THE STATUS OF ENVIRONMENTAL REGULATORY CAPACITY IN INDIA

Center for Science and Environment
New Delhi

2009

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CHAPTER 1

Introduction

Rational of the Study

The greatest challenge faced by India is 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 some extent, due to the increasing gap that has been created over the years, in the over all capacity of environmental regulations, its institutions and the regulatory mechanism in addressing negative environmental impact of rapid industrialisation. Environmental regulations are intended to ensure sustainable resource use and facilitate in an effective natural resource management. The 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 constrains with the regulatory institutions that come in the way of effective compliances and enforcement of regulation. The capacity constraints of regulatory institutions namely, The Ministry of Environment and Forest (MOEF), Central Pollution Control Boards(CPCB) and State Pollution Control Boards (SPCBs) including its regional offices, needs to be identified and strengthened so that an effective implementation of environmental regulation is ensure in this country.

Environmental Regulations and Institutional Capacity: A Review

Indian regulations for pollution control have comparatively longer colonial history which date back to Nineteenth Century. The British Rulers 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 etc. (See Annexure I: *Key environmental legislation in India*). 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 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 much needed basis for an integrated approach on pollution control. The Water Pollution Control Boards were thereby authorized to deal with air pollution also and were henceforth called Central/State Pollution Control Boards.

The various committee and task force (Bhattacharya Committee, 1984; Belliappa Committee,1990; Administrative Staff College of India,1994 and Planning Commission, 2001-02), later on set up to examine the functioning and performance of regulatory institutions, suggest poor implementation and enforcement of environmental laws, rules and regulation by regulatory agencies especially by state pollution control boards. These reports further looked at what are the capacity constraints of the state pollution control boards and why have they not been so effective.

More recently, the Ministry of Environment and Forest and the United States Environment Protection Agency (US EPA) in 2005, jointly commissioned a study on 'environmental compliance and enforcement in India' and came out with 11 point recommendation to take corrective measures. Some of the major recommendations of US EPA, 2005 are developing policy and implementing guidelines for PCBs and Zonal offices of CPCBs, establishing the administrative authority to use self-monitoring, self-recordkeeping and self-reporting as direct evidence of a violation in the courts of law, providing training to SPCBs, utilizing statutory provisions to establish administrative authority and provide training to the respective state authority, developing an uniform data-base system and establishing a support organisation to facilitate effective communications between CPCB and SPCBs.

The OECD, 2006 report on the other hand reveals many constraints and challenges faced by the SPCBs at state level and has recommend both short term and medium term solution for a better compliance and enforcement. It further elaborated key challenges of SPCBs management system and also endorsed most of the US EPA, 2005 recommendations. The report finds that there is insufficient coordination between CPCB and SPCBs. The lack of a nation-wide implementing guidelines coupled with human and technical capacity constrains comes in the way of an effective compliance and enforcement. The World Bank (2006), report highlights the importance of capacity building through compliance and monitoring in line with the environmental pressure. It further identified the gap between the regulators capacity and ever-expanding multiple regulatory mandate. The report focuses on three overarching themes where immediate actions need to be taken in order to improving regulatory functions.

The Study

The present study aims to identify gap between existing regulatory provisions and implementing capacity of SPCBs in India. The followings are the objectives and methodology of the study:

- To assess the roles and responsibilities of Central Pollution Control Boards and State Pollution Control Boards
- To examine the regulatory capacity of SPCBs for monitoring, compliance and enforcement
- To explore the training requirement and provisions for their capacity building and
- To gather public opinion about the overall performance of the regulatory agencies

The study aims to identifying the strengths, weaknesses, and challenges faced by the boards. For this purpose, information was collected from different pollution control boards through a structured questionnaire. Secondary data from annual reports and website of respective pollution control boards were also used. In additions, an opinion poll of the stakeholders (industry and civil society organisation) was also conducted to know their perception about the performance of SPCBs.

This report primarily deals with the environmental regulators' capacity to monitor, comply and enforce rules, regulations and existing laws in India. Chapter one introduces environmental challenges posed by the recent economic development and describes the existing environmental regulations and regulatory mechanism. It also explains aims and objectives of the study followed by an account of the methodology. Chapter two examines the regulatory capacity of SPCBs and CPCB vis-à-vis their ability to mobilize resources-financial as well as human resources. It further explains the training needs and capacity building programmes of pollution control boards in terms of staffing, skills, workloads, security of tenures, hiring and incentives. Chapter three deals with the powers and functions of SPCBs vis-à-vis their performance. Chapter four provides an account of public perceptions about the performance of regulatory agencies in India.

CHAPTER 2

Regulatory Capacity and Resource Mobilisation

Introduction

Environmental regulatory capacity in India reflected through various functions of SPCBs, has not been up to the mark as reports suggested in previous section. SPCBs capacity for an effective monitoring, compliance and enforcement largely depends, on a balanced composition of board members, technical and legal skills of the staff, pattern of staffing, workload and time spent on monitoring and compliance. These are the vital areas of boards' capacity that ensure their proper functioning. Resource mobilisation-technical and financial by the respective boards helps in building required capacity and infrastructure for an effective monitoring. The boards have been empowered to mobilise resources depending upon a wide spectrum of sources. This section examines the regulatory capacity and board's ability to mobilisation resource. It also attempts to present specific recommendation towards improving the regulatory capacity of the SPCBs in India.

Composition of the State Pollution Control Board

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

The post of member secretary and chairperson are also dominated by the bureaucrat (See Table 1: *Predominance of IAS/IFS as Chairman and Members Secretary in SPCB*). Dilip Biswas, ex-Chairman, CPCB has critical views on appointing of IAS/IFS officers as chairman and member secretaries. He pointed out that "key person in SPCB is Chairman, who should be professionally qualified and appointed on a full time basis. Several State Pollution Control Boards are headed by part-time Chairman without requisite

qualifications and experience. Most of them are often drawn either from administrative service or 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 sub-ordinates".

Table 1: Predominance of IAS/IFS as Chairman and Members Secretary in SPCB

As of 2 April 2009	Chairman	Member Secretary
Boards contacted	28	28
Vacant posts	2	0
Boards with IAS/IFS as	14	17
Percentage of boards with IAS/IFS as	54	61

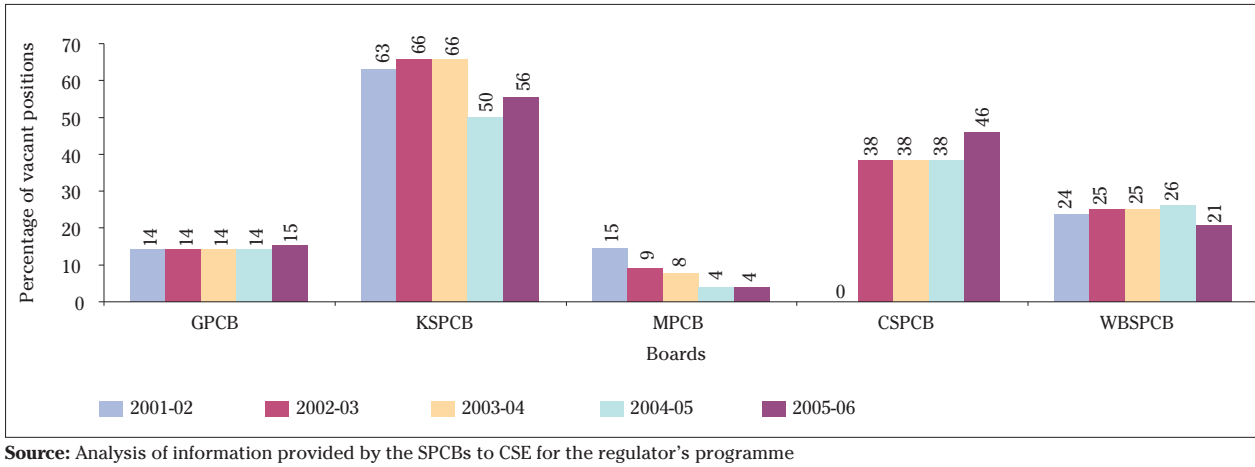
Source: Telephonic communication

Staffing pattern- Identifying the Gap

Functioning of the board also depends on the pattern of staffing and security of tenure. The frequent changes of chairman hamper the over all functioning of the Boards. By the time the chairman becomes familiar with the functioning of the organisation, he/she is moved out. This negatively impacts functioning of the board. For example, Uttar Pradesh Pollution Control Board (UPPCB) has changed 24 chairmen in the last 24 years, whereas Haryana State Pollution Control Board (HSPCB) has changed its chairman 26 times since 1974 indicating average one year tenure of each chairman.[4] Goa State Pollution Control Board (GSPCB) shows comparatively better security of tenure of its chairman i.e. over 3 years on an average.[5] It is important that SPCBs also require a better security of tenure and adequate trained manpower to undertake day-to-day monitoring and inspection. The manpower strength and its composition of the different board has been assessed taking a reference period from 2001-02 to 2005-06. Figure 1 shows the vacancy in SPCBs during 2001-02 and 2005-06.

It has been found that many of the boards faced manpower crunch during this period. Majorities of boards have failed to hire staff for vacant post even it has been sanctioned. Karnataka State Pollution Control Board (KSPCB) had 60 per cent of its sanctioned positions vacant every year. This means that the board's day-to-day activities are being run by less than half of its sanctioned staff. The data shows that the percentage of vacant position in the state board has gone down marginally in recent years (See Figure 1: *Vacancy in SPCBs from 2001-02 to 2005-06*). KSPCB has taken decision to hire staff on contractual basis. WBPCB, had 24 per cent of its total sanctioned positions vacant while, Chhattisgarh board had 32 per cent vacant post every year. Maharashtra Pollution Control Board (MPCB) has comparatively better staff strength, it has only 8 per cent of its sanctioned post vacant during the same period. The number of vacancy also shows progressively declining trend indicating MPCB's willingness towards filling the vacant posts during this period.

Figure 1: Vacancy in SPCBs from 2001-02 to 2005-06



Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme
Note: GPCB: Gujarat Pollution Control Board;KSPCB: Karnataka State Pollution Control Board; MPCB: Maharashtra Pollution Control Board;CSPCB: Chhattisgarh State Pollution Control Board;WBSPCB: West Bengal State Pollution Control Board

Survey of Central Pollution Control Board (CPCB) and SPCBs reveals that many posts are sanctioned but hiring of professionals did not take place, due to cumbersome process that requires approval from the state government. In some cases, financial constraints and budgetary restrictions were highlighted as reasons for large number of vacant post. Communication with officials of the state pollution control boards revealed that the boards were unable to attract qualified manpower due to poor pay scales compared to private sector, fewer promotions, and lack of opportunities for growth. The central pollution control board also faces similar problems (See Box-1: *CPCB Facing Manpower Crisis*).

BOX-1 CPCB FACING MANPOWER CRISIS

The Central Pollution Control Board is facing shortfall of manpower especially in the areas of technical and scientific staff. One of the reasons of this problem is cumbersome recruitment process. Also the existing staffs are lured by the private sector organisation for better offer and job opportunity. Though CPCB is a scientific and technical organisation responsible for advising the Ministry of Environment and Forest (MoEF) and undertaking research on pollution control and abatement, the employees are not paid at par with other technical organisations like DRDO, CSIR, Department of Space, Department of Atomic Energy, etc.

The scientific and technical staffs of CPCBs are not covered under the Flexible Complimentary Scheme (FCS), through being highly specialised and scientific institution, whereas the employees of other sister organisations such as CSIR, DRDO and MoEF are eligible for FCS. Under FCS a time bound promotion is applicable after every five years of tenure on one post. Having denied of the schemes, the scientific staffs of CPCB are demotivated and their positions are stagnated due to lack of time bound promotion. The employees of the board do not also get social benefits such as medical or accidental insurance despite fair amount of risks of injuries and threats to their life while conducting laboratory work and inspection visits to industries.

Though, CPCB has tried to introduce computerisation, data management and information technology, but it lacks computer specialised manpower such as computer engineers, which hampers its progress in this direction. Likewise, there is no basic qualification required for hiring manpower at CPCB as well. People recruited at junior level do not even have basic computer training and knowledge. All these need to change!

There exists a considerable gap between the pay scales of the Chairman and Member Secretary at the CPCB, The Member Secretary functions as the second in command after the chairman. He/She draws a pay scale of Rs. 16400-20000/- while the Chairman draws a pay scale of Rs.22400-24500/-. The pay of the member secretary is same as that of the Director/s in CPCB, whereas, as per the official hierarchy, the respective directors have to report to the Member Secretary. Also, the member secretary has been entrusted with more responsibilities compared to the directors.

According to the Ex-chairman of Central Pollution Control Board Shri J Mauskar, "as CPCB functions with professionals recruited from a pool of scientists and engineers, the pay package should be made more lucrative. Being a low paid organisation, talented professional are leaving this organisation and joining other private department where they are being paid handsomely." The ex-chairperson also believes that a well-paid employee will be more honest and diligent and will help in weeding off the corruption in the board. Some of the suggestions given to sixth pay commission by CPCB to prevent loss of good manpower from the board included:

- **All scientific and technical employees in CPCB should be covered under Flexible Complimentary Scheme;**
- **A special pay package/allowance should be given as incentive to high risk departments/laboratories along with the accidental insurance covers;**
- **The pay scale 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 the basic working knowledge of computer and other office automation. They should also be at least a graduate;**
- **Specialised professionals such as IT and legal experts should be hired;**
- **The pay scale for the post of member secretary should be raised to somewhere between the chairman and the directors;**

The Sixth Pay Commission recommendation kept the pay scale of the Members Secretary and the directors same. However, a source in MOEF has said that the Ministry has issued 4 orders in 2008 to regularise the contractual staff in CPCB.

To overcome manpower shortage, most SPCBs have resorted to hiring contract staff. However, the contract employees cannot be used for any legal activities. These employees are also not eligible for standard benefits and therefore, they have low work motivation.

Skills: Adequacy and requirements

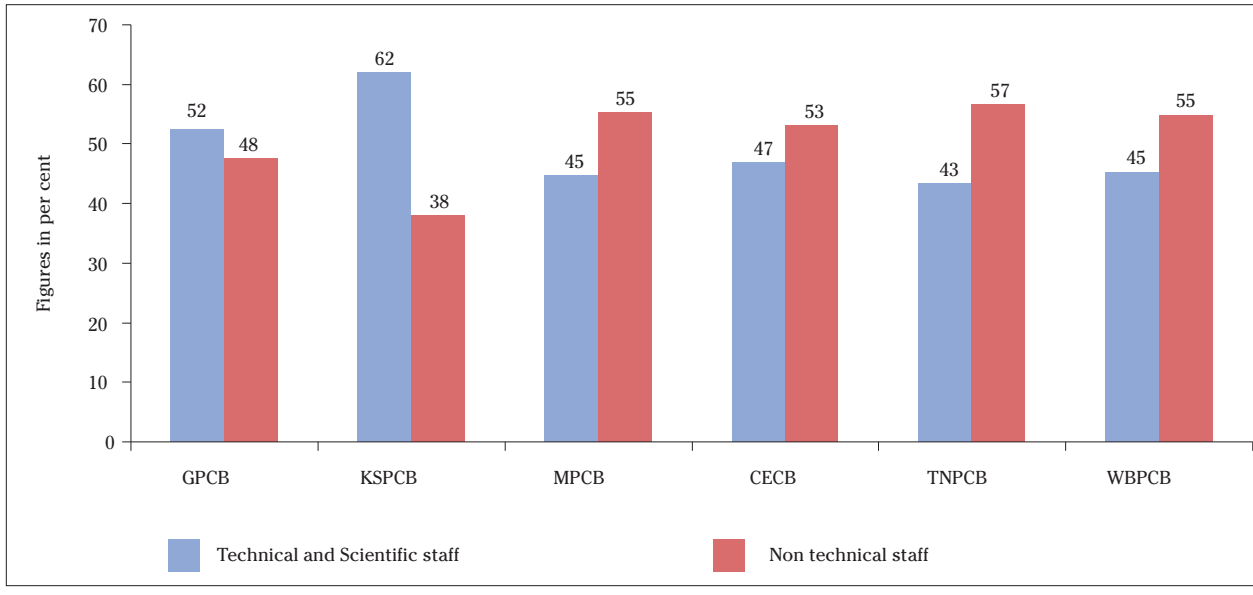
The function of the board is highly technical in nature and involves monitoring of industries vis-à-vis the existing laws and regulations and implement programmes and policies for pollution control. The state pollution control boards hire technical staff comprising technical officers and scientist, however, non-technical staff dominates. MPCB, one of the most industrialised states in the country, has on an average 55 per cent non-technical staff on its pay roll. Similarly, Tamil Nadu Pollution Control Board (TNPCB), Chhattisgarh Environment Conservation Board (CECB) and WBPCB are also dominated by the non-technical staff (See Figure 2: *Board-wise Composition of staff*). KSPCB has a healthy ratio in favour of technical staff so is the GPCB. The high ratio of technical staff at KSPCB may not represent a correct picture, as significant number of positions in the state is vacant.

Work-load of the staff

The SPCBs are facing problem of inadequate manpower amidst increasing number of industries that needs to be regulated. The workload on the staff is increasing every year. The data shows an overall increase in number of industries while sanctioned position has remained more or less constant for during 2001-02 and 2005-06 in most of the boards. For example, in Karnataka number of industries has increased 2.5 times during the last five years (2001-02 to 2005-06), while corresponding number of sanctioned posts has gone down from 769 to 675 during the same period (See Figure 3: *Manpower industries at Karnataka State Pollution Control Board (2001-02 to 2005-06*). Considering 60 per cent sanction posts that are lying vacant at KSPCB, the workload of the existing staff has increased manifolds.

Similar is the case with other pollution control boards. While the number of industries in Gujarat has gone up by 70 per cent during 2002-03 and 2005-06, the sanctioned position in the Gujarat board has remained constant at 549.[6] The same was also observed in case of CECB and MPCB.

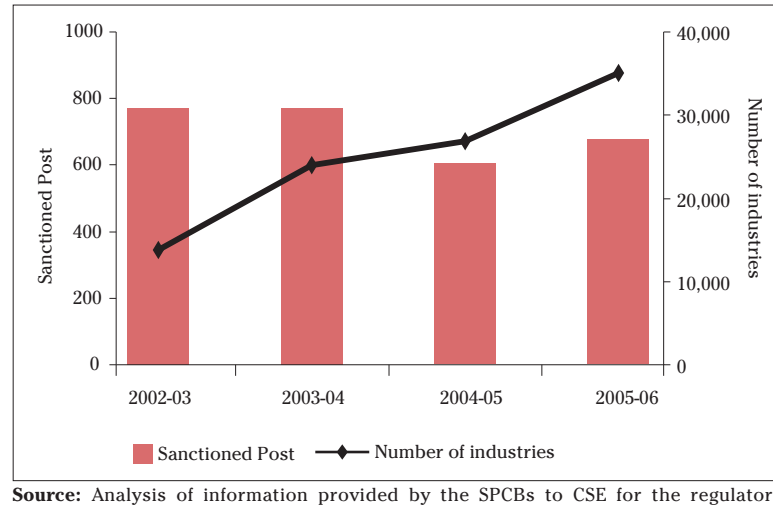
Figure 2: Board-wise Composition of staff



Source: Analysis of information provided by the SPCBs to CSE for the regulator's programme
Note: Technical staff and scientist have been considered as technical

The analysis of sanctioned position vis-à-vis the number of industries is an indicative of the workload, but actual workload can be assessed if the strength of technical staff in boards is compared to number of industries in the state, because actual monitoring and inspection are done by the technical staff. Most of the state pollution control boards do not have sufficient technical officers (excluding scientist). Each technical officer ends up looking after ever-increasing number of industries (See Table 2). For example, one technical officer is responsible for 176 industries in GPCB, the workload of a scientific staff is also very high. One scientific staff in Gujarat handles as many as 109 industries. In case of Karnataka, the number of industries per technical officer has gone up more than twice during the same period.

Figure 3: Manpower industries at Karnataka State Pollution Control Board (2001-02 to 2005-06)



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

The technical and scientific staffs together undertake inspection and monitoring of industries, hence the workload has been calculated for this core group of employees. Table 1 shows the level of workload on technical staff in SPCB. For example, one technical officer (Technical staff and Scientific Staff) is responsible for 68 industries in Gujarat, the same is responsible for 182 industries in Maharashtra and 142 industries in Karnataka (See Table 2: *Average workload of technical staff (technical officers and scientists)*).

Time spent on inspection and monitoring of industries

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

A technical person got only 1.77 man-days to take care of an industry in one whole year in GPCB. The number of man-days spent by the technical staff in KSPCB and MPCB were found equally low at 1.72 and 1.23 man-days respectively. These man-days also include time spent in transportation while commuting. The scenario remains the same in case of scientific officers. However, when a combination of technical

Table 2: Average workload of technical staff (technical officers and scientists) (2005-2006)

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

Source: Data provided by PCB for the Regulator's Programme, 2005-06

and scientific staff are taken together, the average time spent on one industry goes up marginally, but still not feasible to do a proper compliance and monitoring. (See Table 3: *Time spent by staff for industrial monitoring in a year*)

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

	No of days/ year	Technical staff work load	No of days/ industry	Scientific staff staff work load	No of days/ industry	Technical + Scientific staff work load	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

Most boards end up giving a range of responsibilities to technical staffs due to shortage of man-power. An environmental engineer is made responsible for monitoring and inspection of industries but he/she also looks after administrative responsibilities of clearing the day-to day files. A significant amount of man-days of the technical staff goes into paperwork that involves clearance and consents. Most SPCBs lack the resources to develop the necessary computer systems to manage information flow and track activities. As a result, much of their man-days are spent on administrative activities instead of actions that reduce pollution. In additions, the judicial activism ensuring the agenda of environmental improvements in India has added a new roles and responsibility to the respective boards including CPCBs. The courts often ask boards to address priority programme or provide information on a certain industrial unit or on status of implementation of a programme. Similarly, court cases (mainly PILs) by individuals against industries or boards also add to the workload of already over-burden boards. In recent past, several new programmes have been introduced under the Environment Protection Act (e.g., hazardous waste management, bio-waste management, and control of plastics and used batteries) with significant start-up needs had added more workload on the board without the corresponding increase in human resources.

Financial Resource Mobilisation

Financial resources of SPCBs come from their own resources and external assistance. Many boards are highly depended on the external sources of funds that keep them running routine functions. The financial resources of a state pollution control board can broadly be categorized into:

- **Own resources** of a state board consist of cess reimbursement[7], consent fee[8] and interest on investments. Other minor sources of own resources 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, concerned State Government and CPCB[9], grants-in-aid provided by the concerned state governments and other grants from time to time.

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

Table 4: Income of various Pollution Control Board (Rs. in lakhs)

	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

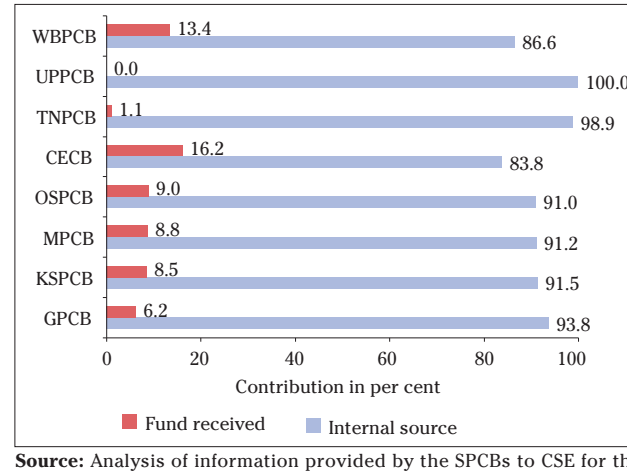
NA: Not Available

Sources of Income: Grants and Internal Resources

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

Internal sources such as water cess and fees from consent and NOC are the major sources of income for many boards. The WBPCB, UPPCB, MPCB, GPCB, KSPCB, TNPCB, have generated more than 80 per cent of their income from internal resources (See Figure 4: *Sources of fund of State Pollution Control Boards*). On the other hand, pollution control boards/committee of North East and Jammu & Kashmir (J&K) depend heavily on external aid from their respective state government. Sikkim State Pollution Control Board (SSPCB) received Rs 22.5 lakhs as grant from state government in 2007-08 and other receipts were Rs. 8.55 lakhs in the same year. The total grant received from state government was utilized for the payment of salaries of SPCB official. Therefore, the board was left with mere Rs. 8.55 lakhs for other expenses which includes monitoring, inspection, laboratory, travel, etc. According to the OECD, 2006 study, boards of Kerala and J&K receive over 80 percent of their funding in government grants.[10] This is because there are very few industries in these states and they face constraints in mobilising their own resources.

Figure 4: Sources of fund to State Pollution Control Boards



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

Consent and NOC fees

Among various sources of income of boards, Consent (Consent to Establish and Consent to Operate) and NOC fees are the major share of income to Maharashtra, Karnataka, West Bengal including Orissa and Chhattisgarh (See Table 5: *Income source-wise of various Pollution Control Board 2001-02 to 2005-06*). However, BSPCB and UPPCB do not benefit much from these fees. This is because they are less industrialised and also due to differential structure of the consent fee that exists across the states of India. For

Table 5: Income source-wise of various Pollution Control Board (RS. in lakhs) 2001-02 to 2005-06

	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

instance, if an industrial unit falling in the investment limit between Rs. 50 lakhs and Rs. 100 lakhs applies for the consent in Haryana, it is bound to pay Rs.14,500/- as fees, whereas if the same unit applied for the consent in Gujarat, the fee would only be Rs. 5000/-.[11] Despite this differential consent fee structure the number of industries in most of the states is going up, so is the collection from consent fees during the recent period. In case of MPCB fees from consent and NOC have gone up by 142 per cent during 2001-02 and 2005-06. OSPCB has also registered a growth of 101 per cent during the same period.

Water Cess

The collection of 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. This includes ferrous and non-ferrous metallurgical industry, mining, ore processing, petroleum, petrochemicals, chemicals, ceramics, cement, textiles, paper, fertilizers, coal, power, processing of animal or vegetable products and engineering. Restricting the payment of water cess to these specific industries has direct implication on the total revenue of SPCBs not having these industries and thus stand to loose on their revenues. Many State Boards suggested that the water cess should be made applicable for all types of industries thereby ensuring a steady income flow to their exchequer.

The income from interest on investment and fine and forfeiture contribute less to the total revenue of state pollution control boards, except for the BSPCB which generated 40 per cent of its total funds from the interest on investment. Fine and forfeiture currently contribute below 1 per cent funds generated in most of the boards. Once the principle of **'polluter pays'** is adopted, fines and forfeiture could become an important source for most of the boards.

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% of the estimated total compliance cost is required as a bank guarantee. If the non-complying firm fails to comply in 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 Chairman and Member Secretary. Between January 2005 and August 2006, the WBPCB imposed 92 bank guarantees worth USD 3.5 million, of which two were forfeited.

Since 2003, the WBPCB reallocates 50 percent of revenues from forfeited bank guarantees for environmental improvements in the area where the non-complying facility is located. The forfeiture is a powerful monetary penalty for a violator and a significant deterrent against future non-compliance. In addition, 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, whether supplementary collateral should be required if the compliance schedule is extended.

Nature and pattern of Expenditure

The pattern of expenditure of state boards indicates fairly high expenditure on various heads. KSPCB on an average spent as much as Rs 32.67 crores annually between 2001-02 to 2005-06, MPCB spent Rs. 25.89 crores annually (See Table 6: *Expenditure of State Pollution Control Board*). Most of the boards have balanced income expenditure ration, however, Karnataka, M.P and Orissa boards have spent more than their earnings in one or two years during the last five years (See Table 7: *Ratio of expenditure to income in State Pollution Control Board*). Karnataka board has incurred huge expenditure on infrastructure and

Table 6: Expenditure of State Pollution Control Board (in lakhs)

	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 State Pollution Control Board

	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

equipments and also on the wages and salaries (See Table 8A & B: *Pattern of expenditure in State Pollution Control Board*). The KSPCB has hired more number of people on contracts during this period.

There is wide variation in resource utilization pattern of different boards. Karnataka board has shown high resource utilization. The boards of GPCB, WBPCB and TNPCB have shown relatively lower resource utilization rates. 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 last five years in income-expenditure ratio, indicating poor performance of fund utilisation.

Some of the SPCBs taken in this study does not even spend 60 per cent of their income and thus have surpluses. For example, the boards of Maharashtra and Gujarat were left with a surplus of Rs 25.19 crores in 2005-06 and Rs 22.97 crores in 2004-05 respectively.[12] One of the reasons for this low resource utilization is the control mechanism of respective state government. Prior permission of statutory body from the state government is required for any capital expenditure towards purchase of assets, furniture, vehicles, land and building in case of GPCB. The degree of state control is much less for MPCB. The board is free to plan and use its resources, but need to present its budget to the state government and take approval. Contrary to this a prohibitive spending restrictions have been imposed by the respective state governments to most of the North-East State Boards. SSPCB for example, does not even have a separate budget. All spending and budget comes from the Department of Forest, Government of Sikkim.

Table 8A: Pattern of expenditure in State Pollution Control Board (in Rs Lakhs)

2001-02	BSPCB	%	GPCB	%	KSPCB	%	MPCB	%
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: Pattern of expenditure in State Pollution Control Board (in Rs Lakhs)

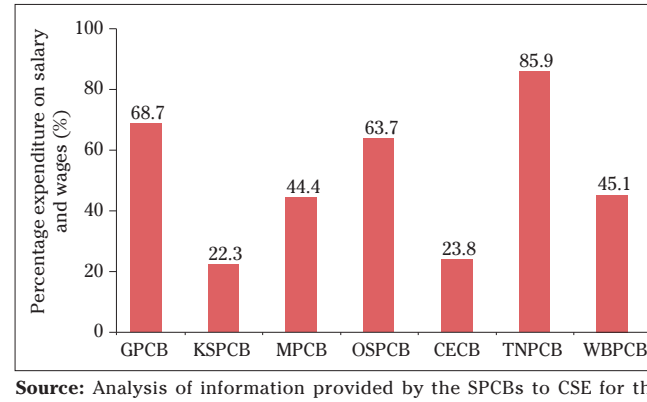
2001-02	OSPCB	%	CECB	%	TNPCB	%	WBPCB	%
Wages and salaries	247.3	63.7	45.0	23.8	925	85.9	349.2	45.1
Legal fees and fees to consultant and specialists	NA		0.4	0.2	7.6	0.7	NA	
Other administrative expenses	75.4	19.4	44.3	23.4	27.1	2.5	426.0	54.9
Total revenue expenditure	**322.8**	**83.1**	**89.7**	**47.4**	**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

Heads of Expenditure

Administrative cost of wages and salaries, legal fees and charges for consultants etc. are the major heads of expenditure of SPCBs. With the exception of KSPCB and CECB, rest of the boards spend more on salaries than on testing, monitoring and office equipment (See Figure 5: *Expenditure on salary*). GPCB and OSPCB have spent as much as 68.7 per cent and 63.7 per cent respectively on the salary. Gujarat Board has spent only 0.27 per cent of its total expenditure on testing, monitoring and office equipment. MPCB has spent 8.27 per cent of its

Figure 5: Expenditure on salary



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

total expenditure on testing, monitoring and office equipment. This indicates that most of the boards are not spending sufficiently on testing, monitoring and compliance.

The other administrative costs also account for significant portion of total expenditure by the boards (See Table 9: *Expenditure per industry*). Except KSPCB and CECB none of the boards made any significant capital investment. In fact KSPCB has the maximum capital investments of 74 per cent of total expenditure in the last five years (2001-02 and 2005-06).

Table 9: Expenditure per industry (in Rs/industry)

	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

The ratio of expenditure and industries gives an idea of how much money the boards are spending on monitoring and evaluation of the industries. MPCB has spent only Rs 5004 per industry for monitoring and evaluation, whereas CECB spent as much as Rs 47230 per industry. The more industrialised states boards of Maharashtra (See Box 2: *Is Maharashtra Pollution Control Board doing its job?*). A Case of Maharashtra SPCB) and Gujarat have spent less on monitoring of industries as compared to Orissa and Chhattisgarh during the same period. This is because these boards are spending more than 50 per cent of their total expenditure on salaries and wages. They are also spending more on maintaining their regional and sub-regional offices. For example, the MPCB has 11 regional offices employing around 437 people and GPCB has 10 regional offices with total manpower strength of 258. CECB has 7 regional offices having manpower strength of 78.[13] Most of the boards have established numerous regional and sub-regional offices especially in pockets with high concentration of industries. This allows for easy access and monitoring of industries as well as for a quicker response in the event of an emergency. However, such a fragmented bureaucracy also places monetary and structural strains on the boards.

There is no fixed pattern of expenditure emerging across the boards, however, in most cases spending on monitoring of industries has been declining over the years. The amount of money spent by Karnataka Board on monitoring an industry has declined by almost 10 times from 2002-03 to 2005-06. While number of industries has increased in the state, the corresponding increase in budget for monitoring did not taken place during the same period.

Considering SPCBs expenditure on monitoring of polluting (red and orange category) industries, the spending becomes much more respectable. On an average, the board of Maharashtra spent Rs 15100 per polluting industry while the KSPCB spent as much as Rs 62462 for monitoring of polluting industries (See Table 10: *Expenditure per polluting industry (red+orange)*). The board of Gujarat, which probably houses the highest number of polluting industries, does not show much difference in spending on polluting industries.

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

	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

Findings and Conclusions

The boards need to improve the strength of manpower by filling the vacant post and sanction post. The performance of boards indicates a serious lack of skilled manpower as existing staffs are over-burdened and hence unable to perform optimally. According to the Member Secretary of GSPCB, "the

BOX 2 IS MAHARASHTRA POLLUTION CONTROL BOARD DOING ITS JOB?

Most peaple believe the MPCB is one of the most well-functioning SPCB in the country. It is well funded and well staffed. However a critical analysis of the board performance indicates poor compliance and enforcement. The average man-days for inspection have been found 1.4 per year per industry by MPCB. The average inspection per industries is less than one, meaning not all the regulated industries have been covered by regulator. Expenditure on testing and monitoring equipments is very low.

Performance Parameters	Average of 2001-02 to 2005-06
Income (in lakhs)	3591.7
Expenditure (in lakhs)	2588.9
Percentage expenditure on testing and monitoring equipment	8.3 per cent
Percentage expenditure on wages and salaries	44.4 per cent
Percentage of utilization	72 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. man-days spent by technical and scientific staff per industries	1.4
Consent to establish issued (2005-06)	2999
Consent to operate issued (2005-06)	8504
Average inspection per industry	0.3

board should continuously build its technical manpower capacity and competency as new rules, strictures and responsibilities are entrusted upon the board from time to time… lack of manpower, infrastructure, technical skill, and legal powers as the major weaknesses which needed strengthening." The current analysis also indicates that there is a few legal staff in the board and no new hiring has been taken place for legal staff. It is important to develop expertise beyond the traditional skills to include attorneys, program analysts, computer experts, training experts, statisticians, communication specialist, etc.

There is no clear pattern in the financial performance of the boards. Many boards are self-sufficient, the rest heavily depend on government grants. Therefore, a multi-faceted approach should be adopted to improve the financial performance of boards.

Recommendations-Human Resources

- The SPCBs must carry out a detailed analysis of capacity requirement in order to identify the gap in technical, legal and scientific capability;
- Hiring should be made easier so that vacant positions could be filled up. An increase in manpower will enable the board to perform better;
- The balance between administrative and technical staff should be maintained by filling vacancies with more technical staffs;
- Attractive pay package and incentives should be introduced to attract new talents and retain trained staff;
- Pay Scale of the Scientific and Technical staff should be kept at par with other similar technical and research institutes like DRDO, ISRO and NIO-premier strategic research and technical institutes of India;

- The promotion process should be streamlined to ensure career growth prospects, if possible CFS should be made applicable to the staff of pollution control boards;
- There should be rewards, incentive and recognition for the board employees especially in terms of their contribution to compliance management, pollution control and effective discharge of their responsibilities. This will act as motivating agent to perform better.

Recommendations- Financial Resources

- Remove the restrictions on spending of the boards as far as capital expenditure on testing and monitoring is concern;
- Allocate separate budget on research for technical demonstration, testing and monitoring and inspection to ensure that funds are available for this core activity;
- Make water cess mandatory for all type of industries, possibility of imposing air cess, in lines with the water cess, should be explored;
- Assess the adequacy and allocation of current fees. The rates of consent fees should be standardized across different states instead of leaving it to the state government.
- Evaluate potential new sources of revenue especially the “Polluters Pay” principles such as penalties, bank guarantees, etc.

CHAPTER 3

Regulatory Powers and Functions

Introduction

The state boards are viewed primary as compliance, monitoring and enforceable entities in the country. They have been entrusted with a wide range of responsibilities varying from implementation of policies to public awareness. But the core responsibility of the sate boards is to ensure compliance with standards through inspection and monitoring; award of consent, making inventory of hazardous waste generating industrial units; implementation of National Ambient Air Quality Standards and Water Quality Network; conducting public hearing process; generating environmental awareness, and imparting training to their own staff. The performance of the boards in implementing the above mentioned functions is presented below.

Grant of Consent

Two types of consents are awarded by the 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 impact and also granted for the proper design of pollution control installations. This is an important power and function of the SPCBs as it helps boards to maintain an inventory of new industries and examine each of them on their level of technology, adopted pollution control measures, and impact on natural resources and other related environmental impacts.

Consent to operate refers permission that an industrial unit must obtain in order to operate for discharge of waste, emission 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 waste based on Common Consent Application (CCA).

KSPCB, WBPCB and MPCB issued 30299, 19931 and 14993 'Consent to Establish (CTE)' respectively during the last five years. Except UPPCB and WBPCB rest all have shown an overall increasing trend in issuing consent to establish (See Table 11: *Status of consent to establish of SPCBs*). The increasing trend in consent to establish indicates the fast and rapid industrialisation in this country. However, there are cases of denial of CTE to the proposed industries by the SPCBs indicating a positive sign of proper evaluation of possible environmental impacts.

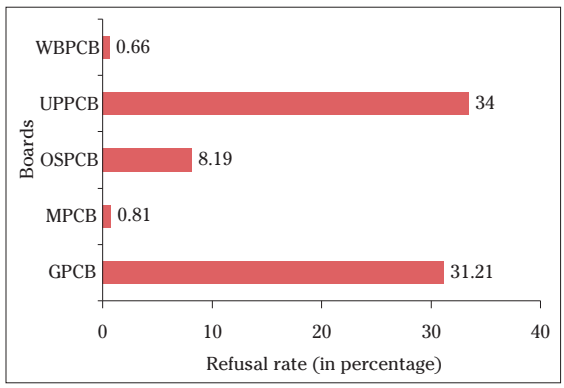
But the refusal rate of the consent to establish varies across the Boards. WBPCB and MPCB have denied consent to establish to less than one per cent of the total application they received respectively (See Figure 6: *Refusal rate of consents granted by SPCBs*). However, the refusal rate of UPPCB and GPCB are as high 34 and 31 per cent respectively. OSPCB has denied the CTE to more than 8 per cent of the total proposal. It would appear that the upcoming projects in WBPCB and MPCB are either complied

Table 11: Status of consent to establish of 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
Note: Data Not Available

Figure 6: Refusal rate of consents granted by SPCBs



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

with all the standards and therefore got CTE, or it would also mean that the projects were not scrutinized and evaluated properly before granting CTE as the staffs are over-burdened and do not spend sufficient time to examine the projects.

Issuing Consent to operate is another function of the state pollution control boards. 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 will be **deemed** to have been given unconditionally."

All the boards, except CECB, claimed that all the consent applications received by them were disposed off within the stipulated time of 4 months. The number of deemed consent issued by the CECB board is continuously increasing and went up from 82 in 2001-02 to 126 in 2005-06.

The refusal of consent to operate has been found very low across the SPCBs except GPCB which has refused CTO to 16.7 per cent of the total application it received (See Table 12: *Status of consent to operate for different boards (2005-06)*).

The consent management by the boards are extremely poor. Most of the boards still collect, analyse and present data on compliance and

Table 12: Status of consent to operate for different boards (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

enforcement manually, which means a lot of paper work. Moreover, some of the boards do not even have the resources or expertise to collect and present data. The few state boards have computerized data systems to store information. APPCB, MPCB and WBPCBs have implemented online system for storing and maintaining information and receiving consent applications electronically. However, the boards having computerized system have developed a completely independent data management system from each other. Hence, there may be issues of compatibility and comparison between and amongst the state level information. Currently, there is no centralised database in the country, which compiles data of consent. The US EPA faced this problem when it tried to aggregate the state information into a national system. EPA spent a lot of money and resources to address this 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 sampling, inspect facilities, take a corrective action and prescribe compliance schedule. The inspections of industries include checking compliance of consent conditions, collection of untreated/treated samples, hazardous waste samples for analysis, and observation of the concentration of pollutants in the sample. Stack emissions are also monitored. The boards also inspect facilities to ensure adequate treatment facilities for wastewater and air in each industrial unit. Arrangements made for reuse and disposal of solid and hazardous waste is also verified. The number of inspections of the industries undertaken by the board gives an idea of their pro-activeness in monitoring. Ideally, greater number of inspections would keep board officials well informed about performance of the industrial unit in line with prescribed pollution norms.

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

MPCB reported fewer inspections per industry and has shown a reducing trends. It undertook 18,210 inspections in 2001-02 which has reduced 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 number of industry has been increasing in the state. The higher average numbers of inspections were undertaken by GPCB and OSPCB, each conducting 2 inspections per industry every year.

Monitoring and inspection are the key function of 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 guidance on the frequency of regular inspections is presented in the following Table 14: *Inspection schedule of CPCB and TNPCB*. It is difficult to understand how SPCB can monitor the performance of a red category industry by inspecting them once in three month. The inspection schedule looks very

Table 13: Number of inspection conducted by SPCB's

	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	**2**	**0.63**	**1.7**	**0.3**	**2**

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

lenient. However, individual states seem to have differing interpretation of the guidance and did not take it seriously. For example, 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. MoEF should come with more stringent and uniform inspection schedule so that performance of polluting units is monitored regularly.

Pollution Control Boards also collect random samples of treated wastewater during inspection. It also conducts stack monitoring to ascertain that the air pollution standards are maintained. Effective monitoring and inspection is reflected by greater number of samples collected and tested.

Table14: Inspection schedule of CPCB and TNPCB

	CPCB Guidance[1]	TNPCB[2]
RED CATEGORY INDUSTRIES		
Large	Once every 3 months	Once in a month
Medium	Once every 3 months	Once in Two month
Small	Once a year	Once in 3-4 month
ORANGE CATEGORY INDUSTRY		
Large	Once a year	Once in two month
Medium	Once a year	Once in Three month
Small	Once in 3 years	Once in 4-6 month
GREEN CATEGORY INDUSTRY		
Large	Once in two years	Once in 3 month
Medium	Once in two years	Once in 6 month
Small	Once in 5 years	Once in a year

1 OECD Report
2 http://www.tnpcb.gov.in/aboutus.html

The boards are often more comfortable in collecting and testing wastewater samples than collecting hazardous waste or conducting stack monitoring (See Table 15: *Samples analysed by various SPCB's*). However, it has been observed that SPCBs are not collecting sufficient amount of sample to assess compliance and effectiveness of the treatment facilities. The situation is worse in case of stack monitoring and hazardous waste sample testing. The GPCB, MPCB and KSPCBs on an average, monitored stack emission of only 0.55, 0.03 and 0.13 per air polluting industry respectively. Samples from only half of the units producing hazardous waste in Maharashtra were collected and tested. The situation is far worse for KSPCB and GPCB.

The number of wastewater samples monitored per industry by each of the four boards shows a declining trend. This is because number of samples monitored has gone up, but it has not matched with the increasing number of industries. The total number of wastewater samples tested by KSPCB has decreased by 3 times from 2001-02 to 2005-06. Likewise there is a sharp decline, in the total number of samples tested for hazardous waste (four times), by the GPCB. This trend shows a gross inadequacy of monitoring and assessment of the industries by the SPCBs.

Compliance with standards and adequacy of treatment facilities

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 make emission and discharge. The state boards are entitled to make these standards more stringent, but they cannot make it lenient. The standards in the country are quite poorly framed as they are based on concentration instead of load-based. This encourages dilution of the effluent in order to achieve the desired level of concentration. Also concentration based standards discounts the assimilative capacity of the environment. This is precisely the reason why despite SPCBs claiming industries are meeting the standards, the rivers remains polluted and ambient air quality is worsening in India. Standards are always set on the load-based criteria in most of the countries in the world.

Table 15: Samples analysed by various SPCB's

None of the boards monitor hazardous waste samples or stack monitoring even once

	2001-02	2002-03	2003-04	2004-05	2005-06	Average
GPCB						
No. of Industrial effluent and water sample collected and tested	13742	13067	13156	13169	14807	**13588**
Number of effluents samples per water polluting industry	1.34	1.28	1.27	1.07	0.93	**1.18**
No. of stack emission 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 sample collected	862	1090	1135	507	240	**767**
No. of hazardous waste sample per hazardous waste industry	0.12	0.15	0.33	0.08	0.03	**0.14**
KSPCB						
No. of Industrial effluent and water sample collected and tested	8955	10086	8133	7913	3339	**7685**
Number of effluents samples per water polluting industry	0.78	0.88	0.63	0.56		**0.71**
No. of stack emission 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 sample collected	178	333	419	153	312	**279**
No. of hazardous waste sample per hazardous waste industry	0.16	0.30	0.31	0.09		**0.22**
MPCB						
No. of Industrial effluent and water sample collected and tested	13131	13629	11451	11367	12893	**12494**
Number of effluents samples per water polluting industry	1.47	1.59	1.38	1.61	1.15	**1.44**
No. of stack emission 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 sample collected	1843	2118	2097	2159	1516	**1947**
No. of hazardous waste sample per hazardous waste industry	0.50	0.57	0.59	0.50	0.33	**0.50**
CECB						
No. of Industrial effluent and water sample collected and tested	2603	3418	2474	2392	1829	**2543**
Number of effluents 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

Sometime the emission standards and discharge requirements set for industries are much higher than what is possible for them to achieve considering the type of production process and technology they install, at a given economies of scale. For example, the standard for particulate emission of cement industries has been fixed for 150 microgram/Nm^3, but in reality most of the large-scale cement companies were able to achieve emissions of less than 100 microgram/Nm^3.[2]

As far as compliance is concerned, most boards claim that industries are complying with standards. For example, GPCB claims that 94 per cent of air polluting and 96 per cent of hazardous waste units comply with standards. But considering that GPCB conducted stack monitoring of less than half of air polluting

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	13822	1094	15400	604
	Air Act	8183	900	12745	675	13910	664
	Hazardous Act	3319	172	6018	433	7132	67
MPCB		48361	4709	50685	5126	51289	8109
CECB	Water Act			475	22	649	23
	Air Act			478	22	707	25

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

units and less than 15per cent of hazardous waste units were inspected. The claim on compliance needs to be accepted with caution. MPCB has reported that 89 per cent of the total industrial units found compliant. But again MPCB inspected less than 30 per cent units every year.

In order to meet the standards, it is important that the industrial units have adequate effluent treatment facility and air pollution control equipment. The CECB and GPCB claim that all industrial establishments in the state have adequate control equipment and treatment facility. The Gujarat board also claims that 22 common effluent treatment plants (CETPs) in the state are performing satisfactorily. MPCB has indicated that there are industrial facilities in the state that do not have adequate or even partial treatment facility. The board has also indicated that 41 per cent of the CETPs are operating satisfactorily.[3]

It is also surprising that despite presence of various legislations and standards, there are still industrial units that do not have any control equipment or treatment facility. This is because non-compliance in India is much cheaper than meeting standards. There is no deterrent mechanism such as fines or penalty that could be imposed on non-complying industries. In order to fine a defaulting industry, the board has to take a long process of filing a case in the court. The Court is entitled to impose punishments ranging from imprisonment of 18 months to 6 years plus 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 as the courts of this country is over loaded with criminal and civil cases.

Status of show cause, closure notices and litigations

The Environment Protection Act (EPA), 1986 has vested power upon the state boards for issuing closure or prohibition of any industry, operation or process and/or stoppage or regulation of the supply of electricity or water or any other services (in regard to pollution control). However, these directions can only be issued by the board after hearing the views of the defaulting industry. Therefore, at the first instance, the board issues show cause notices to the unit asking for an explanation as to why they are 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 the court.

Following inferences can be drawn from the table 17:

- 30 per cent of CECB show cause notice got converted into closure notice and out of the total closure notices 55 per cent got converted into legal case.
- In case of GPCB, 37 per cent show cause notices got converted into closure notice in tern 13 per cent

Table 17: Show cause to closure notice to cases filed

	Show cause notices issued			Closure notices issued			Cases filed		
	CECB	GPCB	MPCB	CECB	GPCB	MPCB	CECB	GPCB	MPCB
2002-03	20	942	4596	0	278	58	0	1	22
2003-04	49	2419	4569	0	714	140	0	1	15
2004-05	68	2202	4236	40	915	890	22	282	4
2005-06	25	1335	7297	4	558	812	1	30	1
Average	**37**	**1664**	**4784**	**11**	**616**	**475**	**6**	**79**	**11**

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

of total closer notices become legal cases

- MPCB has been able to covert 10 per cont of the show cause notice in closer notice, however, out of all the closer notices only 2 per cent got converted in to legal cases

Majority of the show cause notices issued by the board 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 to the industries failing to upgrade treatment facility, and the remaining 9 per cent for not installing 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 notice.

In some cases and as a last resort, the board files legal cases against the industry when all its efforts towards compliance fail. However, very few of the show cause or closure notices ultimately gets translated into legal cases. UPPCB reported an average of 112 legal cases filed against industries followed by Gujarat with an average of 79 legal cases each year during 2001-02 and 2005-06. The year 2004-05 has been a hectic year for GPCB as it filed 282 legal cases in a single year. KSPCB, MPCP, OSPCB and CECB reported relatively lower number of court cases filed against industries in their respective states jurisdiction (See Table 18: *Legal cases filed by different boards (2001-02 to 2005-06)*). The most striking feature of this judicial function of boards is a **low rate of conviction**, no matter how many legal cases are being filed against industries.

MPCB filed 591 cases under Water and Air Act, combined till 2006, 484 cases were disposed off by the court with 43 per cent went against the board (See Table 19: *Status of cases filed by the boards as an 2006*). Similar is the case with KSPCB. Another disturbing feature of these legal cases is very long time taken by the court in disposing the cases. This has resulted in huge number of pending cases of each of the boards. There are as many as 96, 76 and 55 per cent cases pending in the court filed by CECB, OSPCB and KSPCB respectively.

Table 18: Legal cases filed by different boards (2001-02 – 2005-06)

	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

Table 19: Status of cases filed by the boards as an 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
Compliant/Application filed as on 31st March 2006	2440	635	176	102	442	149	1745	100	144
Conviction secured as on 31st March	1381	222	56	20	160	115	1077	37	15
Compliant/Application dismissed (against SPCB) as on 31st March			40	16	175	34		5	2
Compliant/Application pending as on 31st March	1059	413	86	66	107	0	668	58	127

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

UPPCB seems to be effective in dealing with the environmental court cases, it not only filed 1745 cases till 2006 but 62 per cent of cases were also disposed off. The time taken in disposing cases and low conviction rate combined together act as a deterrent to effective compliance, monitoring and enforcement. This is the reason that boards shy away from taking non-compliant industries to the court. Green Bench has been constituted in many states to expedite the hearings of cases filed by the boards (See Box 3: *Green Benches*). However, these benches are few in the country and clearance to environmental cases unusually dragged on for years together. In most of the cases, the industries are allowed to operate till the court otherwise passes a judgement.

BOX 3: GREEN BENCH

Green Benches are those constituted by the Chief Justice of the respective High Courts either on their own or on the directions from the Chief Justice of the Supreme Court (quorum consisting of more than one Judge) to deal exclusively with the matters relating to environment and connected there with. The Green Bench in the respective High Courts deals with matters relating to Environment either on a particular day of the week or whenever situation demands immediate action. West Bengal and Tamil Nadu have constituted Green Benches, rest of the boards need to follow.

The US EPA has established and 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 the defaulting and non-compliant industrial unit (See Box 4: *Use of administrative*).

Most of the boards do not have manpower to handle legal cases (See Table 20: *Legal staff in different PCBs*). This results in long delay in clearing the cases through judicial processes. For instance, CECB operates without having a single legal staff.

Proactive public disclosure and grievance redressal

There are currently two source of information on the working of SPCBs. The first is the annual report and the second is website. RTI can also be used to access specific information (See Box 6: *The impact of the right to information on environmental performance in the united states*).

Annual report: There is no prescribed format for disclosure of information in the annual report.

BOX 4: USE OF ADMINISTRATIVE ENFORCEMENT AUTHORITIES AS A CREDIBLE DETERRENT

In the United States, 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 the opportunity to be heard. Under an administrative order, the violator will be required to take corrective actions with 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.

(**Source:** As quoted in World Bank, 2006, pp42)

Some annual reports are quite exhaustive and some provide skeleton information. The annual report of MPCB is quite comprehensive giving details of manpower strength (sanctioned, vacant, and filled); number of polluting industries (Water, Air and hazardous waste producing); activities undertaken under the new rules and regulations such as Batteries Act; consent status; legal cases; and financial details. Whereas, the annual report of BSPCB provides very basic financial information with no detailing on the pollution and compliance status in the state

Table 20: Legal staff in different PCBs

The board lacks specialised manpower to handle its legal cases

	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

BOX 5: USE OF SELF-MONITORING DATA

WHY SPCB'S LOOSE CASES

SPCB's are accused of not bringing the non-complying industries to the court of law. The number of cases filed by SPCB's are very few and in most of the time, SPCB's loose cases in the court. This has posed a serious question on working of SPCB and its effectiveness as pollution control agency. The reason for SPCB's loosing court cases is because sample analysis conducted by board is not admissible in the court of law because of not following the procedure accurately.

Moreover, SPCB should also utilize the self-monitoring data of the industries. According to the national Environmental (Protection) Rules of 1986, each polluting facility must submit an Environmental Statement at the end of each financial year (April through March). The Environmental Statement should include the following information:

- **Water and raw material consumption;**
- **Air and water pollution discharged by parameter (average daily quantity and concentration as well as percentage of variation from the prescribed limits);**
- **Hazardous waste generation (total quantity from the production process and pollution control installations) and methods of disposal;**
- **Solid waste generation, reuse, recycling, and disposal; and**
- **Pollution abatement measures implemented.**

Lack of reporting or false reporting may lead to criminal or administrative penalties. The existing legal framework, however, does not authorize enforcement actions through the courts based on self-disclosed reports. Rather, government agencies can only pursue legal action on the basis of "legal" samples taken by inspectors who are certified to conduct inspections in accordance with specified procedures. As a result, not using self-reported information is a significant constraint in promoting compliance and enforcement. Ministry should also conduct comprehensive training programme for its offical for proper inspection, monitoring and sampling, so that cases lost by SPCB because of poor procedures is negligible.

BOX 6: THE IMPACT OF THE RIGHT TO INFORMATION ON ENVIRONMENTAL PERFORMANCE IN THE UNITED STATES

The United States passed the Emergency Planning and Community Right-to-Know Act (EPCRA) to inform communities and citizens of chemical hazards in their communities. Under the Act, businesses are required to report the locations and quantities of chemicals stored on-site to state and local governments, and to annually collect data on releases and transfers of certain toxic chemicals and make the data available to the public in the Toxics Release Inventory (TRI). The US Congress later passed the Pollution Prevention Act which expanded the scope of TRI to include additional data on waste management and source reduction activities by industries. The goal of TRI is to empower citizens through information to hold companies and governments accountable on how toxic chemicals are managed. The information has led companies to improve their chemical management practices and governments to improve environmental enforcement since the TRI data is made public and is used as a public indicator to measure environmental performance.

Source: As quoted in World Bank, 2006.

Website: SPCBs should put all possible information on the website. This should include status of compliance and non-compliance, status of consent to operate and establish, report on public hearing for environmental clearance, status of court cases, monitoring and inspection exercise, status of sample. This will also help the board because it will then have to handle less RTI applications.

Proactive disclosure in terms of information displayed on the website of the respective boards shows large variation. PCBs of Maharashtra, Gujarat, Tamil Nadu, Orissa, Rajasthan and West Bengal provide significant amount of information on their website. This includes compliance status, number of industries, annual reports, executive summary of EIA reports, publication lists, etc. The website of Haryana, Kerala, Goa and Punjab boards provide just the basic information about the board-functions, acts and forms for the consent. Many Boards including BSPCB does not have their own website. In order to ensure more transparency in the working of board, the information disclosures have to improve significantly.

Grievance redressal: Every board has a procedure in place to address the complaints it receives. In case of GPCB, as soon as a complaint is received, it is put forth to member secretary for approval. The member secretary then forwards the complaint to the concerned unit head/regional offices or vigilance squad to investigate and initiate actions against the defaulter as per the provision of law. While WBPCB board has set up a public grievance cell in 1994 to address public complaints against environmental problems, OSPCB also has a public grievance cell where public complaints are divided into three categories-A, B, and C based on their importance and are dealt on a priority basis. 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; government offices, those relating to 17 highly polluting industries and complaints relating to disposal of hazardous chemical and hazardous wastes. Category B includes issues related to pollution problem but are limited in nature while, Category C includes complaints that are not within the purview of the board such as issue 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 have claimed to addressing most of the complaints they receive, yet the stakeholders are by and large unhappy with the response of the boards. The civil society organisation felt that the boards take too much of time to respond to their complaints, unwilling to share the EIA reports and minutes of the public hearing process and did not want to give consent and compliance related information.[4]

Most SPCBs acknowledged the role of public as a watchdog to improve the environmental conditions in

their respective state. They claimed redressal of public complaints is a priority area. The MPCB and GPCBs have a form on their website through which complaints and grievances can be lodged. The TNPCB board plans to have a dedicated phone line to register public complaints. Recently, Gujarat board initiated a unique concept of whistle blower (WB). Under this unique experiment, the person who informs the board about violation of any environmental law within the state is financially rewarded and his name is also kept confidential. Based on the information provided by WB, actions are initiated by vigilance squad to investigate the matter.

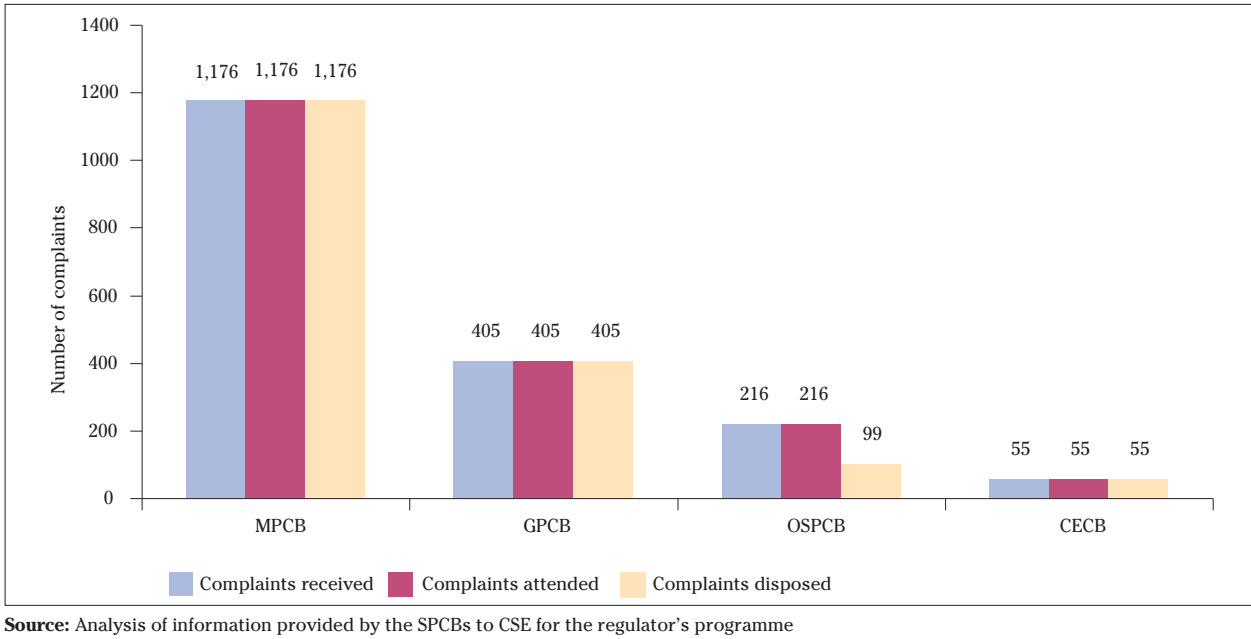
MPCB received 1590 complaints in 2005-06 and was able to successfully attend to all the complaints, while GPCB received a total of 2023 complaints (average of 405 complaints every year) in last five year (See Figure 7: *Status of complaint redressal*), it has been able to successfully address all the complaints. OSPCB received on an average 216 complaints every year but were able to dispose off only 99 cases.

Training and capacity building

The training and capacity building as a primary function of the boards, has been a major concern for long. New rules and regulations are being implemented as result of developments in the field of pollution control, updating knowledge and improving the skills of the board officials is going to be an essential function of the board. Most of the boards have mechanism in place to train their own staff, however, the mode of training varies across the board. The boards of Tamil Nadu, Karnataka, Gujarat, and Madhya Pradesh have some kind of internal training provisions and facilities. West Bengal, Andhra Pradesh, Bihar, Maharashtra, Orissa, Himachal Pradesh, and Rajasthan Boards do not have any in-house training facility thus they send their officials to other institutions for specialised training.

Boards' spending on training and capacity building programme may be considered as an indicator to show the performance of their staff. MPCB spent on an average, Rs 8 lakhs (only 0.25 per cent of the total expenditure) per annum for training and capacity building, the spending also shows a gradual decline over the years. It has gone down from Rs 8.25 lakhs in 2003-04 to 3.25 lakhs in 2005-06. The SPCBs of Gujarat and Chhattisgarh do not have a separate budget on training programme.[5]

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 Maharashtra board is only for two years i.e. 2004-05 and 2005-06

The strategies adopted by the following boards on training of staff are listed as follows:

- **Environmental Training Institute, (Tamil Nadu Pollution Control Board):** Tamil Nadu Pollution Control Board has developed a training centre called as Environmental Training Institute (ETI). It is headed by the chairman 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 improving environmental management capacity and creating awareness and thereby reducing pollution from industries and municipalities. The target group are the staffs and officials of boards, industries, NGOs and government organisations.

  The annual report of TNPCB does not provide any figure on number of board officials trained at ETI. It only talks about number of training programme organised by ETI and total number of participants. No separate information has been provided on number of participants from TNPCB and what type of training programme they attended.

- **Gujarat Environment Management Institute, GPCB**: The Gujarat board does not have training centre and therefore, it conducts seminars and workshop on various environmental issues for the stakeholders such as industry and NGOs. It conducts seminar and workshop on disaster management plans, bio medical waste rules for medical staff, water conservation and management of rainwater. The Department of Forest & Environment, Government of Gujarat has established Gujarat Environment Management Institute (GEMI) to provide guidance through research and training programme to industry and the board officials. In addition, the board also sends official for training in other institutes.

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

- Training for **KSPCB** employees are conducted by EMPRI established with technical and financial support from DANIDA to provide need based training to the officials of board, industries, local bodies, NGOs and other government organisations. However not many officer of KSPCB attend EMPRI trainings.

- **APPCB** has an established training centre called EPTRI in Hyderabad. In addition, officials are also sent to different parts of the country for specialised training.

- **BSPCB** also sends officials for training to various training centres located in this country. BSPCB had also sent 13 staffs for training on national air monitoring programme, solid waste management, climate technology market, environmental compliance, etc during the year 2003-04.

- **MPCB** also does not have in-house capacity for training, hence sends its staff for training outside. The trainings undertaken by the officials were on general environmental issues ranging from hazardous waste management to noise pollution and water pollution.

Other boards also send their staff for training outside. As many as 31 employees were sent for training by OSPCB in 2005-06.[7] Whereas, HPPCB has 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 last five years. The number of employees sent by Rajasthan board has been found significantly higher i.e. 55 in 2005-06 and the training programmes included environmental planning, recent legislations, 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 programmes among the boards**. Board's efforts are random and employees are sent for training without any assessment of their training need. Training programmes attended by the board officials are quite general in nature and do not address the specific needs of boards. The MPCB has somewhat indicated 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 the employees addressed these topics. This is because none of the institutes engaged by the boards are designing training programme that targets 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 improving the skills of compliance and enforcement are extremely limited. Most of the boards expressed their concern with regard to lack of compliance and enforcement training materials and availability of training programme in this regard.

There is no induction or compulsory training for the board employees at the time of joining in this country. Whereas if we take an example of the USA, the US Environment Protection Act/agency has an Inspector Training Order that stipulates mandatory training requirement to lead an inspection. According to this Order all inspectors are required to complete annual trainings on health and safety. In additions the requirements of the inspectors vary depending upon the complexity of the regulated industry that needs specialised skill up gradation of the inspector.[10] It is important to consider training and capacity building as a core function of SPCBs in addressing inherent shortcomings of the board.

Conclusion and Recommendations

The SPCBs have been entrusted with several powers and responsibilities with limited manpower to look after a large number of regulated industries. It has been observed that the SPCBs are over-burdened and lack skilled staff. This comes in the way of discharging their duties for an effective monitoring and compliances. It is also evident from the above discussion that there is an urgent need of capacity building and training for the technical, scientific and administrative staff of the Boards. However, the actual requirement of training needs and skill enhancement can be explored before designing training and capacity building programmes. It would be prudent to educate the stakeholders and public at large to ensure a better environmental compliance and enforcement of environmental rules, regulations and laws in this country. A massive capacity building and specialise skill improvement training programme by an independent agency is needed to improve efficiency of the state boards.

Followings are the recommendations to improve functional roles and responsibilities of boards:

- Develop standardised national policies and procedures for compliance and enforcement programmes to avoid inconsistencies in compliance, monitoring and enforcement;
- Develop better communication mechanisms to gather and distribute compliance and enforcement information; encourage online exchange of information through website making information disseminating easier to stakeholders;
- Develop a uniform computerized system for collecting, maintaining and utilizing compliance and enforcement data at national and state level. Promote online submission of consent and other applications thereby reducing paperwork and time taken by Boards;
- Provide guidance and relevant training to both administrative and technical staff on usage of the computerized system for compiling information and analysis and tracking compliance;
- Establish a "Civil Administrative Authority" to eliminate costly, resource-intensive and time-consuming judicial actions in the criminal courts;
- A national guideline on compulsory minimum inspector training requirements in line with USEPA can be developed for undertaking inspection and compliance management;
- Massive capacity building and training programme on monitoring, compliance management and enforcement should be provided to all board officials. A **regular** training on specialized topics such

as CDM, GIS, latest pollution control technology, etc should be designed and undertaken. The administrative staff should also be encouraged to undertake training on data management and information systems;

- Boards activities should be made more transparent and all information related to compliance, legal cases, etc should be put on website;
- Redesign norms and standards after taking into account the ground realities, assimilation capacity and best practises;
- Promote e-governance and adapt 'Whistle Blower' concept of GPCB wherever possible to ensure transparency and reduce corruptions;
- Establish a support organisation or a system to facilitate better communication and exchange of information amongst SPCBs and CPCB on important environmental compliance and enforcement issues;
- Encourage voluntary compliance by recognizing efforts of a good industry and reward performing units. Similarly, there should be financial penalties for non-complying units; and
- Initiate massive environment awareness programmes for the stakeholders

CHAPTER 4

Peoples' Perception about Regulatory Agencies

Introduction

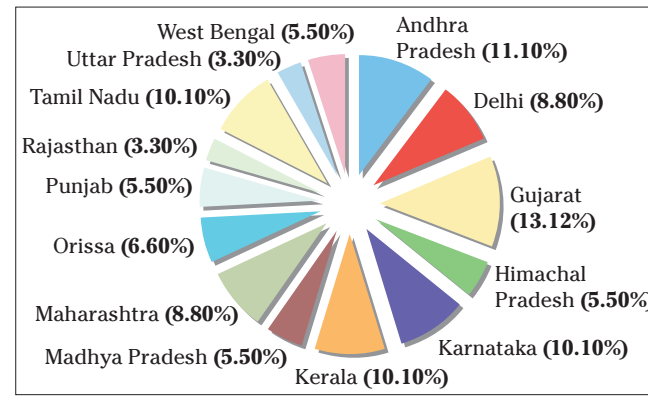
Previous discussions provided an idea about the status of regulatory capacity in India. It is also important to understand how stakeholders, namely industry and civil society organisations and the people at large perceive about performance of SPCBs. The people and civil societies across the world have helped build upon the regulatory mechanism in their respective countries (See Box 6 & 6a). In India there are many examples of public participation that has ensured better compliance and monitoring. Citizens monitoring and stakeholder insights can effectively be involved in reviewing and getting a **"Report Card"** of agencies or industrial units to ensure better compliance, monitoring, inspections and enforcement of laws and policies (World Bank, 2006). Local Area Environment Groups created by the initiatives of Supreme Court Monitoring Committee on Hazardous Waste is used by the SPCBs. Public Interest Litigation-citizens' legal monitoring and supervisory tool is worth mentioning as an effective of regulatory mechanism in India.

CSE has conducted an online opinion poll of public and industry in order to understand performance of SPCBs through the lenses of stakeholders. Open ended questions were put on the CSE web site for public, CBOs and industry separately. There was also a provision for filling the questionnaire anonymously as many industry representatives were not comfortable putting their name on record. CSE received an overwhelming response from the representatives of civil society and industries sharing their perception on overall functioning, weakness and strengths of SPCB. The online provided public perception gave a very good report card of the performance of respective SPCBs in India. This section analyses the stakeholder's opinion vis-s-vis their PCBs major performance by the major indicators of functional responsibilities.

Stakeholder' report Card of SPCB's performance

Most of civil society respondents were from 14 major states of India (See Figure 8: *Regional distribution of civil society respondent*). The respondents from other states were negligible, hence they were not taken into account for assessing the performance of their boards. In

Figure 8: Regional distribution of civil society respondent



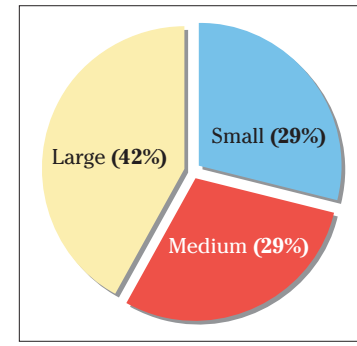
Source: Results of the survey conducted by CSE in 2007-08 for stakeholders of the board - NGOs and Industry

case of respondents from industry, 42 per cent were from large scale and 29 per cent each from small and medium scale industries (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 opinion on various performance indicators of SPCBs. Since the stakeholders express usually a contradictory opinion, they did the same in this case as well.

However, they agreed to each other on most of the indicators reviewing their respective SPCBs. One of the most striking features of this opinion poll is that the public by and large lost faith on the capability and ability of SPCBs as an effective monitoring and compliance agency in involving the environmental quality. But the representatives of Industries are hopeful of SPCBs performance with the provision of better training and skill development through capacity building programme. Contrasting opinion by the stakeholders reduces the biasness and can help designing a proper evaluation SPCBs need in the field of compliance, monitoring, and training. Following sub-sections would provide public perceptions on SPCBs in India.

Figure 9: Classification of industry respondents



Source: Results of the survey conducted by CSE in 2007-08 for stakeholders of the board - NGOs and Industry

BOX 7A: EXAMPLES OF CITIZEN INVOLVEMENT IN MONITORING AND OVERSIGHT

Under the Green India program, Development Alternatives is working in 78 cities in India on community based monitoring of PM, SO, and NOx parameters with air quality kits provided to local students and local NGOs. The data from these kits are shared with CPCB which validate the data collected and it is also used by the cities to develop city level action plans. Similarly, the Banwasi Sewa Ashram citizen monitoring project, supported by the CPCB, invites polluting industries to discuss initiatives they have taken for mitigation and control.

In the Philippines, the concept of multi-partite monitoring has been introduced. Under this approach a monitoring team consisting of representatives from the Department of Environment and Natural Resources, the project proponent, NGOs, and local community residents may jointly undertake compliance monitoring of a licensed facility. The Philippines Department of Environment and Natural Resources is creating Regional Community Advisory and Monitoring Committees in each regional office which will involve NGOs and the private sector in all phases of EIA including compliance monitoring.

In the United States, citizen monitoring has been used to help support regulatory agencies in environmental management. In Baltimore, Maryland, the U.S. Environmental Protection Agency and the Maryland Department of Environment established a Community Environmental Partnership to monitor air quality in the city. Under this partnership program, the federal, state, and local governments worked side by side with businesses, community leaders, and NGOs to assess air pollution threats from 125 industrial, commercial, and waste facilities in the city. The members of the partnership reviewed a Toxic Release Inventory report on local chemical releases in the area and met with scientific experts. Partnership members then agreed upon a risk-based air pollutant screening approach to identify which chemicals that were being emitted posed the greatest health risks to the community. Based on these screenings, the partnership developed risk based priorities and an action plan to improve air quality in the area. By building the capacity of the community to assess pollutant risk calculations enabled them to better understand the air quality risks and to measure air quality improvements.

Source: As Quoted in World Bank, 2006

BOX 7B: CSE'S GREEN RATING PROJECT (GRP) IN INDIA

The Green Rating Project of the Centre for Science and Environment (CSE) was designed to track environmental performance in 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. It is a pioneering attempt to ensure environmental governance in India through the stakeholder participations, especially by the industries themselves. This is a tool by which the industries not only proactively comply with the environmental rules and regulations, but it also promotes a sense of voluntary discloser by the concerned industries. GRP is built on voluntary discloser 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. GRP's ultimate aim is to get the industry develop and implement its own eco-friendly practices. It combines both internal management tools like ISO 14001 and participation of public in environmental affairs of the company, considering the regulatory standards as the lowest bench mark. It uses the discrepancy policy to penalize companies who provides wrong information. GRP rates the industries bases on their environmental performance, and recommends ways to improve performance.

THE IMPACT

The success of GRP depended not only on the participation and disclosure of data but also on industry paying heed to the rating and its recommendations. Before the rating of pulp and paper sector began, despite developing a robust and transparent model of GRP, CSE had doubts about the success of the project in India. Indian industry was notorious for turning a near-deaf ear to regulations and regulators. Therefore, it seemed unlikely that CSE's GRP would prick the conscience of the industry. However, on all counts, CSE was in for a pleasant surprise. The relevance of the entire exercise was realized in actual terms when a large section of the pulp and paper industry, acknowledged and adopted many of the recommendations specifically given to each company by the project. The paper sector rating clearly showed the importance of proper natural resource pricing for better resource efficiency, it found that the very debate on the use of chlorine free bleaching has passed largely unnoticed in India. After one year of paper sector rating, it was found that the companies had not only taken the rating seriously but also implemented number of recommendations.

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 cement industry scored better than other rated by the GRP project on many counts, but it miserably failed on others. The industry did well in energy use and waste disposal, but failed in mine management, emission control and livelihood generation.

Source: CSE, Green Rating Project, 1998

A) Regulatory Capacity and Performance

Regulatory Standard

Most of the respondents from civil society felt that the current regulation standards and regulatory system in the country are **weak**. They were also completely **dissatisfied** with role of their boards especially during the public hearing process. Some of the views and reasons cited were:

- Though the laws are stringent but the industries are still unable to comply mainly because of corruption in the board;
- There is a lack of political will within the board to control pollution;
- There is an insufficient network system to implement the existing regulations.
- Poor understanding of various laws and legislation, knowledge of new technology and work culture. According to a respondent from Mizoram, "the staffs of SPCB are cocooning or confining within their office and are not interested in monitoring environmental pollution."
- No major research work undertaken by the SPCBs.

Technical Know-how

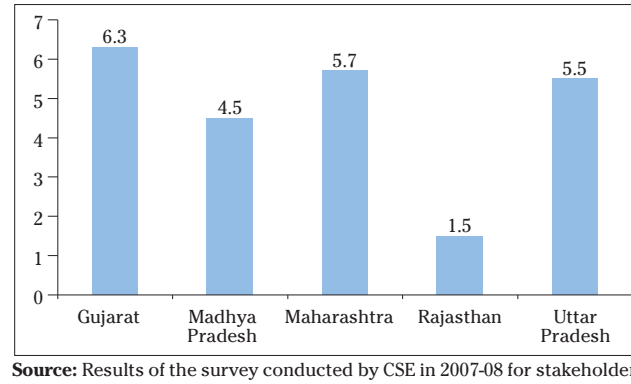
The opinion expressed by the respondents from industry on the status of legislation in the country was

quite contrary to that of the civil societies'. Most of them felt that the current regulations and regulatory standards are **not weak**, however, boards do not have necessary technical understanding to implement the existing regulations and regulatory standards. According to them, existing regulatory standards are nothing but a copy of western standards, although there is still a window for escape for the offenders.

Lack of Man-power and Infrastructure

The industries were also of the opinion that the boards have insufficient manpower to regulate them. The civil society and industry together highlighted the inherent weaknesses in the regulatory standards. Therefore, there is a need to redefine the regulations for which the board needs good technical people. The lack manpower was highlighted as one of the major drawbacks or weakness of the Boards by the NGO respondents. This becomes a major hurdle for an effective implementation, monitoring, surveillance and inspection. Except for Kerala and Tamil Nadu, NGOs from across the country felt that the staffing pattern in their respective boards is poor. NGOs from Andhra Pradesh, Karnataka, Orissa and West Bengal rated their respective SPCBs below 3, which mean the boards do not have adequate manpower. While except in Rajasthan, most of the industries respondent felt that the boards have adequate manpower. All of them gave their boards a rating of more than 5 (See Figure 10: *Industry view on manpower strength in boards*).

Figure 10: Industry view on manpower strength in boards



Source: Results of the survey conducted by CSE in 2007-08 for stakeholders of the board - NGOs and Industry

An interesting suggestion came from the industry about the introduction of 'green money' concept of continuous improvement in the production process wherein the best industries are rewarded, there should also be financial penalties for non-complying units. Further, they suggested that an independent agency should be made responsible for taking samples and analyzing them. **It appears that the industries are not confident of the board's abilities of proper monitoring.** The respondents from industry also wanted boards to organize regular meeting for people to raise awareness on general environment and pollution control. They further added that the board should start awarding locals to encourage active participation in environmental conservation.

B) Boards' response to public complaints

About 43.3 per cent respondent from civil society felt that in most instances, the pollution control board **failed** to respond positively while 46.3 per cent said they responded positively **sometimes**. Only about 10.4 per cent of them indicated that the board responded positively to public complaints. (See Figure 11: *SPCB's respond to the public complaints?*).

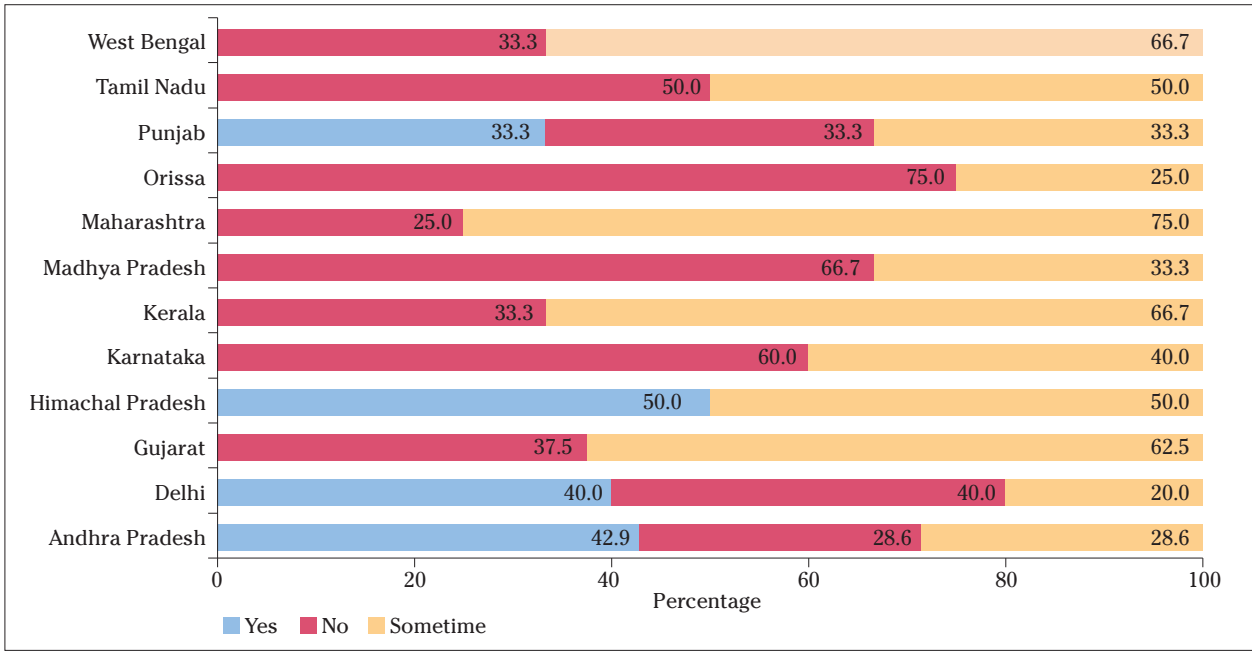
The respondents from Andhra Pradesh had a very good opinion about their board's performance while none of the respondents from Gujarat said that the board responded positively to their complaints.

The respondent from Chhattisgarh, Jammu & Kashmir, Karnataka, Kerala, Meghalaya, Mizoram, Orissa, Pondicherry, Tamil Nadu, Rajasthan, Uttar Pradesh and West Bengal also had expressed similar opinion.

C) Proactive Discloser of EIA Report- Question of Accessibility

The public hearing is one of the processes where a common man or an NGO representative interacts with the state pollution control board. It is the duty of the board to provide a soft or hard copy of the EIA report or the executive summary to local people prior to the public hearing. However, most respondent felt that the board **has failed** in this respect. About18.8 per cent of the respondent said that EIA reports

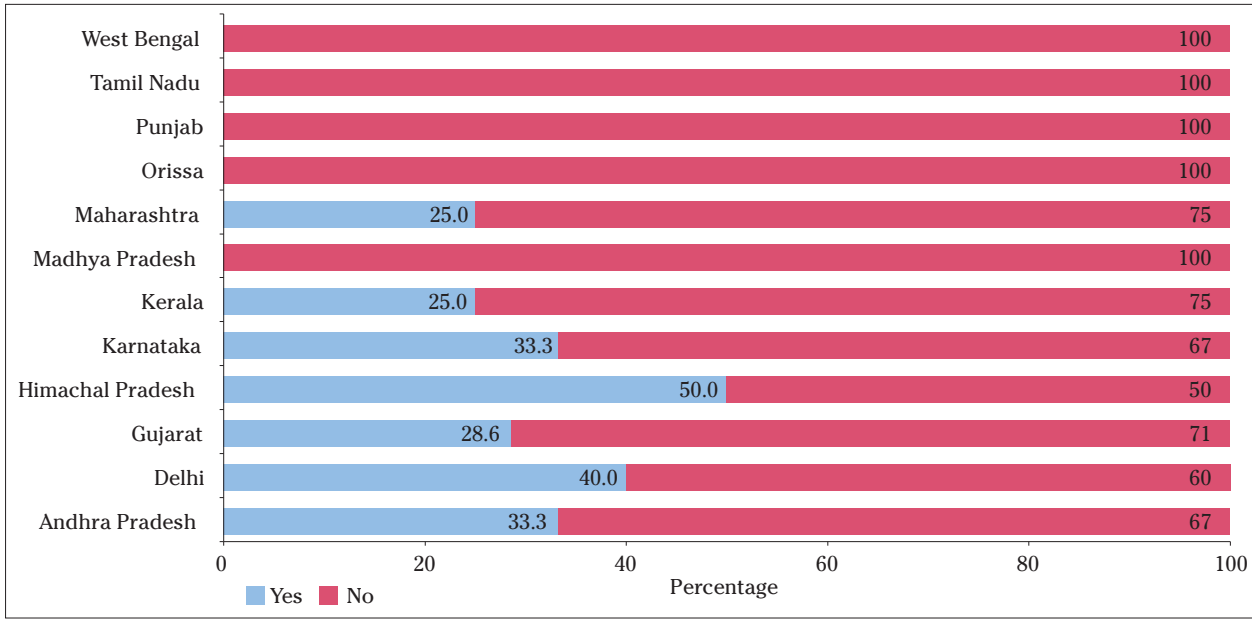
Figure11: SPCB's respond to the public complaints?



Source: Results of the survey conducted by CSE in 2007-08 for stakeholders of the board - NGOs and Industry

were easily accessible (See Figure 12: *Accessibility and availability of EIA Report*). The rest said that EIA reports are not easily available, they get it with great difficultly. All the respondents from Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamil Nadu and West Bengal had bad experience in accessing EIA reports from their boards. Right to Information (RTI, Act) in India can prove an effective tool for accessing vital information of public concern which shall ensure a greater compliance by the SPCBs. The Right to Information on Environmental Performance in USA has shown a better impact to measure the environmental performance of regulatory agency.

Figure 12: Accessibility and availability of EIA Report



Source: Results of the survey conducted by CSE in 2007-08 for stakeholders of the board - NGOs and Industry

The civil society organisation felt that the boards should upload the EIA report on their website as it will enable easier dissemination. Apart from the few, majority of the Boards have not uploaded the EIA report and accessing it from the board's regional or sub-regional offices is extremely difficult. Some of the respondent even said 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 the executive summary of the EIA report neither contains information on mitigation measures nor proposal for expenditure on environmental mitigation.

D) Transparency in Accessibility Public Hearing Report

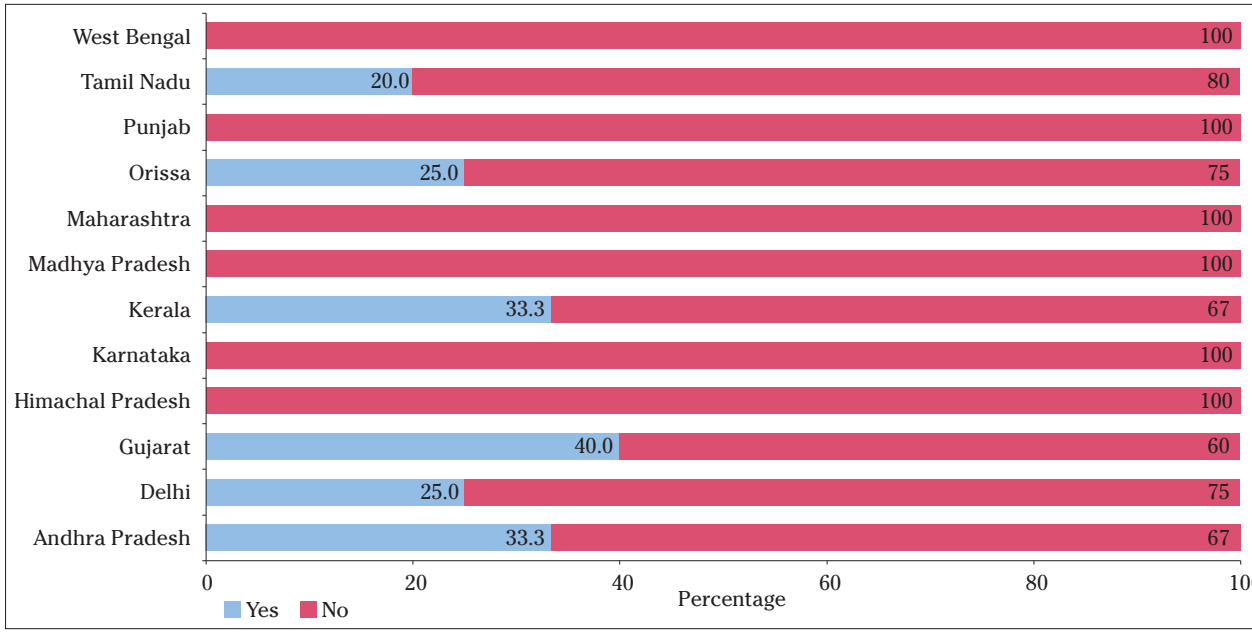
Local communities understanding of environmental issues and growing awareness can play an important role in "public hearing" process of the board. Local communities are by and large vocal and ready to fight for their right. This public hearing provides them a forum to give feed backs to the Ministry of Environment and Forest, which is responsible for the environmental clearance. They participate in public forum and read EIA reports of the project before hand.

Point 6.6 of Environment Impact Assessment Notification, 2006 states that the proceedings of the public hearing shall be conspicuously displayed at the office of the Panchayats within whose jurisdiction the project is located; office of the concerned Zila Parishad; District Magistrate; and the SPCB or UTPCC. The SPCB or UTPCC shall also display the proceedings on its website for general information. However, local community complained that they rarely get access to the proceedings or minutes of the public hearing (See Figure 13: *Accessibility of minutes of the public hearing report*).

E) Corruption in the Board- Citizens' Report Card

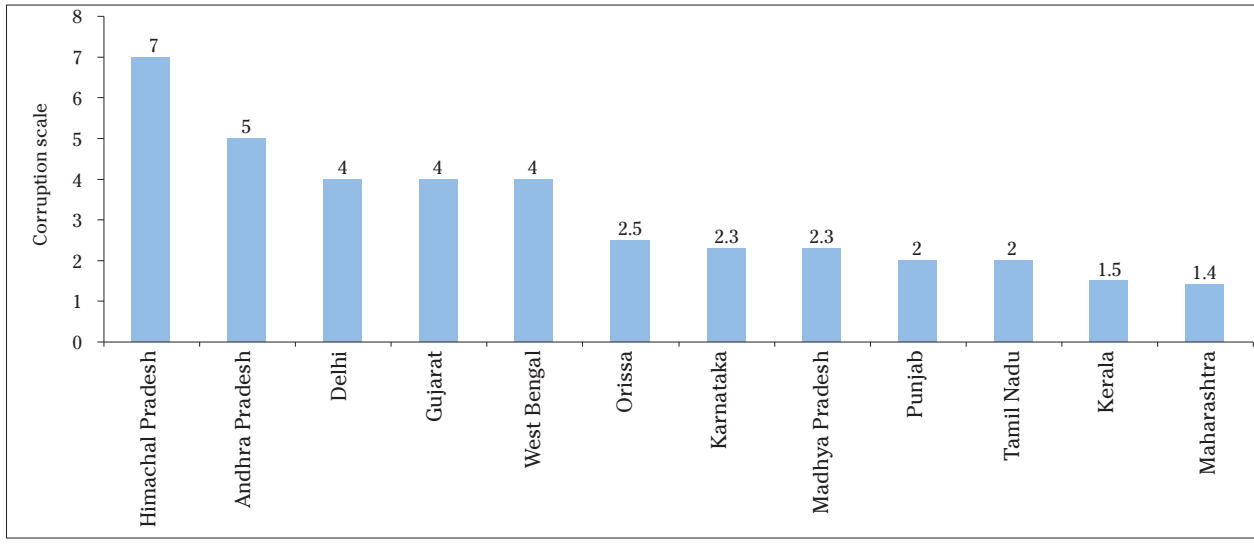
Majority of respondents (industry and civil society organisation together) highlighted various mal-practices prevailing in the SPCBs. The perceptions on the degree of corruption varied among different stakeholders. For example, NGOs from Maharashtra felt that the board is quite corrupt and gave it a rating score of 1.4, where 0 indicates very corrupt and 10 indicates no corruption (See Figure 14: *Corruption in SPCB as viewed by civil society*),

Figure 13: Accessibility of Minutes of the Public Hearing Report



Source: Results of the survey conducted by CSE in 2007-08 for stakeholders of the board - NGOs and Industry

Figure 14: Corruption in SPCB as viewed by civil society

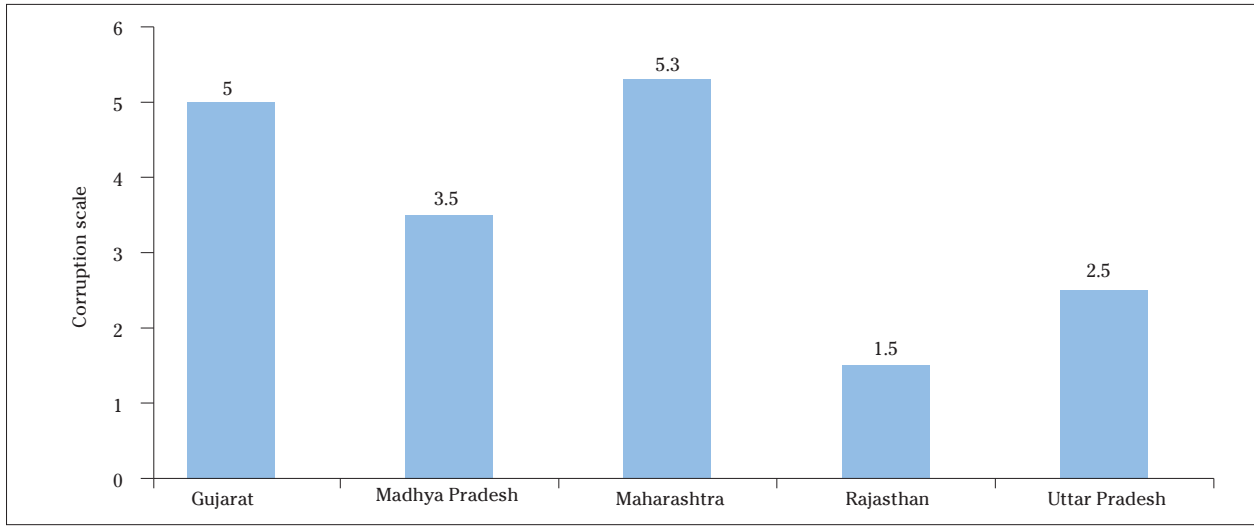


Source: Results of the survey conducted by CSE in 2007-08 for stakeholders of the board - NGOs and Industry

Whereas representatives of industry from the same state gave the board an average rating score of 5.3, which would indicate an average performance (See Figure 15: *Corruption in the boards as per the industry*). The industries from Gujarat, Madhya Pradesh, Rajasthan and Uttar Pradesh rated their boards low on the corruption scale. Interestingly, the civil society organization from Himachal Pradesh gave a very high rating score of 7 to PHPCB indicating a lower level of corruption.

Though many of the industry respondents across the state felt that the board officials are corrupt but none of them have filed any complaint. Gujarat and Maharashtra boards have also indicated in the information provided to CSE, that no cases of corruption have been filed in the respective boards during last five year. However, Minister of Environment of Maharashtra has gone on record to admit corruption in the board (See Box 8: *Corruption Case*). The industry has anonymously admitted cases of corruption and bribing in the boards **did not want** to file a complaint as they feel that it will jeopardize their clearances and grants of consent and they may be victimized.

Figure 15: Corruption in the boards as per the industry



Source: Results of the survey conducted by CSE in 2007-08 for stakeholders of the board - NGOs and Industry

F) Penalty for non-compliance

An interesting question was asked to industries whether they have ever been penalized for non-compliance and they were required to respond as – Yes or NO. Obviously most of the industries claimed that they were never penalized for non-compliance (See Figure 16: *Easy compliance, no penalty*). Easy compliance can be attributed to the reluctance of boards to take action against industries or the standards itself being weak and ineffective. The civil society organisation attributed this phenomenon to the prevailing corrupt practices of board officials and thereby shying away from getting industries penalized. This clearly raises serious doubts about the effectiveness of the boards in addressing pollution problems of the country.

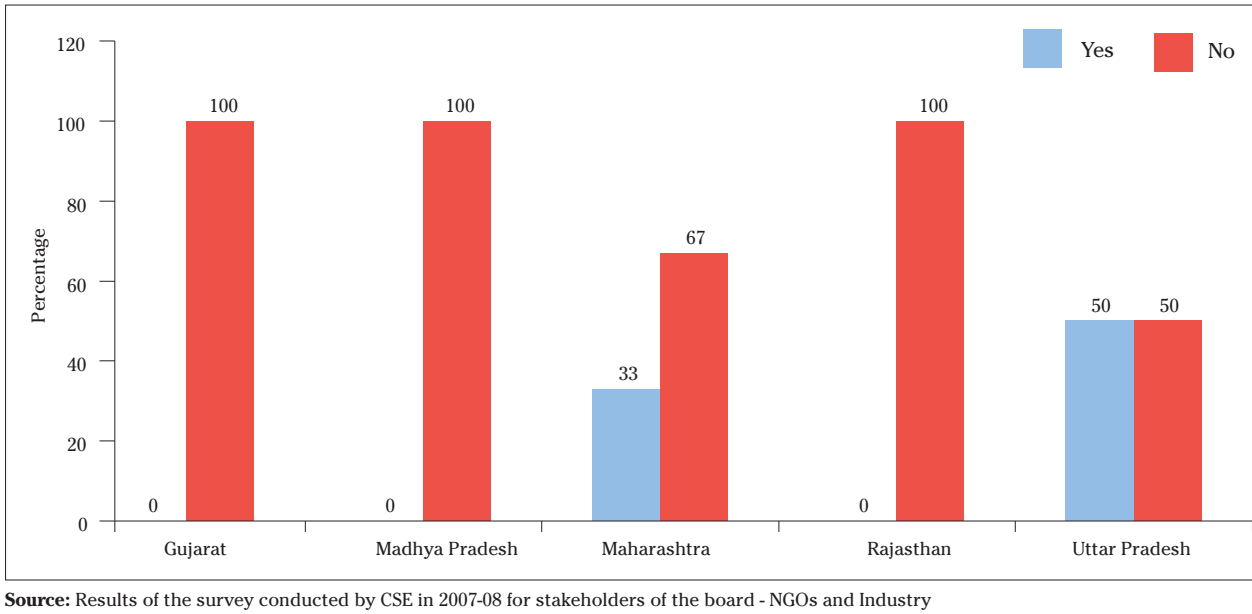
Summary and recommendations

It has been evident from the online opinion poll that the stakeholder are by and large not satisfied by the performance of the SPCBs. The Stakeholders have however different opinion on the reasons behind their opinion. The NGOs blame the poor performance of the Boards mainly due to lack of manpower, corruption and poor regulations, while industries believe that though the board has sufficient manpower, they are not trained enough and lack understanding to implement rules and regulations. They also have highlighted corruption as a major problem area in ensuring the environmental regulation in this country.

The stakeholders Report Card is not different from the analysis of secondary information about the performance of the boards that has been dealt in the previous sections. The public opinion poll has also identifies core areas of weaknesses of the SPCBs that need strengthening:

- Lack of adequate manpower and poorly skilled staff
- Poor understanding of technical and scientific issues
- Lack of training, education and technical expertise
- Prevailing mal-practices (corruption in the boards)
- Lack of proactive –disclosure and poor information dissemination
- Mutual understanding of boards staff and industries on the matter of compliance and monitoring
- Weak and poorly framed Standards and Norms
- Lack of authority and power for imposing fine and penalties as and when required

Figure 16: Easy compliance, no penalty



Source: Results of the survey conducted by CSE in 2007-08 for stakeholders of the board - NGOs and Industry

ANNEXURE 1

Key Environmental Legislations in India — An Illustrative List

Policies
1992 Policy Statement on Abatement of Pollution
1992 National Conservation Strategy and Policy Statement on Environment and Development
1998 National Forest Policy
2002 Wildlife Conservation Strategy
2006 National Environment Policy

Environment Acts
1927 The Indian Forest Act
1972 The Indian Wildlife (Protection) Act (amended 1993)
1973 The Water (Prevention and Control of Pollution) Act (amended 1988)
1977 The Water (Prevention and Control of Pollution) Cess Act (amended 1992)
1980 The Forest (Conservation) Act (amended 1988)
1981 The Air (Prevention and Control of Pollution) Act (amended 1987)
1986 The Environment (Protection) Act (amended 1992)
1988 The Motor Vehicles Act
1991 The Public Liability Insurance Act (amended 1992)
1995 National Environment Tribunal Act
1996 National Environment Appellate Authority Act
2002 The Wild Life (Protection) Amendment Act T
2002 The Biological Diversity Act
2003 The Water (Prevention and Control of Pollution) Cess (Amendment) Act

Environment Rules
1986 The Environment (Protection) Rules
1989 Hazardous Wastes (Management and Handling) Rules
1990 Forest (Conservation) Rules (amended 1992)
1991 Chemical Accidents (Emergency Planning, Preparedness and Response) Rules
1998 The Bio-Medical Waste (Management and Handling) Rules
1999 The Recycled Plastics Manufacture and Usage (Amendment) Rules
2000 The Municipal Solid Wastes (Management and Handling) Rules
2000 The Hazardous Wastes (Management and Handling) Amendment Rules
2000 The Ozone Depleting Substances (Regulation and Control) Rules
2001 The Batteries (Management and Handling) Rules
2002 The Noise Pollution (Regulation and Control) (Amendment) Rules
2003 The Recycled Plastics Manufacture and Usage (Amendment) Rules

2003 Bio-Medical Waste (Management and Handling) (Amendment) Rules
2003 Forest (Conservation) Rules
2003 Draft Biological Diversity Rules

Environment Notifications
1994 Environmental Impact Assessment Notification 1994 (amended 2002)
1998 Constituting the Taj Trapezium Zone Pollution (Prevention and Control) Authority
1999 Fly Ash Notification
1985 The Vienna Convention/Montreal Protocol on substances that deplete the ozone layer
1972 The Rio Declaration on Environment and Development and the Agenda 21

International Agreements to which India is a Signatory
1975 The Convention on International Trade in Endangered Species of flora and fauna (CITES)
1991 The Convention on Wetlands of International Importance (the Ram Sar Convention)
1992 The Framework Convention on Climate Change
1992 The Convention for Conservation of Biological Resources

Source: Anon, India: Strengthening Institutions for Sustainable Growth, World Bank, pp 32

ANNEXURE 2

Accountability Toolkit: how citizens can do it for themselves

International Institute for Environment and Development (IIED), 2009 briefing report on "Taking control: how citizens can hold industries to account" provides examples of various toolkits that have been experimented well in developing counties of Africa and Asia. Followings are the successful accountability toolkits that have been practised in Azerbaijab, Nigeria, Kazakhstan, Mali and Mangolia.

Access to meaningful information is the first step to better environmental governance, empowering citizens to exercise a degree of control over resources and institutions. The "Right to Know" is the basis of citizens' involvement in environmental decision making process. Large part of the counties in developing worlds is unaware of procedural and substantive rights. Greater accessibility to information will ensure the informed participation of all the stakeholders in debate resulting in a more constructive engagement and a better compliance.

Investment contracts are the basic term for foreign direct investment and are often negotiated by the private parties and the government. By using the opportunity (provided by the parliamentary ratification for participation in arbitration proceedings), the local civil society can play a useful role in scrutinising dealings in order to maximise their contribution in sustainable development.

Social investment represents the voluntary or mandatory contribution of skill and resources that companies make to local society, over and above their core business investment. In India this is called Corporate Social Responsibilities where concerned industry invests in social and environmental development in project affected areas. Increasing transparency and the involvement of CSOs and communities in the decision making and monitoring of social investment spending would enhance the effectiveness of that spending.

Revenue transparency is a means through which civil society groups are calling for greater transparency in the distribution of revenues by governments within countries. Along with EITI[1], "Publish What You Pay" is a voluntary global initiative seeking to encourage governments and industry to be transparent about oil, gas and mining revenues by catalysing dialogue between civil society, industry and government. While governments and industry have been critical of this new effort, local CSOs will need support to manage their own campaigns around this topic.

Cost-benefit analysis that have been undertaken in relation to major industrial projects are not generally made public. This is in contrast to the results of environmental and social impact assessments. Information on the potential economic benefits of projects tends to be vague and generalised. More specific information would allow communities and local CSOs to better understand and assess the expected economic benefits that they themselves are likely to receive.

International human rights law depends on national implementation, those jurisdictions with evolving legal systems or legal systems under intense political pressures tend to have poor environmental and human rights records. Greater access to tools that empower CSOs to exercise fundamental human rights

will lead to fairer and more sustainable investment decisions.

Land rights are a key stage in many extractive industry projects. Land is also a major source of livelihoods, for instance in much of rural Africa, and large-scale investment can increase land competition and dispossess poorer groups. Effective support from CSOs can help local groups secure their land rights, and use these rights as a basis for leverage in negotiations with government or the private sector. This has helped build the capacity of local CSOs to empower communities in understanding and asserting their rights to land and resources in the face of mining developments in Mali.

Company-community engagement and conflict resolution include large framework tools, such as Anglo-American's Socio-Economic Assessment Toolkit (SEAT) as well as targeted tools, such as community grievance procedures. An independent clearing house would help local CSOs to make sense of the range of available tools and guidance, and hold companies to their 'best practice' standards. More independent case-study research is needed to demonstrate the effectiveness of the tools in practice.

Measuring impact by companies tend not to assess the broader livelihoods impacts of their activities, including poverty alleviation and socio-economic development beyond the life of a project. The World Business Council for Sustainable Development and the International Finance Corporation are developing approaches to measuring the impact of business activities on society, including indirect project impacts and the overall contribution to local development.

Communication and advocacy-CSO are increasingly using innovative new communication technologies combined with more traditional distribution media. From 'Green Hotlines' in Nigeria where text-messaging is used to post details of ecological and human rights abuses, to the use of participatory global positioning technology to assist indigenous groups in mapping out tribal land rights, new combinations of technologies (or 'mashups') are improving citizen empowered journalism, direct collaborative action, and the visibility and outreach of CSO messaging. These mashups often benefit from the rapidly increasing availability and affordability of mobile phones across the developing world.

Source: iied Briefing, 2009 "Taking control: how citizens can hold industries to account" London, www.iied.org/pubs/display.php?o=17050IIED

NOTES & REFERENCES

NOTES

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. Composition of boards, Annual report 2005-2006, West Bengal pollution Control Board, Kolkata
3. Annexure 1, Members of the Gujarat pollution control board, Annual Report 2006-07, Gujarat Pollution Control Board
4. Analysis based on information provided by Haryana state pollution control board, http://hspcb.gov.in/home.html
5. Analysis based on information provided by Haryana state pollution control board, http://goaspcb.gov.in/
6. Analysis by CSE based on information provided by the Gujarat Pollution Control Board in the questionnaire
7. 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.
8. 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.
9. Note 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;
10. Anon 2003, Environmental compliance and enforcement in India, Rapid Assessment, OECD
11. Information collected from Haryana and Gujarat pollution control board
12. Information as disclosed by Maharashtra and Gujarat Pollution Control Board in questionnaire to CSE
13. Information disclosed by the Maharashtra, Gujarat and Chhattisgarh boards in questionnaire to CSE

Chapter 3: Regulatory Powers and Functions

1. OECD ,2003, Environmental compliance and enforcement in India, Rapid Assessment, , pp 77
2. Green Rating of Indian cement Industry, Centre for Science & Environment, New Delhi
3. Information provided by the Maharashtra, Gujarat and Chhattisgarh pollution control board to CSE in questionnaire
4. Results of the 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 in form of questionnaire 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, pp 51