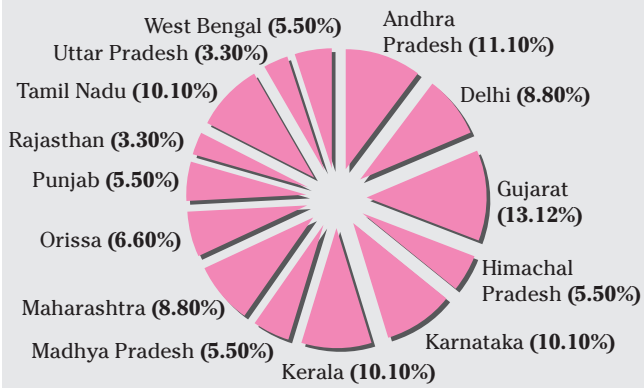
In 2007-08, CSE conducted an online opinion poll of public and industry in order to understand the performance of the SPCBs through the lenses of the stakeholders. Separate questionnaires (for industry, NGOs and general public) were placed on the CSE website. There was a provision for filling the questionnaire anonymously, as many industry representatives were not comfortable putting their names on record. CSE received 154 responses from representatives of civil society organisations and industries (93 from civil society and 61 from industry), who provided a critical report card on the performance of the SPCBs in India. This chapter analyses these stakeholders' opinions against the key indicators of functional responsibility and accountability.

STAKEHOLDERS' REPORT CARD ON THE SPCBS' PERFORMANCE

Most of the civil society respondents to the opinion poll were from the 14 major states of India (see Figure 8: *Regional distribution of civil society respondents*). As the number of responses from other states was low, these were not taken into account for assessing the performance of the boards. In the case of respondents from industry, 42 per cent were from the large-scale sector. The small- and medium-scale sectors each turned up with 29 per cent respondents (see Figure 9: *Classification of industry respondents*). Most of the industry respondents were from Gujarat, Madhya Pradesh, Maharashtra and Uttar Pradesh.

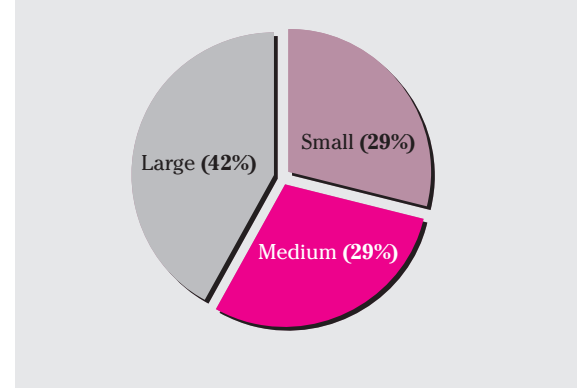
These stakeholders expressed their opinions on various performance indicators of the SPCBs. Different groups of stakeholders are usually seen to express contradictory opinions; this survey was no exception to this rule. For instance, the results of the survey shows that NGOs and general public have, by and large, lost faith in the capability of the SPCBs in improving environmental quality in the country. On the other hand, representatives of industry remain hopeful of the SPCBs' performance with the provision of better infrastructure, staff, and training and capacity building.

Figure 8: Regional distribution of civil society respondents



Source: Results of the survey conducted by CSE

Figure 9: Classification of industry respondents



Source: Results of the survey conducted by CSE

Regulatory capacity and performance

Most of the respondents from civil society felt that India's existing regulations and regulatory systems are weak. They were also completely dissatisfied with role played by their SPCBs. Some of the views and reasons cited are as follows:

- While the laws themselves are not stringent enough, the industries are not complying mainly because of rampant corruption in the boards.
- There is a lack of political will within the boards to control pollution.
- SPCBs don't have sufficient resources to implement the existing regulations.
- Inadequate understanding of various laws and legislation, poor knowledge of new technologies and shoddy work culture are the main problems.
- No major research work has been undertaken by the SPCBs.
- According to a respondent from Mizoram, "the staff of the SPCBs are cocooning or confining themselves within their offices and are not interested in monitoring environmental pollution".

Civil society organisations want SPCBs to become more transparent and accountable. They also want the boards to start involving local communities in environmental conservation.

As indicated earlier in this chapter, the opinions expressed by respondents from industry were quite contrary to that of the civil society. Most respondents felt that current regulations and regulatory standards are not weak – however, the boards do not have the necessary technical resources or understanding to implement them. According to another respondent: "Existing regulatory standards are nothing but a copy of Western standards, and there is a window for escape for the offenders."

An interesting suggestion came from industry about the introduction of 'incentives' for continuous improvement in the production process, where the best industries can be rewarded. Some industry respondents wanted a provision for financial penalties for non-complying units. They also suggested that an independent agency should be made responsible for taking samples and analysing them. **It appears that industries are not confident of the boards' monitoring abilities.** The respondents from industry also wanted the boards to organise regular meetings with industry to raise awareness on environmental management and pollution control.

Lack of adequate staff was highlighted by the NGO respondents as one of the key weaknesses plaguing the boards. Except Kerala and Tamil Nadu, almost all the state boards were targeted for their poor staffing pattern. NGOs from Andhra Pradesh, Karnataka, Orissa and West Bengal rated their respective SPCBs below 3, which meant that the boards do not have adequate personnel. On the other hand, most of the industry respondents felt that humanpower was not a problem (except in the case of Rajasthan).

CSE'S GREEN RATING PROJECT

The Green Rating Project (GRP) of the Centre for Science and Environment (CSE) is designed to track environmental performance of key industries in India. It monitors the impact of industrial growth on the environment and the natural resource base and tries to steer industry towards sustainability.

GRP is a environmental rating programme wherein industries within an industrial sector are rated on their environment performance on the basis of their life cycle impacts. GRP is a tool that not only promotes compliance, but it also promotes voluntary discloser and public participation.

GRP is built on voluntary disclosure by companies and the rating system consists of stick and carrot policy. The stick is a "default option under which a company, which does not voluntarily disclose information, is rated as worst company. The carrot is "additional weightage" given to the company for ensuring transparency. To ensure the reliability of data, GRP also inspects the industry.

GRP's ultimate aim is to move Indian industry 'beyond statutes' and adopt global best practices.

Started in 1997, GRP has so far rated four industrial sectors of India: pulp and paper, automobile, chlor-alkali and cement. Pulp and paper sector has been rated twice. The success of the rating can be gauged by the fact that more than 90 per cent companies voluntarily participated in each rating and opened their factories for inspection. Being a public disclosure project, the ratings and the reports of individual companies are disseminated to the public. The final rating is also widely publicised through print and electronic media.

THE IMPACT

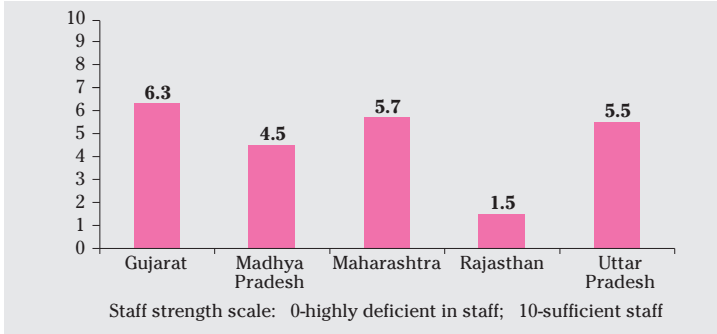
The success of GRP depends not only on the participation and disclosure of data but also on industry paying heed to the rating and its recommendations. In all ratings, GRP has made a difference in a sense that industries have improved their environment performance. Between the two ratings, the pulp and paper sector reduced its water consumption, changed bleaching technology and moved towards farm forestry. Chlor-alkali industry has reduced its mercury consumption and emissions and have also improved its energy efficiency. Many companies have implemented recommendations specifically given to them by the project.

The findings of the projects have also helped to change the environmental policy in the country. Based on the GRP's recommendations, the government of India had announced subsidies to the chlor-alkali industry to move from mercury-cell technology to membrane cell. The concept of measuring and monitoring the inputs of volatile materials like mercury in the production process, instead of only measuring their concentration in the effluents was also introduced by GRP.

The cement sector findings uncovered many surprises. The traditional wisdom was that the industry had to be a big-time polluter. But what emerged was a more nuanced picture. The industry did well in energy use, point source emissions and waste disposal, but failed in mine management, fugitive emission control and livelihood generation. This rating showed that in areas where the economic and environmental interest coincide, industry generally performs better. Proper pricing of natural resources is therefore key to improving the environment performance of Indian industry.

Source: CSE, Green Rating Project, 1998

Figure 10: Industry view on staff strength in boards



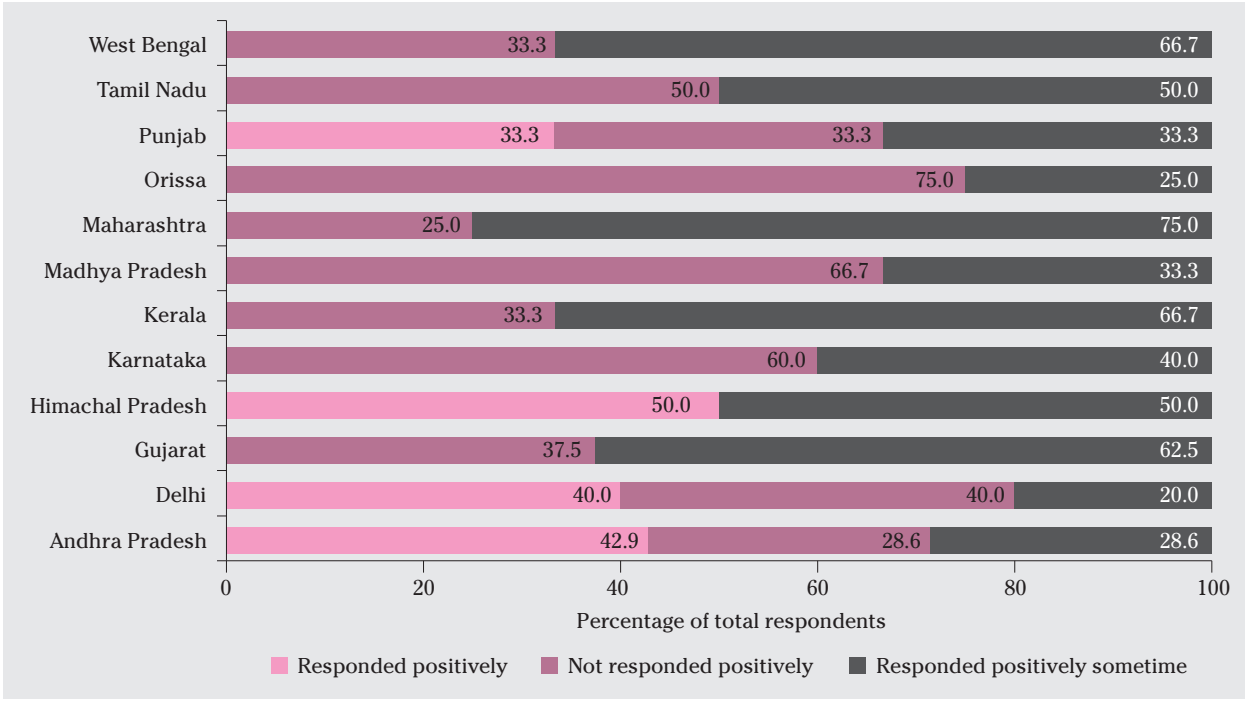
Source: Results of the survey conducted by CSE

All of them gave their boards a rating of more than 5 (see Figure 10: *Industry view on staff strength in boards*).

The boards' response

About 43.3 per cent respondents from civil society felt that in most cases, the pollution control board failed to respond positively to a complaint, while 46.3 per cent felt they responded positively sometimes. Only about 10.4 per cent indicated that a board responded

Figure11: SPCBs' responses to public complaints



Source: Results of the survey conducted by CSE

positively to public complaints (see Figure 11: *SPCBs responses to public complaints*).

Respondents from Andhra Pradesh had a very good opinion about their board's performance in responding positively to their complaints – but respondents from Gujarat, Chhattisgarh, Jammu & Kashmir, Karnataka, Kerala, Meghalaya, Mizoram, Orissa, Pondicherry, Tamil Nadu, Rajasthan, Uttar Pradesh and West Bengal felt their respective boards fared poorly on this count.

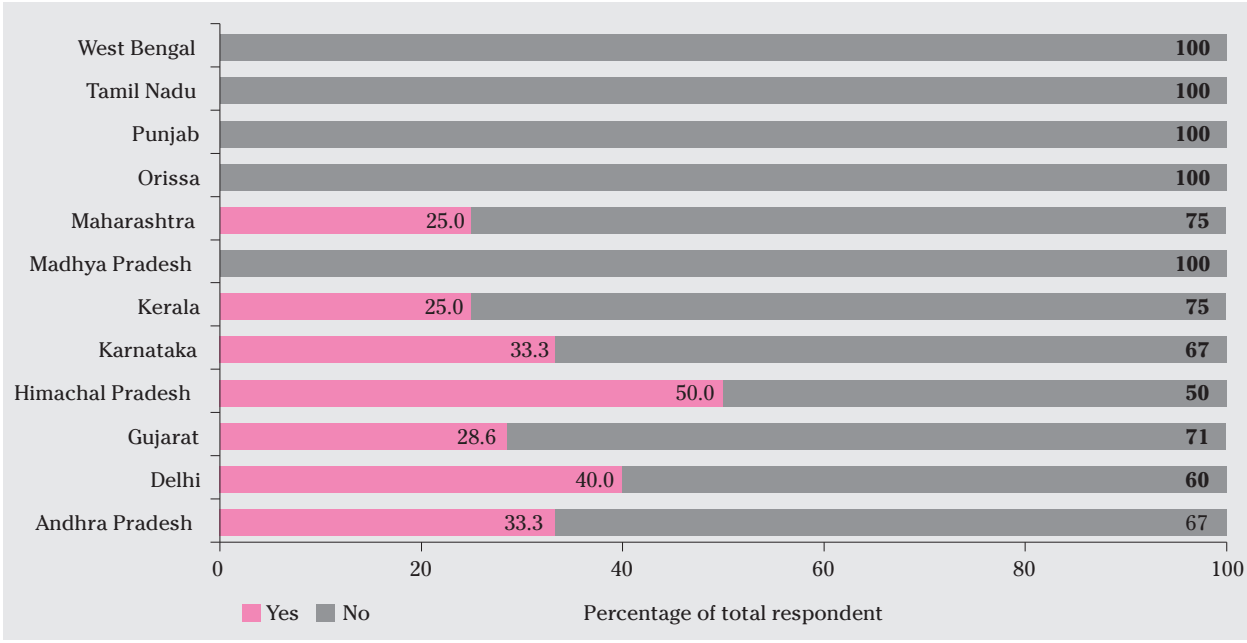
Proactive disclosure of EIA reports and proceedings of public hearings

The public hearing is a process which offers an opportunity to members of the civil society, including NGO representatives, to interact with an SPCB. It is the duty of the board to facilitate this interaction by providing a soft or hard copy of the EIA report or its executive summary to the local people prior to the public hearing. However, most respondents felt that the boards have failed in this respect. Only about 18.8 per cent of the respondents claimed that EIA reports were easily accessible (see Figure 12 on page 34: *Accessibility and availability of EIA reports*). All the respondents from Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamil Nadu and West Bengal recounted their torturous experiences in accessing EIA reports from their respective boards.

Civil society organisations felt that the boards should upload EIA reports on their websites to enable easier dissemination. Barring a few, a majority of the boards have not done this, and accessing these reports from a board's regional or sub-regional office is an extremely difficult process. Some of the respondents even pointed out that "it is easier to get a copy of the EIA report from the project proponent directly, but not from the board". Respondents even complained that executive summaries of EIA reports neither contained information on mitigation measures nor any proposals for expenditure on environmental mitigation.

A public hearing provides a forum to local communities for giving feedback about upcoming projects to the regulatory agencies. Item 6.6 of the Environment Impact Assessment Notification, 2006 states that the proceedings of the public hearing shall be conspicuously displayed at the following offices – those of the panchayats within whose jurisdiction the project is located; the concerned zila parishad; the district

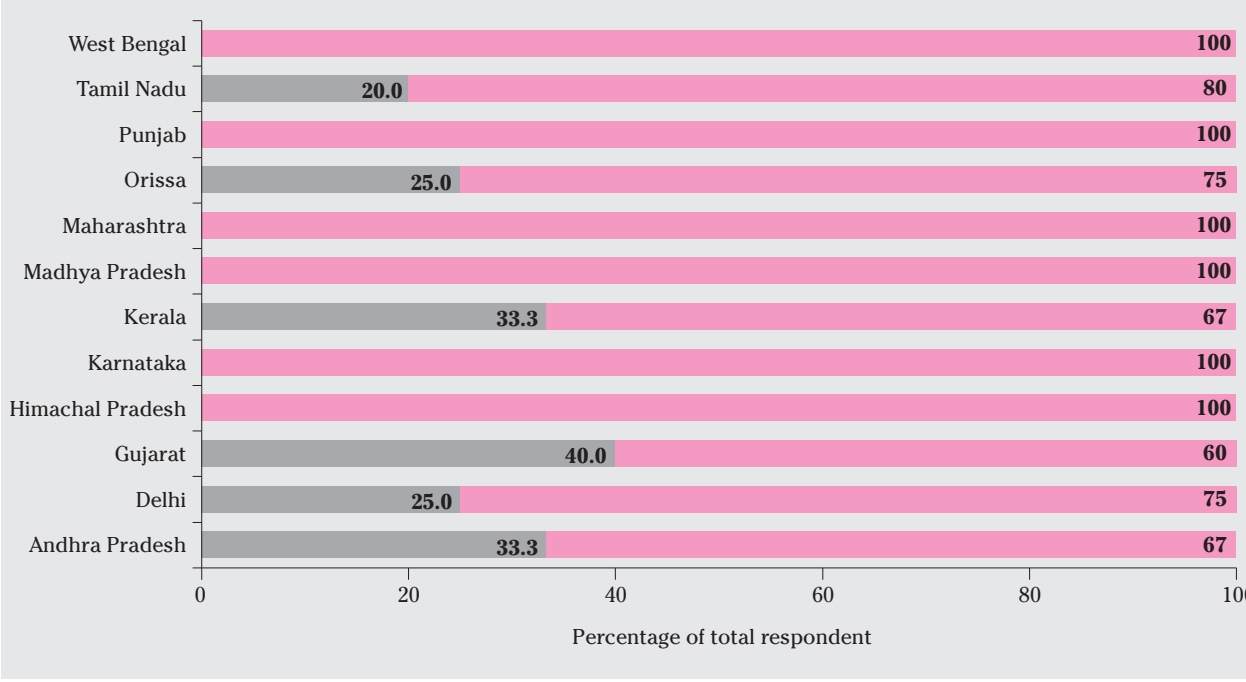
Figure 12: Accessibility and availability of EIA reports



Source: Results of the survey conducted by CSE

magistrate; and the SPCB or UTPCC. The SPCB or the UTPCC shall also display the proceedings on their websites. But local communities complained that they rarely get access to the proceedings of public hearings (see Figure 13: *Access to proceedings of public hearings*). The worst rating in this respect was given to the West Bengal board, while the Gujarat board cornered the best rating. About 40 per cent of the respondents from Gujarat felt that their board provides easy access to proceedings of public hearings.

Figure 13: Access to proceedings of public hearings

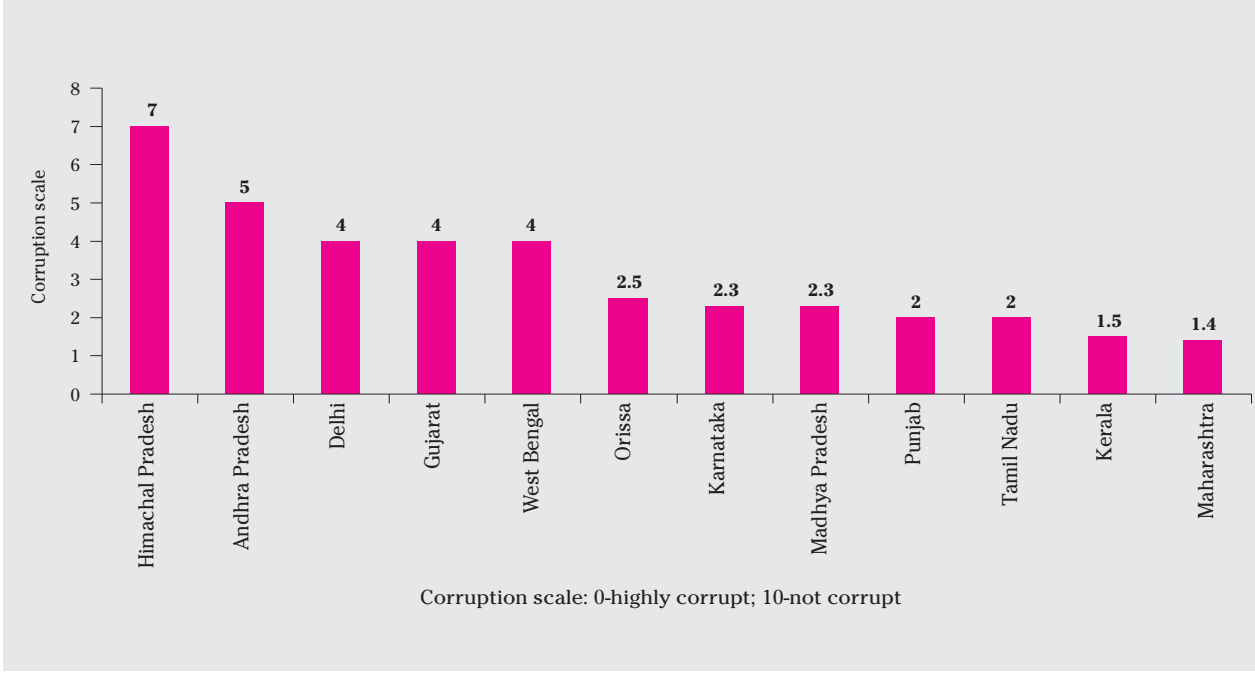


Source: Results of the survey conducted by CSE

Corruption in the boards: a citizens' report card

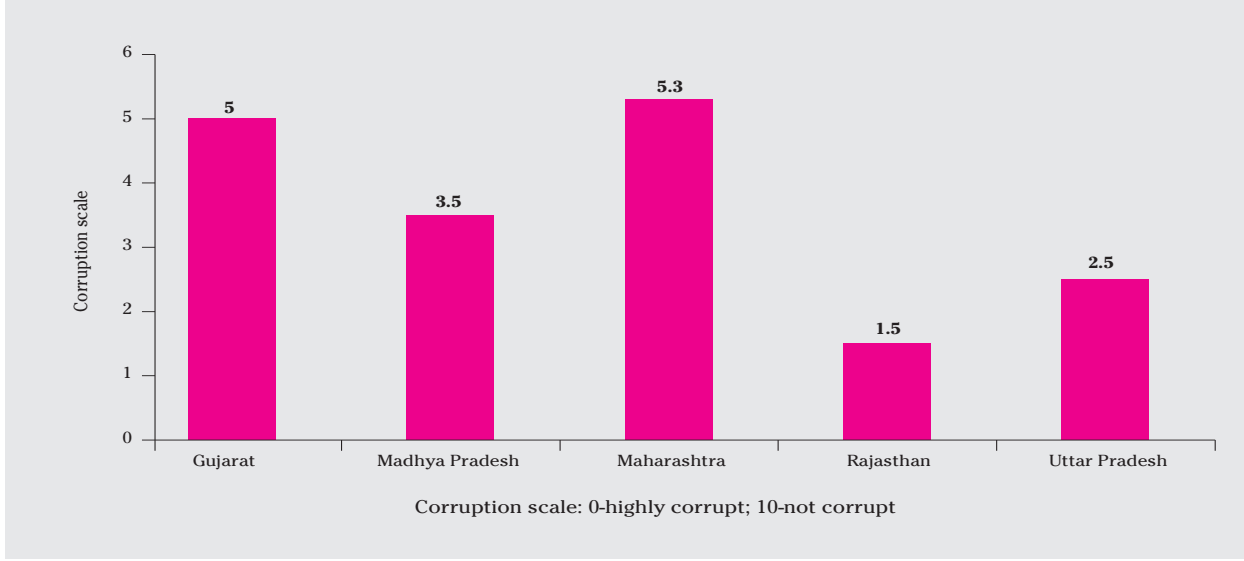
A majority of the respondents (industry as well as civil society organisations) highlighted the various malpractices prevailing in the SPCBs. Perceptions of the degree of corruption varied among the different stakeholders. For example, NGOs from Maharashtra felt that their board was quite corrupt and gave it a low score of 1.4 on a scale where 0 indicated 'very corrupt' and 10 indicated 'no corruption' (see Figure 14: *Corruption in SPCBs as viewed by the civil society*), whereas representatives of industry from the same state gave the board an average rating of 5.3 (see Figure 15: *Corruption in SPCBs as per industry*).

Figure 14: Corruption in SPCBs as viewed by the civil society



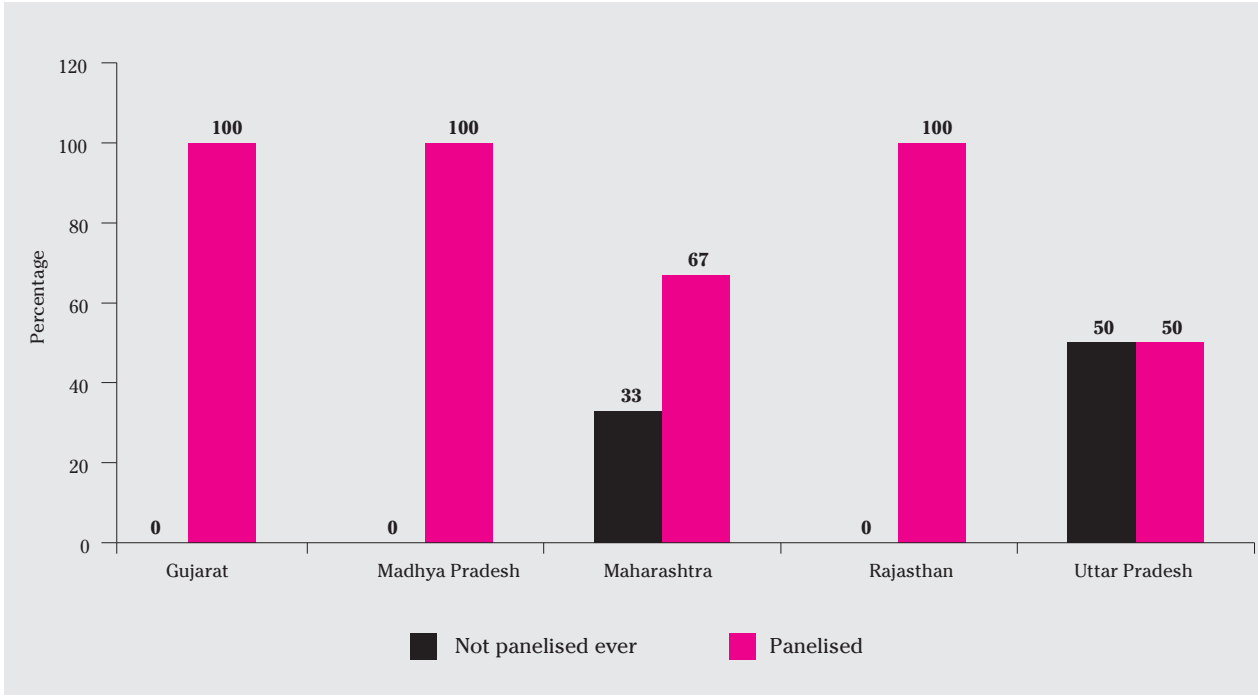
Source: Results of the survey conducted by CSE

Figure 15: Corruption in SPCBs as per industry



Source: Results of the survey conducted by CSE

Figure 16: Easy compliance, no penalty



Source: Results of the survey conducted by CSE

Industries from Madhya Pradesh, Rajasthan and Uttar Pradesh rated their boards low on the corruption scale. Civil society organisations from Himachal Pradesh gave a very high score of 7 to the HPPCB.

Though many of the industry respondents from across the states felt that board officials are corrupt, but none of them claimed to have filed any complaints. The Gujarat and Maharashtra boards claimed that no cases of corruption had been filed against them in the last five years. However, Maharashtra's minister of environment has gone on record admitting to corruption in the board.

Penalty for non-compliance

In the poll, an interesting question was framed for industry: whether they have ever been penalised for non-compliance. Industries were required to respond in either a 'Yes' or a 'No'. Industries from most states claimed that they were never penalised (see Figure 16: *Easy compliance, no penalty*). Industries from Maharashtra and Uttar Pradesh, however, admitted that they have been penalised for non-compliance. Easy compliance can be attributed to the reluctance of boards to take action against industries; another reason could be weak and ineffective standards. Civil society organisations attributed this phenomenon to the prevailing corrupt practices of board officials.

CONCLUSION

It is evident from the online opinion poll that the stakeholders are by and large not satisfied with the performance of the SPCBs. The reasons behind this opinion are, however, as varied as the stakeholders themselves. NGOs blame the poor performance of the boards on lack of staff, corruption and poor regulations, while industry believes that though the boards have sufficient staff, they are not trained enough and lack the understanding to implement rules and regulations. They have also highlighted corruption as a major problem area.

Clearly, the stakeholders' Report Card does not provide a very different picture from the analysis of secondary information about the performance of the boards that has been dealt with in the previous chapters. The public opinion poll has also identified almost the same core areas of weakness of the SPCBs that need strengthening:

- Lack of adequate humanpower and poorly skilled staff;
- Poor understanding of technical and scientific issues;
- Lack of training, education and technical expertise;
- Prevailing malpractices (corruption in the boards); and,
- Lack of proactive disclosure and poor information dissemination.

CHAPTER 5

Recommendations

India faces immense environmental challenges; its environmental protection and conservation agenda is, therefore, equally vast. The pollution control boards are the frontline agency for environmental protection in the country. Their performance will largely determine how successfully India is able to overcome its environmental challenges. But a well-performing board requires a well-designed institutional structure, clearly defined powers and responsibilities, and adequate resources (financial as well as human) to discharge its responsibilities.

However, providing powers and resources alone will not transform the nation's pollution control boards into effective and efficient organisations. Accountability for non-performance, openness and transparency, and a willingness to involve and engage with the public are the other parts of the package that should constitute the next generation reform agenda for India's pollution control boards.

STAFF/PERSONNEL

1. It is quite clear from the analysis that there is not sufficient staff to adequately manage and implement the compliance and enforcement programme – the core function of the SPCBs. Also, there is no national-level guideline to indicate staff requirements based on the characteristics of the regulatory basket (for instance, the number and types of industries). It is important for the CPCB to introduce such a guideline, which can then be used by the SPCBs to carry out detailed analyses of capacity requirement to fill the gaps in technical, legal and scientific capabilities.

2. The skill sets of the SPCBs remain 'traditional' at best. The focus is on hiring engineers and scientists, while other technically skilled personnel like economists, programme analysts, social scientists, legal consultants, computer professionals, communication experts, etc are ignored. It is important to understand that environmental management has moved beyond engineering and environmental sciences and now encompasses multi-disciplinary solutions. For instance, communication has become very important; so have programme monitoring, public participation and legal remedies. The SPCBs should expand and enhance their skills in these areas.

3. Recruiting and retaining trained and qualified personnel is important for the success of any organisation – more so for technical regulatory bodies like SPCBs. Most SPCBs today lack such staff. Unattractive pay packages and incentives and career stagnation keeps potential candidates away. Interviews conducted by CSE during the preparation of this report indicate that the corruption in the boards is due to a combination of factors, one of which is the poor pay package. The SPCBs need to put in place a policy and programme to attract high-quality personnel – this could include competitive pay packages and incentives, attractive career growth prospects, and rewards and recognition for good performance.

FINANCIAL RESOURCES

4. There are wide variations in the financial positions of the SPCBs. The boards of the less industrialised states (northeastern states, Bihar, J&K etc) are under-funded and depend on the state government and external aid. On the other hand, the SPCBs of Gujarat, Maharashtra, Karnataka, Tamil Nadu, Andhra Pradesh etc claim to be financially 'sufficient' – meaning, their expenditures are lower than their incomes. However, we believe that this financial sufficiency is a mirage, as it is largely a result of the inadequacies (of staff strength, technical infrastructure, R&D and inspection, monitoring, testing and compliance assistance capacities) in the structure and work profile of the SPCBs. There is no doubt that SPCBs need to do more than what they are currently doing to improve the environmental quality in the country. It is also clear that this will require far more resources than what even the financially self-sufficient boards have. SPCBs, therefore, should look ahead and start planning for more financial resources to expand and intensify their work programmes. This could be done by increasing the water cess (which is very low) and applying it to all industries, increasing consent fees and introducing a system of financial penalties for non-compliance. SPCBs that have to deal with fewer industries should be directly funded by the Central government.

COMPLIANCE AND ENFORCEMENT

5. Some state boards have started a bank guarantee system as an instrument to ensure compliance, which is a positive development. In case of non-compliance, a portion of the bank guarantee can be forfeited. However, there is no national guideline on this system. There are no standard procedures or processes to determine the amount of the bank guarantee, the amount that can be forfeited, where the forfeited amount should be used, etc. The ministry of environment and forests should announce a national system of bank guarantee with proper policies, procedures and implementation guidelines to enable its use by all SPCBs in a transparent and fair manner.

6. There is no standard definition, guideline or manual for what constitutes compliance and enforcement in the country. For instance, different state boards have different interpretations of what constitutes a proper compliance inspection and how frequently should it be conducted. The fact is that statutes/regulations are notified by the Central government without comprehensive guidance on how to implement them. SPCBs, therefore, interpret statutes/regulations and design implementation guidance as they see fit. There is an urgent need to develop and disseminate standard guidance manuals on different facets of compliance and enforcement for different statutes/regulations. The CPCB should identify best practices and work with the SPCBs to develop them. This will enable consistent implementation of compliance and enforcement across the country.

7. The focus of the compliance and enforcement programme of SPCBs has been large- and medium-scale industries. Many officials of the boards have confessed to CSE that they are unable to 'handle' small-scale industries. Small-scale industries are significant sources of pollution (the small-scale sponge iron sector is a case in point) and must be bought under the regulatory umbrella for targeted monitoring and compliance enforcement. It is quite clear that compliance and enforcement package of small-scale industries will be different from those applied to large- and medium-scale industries. It will include compliance assistance, technology support and financial incentives, as also credible deterrence for non-compliance (which is non-existent today). SPCBs, therefore, should develop and implement priority and targeted programmes for compliance and enforcement for the small-scale sector.

8. The entire compliance and enforcement mechanism in India is based on the concept of 'legal' sample. Large amounts of self-monitored data on pollution and resource consumption are demanded and collected by the SPCBs, but these are not used for enforcement. Because the self-monitored and self-reported data is not used, they lack integrity. In most developed countries, self-monitoring, self-recordkeeping and self-reporting are integral parts of the enforcement mechanism. The data generated is used to direct enforcement actions and penalise falsification (of data). Interestingly,

most of the provisions for using self-monitored data (including penalty for falsification) for enforcement purposes exist under Indian law, but have not been interpreted as such. Reinterpreting existing laws to enable SPCBs to use self-monitored data as legal evidence would greatly enhance their capacity in compliance and enforcement. This would make enforcement easier and improve the integrity of self-monitored data. Accessibility of self-monitored data to the public will allow greater public scrutiny and improve compliance and enforcement in the country further.

9. The legal route of enforcement action is not working in the country. In other words, there is a lack of credible deterrence for non-compliance. Many countries have established a civil administrative authority and have given powers to their environmental regulators to set compliance schedules and to directly impose penalties on companies for certain categories of violation. In case the industry is not satisfied with the verdict of the civil administrative authority, it can challenge it in a court of law. This mechanism provides an effective enforcement tool to the regulators. Considering that there is a clear lack of credible deterrence for non-compliance, the ministry of environment and forests should come out with a policy paper on this issue and institutionalise an appropriate civil administrative authority for SPCBs. However, there are major accountability and transparency issues that need to be resolved before setting up such a mechanism, because poor institutional design and implementation procedures can lead to corruption.

10. There is little state-wide or nation-wide data on the status of compliance in the country. The data that is available lacks reliability. In fact, many SPCBs have reported that they measure compliance in terms of the availability of 'appropriate' pollution control equipment; companies not having such equipments are termed as non-compliant. Few SPCBs reported that they measure non-compliance based on inspection and monitoring. In either case, data is not available and no one knows what percentage of the regulatory basket in the country is not complying with the standards. First of all, there is an urgent need to develop a uniform definition of compliance and how it should be measured. Secondly, a nation-wide computerised system should be established to collect, collate and disseminate compliance and enforcement data. This will go a long way in prioritising enforcement action in the country.

INFORMATION MANAGEMENT

11. Many boards have set up computerised systems for consent management and for managing information on compliance and enforcement. However, they have developed independent systems and there is a problem of compatibility. This can create a roadblock if is an effort to compile a nation-wide database (which is a desirable goal). It is probably the right time for the CPCB to work with the SPCBs and develop a uniform data management system for all boards. This will help poorly funded boards to get computerised and allow for state-wide comparison and compatibility.

ACCOUNTABILITY

12. There are no success or failure standards/indicators for SPCBs. In many developed countries, success or failure standards for regulators are defined in terms of ambient environmental quality. If the pollution level in an area is increasing, the responsibility of the same lies with the regulators. Indicators are used to define the success/failures of compliance and enforcement programme (reduction in total pollution load, percentage of industries complying, frequency of inspection, money spent per industry etc.). The CPCB needs to develop similar indicators for SPCBs and create a reporting format to collect, collate and disseminate the same to the public.

TRAINING AND CAPACITY BUILDING

13. SPCBs have no structured programme in place to upgrade the knowledge and skills of their scientific and technical personnel. Training is conducted largely in an ad hoc manner. Limited training

opportunities are available and most training programmes are supply-side driven – not based on the actual needs and demands of the boards. Formal compliance and enforcement training is virtually non-existent, though this is identified by most SPCBs as their key training requirement. No national minimum training requirement has been prescribed and most SPCBs rely on informal on-the-job training for their employees. There is, therefore, a clear need to set up a mechanism to impart training to SPCBs on various cross-cutting environmental issues, including training on compliance and enforcement, data management, communication, programme management etc. There is also a need to prescribe national minimum training requirements on compliance and enforcement for new recruits. Similarly, training on specific topics should also be specified for mid-level officers and senior officers.

TRANSPARENCY AND DISCLOSURE

14. SPCBs suffer from poor public perception. By and large, people are not satisfied with the performance of state boards. One of the main reasons for this – apart from all the drawbacks that exist within SPCBs – is the poor communication strategy of the boards. To take people into confidence, SPCBs will have to become more open and transparent and voluntarily disclose all possible information to the public. They should proactively engage with people, as public perception in democracy is a tool that can be harnessed for strengthening institutions. On the flip side, poor public perception can also bring down an institution.

NOTES & REFERENCES

Chapter 2: Regulatory Capacity and Resource Mobilisation

1. Water Act, 1978 on Constitution of State Pollution Control Board: a) Chairman, being a person having special knowledge or practical experience in respect of [matters relating to environmental protection] OR a person having knowledge and experience in administering institutions dealing with the matters aforesaid, to be nominated by the State Government: [provided that the Chairman may be either whole-time and part-time as the State Government may think fit]
2. Annual report 2005-2006, West Bengal Pollution Control Board
3. Annual report 2005-2006, Andhra Pradesh Pollution Control Board
4. Annual Report 2006-07, Gujarat Pollution Control Board
5. Annual report 2005-2006, Madhya Pradesh Pollution Control Board
6. Information from Haryana State Pollution Control Board website (http://hspcb.gov.in/home.html)
7. Information from Goa State Pollution Control Board website (http://goaspcb.gov.in/)
8. The item 'cess reimbursement' stands for that part of the water cess, collected by the state boards from specific industries and local bodies and later deposited with the Consolidated Fund of India, which is reimbursed to the state boards.
9. Consent fee collections include the fee collected by a state board from industrial units, which apply to the state board for (a) establishing the unit, (b) operating outlets for effluents and emissions, and (c) renewing the consent to operate.
10. CPCB funds are for specific projects such as Global Environmental Monitoring System (GEMS), National Ambient Air Quality Monitoring (NAAQM), Monitoring of Indian National Aquatic Resources (MINARS), clean technology and preparation of zoning atlas;
11. Anon, 2003, Environmental Compliance and Enforcement in India, Rapid Assessment, OECD

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1. Report on Environment Compliance and Enforcement in India, USEPA, 2005
2. Information provided by the Maharashtra Pollution Control Board to CSE
3. Report on Environment Compliance and Enforcement in India, USEPA, 2005
4. Results of the online survey conducted by CSE in 2007-08 for stakeholders of the board - NGOs and Industry
5. Information provided by the Maharashtra, Chhattisgarh and Gujarat boards to CSE
6. Annual report, West Bengal Pollution Control Board, 2005-06
7. Annual report, Orissa Pollution Control Board, 2001-02, 2002-03 and 2003-04
8. Annual report, Himachal Pradesh Pollution Control Board, 2002-03 and 2003-04
9. Annual report, Rajasthan Pollution Control Board, 2001-02, 2004-05, 2005-06 and 2006-07
10. Anon, 2003, Environmental Compliance and Enforcement in India, Rapid Assessment, OECD

Centre for Science and Environment
41, Tughlakabad Institutional Area,
New Delhi 110 062, INDIA
Ph: +91-11-29956110 - 5124 - 6394- 6399
Fax: +91-11-29955879
E-mail: chandra@cseindia.org
Website: www.cseindia.org