

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No. 693/2023

**IN RE: NEWS ITEM APPEARING IN DECCAN HERALD DATED 24.10.2023
TITLED "POLLUTION CONTROL BOARDS ARE THE WEAK LINK"**

INDEX

S. No.	Particulars	Pg. No.
1	Report of Central Pollution Control Board (CPCB) in the Suo Motu matter O.A. 693 / 2023, "Pollution Control Boards are the Weak Link" as per Order dated 02.02.2024 passed by the Hon'ble NGT	
2	Annexure 1: Details of laboratory infrastructures available and further need at Andhra Pradesh SPCB	
3	Annexure 2: Details of laboratory infrastructures available and further need at Arunachal Pradesh SPCB	
4	Annexure 3: Details of laboratory infrastructures available and further need at Assam SPCB	
5	Annexure 4: Details of laboratory infrastructures available and further need at Bihar SPCB	
6	Annexure 5: Details of laboratory infrastructures available and further need at Chhattisgarh ECB	
7	Annexure 6: Details of laboratory infrastructures available and further need at Goa SPCB	
8	Annexure 7: Details of laboratory infrastructures available and further need at Gujarat SPCB	
9	Annexure 8: Details of laboratory infrastructures available and further need at Himachal Pradesh SPCB	
10	Annexure 9: Details of laboratory infrastructures available and further need at Jharkhand SPCB	
11	Annexure 10: Details of laboratory infrastructures available and further need at Kerala SPCB	
12	Annexure 11: Details of laboratory infrastructures available and further need at Madhya Pradesh SPCB	
13	Annexure 12: Details of laboratory infrastructures available and further need at Manipur SPCB	
14	Annexure 13: Details of laboratory infrastructures available and further need at Meghalaya SPCB	
15	Annexure 14: Details of laboratory infrastructures available and further need at Mizoram SPCB	

16	Annexure 15: Details of laboratory infrastructures available and further need at Nagaland SPCB	
17	Annexure 16: Details of laboratory infrastructures available and further need at Odisha SPCB	
18	Annexure 17 : Details of laboratory infrastructures available and further need at Punjab SPCB	
19	Annexure 18: Details of laboratory infrastructures available and further need at Sikkim SPCB	
20	Annexure 19: Details of laboratory infrastructures available and further need at Tamil Nadu SPCB	
21	Annexure 20: Details of laboratory infrastructures available and further need at Telangana SPCB	
22	Annexure 21: Details of laboratory infrastructures available and further need at Tripura SPCB	
23	Annexure 22: Details of laboratory infrastructures available and further need at Uttarkhand SPCB	
24	Annexure 23: Details of laboratory infrastructures available and further need at Uttar Pradesh SPCB	
25	Annexure 24: Details of laboratory infrastructures available and further need at West Bengal SPCB	
26	Annexure 25: Details of laboratory infrastructures available and further need at Chandigarh PCC	
27	Annexure 26: Details of laboratory infrastructures available and further need at Jammu & Kashmir PCC	
28	Annexure 27: Details of laboratory infrastructures available and further need at Ladakh PCC	
29	Annexure 28: Details of laboratory infrastructures available and further need at Lakshadweep PCC	
30	Annexure 29: Details of laboratory infrastructures available and further need at Puducherry PCC	
31	Appendix 1: Information of SPCBs/ PCCs in Chart Form	
32	Appendix 2: The Hon'ble NGT order dated 02.02.2024.	

G. Thirumurthy
5/4/24

(G. Thirumurthy)

Scientist E/ DH PCP

Central Pollution Control Board
Parivesh Bhawan, Delhi - 110032

Date: 05.04.2024
Place: Delhi

BEFORE THE NATIONAL GREEN TRIBUNAL**PRINCIPAL BENCH, NEW DELHI**

Original Application No. 693/2023

**IN RE: NEWS ITEM APPEARING IN DECCAN HERALD DATED 24.10.2023 TITLED
“POLLUTION CONTROL BOARDS ARE THE WEAK LINK”**

**REPORT OF CENTRAL POLLUTION CONTROL BOARD (CPCB) IN THE SUO MOTU
MATTER OF O.A. 693 / 2023, “POLLUTION CONTROL BOARDS ARE THE WEAK LINK”
SUBMITTED BEFORE THE HON’BLE NATIONAL GREEN TRIBUNAL, PRINCIPAL
BENCH, NEW DELHI AS PER ORDER DATED FEBRUARY 02, 2024.**

1.0 PREAMBLE

In the Suo Motu Matter of Original Application (O.A) No. 693 of 2023, the Hon’ble National Green Tribunal (NGT), Principal Bench, Faridkot House, Copernicus Marg, New Delhi – 110 001 has issued a Notice on November 06, 2023 to Central Pollution Control Board (CPCB) and Ministry of Environment, Forest & Climate Change (MoEF&CC) to appear before the Hon’ble NGT either in person or by a pleader duly instructed, with report to provide data with regard to each SPCBs relating to sanctioned staff, actual present staff, laboratories, infrastructure, details of training etc., based on the News Item appeared in Deccan Herald on October 24, 2023 entitled “Pollution Control Boards are the Weak link”.

In view of above, CPCB had filed a report before the Hon’ble NGT, Principal Bench, New Delhi on 22.11.2023. On perusal of the report, the Hon’ble NGT in the said matter subsequently issued an order to the respondents i.e. State Pollution Control Boards (SPCBs)/ Pollution Control Committees (PCCs) and CPCB on November 23, 2023 directing that:

“The respondents are directed to file their reports showing the sanctioned strength and working strength of staff in the concerned SPCBs/PCCs, CPCB the ratio of Administrative, Ministerial and Technical staff in the SPCBs/PCCs, CPCB and the regulating and monitoring facilities which are available with the SPCBs/PCCs/CPCB. In respect of laboratories, the report will disclose the sanctioned strength and present working strength of staff, the infrastructure which is available in the labs and further need for equipment and infrastructure in those labs and the provisions made in laboratories for enforcement and monitoring of hotspots in critically polluted areas. The report should also include the availability of budget and its sources and expenditure in last two years (2020-2021 and 2021-2022)”

The respondents (SPCBs/PCCs and CPCB) were directed to file their report thorough Principal Secretary, Department of Environment and Forest. Accordingly, CPCB and SPCBs/PCCs had submitted their reports before the Hon'ble NGT, Principal Bench, New Delhi. On perusal of the reports, the Hon'ble NGT in the said matter subsequently issued an order directing CPCB to tabulate the information disclosed in the reports of SPCBs/PCCs in a chart form to facilitate the factual appreciation and submit the tabulated information before the Tribunal at least one week before the next hearing i.e. 12.04.2024. The copy of the Hon'ble NGT order dated 02.02.2024 is given as **Appendix 1**.

As per the directive of the National Green Tribunal (NGT), reports submitted by 18 SPCBs/ PCCs (Arunachal Pradesh, Chhattisgarh, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Manipur, Nagaland, Punjab, Telangana, Tripura, Uttarakhand, Uttar Pradesh, Chandigarh, Dadra & Nagar Haveli and Daman & Diu, Delhi, Ladakh and Lakshadweep) were downloaded from the NGT Portal. For the remaining 18 SPCBs/PCCs, the CPCB has directly pursued from the concerned Boards / Committees to send their reports in prescribed format.

Furthermore, upon identifying absences such as break-up of posts in Administrative and Technical posts, infrastructure availability and needed, parameters analysed, etc. in the data necessary for compiling the report, the CPCB has diligently pursued the required information by sending out emails to all the SPCBs/PCCs. It is also to mention that for timely compilation of the reports and addressing the absences in the data, CPCB has regularly followed up through emails and telephonically with all the 36 SPCBs/ PCCs for the pending data needed from the respective Boards/ PCCs.

The information disclosed in their reports and information submitted directly to CPCB by the SPCBs/PCCs are compiled and presented in tables and charts form. The details are as follow:

2.0 SANCTIONED AND WORKING STRENGTH OF STAFF IN SPCBs/PCCs

The Hon'ble NGT has requested to file the information w.r.t. sanctioned strength, working strength, ratio of administrative, ministerial and technical staff. In General, SPCBs / PCCs have only technical and non-technical / administrative posts with no ministerial staff. However, some of the Boards namely Andhra Pradesh, Madhya Pradesh and Mizoram SPCBs have submitted the ministerial staffs too which are considered as Administrative Staffs to maintain the uniformity of the data for compilation. Accordingly, the information submitted by the respective SPCB / PCC are tabulated at **Table 1a and Table 1b, also in chart form** as below:

Table 1a: Status of Staff Strength Staff in SPCBs

S. No	State Pollution Control Boards	Staff Strength in Number			Vacant in %
		Sanctioned	Working	Vacant	
1	Andhra Pradesh	289	87	202	69.90
2	Arunachal Pradesh	27	27	0	0.00
3	Assam	264	245	19	7.20
4	Bihar	249	40	209	83.94
5	Chhattisgarh	328	241	87	26.52
6	Goa	140	127	13	9.29
7	Gujarat	801	307	494	61.67
8	Haryana	448	167	281	62.72
9	Himachal Pradesh	371	221	150	40.43
10	Jharkhand	271	73	198	73.06
11	Karnataka	723	290	433	59.89
12	Kerala	434	263	171	39.40
13	Madhya Pradesh	1228	458	770	62.70
14	Maharashtra	839	473	366	43.62
15	Manipur	120	46	74	61.67
16	Meghalaya	152	82	70	46.05
17	Mizoram	23	18	5	21.74
18	Nagaland	19	19	0	0.00
19	Odisha	463	193	270	58.32
20	Punjab	652	351	301	46.17
21	Rajasthan	808	332	476	58.91
22	Sikkim	27	15	12	44.44
23	Tamil Nadu	1059	620	439	41.45
24	Telangana	230	127	103	44.78
25	Tripura	28	24	4	14.29
26	Uttarakhand	130	51	79	60.77
27	Uttar Pradesh	732	403	329	44.95
28	West Bengal	309	178	131	42.39
Sub – Total (A)		11,164	5,478	5,686	50.93

Table 1b : Status of Staff Strength in PCCs

S. No	Pollution Control Committees	Staff Strength			Vacancy in %
		Sanctioned	Working	Vacant	
1	Andaman and Nicobar Islands	9	6	3	33.33
2	Chandigarh	9	7	2	22.22
3	Dadra & Nagar Haveli and Daman & Diu	12	2	10	83.33
4	Delhi	344	191	153	44.48
5	Jammu & Kashmir	445	242	203	45.62
6	Ladakh	16	5	11	68.75

S. No	State Pollution Control Boards	Staff Strength in Number			Vacant in %
		Sanctioned	Working	Vacant	
7	Lakshadweep	5	1	4	80.00
8	Puducherry	12	9	3	25.00
Sub – Total (B)		852	463	389	45.66
Grand Total (A+B)		12,016	5,941	6,075	50.56

Figure 1a: Status of Staff Strength in SPCBs

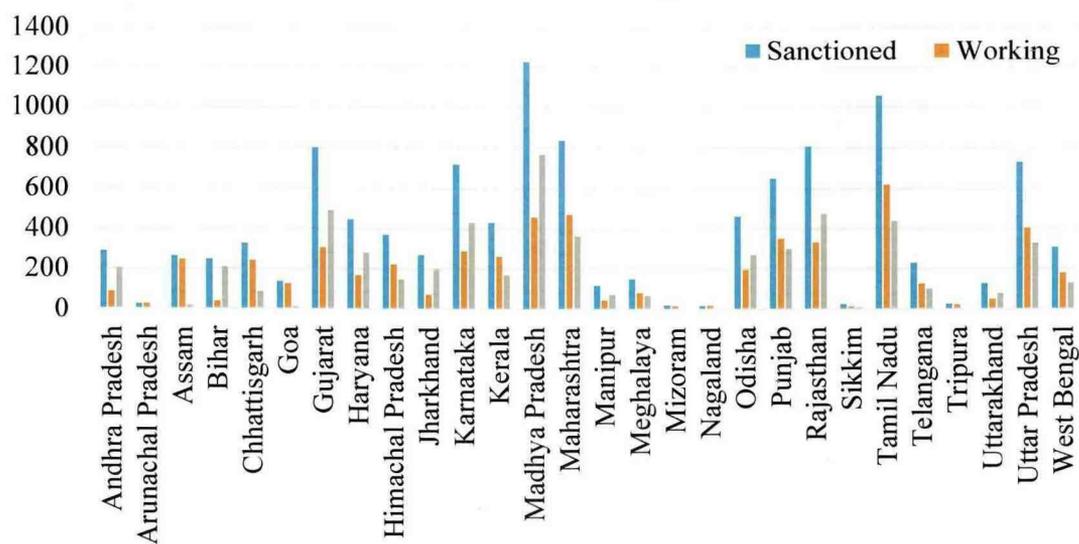
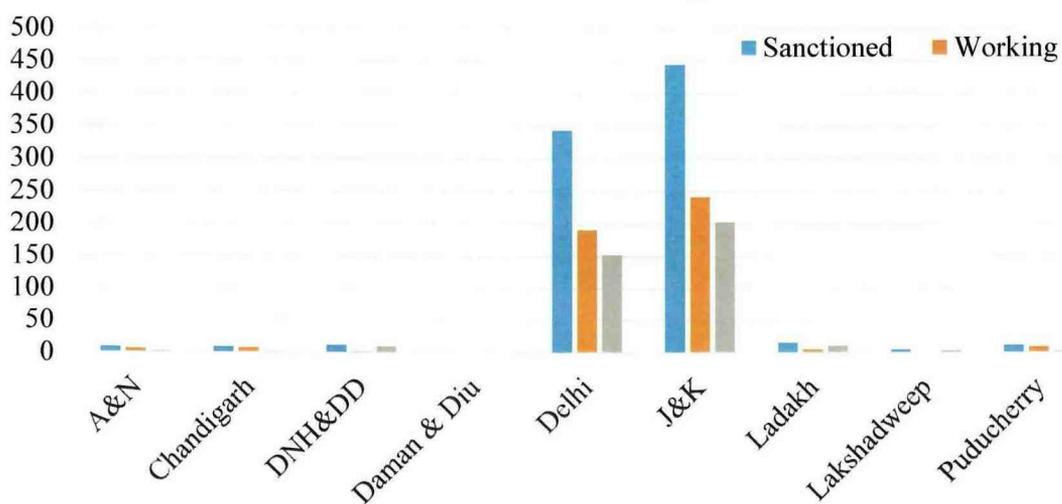


Figure 1b: Status of SPCBs Staff Strength Staff in PCCs



Note: The Fig. 1a & 1b are also given in a Chart Form separately at **Appendix 1**.

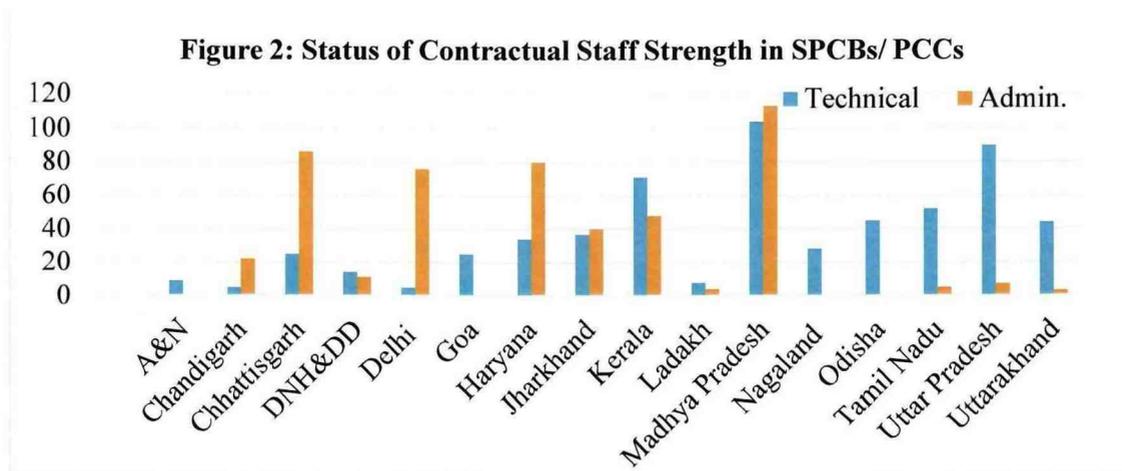
The details of technical (Engineering and Scientific) and Administrative post of SPCBs / PCCs are as follow:

Technical Posts	Administrative Posts
Junior Environmental Engineer Assistant Environmental Engineer, Environmental Engineer, Senior Environmental Engineer, Chief Environmental Engineer, Chief Scientific Officer, Principal Scientific Officer, Scientific Officer, Junior Scientific Officer, Senior Scientific Assistant, Junior Scientific Assistant, Senior Laboratory Assistant, Junior Laboratory Assistant, Field Attendant, Senior Technical Supervisor, Junior Technician, Draughting Supervisor, Senior Draughtsman, Data Processing Assistant and other technical posts.	Senior Law Officer, Law Officer, Assistant Law Officer, Sr. Administrative Officer, Administrative Officer, Assistant Director (OL), Senior Translator Assistant, Junior Translator, Accounts Officer, Assistant Accounts Officer, Accounts Assistant, Section Officer, Private Secretary, Publication Assistant, Upper Division Clerk, Lower Division Clerk, Multi-Tasking Staff Grade-I & II, Driver Special Grade, Driver Grade-I, II & Ordinary Grade, Data Entry Operator Grade-I&II, Stenographer Grade- I & II and other administrative posts.

The above tables 1a & 1b reveals that 6,075 posts found vacant out of 12,016 posts which accounts to 50.56% of total regular posts sanctioned for technical and administration in the SPCBs/PCCs. In addition to the regular sanctioned posts, 16 SPCBs/PCCs have engaged the personals (technical and administrative) on contractual basis, the details are tabulated at **Table 2, also in chart form** as below:

Table 2: Status of Contractual Staff Strength in SPCBs/ PCCs

S. No	SPCBs /PCCs	Technical			Admin.	Total
		Engineering	Science	Sub-Total		
1	Andaman and Nicobar Islands	3	6	9	0	9
2	Chandigarh	5	0	5	22	27
3	Chhattisgarh	0	25	25	86	111
4	Dadra & Nagar Haveli and Daman & Diu	14	0	14	11	25
5	Delhi	2	3	5	76	81
6	Goa	6	19	25	0	25
7	Haryana	0	34	34	80	114
8	Jharkhand	17	20	37	40	77
9	Kerala	0	71	71	48	119
10	Ladakh	03	05	08	04	12
11	Madhya Pradesh	56	48	104	113	217
12	Nagaland	5	23	28	0	28
13	Odisha	02	43	45	0	45
14	Tamil Nadu	0	52	52	05	57
15	Uttar Pradesh	33	57	90	07	97
16	Uttarakhand	0	44	44	03	47
	Total	146	450	596	495	1091



Note: The Fig. 2 is also given in a Chart Form separately at **Appendix 1**.

The details of contractual staff technical (Engineering and Scientific) and Administrative of SPCBs / PCCs are as follow:

Technical / Scientific Posts	Administrative Posts
Senior Scientific Officer, Scientist, Assistant Scientist, Assistant Scientific Officer, Contract Engineer, System & Database Architect, System Software and Database, Network Support Engineer, Environmental Engineer, Assistant Environmental Engineer, Junior Environmental Engineer, Junior Project Engineer, Junior Scientific Project Assistant, Consultant, Junior Research Fellow, Senior Research Fellow, Senior Scientific Assistant, Junior Scientific Assistant, Computer Assistant, Junior Laboratory Assistant, Lab Attendant, Sample Taker, Field Assistant-cum-Technician Field Attendant/ Assistant, Monitoring Assistant, Junior Programmer, Computer Operator and other technical posts.	Driver, Multi-Tasking Staff, Legal Assistant, Statistical Assistant, Junior Assistant, Data Entry Operator, Accountant, Assistant, Personal Assistant, Multi-Tasking Data Entry Operator, Lower Division Clerk, Assistant Grade-3, Confidential Assistant, Office Assistant, Senior Assistant, Steno Typist, Clerk, Helper, Daftari, Peon, Office Attendant / Attender, Attendant, Watchman / Chowkidar, Sweeper and other administrative posts

The above Table 2 reveals that 1,091 personals are engaged on contractual / outsource basis which accounts to 17.96% of total regular vacancy of 6,075 posts in the SPCBs / PCCs.

2.1 Ratio of Administrative, Ministerial and Technical Staff of SPCBs / PCCs

The details of administrative and technical staffs and their ratio as per the sanctioned posts in SPCBs / PCCs are tabulated at **Table 3a and Table 3b, also in chart form** as below:

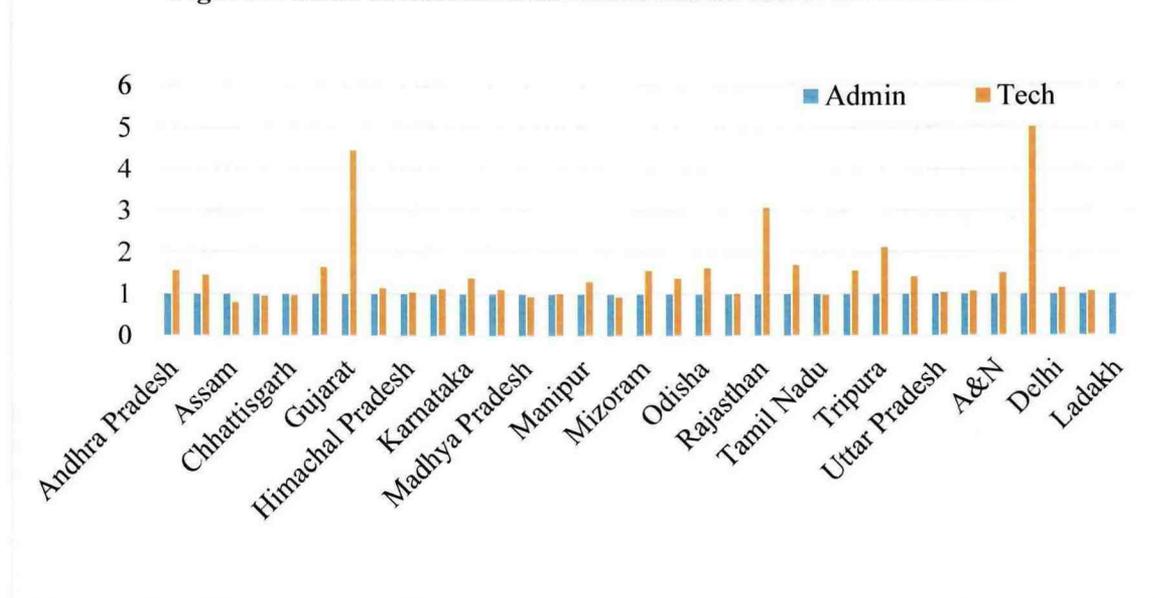
Table 3a: Ratio of Administrative and Technical Posts in SPCBs

S. No.	State Pollution Control Boards	Sanctioned Staff Strength		Ratio (A:T)
		Administrative	Technical	
1	Andhra Pradesh	113	176	1 : 1.56

2	Arunachal Pradesh	11	16	1 : 1.45
3	Assam	147	117	1 : 0.80
4	Bihar	128	121	1 : 0.95
5	Chhattisgarh	167	161	1 : 0.96
6	Goa	53	87	1 : 1.64
7	Gujarat	147	654	1 : 4.45
8	Haryana	209	239	1 : 1.14
9	Himachal Pradesh	182	189	1 : 1.04
10	Jharkhand	127	144	1 : 1.13
11	Karnataka	303	420	1 : 1.39
12	Kerala	205	229	1 : 1.12
13	Madhya Pradesh	636	592	1 : 0.93
14	Maharashtra	418	421	1 : 1.01
15	Manipur	52	68	1 : 1.31
16	Meghalaya	79	73	1 : 0.92
17	Mizoram	9	14	1 : 1.56
18	Nagaland	8	11	1 : 1.38
19	Odisha	176	287	1 : 1.63
20	Punjab	324	328	1 : 1.01
21	Rajasthan	198	610	1 : 3.08
22	Sikkim	10	17	1 : 1.70
23	Tamil Nadu	537	522	1 : 0.97
24	Telangana	90	140	1 : 1.56
25	Tripura	9	19	1 : 2.11
26	Uttarakhand	54	76	1 : 1.41
27	Uttar Pradesh	359	373	1 : 1.04
28	West Bengal	149	160	1 : 1.07

Table 3b: Ratio of Administrative and Technical Posts in PCCs

S. No	Pollution Control Committees	Sanctioned Staff Strength		Ratio (A:T)
		Administrative	Technical	
1	Andaman and Nicobar Islands	4	6	1 : 1.50
2	Chandigarh	0	9	-
3	Dadra & Nagar Haveli, Daman & Diu	2	10	1 : 5.00
4	Delhi	160	183	1 : 1.14
5	Jammu & Kashmir	215	230	1 : 1.07
6	Ladakh	16	0	-
7	Lakshadweep	0	5	-
8	Puducherry	0	12	-

Figure 3: Ratio of Administrative:Technical Posts in SPCBs/ PCCs

Note: The Fig 3 is also given in a Chart Form separately at *Appendix 1*.

The above Table 3a & 3b reveals that the ratio of non-technical/ administrative and technical posts as per sanction posts varies between 0.80 to 3.08 and 0 to 5 in SPCBs and PCCs respectively. There are no technical posts sanctioned in the Ladakh PCC. Similarly, no administrative posts sanctioned in Chandigarh, Lakshadweep and Puducherry Pollution Control Committees.

3.0 REGULATING AND MONITORING FACILITY AVAILABLE WITH SPCBs / PCCs

3.1 Environmental Laboratories

The Environmental Laboratories are established at two level i.e. Central and Regional /Zonal Level in general by SPCBs / PCCs as per workload (number of industries and frequency of inspection and monitoring) and timely analysis of environmental samples for further action. The Central Environmental Laboratory are generally equipped with sophisticated / advanced analytical instruments than the Regional Laboratory to carryout analysis of notified parameters of water, wastewater, source emissions, ambient air, solid waste, hazardous waste, pesticides, heavy metals, bacteriological samples and bio-assay tests etc. Whereas, the Regional / Zonal Laboratories have facilities for limited parameters for water, wastewater, ambient air, source emission and bacteriological samples.

The SPCBs of Bihar, Goa, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, do not have Regional Laboratory. Among the PCCs only Chandigarh, Delhi, Jammu & Kashmir and

Puducherry have laboratories and remaining Andaman & Nicobar Islands, Dadra & Nagar Haveli and Daman & Diu, Ladakh and Lakshadweep Pollution Control Committees don't have their own facilities but have arrangements with other Govt. / Private laboratories for monitoring and analytical activities. The SPCBs / PCCs have Central Laboratory at their Head office except a few SPCBs / PCCs i.e. Andhra Pradesh, Chhattisgarh, Daman & Diu and Dadra & Nagar Haveli. A few SPCBs have their Central Laboratory in a different place than of their Head office i.e. Himachal Pradesh (Paranoo), Kerala (Kochi) and Maharashtra (Navi Mumbai).

The Environmental Laboratories of the SPCBs/ PCCs are given recognition under Section 23 of the Environment (Protection) Act, 1986 by CPCB, and accreditation under ISO/ IEC:17025: 2017 by the National Accreditation Board for Testing and Calibration Laboratories (NABL) to carry out the functions entrusted to the environmental laboratories. The status of the recognition / accreditation of SPCBs/ PCCs laboratories are tabulated at *Table 4a and Table 4b, also in chart form* as below:

Table 4a: Details of Environmental Laboratories at SPCBs

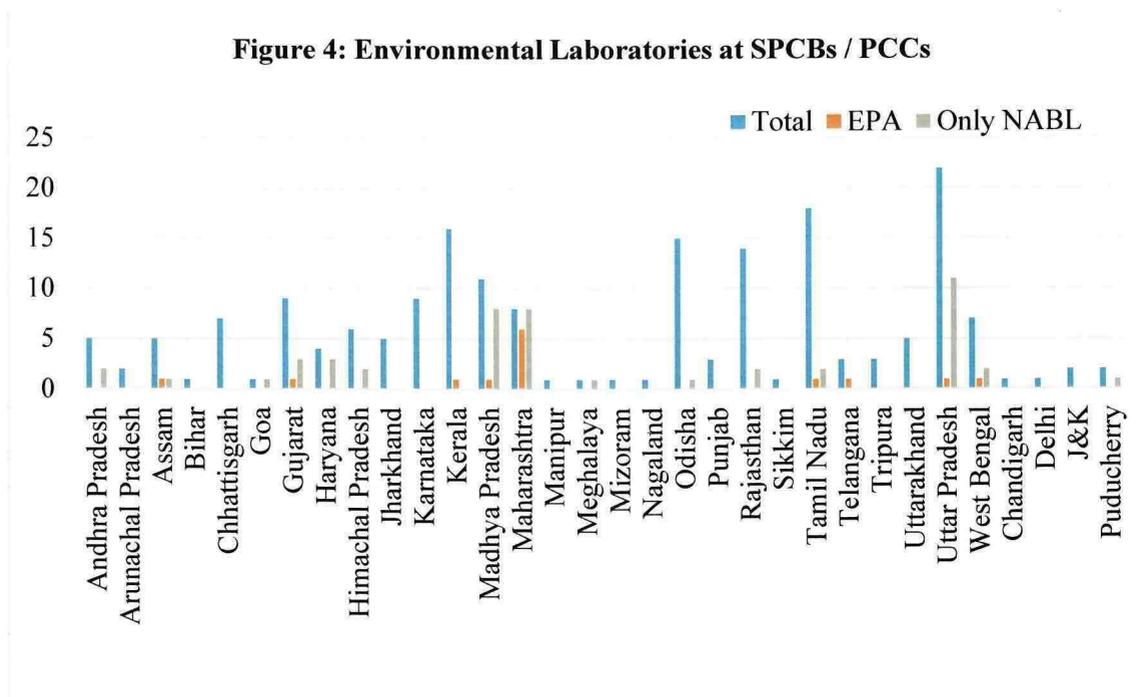
S. No.	SPCBs	Central	Zonal/ Regional	Total	EPA	Only NABL
1	Andhra Pradesh	0	5	5	0	2
2	Arunachal Pradesh	1	1	2	0	0
3	Assam	1	4	5	1	1
4	Bihar	1	0	1	0	0
5	Chhattisgarh	1	6	7	0	0
6	Goa	1	0	1	0	1
7	Gujarat	1	8	9	1	3
8	Haryana	1	3	4	0	3
9	Himachal Pradesh	1	5	6	0	2
10	Jharkhand	1	4	5	0	0
11	Karnataka	2	7	9	0	0
12	Kerala	1	15	16	1	0
13	Madhya Pradesh	1	10	11	1	8
14	Maharashtra	1	7	8	6	8
15	Manipur	1	0	1	0	0
16	Meghalaya	1	0	1	0	1
17	Mizoram	1	0	1	0	0
18	Nagaland	1	0	1	0	0
19	Odisha	1	14	15	0	1
20	Punjab	1	2	3	0	0
21	Rajasthan	1	13	14	0	2
22	Sikkim	1	0	1	0	0
23	Tamil Nadu	1	17	18	1	2
24	Telangana	1	2	3	1	0
25	Tripura	1	2	3	0	0
26	Uttarakhand	1	4	5	0	0

27	Uttar Pradesh	1	21	22	1	11
28	West Bengal	1	6	7	1	2
Sub Total (A)		28	156	184	14	47

Table 4b: Details of Environmental Laboratories at PCCs

S No.	PCCs	Central	Regional	Total	EPA	Only NABL
1	Andaman and Nicobar Islands	0	0	0	0	0
2	Chandigarh	1	0	1	0	0
3	Dadra & Nagar Haveli and Daman & Diu	0	0	0	0	0
4	Delhi	1	0	1	0	0
5	Jammu & Kashmir	0	2	2	0	0
6	Ladakh	0	0	0	0	0
7	Lakshadweep	0	0	0	0	0
8	Puducherry	1	1	2	0	1
Sub Total (B)		3	3	6	0	1
Grand Total (A+B)		31	159	190	14	48

Figure 4: Environmental Laboratories at SPCBs / PCCs



Note: The Fig 4 is also given in a Chart Form separately at *Appendix 1*.

The above Tables 4a & 4b reveals that the total 190 Environmental Laboratories are established in the SPCBs /PCCs, wherein 31 Central Labs and 159 Zonal /Regional / District Labs. Out of 190 Labs, 14 Labs have obtained EPA recognition (including NABL accreditation) and another 48 Labs have obtained only NABL accreditation.

3.2 Environmental Monitoring Network Programme

SPCBs and PCCs are being funded through CPCB under Central Sector Scheme “Control of Pollution” for Environmental Monitoring Network Programme i.e. National Ambient Air Quality Monitoring Programme (NAMP), National Water Quality Monitoring Programme (NWMP), National Ambient Noise Monitoring Network (NANMN) and Continuous Ambient Air Quality Monitoring Stations (CAAQMS) for Pollution Assessment, Survey and Monitoring, Operation & Maintenance and establishment of monitoring stations for Water, Air and Noise.

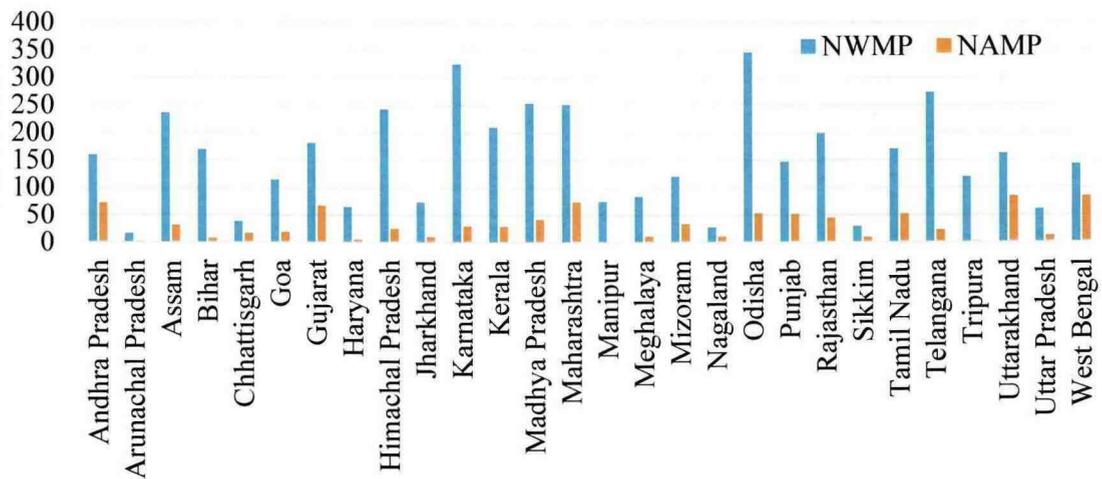
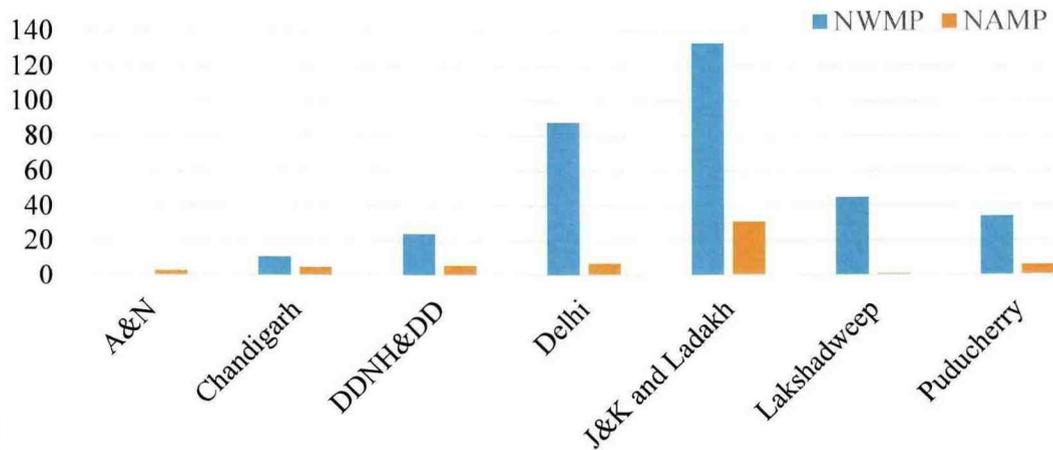
The details of Nation-wide environmental monitoring network for monitoring of ambient air, water and noise are tabulated at *Table 5a and Table 5b, also in chart form* as below:

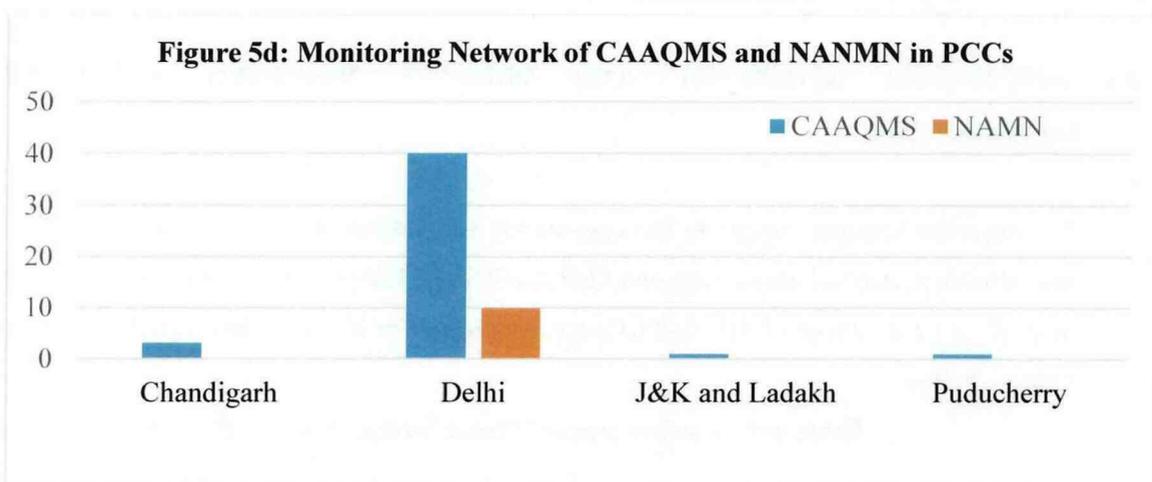
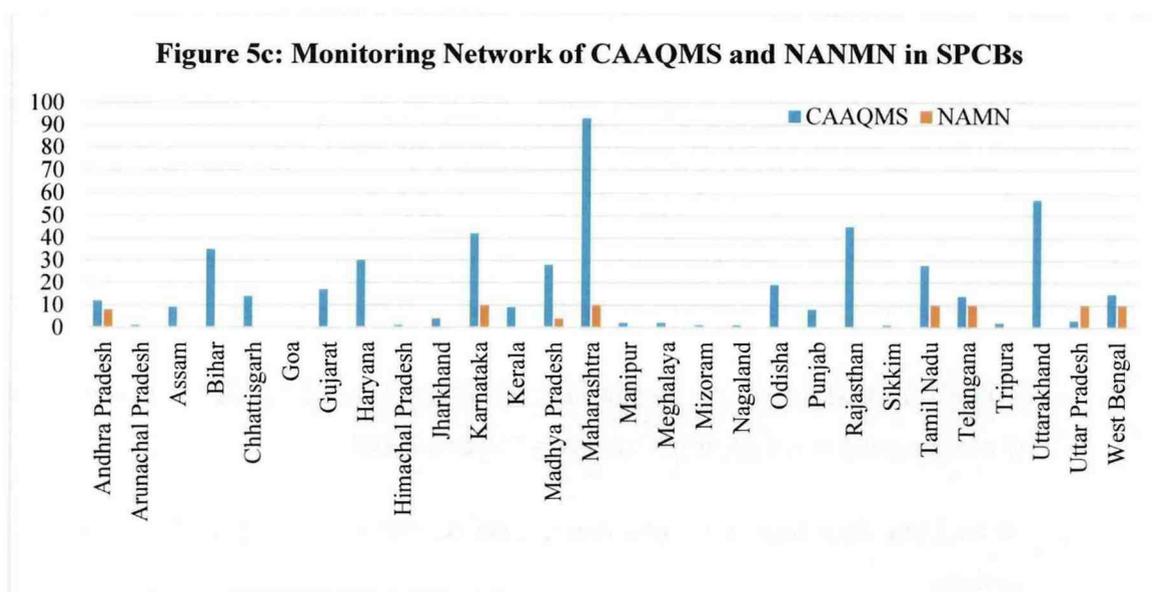
Table 5a: Details of Environmental Monitoring Network at SPCBs

No.	SPCBs	NWMP	NAMP	CAAQMS	NANMN
1.	Andhra Pradesh	160	72	12	8
2.	Arunachal Pradesh	17	2	1	0
3.	Assam	237	32	9	0
4.	Bihar	170	8	35	0
5.	Chhattisgarh	39	17	14	0
6.	Goa	115	19	0	0
7.	Gujarat	182	67	17	0
8.	Haryana	65	5	30	0
9.	Himachal Pradesh	243	25	1	0
10.	Jharkhand	74	10	4	0
11.	Karnataka	325	30	42	10
12.	Kerala	211	29	9	0
13.	Madhya Pradesh	254	42	28	4
14.	Maharashtra	252	74	93	10
15.	Manipur	75	1	2	0
16.	Meghalaya	84	11	2	0
17.	Mizoram	121	34	1	0
18.	Nagaland	28	10	1	0
19.	Odisha	346	53	19	0
20.	Punjab	147	52	8	0
21.	Rajasthan	199	45	45	0
22.	Sikkim	30	9	1	0
23.	Tamil Nadu	171	52	28	10
24.	Telangana	273	22	14	10
25.	Tripura	120	2	2	0
26.	Uttarakhand	163	84	57	0
27.	Uttar Pradesh	61	12	3	10
28.	West Bengal	143	84	15	10
Sub – Total (A)		4305	903	493	72

Table 5b: Details of Environmental Monitoring Network at PCCs

PCCs	NWMP	NAMP	CAAQMS	NANMN
Andaman and Nicobar Islands	0	3	0	0
Chandigarh	11	5	3	0
Dadra & Nagar Haveli and Daman & Diu	24	6	0	0
Delhi	88	7	40	10
Jammu & Kashmir	133	31	1	0
Ladakh		0	0	0
Lakshadweep	45	1	0	0
Puducherry	34	6	1	0
Sub- Total (B)	335	59	45	10
Total (A+B)	4640	962	538	82

Figure 5a: Monitoring Network of NWMP and NAMP of SPCBs**Figure 5b: Monitoring Network of NWMP and NAMP of PCCs**



Note: The Fig: 5a to d are also given in a Chart Form separately at **Appendix 1**

The above Tables 5a & 5b reveals that there are 4640 NWMP, 962 NAMP, 538 CAAQMS and 82 NANMN operated across the SPCBs / PCCs.

In addition to above, CPCB is monitoring of river water quality at 96 Inter-State locations under NWMP and real time air quality monitoring at 15 Locations (CAAQMS) at 4 cities i.e. namely Delhi, Lucknow, Bangalore and Chennai. Further, CPCB in association with SPCBs/PCCs has established / installed 82 nos. of Real Time National Ambient Noise Monitoring Network in 09 metropolitan cities. 10 such Noise monitoring stations in each of the 07 Cities namely Bengaluru, Chennai, Delhi, Hyderabad, Kolkata, Lucknow & Mumbai, and 04 stations each in 03 cities namely Bhopal, Vijayawada & Visakhapatnam.

The environmental data of Air, Water, Noise and real time emission & effluent data of industries of the States / UTs are acquired by CPCB/SPCBs/PCCs and the same is available to the public through the portal. The details of environmental data collection portals are as follow:

- a. CAAQMS: Ambient air quality data is collected from CAAQMS (Continuous Ambient Air Quality) Stations. The data is transmitted to CPCB in real-time and is available to public through the portal (<https://airquality.cpcb.gov.in>) as well Sameer App.
- b. EAQDES: Manual monitoring data related to air quality is submitted by SPCBs to the EAQDES (Environmental Air Quality Data Entry System) of CPCB.
- c. EWQDES: Real-time water quality data is being collected by CPCB through EWQDES (Environmental Water Quality Data Entry System) Portal.
- d. Noise Data: Real-time noise monitoring data is collected by CPCB through a network of stations.

4.0 SANCTIONED STRENGTH AND PRESENT WORKING STRENGTH IN LABORATORY

The technical strength comprises the engineering and science discipline. In general, the science discipline is posted in Laboratories and filed monitoring. The posting and present working strength of staffs in Laboratories of SPCBs/PCCs are as tabulated at *Table 6a and Table 6b, also in chart form* as below:

Table 6a: Sanctioned and Present Strength in SPCBs Labs

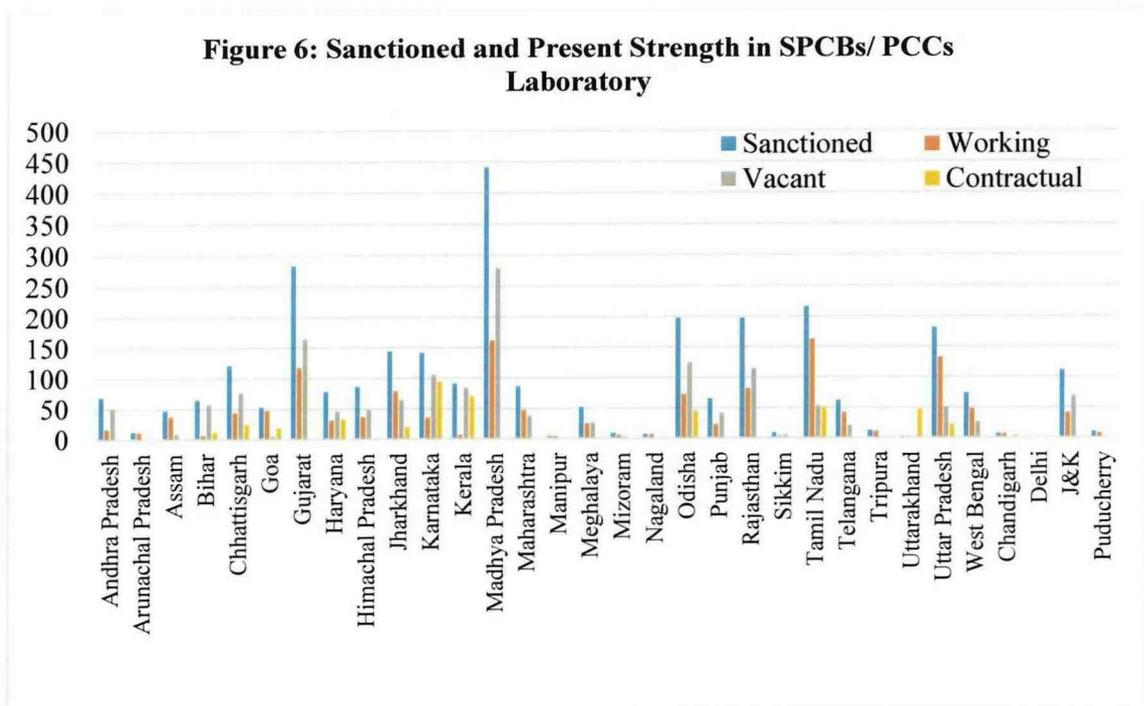
S. No.	SPCBs	Strength of Laboratory			Contractual Staff
		Sanctioned	Working	Vacancy	
1.	Andhra Pradesh	69	17	52	0
2.	Arunachal Pradesh	12	12	0	0
3.	Assam	47	38	9	0
4.	Bihar	65	7	58	12
5.	Chhattisgarh	121	44	77	25
6.	Goa	53	48	5	19
7.	Gujarat	283	118	165	0
8.	Haryana	78	32	46	34
9.	Himachal Pradesh	86	37	49	0
10.	Jharkhand	144	79	65	20
11.	Karnataka	142	36	106	95
12.	Kerala	91	7	84	71
13.	Madhya Pradesh	441	162	279	0
14.	Maharashtra	86	48	38	0
15.	Manipur	4	4	0	0
16.	Meghalaya	52	25	27	0
17.	Mizoram	9	6	3	0
18.	Nagaland	7	7	0	0

19.	Odisha	197	73	124	45
20.	Punjab	65	23	42	0
21.	Rajasthan	197	82	115	0
22.	Sikkim	9	3	6	0
23.	Tamil Nadu	216	163	53	52
24.	Telangana	62	42	20	0
25.	Tripura	12	11	1	0
26.	Uttarakhand	2	2	0	47
27.	Uttar Pradesh	182	132	50	22
28.	West Bengal	74	48	26	0
Sub – Total (A)		2806	1306	1500	442

Table 6b: Sanctioned and Present Strength in PCCs Labs

S. No.	PCCs	Strength of Laboratory			Contractual Staff
		Sanctioned	Working	Vacancy	
1	Andaman & Nicobar	No Laboratory			
2	Chandigarh	7	7	0	4
3	DNH & Daman & Diu	No Laboratory			
4	Delhi	31	4	27	3
5	Jammu & Kashmir	111	41	70	0
6	Ladakh	No Laboratory			
7	Lakshadweep	No Laboratory			
8	Puducherry	10	8	2	0
Sub- Total (B)		159	60	99	7
Total (A+B)		2965	1366	1599	449

Figure 6: Sanctioned and Present Strength in SPCBs/ PCCs Laboratory



Note: The Fig 6 is also given in a Chart Form separately at Appendix I

The Uttarkhand Pollution Control Board has mentioned that there is no cadre division for Laboratory and Regional Offices in the existing structure. Presently, only one Environment Engineer and One Laboratory Assistant is posted at Central Lab, Dehradun and remaining staff are outsourced on contractual basis. There is no laboratory strength sanctioned in Andaman & Nicobar Islands and Ladakh, as there is no laboratory functional. Creation of 06 laboratory posts in Andaman & Nicobar Islands PCCs is under process.

The above Tables 6a & 6b reveals that 449 personals are engaged on contractual / outsource basis in Laboratories which accounts to 28.08% of total vacancy of 1,599 posts in the SPCBs/PCCs. The said vacancy is included in the total vacancy shown at Table 1a and 1b for SPCBs and PCCs respectively.

5.0 FURTHER NEED OF EQUIPMENTS AND INFRASTRUCTURE IN LABORATORIES

The role of an environmental laboratory is to conduct scientific testing and analysis of various environmental samples, such as water and wastewater, ambient air, source emission, hazardous waste, biological specimens etc., to assess the quality, composition, and presence of contaminants. The parameters analysed in respect of water and water, soil, solid waste & hazardous waste, ambient air and source emission, biological Parameters, noise, pesticides, trace metals and meteorological parameters of SPCBs/ PCCs laboratories based on the infrastructure available are tabulated at *Table 7* as below:

Table 7: Laboratory Infrastructure available for analysing Environmental Parameters by the SPCBs/PCCs

Parameters	Water and Wastewater																																
	Assam	Bihar	Chhattisgarh	Goa	Gujarat	Haryana	H. Pradesh	Jharkhand	Karnataka	Kerala	M. Pradesh	Maharashtra	Manipur	Meghalaya	Mizoram	Nagaland	Orissa	Punjab	Rajasthan	Sikkim	Tamil Nadu	Telangana	Tripura	Uttarakhand	Uttar Pradesh	West Bengal	Chandigarh	Delhi	J & K	Lakshadweep	Pondicherry		
A.																																	
Acidity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Alkalinity	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Ammonical Nitrogen	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Bicarbonate				✓																													
BOD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Boron	✓																																
Bromide																																	
Calcium	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Carbon Dioxide	✓			✓																													
COD	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Chloride	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Chlorine Demand																																	
Chlorine Residual	✓			✓																													
Chromium (Hexavalent)	✓			✓																													
Colour	✓			✓																													
Cyanide																																	
D.O				✓																													
E Coli		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Electrical Conductivity	✓			✓																													
FDS				✓																													
Fixed & Volatile Solids				✓																													
Jar Test																																	

Parameters	Assam	Bihar	Chhattisgarh	Goa	Gujarat	Haryana	H. Pradesh	Jharkhand	Karnataka	Kerala	M. Pradesh	Maharashtra	Manipur	Meghalaya	Mizoram	Nagaland	Orissa	Punjab	Rajasthan	Sikkim	Tamil Nadu	Telangana	Tripura	Uttarakhand	Uttar Pradesh	West Bengal	Chandigarh	Delhi	J & K	Lakshadweep	Pondicherry
Fluoride	✓																														
FSC		✓																													
Hardness Total	✓	✓	✓	✓	✓			✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Iodine					✓																										
IC		✓				✓	✓																								
Iron – Ferrous				✓			✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Lignin																															
Magnesium	✓						✓	✓	✓																						
MLSS							✓																								
MLVSS							✓																								
Nitrate Nitrogen NO ₃	✓						✓		✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Nitrite Nitrogen NO ₂																															
Odour							✓																								
Oil and Grease	✓						✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
pH	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Phenols																															
Phosphate	✓						✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Potassium	✓																														
PAH																															
PCBs																															
Salinity							✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SAR																															
Settleable Solids	✓																														
Silica																															
SVI	✓																														
Sodium	✓																														
Sulphate	✓																														

Parameters	Assam	Bihar	Chhattisgarh	Goa	Gujarat	Haryana	H. Pradesh	Jharkhand	Karnataka	Kerala	M. Pradesh	Maharashtra	Manipur	Meghalaya	Mizoram	Nagaland	Orissa	Punjab	Rajasthan	Sikkim	Tamil Nadu	Telangana	Tripura	Uttarakhand	Uttar Pradesh	West Bengal	Chandigarh	Delhi	J & K	Lakshadweep	Pondicherry
	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Sulphide																															
Sulphite																															
Surfactants					✓																										
Temperature	✓		✓	✓	✓																										
Tin				✓		✓																									
TDS		✓		✓	✓	✓																									
TOC				✓																											
TKN				✓		✓																									
Total Solids	✓	✓		✓	✓	✓																									
TSS	✓	✓		✓	✓	✓																									
THM																															
Turbidity	✓	✓		✓	✓	✓																									
Velocity				✓	✓	✓																									
B Soil, Solid Waste & Hazardous Parameters																															
Ammonia				✓																											
Bicarbonate					✓																										
Arsenic				✓																											
Boron				✓																											
Calorific values					✓																										
Cadmium				✓																											
Chromium (Hexavalent)														✓																	
Chromium T				✓																											
Copper				✓																											
Cobalt														✓																	
Calcium					✓																										
Calcium Carbonate					✓																										
Cation Exchange Capacity					✓																										

Parameters	Assam	Bihar	Chhattisgarh	Goa	Gujarat	Haryana	H. Pradesh	Jharkhand	Karnataka	Kerala	M. Pradesh	Maharashtra	Manipur	Meghalaya	Mizoram	Nagaland	Orissa	Punjab	Rajasthan	Sikkim	Tamil Nadu	Telangana	Tripura	Uttarakhand	Uttar Pradesh	West Bengal	Chandigarh	Delhi	J & K	Lakshadweep	Pondicherry			
Chloride																																		
C:N Ratio				✓																														
Colour					✓		✓		✓		✓							✓				✓												
Corrosivity																																		
Electrical Conductivity	✓			✓	✓		✓		✓		✓	✓	✓					✓				✓												
Elemental Analysis													✓																					
Exchangeable Na and K																																		
ESP											✓																							
Flash point												✓																						
Gypsum												✓																						
H. Acid																																		
Heavy Metal																																		
Flash Point																																		
Lead																																		
Magnesium																																		
Mercury																																		
Nickel																																		
Nitrogen -N																																		
Nitrogen N (Total)																																		
Nitrate																																		
Nitrite																																		
Organic Carbon																																		
Organic Matter																																		
Pesticide																																		
pH																																		
Phosphate (ortho)	✓																																	

Parameters	Assam	Bihar	Chhattisgarh	Goa	Gujarat	Haryana	H. Pradesh	Jharkhand	Karnataka	Kerala	M. Pradesh	Maharashtra	Manipur	Meghalaya	Mizoram	Nagaland	Orissa	Punjab	Rajasthan	Sikkim	Tamil Nadu	Telangana	Tripura	Uttarakhand	Uttar Pradesh	West Bengal	Chandigarh	Delhi	J & K	Lakshadweep	Pondicherry		
Phosphate (total)				✓	✓				✓		✓	✓						✓			✓	✓											
Phosphorus as P ₂ O ₅							✓				✓	✓										✓											
Phosphorus as P (Total)			✓		✓				✓			✓										✓											
Potassium as K (Total)			✓	✓	✓		✓		✓		✓	✓	✓					✓				✓											
Potassium as K ₂ O													✓									✓											
Reactivity							✓				✓																						
SAR in soil					✓				✓		✓	✓						✓				✓											
Sodium				✓	✓				✓		✓	✓						✓				✓											
Soil Moisture				✓	✓				✓		✓	✓						✓				✓											
Soil Texture									✓		✓	✓						✓				✓											
Sulphate									✓		✓	✓						✓				✓											
Sulphur							✓		✓		✓	✓						✓				✓											
TCLP Tests				✓					✓		✓	✓						✓				✓											
TKN				✓	✓				✓		✓	✓						✓				✓											
Total Water Soluble Solids							✓		✓		✓	✓						✓				✓											
Toxicity									✓		✓	✓										✓											
Trace Metals	✓								✓		✓	✓						✓				✓											
C Biological Parameters																																	
Total coliform	✓		✓	✓	✓				✓		✓	✓						✓			✓	✓						✓					
Fecal Coliform	✓		✓	✓	✓		✓		✓		✓	✓						✓			✓	✓						✓					
Bio-Assay													✓																				
Fecal Streptococci	✓			✓	✓				✓		✓	✓						✓			✓	✓						✓					
Enterococcus									✓																								

Parameters	Source Emissions																																					
	Assam	Bihar	Chhattisgarh	Goa	Gujarat	Haryana	H. Pradesh	Jharkhand	Karnataka	Kerala	M. Pradesh	Maharashtra	Manipur	Meghalaya	Mizoram	Nagaland	Orissa	Punjab	Rajasthan	Sikkim	Tamil Nadu	Telangana	Tripura	Uttarakhand	Uttar Pradesh	West Bengal	Chandigarh	Delhi	J & K	Lakshadweep	Pondicherry							
PM ₁₀ & PM _{2.5}	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
NO ₂	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
NMH	✓				✓																																	
Ozone	✓				✓																																	
Benzo (a) Pyrene			✓		✓		✓			✓			✓																									
SO ₂	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
SPM					✓		✓			✓			✓																									
VOCs					✓		✓			✓			✓																									
Acid Mist																																						
Ammonia					✓		✓					✓																										
Bromide					✓		✓					✓																										
Carbon Dioxide					✓		✓					✓																										
Carbon Disulphide					✓		✓					✓																										
Carbon Monoxide	✓			✓	✓		✓					✓																										
Chloride					✓		✓					✓																										
Chlorine					✓		✓					✓																										
Fluoride	✓				✓		✓					✓																										
Flow Rate	✓				✓		✓					✓																										
Lead																																						
Mercury																																						
Hydro-chloric acid	✓				✓		✓					✓																										
Hydrogen Sulphide	✓				✓		✓					✓																										

Parameters	Assam	Bihar	Chhattisgarh	Goa	Gujarat	Haryana	H. Pradesh	Jharkhand	Karnataka	Kerala	M. Pradesh	Maharashtra	Manipur	Meghalaya	Mizoram	Nagaland	Orissa	Punjab	Rajasthan	Sikkim	Tamil Nadu	Telangana	Tripura	Uttarakhand	Utar Pradesh	West Bengal	Chandigarh	Delhi	J & K	Lakshadweep	Pondicherry
Oxides of nitrogen	✓			✓			✓		✓					✓				✓			✓	✓				✓					
Oxides of Sulphur							✓				✓	✓		✓				✓				✓									
Oxygen	✓				✓				✓		✓			✓								✓									
Particulate Matter	✓			✓	✓		✓	✓	✓		✓	✓		✓	✓			✓				✓					✓				
Nitrogen Dioxide	✓						✓					✓		✓				✓				✓				✓					
% O ₂	✓													✓								✓				✓					
% CO ₂	✓										✓			✓								✓				✓					
Sulphur Dioxide	✓			✓	✓		✓		✓		✓			✓				✓				✓				✓					
Temperature	✓			✓	✓				✓					✓								✓				✓					
Total Hydro Carbon	✓			✓	✓		✓		✓		✓			✓								✓				✓					
Velocity	✓			✓	✓				✓					✓								✓				✓					
F Noise Monitoring																															
Noise Level Measurement (Leq, Lmin, Lmax etc)	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
G Pesticide Parameters																															
2,4 – Dichlorophen Oxyacetic acid			✓														✓					✓				✓					
AOX									✓																						
Alachlor	✓		✓							✓																					
Aldrin /Dieldrin	✓		✓	✓						✓																	✓				
Alpha HCH			✓	✓					✓																						

Parameters	Assam	Bihar	Chhattisgarh	Goa	Gujarat	Haryana	H. Pradesh	Jharkhand	Karnataka	Kerala	M. Pradesh	Maharashtra	Manipur	Meghalaya	Mizoram	Nagaland	Orissa	Punjab	Rajasthan	Sikkim	Tamil Nadu	Telangana	Tripura	Uttarakhand	Uttar Pradesh	West Bengal	Chandigarh	Delhi	J & K	Lakshadweep	Pondicherry	
Anilofos																																
Atrazine			✓																													
Beta HCH			✓	✓																												
Butachlor			✓																													
Carbamates					✓																											
Chlorpyrifos	✓		✓	✓					✓	✓																						
DDD				✓					✓	✓																						
DDE				✓					✓	✓																						
DDT	✓		✓	✓					✓	✓																						
Delta HCH	✓		✓						✓	✓																						
Dicofol	✓		✓																													
Endosulfan	✓		✓																													
Endosulfan Sulphate	✓								✓																							
Ethion			✓																													
Fungicides	✓																															
Gamma-HCH			✓	✓																												
Herbicides	✓				✓																											
Heptachlor	✓			✓																												
Heptachlor Endoepoxide				✓																												
Hexachlorobenzene				✓																												
Isoproturon	✓		✓																													
Malathion			✓	✓					✓																							
Methyl Parathion	✓		✓						✓																							
Methoxy chlor				✓																												

Parameters	Assam	Bihar	Chhattisgarh	Goa	Gujarat	Haryana	H. Pradesh	Jharkhand	Karnataka	Kerala	M. Pradesh	Maharashtra	Manipur	Meghalaya	Mizoram	Nagaland	Orissa	Punjab	Rajasthan	Sikkim	Tamil Nadu	Telangana	Tripura	Uttarakhand	Uttar Pradesh	West Bengal	Chandigarh	Delhi	J & K	Lakshadweep	Pondicherry					
			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓					
Monocrotophos			✓															✓																		
Organochlorine				✓	✓		✓			✓	✓	✓	✓									✓			✓	✓										
Organophosphorus				✓	✓	✓	✓			✓	✓	✓	✓										✓		✓	✓										
Phorate			✓																																	
H																																				
Trace Metals																																				
Al			✓				✓																													
Sb	✓	✓			✓																															
As			✓		✓		✓																													
Barium (Ba)					✓		✓																													
Be																																				
Boron (B)	✓						✓																													
Cd		✓					✓																													
Carbon I							✓																													
Calcium (Ca)	✓	✓					✓																													
Total (Cr ³⁺)	✓						✓																													
Hexa (Cr ⁶⁺)							✓																													
Cobalt (Co)	✓						✓																													
Copper (Cu)	✓						✓																													
Iron (Fe)		✓					✓																													
Iodine (I)	✓	✓					✓																													
Lead (Pb)							✓																													
Lithium (Li)							✓																													
Mg	✓						✓																													
Mn	✓						✓																													
Hg							✓																													
Molybdenum	✓	✓					✓																													
Nickel (Ni)							✓																													

Parameters	Assam	Bihar	Chhattisgarh	Goa	Gujarat	Haryana	H. Pradesh	Jharkhand	Karnataka	Kerala	M. Pradesh	Maharashtra	Manipur	Meghalaya	Mizoram	Nagaland	Orissa	Punjab	Rajasthan	Sikkim	Tamil Nadu	Telangana	Tripura	Uttar Pradesh	West Bengal	Chandigarh	Delhi	J & K	Lakshadweep	Pondicherry		
K			✓	✓	✓		✓		✓	✓	✓	✓						✓	✓			✓	✓	✓	✓	✓	✓					
Se			✓	✓	✓		✓		✓		✓							✓	✓			✓	✓	✓	✓	✓	✓					
Silver (Ag)			✓		✓		✓		✓		✓	✓						✓	✓			✓	✓	✓	✓	✓	✓					
Sodium (Na)					✓						✓	✓											✓	✓	✓	✓	✓					
Sr				✓	✓		✓		✓		✓													✓	✓	✓	✓					
Tin (Sn)					✓		✓		✓		✓	✓												✓	✓	✓	✓					
V	✓	✓			✓		✓		✓		✓	✓					✓						✓	✓	✓	✓	✓					
Zinc (Zn)	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
I Meteorological Parameters																																
Ambient Temperature	✓			✓	✓				✓		✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Rainfall	✓	✓		✓	✓				✓		✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Relative Humidity	✓	✓		✓	✓				✓		✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Solar Radiation	✓	✓			✓						✓				✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wind Direction	✓	✓		✓	✓				✓		✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wind Speed				✓	✓				✓		✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Where

BOD – Biological Oxygen Demand, **COD** – Chemical Oxygen Demand, **DO** – Dissolved Oxygen, **FDS** – Fixed Dissolved Solids, **IC** – Inorganic Concentration, **MLSS** – Mixed liquor suspended solids, **MLVSS** – Mixed liquor Volatile suspended solids, **PAH** – Polyaromatic Hydrocarbon, **PCB** – Polychlorinated biphenyls, **SVI** – Sludge Volume Index, **TDS** – Total Dissolved Solids, **TSS** – Total Suspended Solids, **TKN** – Total Kjeldahl Nitrogen, **THM** – Trihalomethanes, **ESP** – Exchangeable Sodium Percentage, **SPM** – Suspended Particulate Matter, **VOC** – Volatile Organic Compounds, **AOX** – Adsorbable Organically Bound Halogens, **DDD** – Dichlorodiphenyldichloroethane, **DDE** – Dichlorodiphenyldichloroethylene, **DDT** – Dichlorodiphenyltrichloroethane, **Al** – Aluminium, **Sb** – Antimony, **As** – Arsenic, **Be** – Beryllium, **Cd** – Cadmium, **Mg** – Magnesium, **Mn** – Manganese, **Hg** – Mercury, **K** – Potassium, **Se** – Selenium, **Sr** – Strontium, **V** – Vanadium.

The details of instruments/ equipment available for carrying out monitoring analysis of physico-chemical, heavy metals, organic pollutants, biological parameters, pesticides in Water, Wastewater, Organic pollutants, biological and ambient / source air pollutants at the environmental laboratories of SPCBs/ PCCs except SPCBs of Haryana, Karnataka, Maharashtra and Rajasthan and PCCs Andaman & Nicobar Islands, Dadra & Nagar Haveli and Daman & Diu and Delhi, who have not submitted the requisite information, are as follows:

Details of instruments and equipment available at SPCBs

S. No.	State Pollution Control Boards	Details
1.	Andhra Pradesh	Attached as Annexure 1
2.	Arunachal Pradesh	Attached as Annexure 2
3.	Assam	Attached as Annexure 3
4.	Bihar	Attached as Annexure 4
5.	Chhattisgarh	Attached as Annexure 5
6.	Goa	Attached as Annexure 6
7.	Gujarat	Attached as Annexure 7
8.	Himachal Pradesh	Attached as Annexure 8
9.	Jharkhand	Attached as Annexure 9
10.	Kerala	Attached as Annexure 10
11.	Madhya Pradesh	Attached as Annexure 11
12.	Manipur	Attached as Annexure 12
13.	Meghalaya	Attached as Annexure 13
14.	Mizoram	Attached as Annexure 14
15.	Nagaland	Attached as Annexure 15
15.	Odisha	Attached as Annexure 16
16.	Punjab	Attached as Annexure 17
17.	Sikkim	Attached as Annexure 18
18.	Tamil Nadu	Attached as Annexure 19
19.	Telangana	Attached as Annexure 20
20.	Tripura	Attached as Annexure 21
21.	Uttarakhand	Attached as Annexure 22
22.	Uttar Pradesh	Attached as Annexure 23
23.	West Bengal	Attached as Annexure 24

Details of instruments and equipment available at PCCs

S. No.	Pollution Control Committees	Details
1.	Chandigarh	Attached as Annexure 25
2.	Jammu & Kashmir	Attached as Annexure 26
3.	Ladakh	Attached as Annexure 27
4.	Lakshadweep	Attached as Annexure 28
5.	Puducherry	Attached as Annexure 29

6.0 PROVISIONS MADE FOR ENFORCEMENT AND MONITORING IN CRITICALLY POLLUTED AREAS

The CPCB has developed and revised a Comprehensive Environmental Pollution Index (CEPI) and carried out a nationwide environmental assessment of Industrial Clusters based on CEPI. As

per revised CEPI - 2016, 38 such industrial clusters having CEPI greater than 70, on a scale of 0 to 100, has been identified as critically polluted Industrial Clusters and 31 such industrial clusters having CEPI between 60 to 70, on a scale of 0 to 100, has been identified as Severely polluted Industrial Clusters.

SPCBs / PCCs are directed to prepare and implement action plans for restoring environment quality and bring down CEPI score in the respective industrial clusters of State / UT. The details of polluted areas of SPCBs are as follow:

Table 8: State wise list of polluted areas (CPAs/SPAs)

S. No.	State	Polluted Areas	
		Critically	Severely
1.	Andhra Pradesh	-	Vijayawada
2.	Assam	Brynihat	-
3.	Bihar	-	Hajipur
4.	Chhatisgarh	Siltara Industrial Area	-
		Raipur	-
5.	Delhi	Nazafgarh drain basin – Delhi	-
6.	Gujarat	Ankleshwar	Bhavnagar
		Rajkot	-
		Surat	-
		Vadodara	-
		Vatva	-
		Vapi	-
7.	Haryana	Gurugram	Faridabad
		Panipat	-
8.	Himachal Pradesh	-	Baddi
		-	Parwanoo
		-	Kala Amb
9.	Jharkhand	-	Hazaribagh
		-	Ramgarh
		-	Saraikela
10.	Karnataka	Peenya	Bidar
		Jigini Industrial area	-
11.	Madhya Pradesh	-	Singrauli
12.	Maharashtra	Tarapur	Navi Mumbai
		Chandrapur	Aurangabad
		-	Dombivalli
		-	Nashik
13.	Odisha	-	Ib Valley
		-	Paradeep
14.	Punjab	Jalandhar	Batala
		Ludhiana	-
15.	Rajasthan	Bhiwadi	-
		Jodhpur	-
		Pali	-
		Sanganer Industrial Area	-

S. No.	State	Polluted Areas	
		Critically	Severely
		Jaipur	-
16.	Tamil Nadu	Manali	Coimbatore
		Vellore -North Arcot	Cuddalore
		Tiruppur	Erode
		Mettur	Tuticorine
17.	Telangana	Patancheru-Bollaram	Kukatpally
		-	Kattedan
18.	Uttar Pradesh	Agra	Aligarh
		Bulandshahar-Khurja	Noida
		Firozabad	Meerut
		Gajraula	
		Ghaziabad	-
		Kanpur	-
		Mathura	-
		Moradabad	-
		Varanasi- Mirjapur	-
19.	Uttarakhand	Udham Singh Nagar	-
20.	West Bengal	-	Bandel
		-	Durgapur
		-	Howrah

The SPCBs of above said 20 States / UT are equipped with necessary infrastructure facility to carryout monitoring as per protocol developed for CEPI area monitoring i.e. 24 Hourly Ambient Air Quality Monitoring, Surface Water Quality and Ground Water Quality from prominent surface and ground water bodies located in and around the Critically / Severely Polluted Industrial Clusters.

7.0 AVAILABILITY OF BUDGET AND ITS SOURCES AND EXPENDITURE IN LAST TWO YEARS (2020-21 AND 2021-22)

The major sources of budget for SPCBs/PCCs are (i) Consent fee from the industries under the Water (Prevention and Control of Pollution) Act, 1974 and the Air (Prevention and Control of Pollution) Act, 1981; (ii) Authorisation fee under various Waste Management Rules under Environment Protection Act, 1986; (iii) Environmental Sample Testing / Analysis Charges; (iv) Bank Guarantee forfeited; (v) Funding Assistance under Central Sector Scheme – Control of Pollution – Environmental Monitoring Programme and Assistance for Abatement of Pollution in lieu of water cess; (vi) Environmental Compensation (EC) fund (vii) Grant-in-Aid from the respective State Government / UT and (viii) Interest earned on bank deposits etc.

Accordingly, the income generated and expenditure for the last two years (2020 – 21 and 2021-22) are as follow:

7.1 Income Generated and Expenditure by the SPCBs /PCCs

The information submitted by the respective SPCBs/PCCs about the availability of budget and its sources and expenditure in last two years and funding assistance provided under Central Sector Scheme by CPCB etc., are tabulated at *Table 9a and Table 9b, also in chart form* as below:

below:

Table 9a: Income Generated and Expenditure by the SPCBs

All in Lakhs

S. No.	SPCBs	2020-21		2021-22		Ave Exp in %
		Generated	Expenditure	Generated	Expenditure	
1.	Andhra Pradesh	5619.00	6745.00	19608.00	5347.00	47.93
2.	Arunachal Pradesh	457.72	282.81	572.16	452.65	71.41
3.	Assam	408.00	253.00	449.70	254.00	59.11
4.	Bihar	2892.30	2792.36	3423.63	3683.76	102.54
5.	Chhattisgarh	6232.80	4583.96	6739.75	5276.69	76.01
6.	Goa	1552.60	1259.62	1438.53	2023.02	109.75
7.	Gujarat	17820.85	6599.16	17611.70	5511.68	34.18
8.	Haryana	18359.91	9966.35	11485.00	4906.00	49.83
9.	Himachal Pradesh	3327.00	2726.00	3219.00	2156.00	74.58
10.	Jharkhand	3367.81	1594.09	2906.58	1456.92	48.63
11.	Karnataka	10562.26	8731.78	42989.63	11068.98	36.97
12.	Kerala	8300.01	4590.93	12011.45	4374.95	44.14
13.	Madhya Pradesh	4318.39	2068.33	4673.08	1930.01	44.47
14.	Maharashtra	49068.70	15038.15	51776.40	16369.92	31.14
15.	Manipur	315.31	315.31	294.87	296.03	100.19
16.	Meghalaya	1364.13	973.81	1176.25	1003.71	77.84
17.	Mizoram	169.33	171.17	177.47	176.68	100.30
18.	Nagaland	145.58	145.58	165.93	165.93	100.00
19.	Odisha	11461.43	2647.74	8499.35	3188.79	29.24
20.	Punjab	8746.12	9248.75	8440.65	6364.56	90.84
21.	Rajasthan	12104.43	9663.54	15856.56	8553.79	65.15
22.	Sikkim	243.63	195.90	246.48	468.10	135.48
23.	Tamil Nadu	33376.40	11754.38	35646.41	25930.36	54.60
24.	Telangana	11422.00	9822.00	15472.00	4956.00	54.95
25.	Tripura	237.64	237.64	304.34	304.34	100.00
26.	Uttarakhand	8755.78	7237.61	5521.56	3210.12	73.18
27.	Uttar Pradesh	21313.45	21313.45	23440.66	23440.66	100.00
28.	West Bengal	8346.11	7502.67	6273.05	4540.61	82.38

Table 9b: Income Generated and Expenditure by the PCCs

All in Lakhs

S. No.	PCCs	2020-21		2021-22		Ave Exp in %
		Generated	Expenditure	Generated	Expenditure	
1.	A&N	64.00	55.00	72.00	68.40	90.74
2.	Chandigarh	489.71	433.55	424.75	391.16	90.19

3.	DNH & DD	957.45	128.41	1181.64	212.17	15.92
4.	Delhi	5209.49	2493.28	3235.18	2661.74	61.04
5.	Jammu & Kashmir	3389.42	2553.94	3306.46	2612.80	77.16
6.	Ladakh	115.00	0.00	200.00	26.34	8.36
7.	Lakshadweep	7.90	0.00	9.28	17.18	100.00
8.	Puducherry	244.09	212.13	332.01	242.36	78.89

*- Expenditure of Both years

Figure 7a: Average Income Generated & Expenditure during 2020-21 & 2021-22 of SPCBs

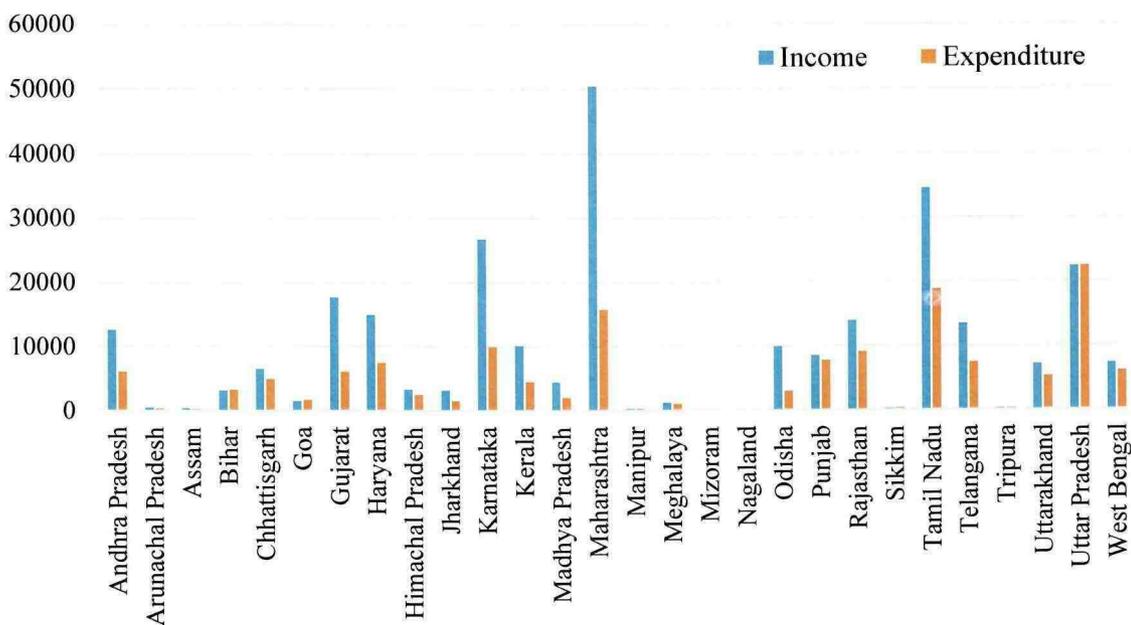
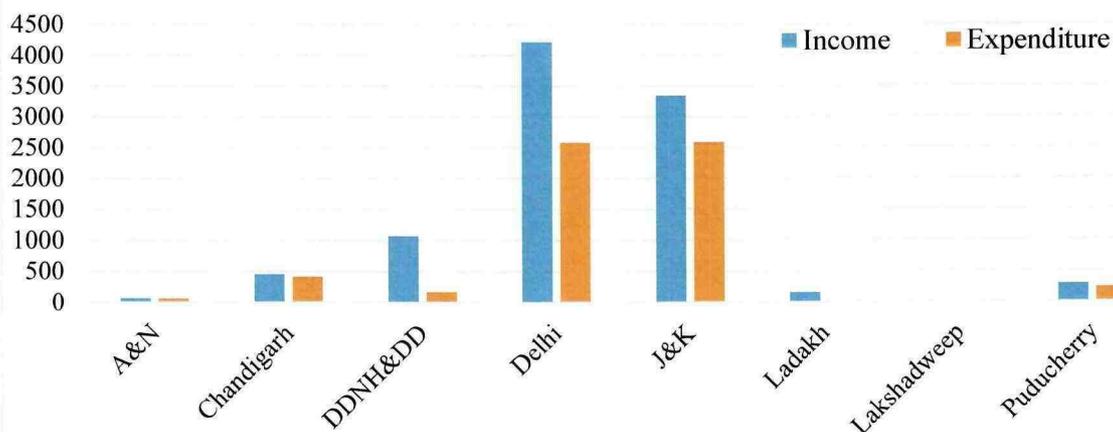


Figure 7b: Average Income Generated and Expenditure during 2020-21 & 2021-22 of PCCs



Note: The Fig. 7a & 7b are also given in a Chart Form separately at Appendix 1

The above Tables 9a & 9b reveals that the average revenue generation per annum based on FY 2020-21 and 2021-22 of SPCBs ranges between 155 Lakhs to 50,422 Lakhs and PCCs ranges between 8.5 Lakhs to 4,222 Lakhs and the average expenditure of SPCBs ranges 155 Lakhs to 18842 Lakhs. In terms of percentage, the average expenditure SPCBs ranges between 29 to 135% and PCCs ranges between 8 to 100% against the average revenue generation. In some SPCBs the expenditure was higher than the generation may be due to the previous carryover funds available with Boards.

7.2 Funding Assistance to SPCBs /PCCs under Central Sector Schemes

Funding assistance provided to SPCBs/ PCCs through CPCB under Central Sector Scheme (CSS) – Control of Pollution – Environmental Monitoring Programme (NAMP, NWMP, NANMN) and Assistance for abatement of pollution in lieu of Water Cess by MoEF&CC are tabulated at *Table 10a and Table 10b, also in chart form* as below:

Table 10a: Funding assistance provided to SPCBs / PCCs during 2020-21

S. No	SPCBs /PCCs	Amount in Lakhs			Total (a to c)
		NAMP (a)	NWMP (b)	AAoP (c)	
1.	Andaman & Nicobar	0.00	0.00	100.00	100.00
2.	Andhra Pradesh	0.00	41.22	0.00	41.22
3.	Arunachal Pradesh	4.91	0.00	100.00	104.91
4.	Assam	112.05	90.21	0.00	202.26
5.	Bihar	0.00	31.11	100.00	131.11
6.	Chandigarh	11.39	3.34	100.00	114.73
7.	Chattisgarh	71.33	16.50	0.00	87.83
8.	D&D and D&NH	19.36	16.96	0.00	36.32
9.	Delhi	0.00	0.00	0.00	0.00
10.	Goa	135.55	42.50	0.00	178.05
11.	Gujarat	0.00	59.95	1150.56	1210.51
12.	Haryana	0.00	13.54	0.00	13.54
13.	Himachal Pradesh	54.47	110.41	100.00	264.88
14.	Jammu & Kashmir	18.48	20.77	100.00	139.25
15.	Jharkhand	0.00	28.43	0.00	28.43
16.	Karnataka	0.00	116.38	263.00	379.38
17.	Kerala	0.00	57.96	0.00	57.96
18.	Ladakh	0.00	0.00	100.00	100.00
19.	Lakshadweep	0.00	3.05	0.00	3.05
20.	Madhya Pradesh	97.45	81.69	0.00	179.14
21.	Maharashtra	154.77	93.46	0.00	248.23
22.	Manipur	0.00	16.72	100.00	116.72
23.	Meghalaya	36.21	51.74	0.00	87.95
24.	Mizoram	23.20	35.46	100.00	158.66
25.	Nagaland	18.72	13.13	100.00	131.85

S. No	SPCBs /PCCs	NAMP	NWMP	AAoP	Total
		(a)	(b)	(c)	(a to c)
26.	Odisha	72.23	77.23	304.85	454.31
27.	Puducherry (UT)	14.08	7.25	0.00	21.33
28.	Punjab	0.00	44.13	410.79	454.92
29.	Rajasthan	62.48	27.62	0.00	90.10
30.	Sikkim	36.72	6.46	100.00	143.18
31.	Tamil Nadu	87.13	47.61	181.62	316.36
32.	Telangana	137.21	68.77	146.71	352.70
33.	Tripura	7.47	24.82	100.00	132.29
34.	Uttar Pradesh	0.00	20.39	1900.57	1920.96
35.	Uttarakhand	113.57	12.83	0.00	126.41
36.	West Bengal	474.55	31.86	668.98	1175.38
	Total	1763.33	1313.5	6227.08	9303.92

Table 10b: Funding assistance provided to SPCBs / PCCs during 2021-22

Amount in Lakhs

S. No	SPCBs /PCCs	NAMP	NWMP	AAoP	Total
		(a)	(b)	(c)	(a to c)
1.	Andaman & Nicobar	31.00	0.00	0.00	31.00
2.	Andhra Pradesh	358.86	47.81	2129.51	2536.18
3.	Arunachal Pradesh	37.32	0.20	60.91	98.43
4.	Assam	287.36	88.23	1215.08	1590.67
5.	Bihar	63.05	28.58	100.00	191.63
6.	Chandigarh	37.41	3.43	100.00	140.84
7.	Chattisgarh	87.38	12.00	390.54	489.92
8.	D&D and D&NH	17.00	12.94	0.00	29.94
9.	Delhi	0.00	3.32	333.87	337.20
10.	Goa	201.65	29.98	100.00	331.63
11.	Gujarat	138.95	44.23	2072.04	2255.21
12.	Haryana	0.00	7.70	440.30	448.00
13.	Himachal Pradesh	416.67	94.04	100.00	610.70
14.	Jammu & Kashmir	34.00	24.36	0.00	58.36
15.	Jharkhand	228.70	17.26	0.00	245.96
16.	Karnataka	155.54	115.96	546.33	817.82
17.	Kerala	176.80	42.60	100.00	319.40
18.	Ladakh	0.00	0.00	0.00	0.00
19.	Lakshadweep	17.00	3.60	0.00	20.60
20.	Madhya Pradesh	129.97	81.72	440.68	652.36
21.	Maharashtra	494.63	89.16	2385.85	2969.64
22.	Manipur	108.57	9.78	50.00	168.36
23.	Meghalaya	138.25	38.60	181.16	358.01
24.	Mizoram	335.37	27.63	245.20	608.20
25.	Nagaland	368.56	11.97	150.00	530.53
26.	Odisha	146.08	77.18	534.35	757.61
27.	Puducherry (UT)	79.33	3.17	100.00	3.17
28.	Punjab	238.31	28.47	1440.11	28.47
29.	Rajasthan	290.00	28.26	846.69	28.26

S. No	SPCBs /PCCs	NAMP	NWMP	AAoP	Total (a to c)
		(a)	(b)	(c)	
30.	Sikkim	67.61	6.31	120.04	6.31
31.	Tamil Nadu	83.99	47.36	730.21	861.57
32.	Telangana	123.53	83.85	342.89	550.26
33.	Tripura	64.54	33.86	227.96	326.35
34.	Uttar Pradesh	642.56	20.62	3444.57	4107.75
35.	Uttarakhand	97.84	17.88	266.56	382.27
36.	West Bengal	579.48	20.51	1172.63	1772.62
	Total	6277.31	1202.57	20367.48	24665.23

Figure 8a: Funding assistance to SPCBs / PCCs during 2020-21

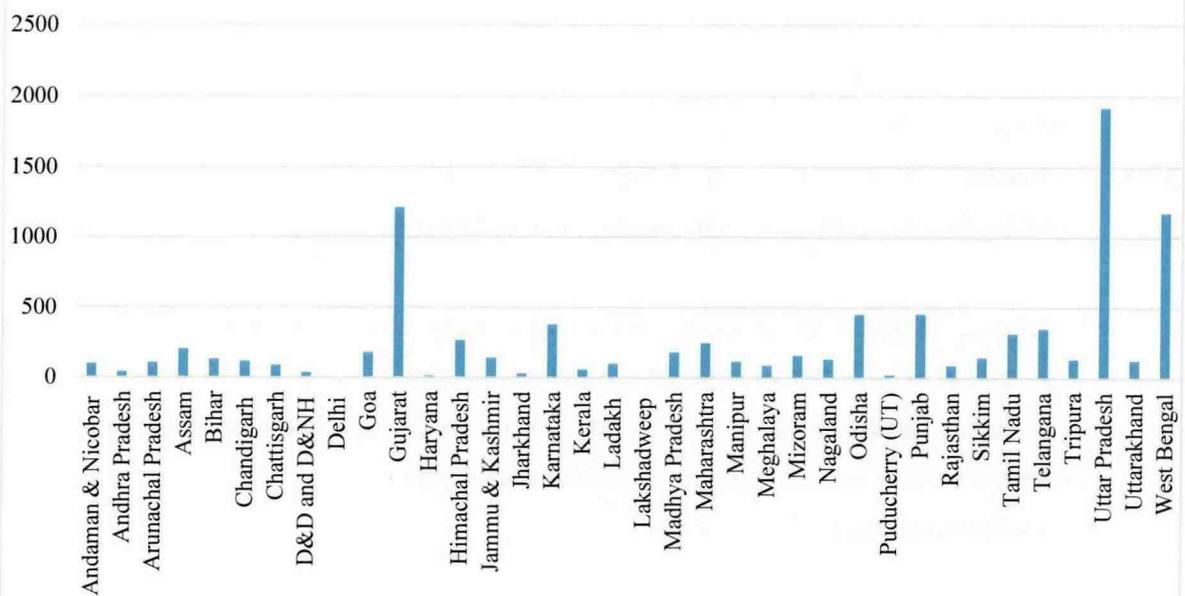
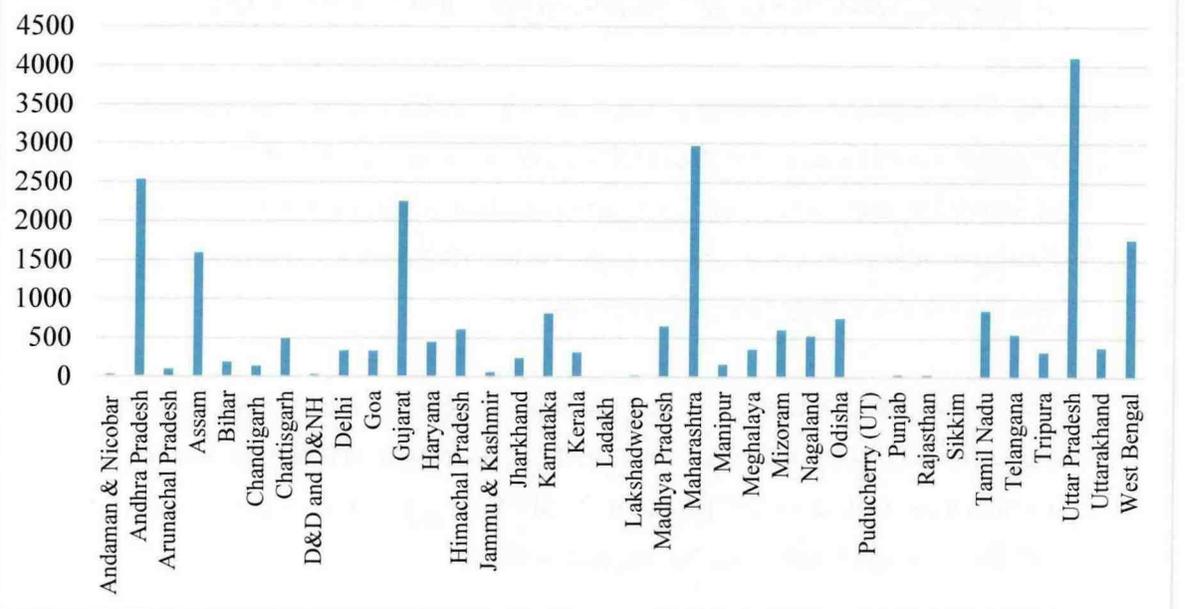


Figure 8b: Funding assistance to SPCBs / PCCs during 2021-22



Note: The Fig. 8a & 8b are also given in a Chart Form separately at **Appendix 1**

Further, total Rs.940 Lakh was sanctioned by MoEF&CC for establishment of Noise Monitoring Networks, accordingly funding assistance provided to Madhya Pradesh, Maharashtra and Punjab SPCBs amounting to Rs. 204 Lakhs for 12 Stations, Rs. 612 Lakhs for 36 Stations, and Rs. 136 lakhs for 8 Stations respectively during FY 2021-22 to FY 2022-23.

The above tables 10a and 10b reveals that total of Rs. 9,303 Lakhs during 2020-21 and Rs. 24,665 Lakhs during 2021-22 were reimbursed to the SPCBs / PCCs under Central Sector Scheme – Control of Pollution. *(Details are given at section 8.0 of this report)*

8.0 CONCLUSIONS

- a) The total sanctioned staff strength (regular) in 28 SPCBs and 08 PCCs are 12,016, wherein technical staff (Engineering and Science) is 6,719 nos. (56%) and non-technical / administrative staff (Accounts, Administration, Legal and Procurement etc.) is 5,297 nos. (54%). Out of 12,016 posts, 6,075 posts found vacant which accounts to 50.56%.

There are 13 SPCBs/PCCs where the vacancy is higher than the average vacancy of 50.56% and ranges between 58 to 84%. The average ratio administrative and technical staff as per sanctioned strength is about 1: 1.27. Some of the PCCs namely Chandigarh, Lakshadweep and Puducherry are not having sanctioned administrative posts and Ladakh is not having sanctioned technical posts.

Also, 16 SPCBs/PCCs have engaged 1,091 contractual staffs (596 Technical and 495 Admin.) for executing various activities. *(Details are given at section 2.0 of this report)*

- b) The Environmental Laboratories are generally established at two level i.e. Central and Regional /Zonal Level by SPCBs / PCCs as per workload (number of industries and frequency of inspection and monitoring) and timely analysis of environmental samples. Total 190 Environmental Laboratories are established in the SPCBs /PCCs, wherein 31 are Central Labs and 159 are Zonal /Regional / District Labs.

Out of 190 Labs, 14 Labs have obtained recognition (including NABL accreditation) under the Environment (Protection) Act, 1986 (EPA) and another 48 Labs have obtained only NABL accreditation. Out of 36 SPCBs/PCCs, 09 SPCBs are having recognition under EPA and 15 SPCBs / PCC are having only NABL accreditation.

Among the Pollution Control Committees (PCCs) , Andaman & Nicobar Islands, Dadra & Nagar Haveli and Daman & Diu, Ladakh and Lakshadweep PCCs don't have their own facilities but have arrangements with other Govt. / Private laboratories for monitoring and analytical activities. *(Details are given at section 3.1 of this report)*

- c) The present sanctioned staff strength (science discipline) in Laboratories are 2965 nos. Out of 2965, present working strength is 1,366 i.e. 46% and the vacancy is 1,599 i.e. 54%. Further, 16 SPCBs/PCCs have engaged 449 scientific staff on contractual basis which accounts to 28.08% of vacancy of scientific staff. *(Details are given at section 4.0 of this report)*
- d) CPCB in association with SPCBs / PCCs has established an environmental monitoring network for Ambient Air (962 Manual Stations and 538 Continuous stations of which 15 stations are operated & maintained by CPCB), Ambient Noise (82 Continuous stations which are operated by SPCBs), and Water Quality (at 4640 locations) in various States / UTs. The air, noise, and water quality monitoring networks are operated & maintained by SPCBs/PCCs under National Ambient Air Quality Monitoring Programme (NAMP), National Ambient Noise Monitoring Network (NANMN) and National Water Quality Monitoring Programme (NWMP) which are funded under Central Sector Scheme – Control of Pollution – Sub component Environmental Monitoring Programme (EMP). CPCB has also developed IT applications in different domain areas for environmental data collection and information dissemination & awareness. In addition, some of the SPCBs/PCCs have established monitoring stations with their own monitoring programmes. *(Details are given at section 3.2 of this report)*
- e) The major sources of budget for SPCBs/PCCs are (i) Consent fee from the industries under the Water (Prevention and Control of Pollution) Act, 1974 and the Water (Prevention and Control of Pollution) Act, 1981; (ii) Authorisation fee under various Waste Management Rules under Environment Protection Act, 1986; (iii) Environmental Sample Testing / Analysis Charges; (iv) Bank Guarantee forfeiture; (v) Funding Assistance under Central Sector Scheme – Control of Pollution – Environmental Monitoring Programme and Assistance for Abatement of Pollution in lieu of water cess; (vi) Environmental Compensation (EC) fund (vii) Grant-in-Aid from the respective State Government / UT and (viii) Interest earned on bank deposits etc.

The average revenue generation per annum based on FY 2020-21 and 2021-22 of SPCBs ranges between 155 Lakhs to 50,422 Lakhs and PCCs ranges between 8.5 Lakhs to 4,222 Lakhs and the average expenditure of SPCBs ranges 155 Lakhs to 18842 Lakhs and PCCs

ranges between 8.6 Lakhs to 2,583 Lakhs. In terms of percentage, the average expenditure SPCBs ranges between 29% to 135% and PCCs ranges between 8% to 100% against the average revenue generation. In some SPCBs the expenditure was higher than the generation, which may be due to the previous carryover funds available with Boards.

Total of Rs. 9,303 Lakhs during 2020-21 and Rs. 24,665 Lakhs during 2021-22 were reimbursed through CPCB to the SPCBs / PCCs under Central Sector Scheme – Control of Pollution granted by MoEF&CC. *(Details are given at section 7.0 of this report)*

0000000

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

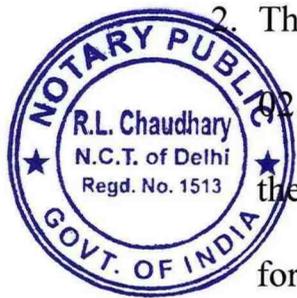
Original Application No. 693/2023

**IN RE: NEWS ITEM APPEARING IN DECCAN HERALD DATED
24.10.2023 TITLED "POLLUTION CONTROL BOARDS ARE
THE WEAK LINK"**

AFFIDAVIT

I, Mr. G. Thirumurthy S/o Shri C. Ganapathy aged about 53 years, working as Scientist E / Head of PCP Division, CPCB office at Parivesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032, do hereby solemnly affirm and declare as under:

1. That I am working as Scientist E / Head of PCP Division, CPCB in my official capacity. I have made myself fully aware about the facts from the records and documents available. Thus, I am fully conversant with the facts of the present case and competent to swear this Affidavit.
2. That the present Report has been filed in compliance with the Order dated 02.02.2024 passed by this Hon'ble Tribunal directing the CPCB to tabulate the information disclosed in the reports by the SPCBs/PCCs in the chart form to facilitate the factual appreciation and submit the tabulated information before this Hon'ble Tribunal.
3. That the present Report has been filed relying on the Reports, Data and information disclosed/shared by the concerned SPCBs/PCCs.



4. I state that I have gone through the contents of the Report and I further state that the contents of the same are true and correct to my knowledge.



[Handwritten Signature]

DEPONENT

VERIFICATION

05 APR 2024

Verified at New Delhi on this the ____ day of _____, 2024 that the contents of the above affidavit are true to my knowledge or derived from the records maintained in the regular course of business, no part thereof is false and nothing material has been concealed therefrom.

[Handwritten Signature]

DEPONENT

ATTESTED

[Handwritten Signature]
**NOTARY PUBLIC
GOVT. OF INDIA**

05 APR 2024



**Details of laboratory infrastructures available and further need at
Andhra Pradesh SPCB**

A. Instruments / Equipment Available:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1	Ice Boxes/Filtration assembly	04	25	COD digester condensers	04
2	Vacuum pump	04	26	Auto Dispenser, Digital Burette,	04
3	Thermometers	04	27	Water Purification System/ Distillation assembly,	04
4	Analytical balance	04	28	Flame Photometer	04
5	Desiccator	04	29	Cyanide assembly / Ion meter	04
6	Vis- Spectrophotometer	04	30	Muffle furnace	04
7	UV-Vis- Spectrophotometer	04	31	TKN Analyzer	04
8	pH meter	04	32	TOC analyzer.	04
9	DO meter	04	33	Bacteriological Incubator	04
10	Hot Air Oven	04	34	Stack kits	04
11	Hot air Oven	04	35	Water bath	04
12	BOD incubator	04	36	Autoclave	08
13	Rotary Evaporator	01	37	Laminar Flow Bench	04
14	GC with ECD-NPD	01	38	Microscope (100x)	04
15	FID/FPD	01	39	Aquaria	04
16	GC-MS	03	40	ICP-MS	01
17	Hotplate	02	41	Ultrasonic Water Bath	01
18	Digestion Chamber	02	42	GC	01
19	GC with ECD	02	43	RDS	03
20	PM2.5 sampler	04	44	AAS	01
21	VOC Monitor	01	45	Conductivity meter	04

B. Instruments / Equipment further needed: NIL

**Details of laboratory infrastructures available and further need at
Arunachal Pradesh SPCB**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	
1.	UV- Visible Spectrophotometer	✓
2.	BOD Incubator	✓
3.	COD Digester	✓
4.	Flame Photometer	✓
5.	Analytical Balance	✓
6.	pH Meter	✓
7.	Conductivity Meter	✓
8.	Turbidity Meter	✓
9.	Noise Meters	✓
10.	Refrigerator	✓
11.	Desiccator	✓
12.	Autoclave	✓
13.	Water Distillation Assembly	✓
14.	RDS along with gaseous attachment	✓
15.	HVS APM430 along with gaseous attachment	✓
16.	PM 2.5 Fine Particulate matter	✓
17.	Electronic Balance	✓
18.	Hot Air Oven	✓
19.	Inoculation Chamber/ Laminar Flow	✓
20.	Bacteriological Incubator	✓
21.	Incubator	✓
22.	Water Distillation Assembly	✓
23.	PM 10 Respirable dust samplers	✓
24.	Steam Indicator	✓
25.	Spirit lamp	✓

B. Instruments/ Equipment further needed:

S. No.	Instruments/ Equipment	
1.	Atomic absorption spectrophotometer	✓
2.	Autoclave	✓
3.	Centrifuge	✓
4.	Hg Analyser	✓
5.	Rotatory Evaporator	✓
6.	Digital balance upto 5 digits	✓
7.	Stack monitoring kit	✓
8.	Computer system with all accessories	✓
9.	Computer table with chair	✓
10.	Water purification system (type-i)	✓
11.	Laminar Flow	✓

12.	Micro Pipettes	✓
13.	Gas Chromatograph with ECD, FID, NPD, FPD	✓
14.	Bottom Sampler	✓
15.	Hot Plates	✓
16.	Microwave Digester	✓
17.	TKN Analyser semi-automatic with aluminum block digester	✓
18.	Water Bath (Thermostatic control)	✓
19.	Conductivity meter	✓
20.	Water Bath	✓
21.	Locker	✓
22.	Bio-safety cabinet	✓
23.	Electronic balance up to 6 digit	✓
24.	Computer with coloured printer	✓
25.	Biological Incubator	✓
26.	Refrigerator	✓
27.	Thermo scientific orion fluoride meter	✓
28.	Sampling Bottle 1.5 l	✓

**Details of laboratory infrastructures available and further need at
Assam SPCB**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Gas Chromatograph- Mass Spectrophotometer (GC-MS)	01	32.	UV-Vis Spectrophotometer	03
2.	Ion Chromatograph (IC)	01	33.	Incubator (small)	01
3.	Inductively coupled plasma- Optical Emission Spectroscopy	01	34.	Turbidity meter	03
4.	Atomic Absorption Spectrophotometer	01	35.	Ion Analyser	02
5.	Mercury Analyser	01	36.	Flame photometer	02
6.	Conductivity meter	01	37.	Conductivity meter	02
7.	DO meter	01	38.	Ph Meter	05
8.	Rotary Evaporator	01	39.	BOD incubator	05
9.	Ultrapure water purification system	01	40.	COD digester	05
10.	TKN Digester & Analyser	01	41.	Hot Air Oven	05
11.	Fume Chamber/ Hood	01	42.	Laminar flow	01
12.	Bacteriological Incubator	01	43.	Membrane filter apparatus	01
13.	Laminar Air Flow	01	44.	Oil & Grease separating unit	01
14.	Auto Clave	04	45.	Weighing balance	02
15.	Hot Plates	03	46.	Noise meter	05
16.	Water Bath	04	47.	Distill water plant	04
17.	Refrigerator	05	48.	Computer with printer	02
18.	Deep Freeze	01	49.	Emission Testing instrument (petrol)	02
19.	Muffle Furnace	01	50.	Incubator	01
20.	Microwave digester	01	51.	Wind Monitor	01
21.	Mechanical Shaker	01	52.	Stack monitoring kit	01
22.	VOC Analyser	01	53.	Low volume sampler	01
23.	CO Analyser	01	54.	Sound level meter	01
24.	Ozone Analyser	01	55.	Micro balance	05
25.	Flue Gas Analyser	01	56.	Semi Micro Balance	04
26.	PM10 (RDS Sampler)	05	57.	Electronic Weighing Balance	01
27.	PM2.5 Sampler	05	58.	Barometer	01
28.	Stereo Zoom Microscope	01	59.	Micro meter	01
29.	Aquarium (Bio-Assay)	01	60.	Microscope (Binocular)	01
30.	Bio-Monitoring Kit	01	61.	Thermometer	02
31.	Membrane Filter Apparatus	01	62.	Dessicators	05

B. Instruments/ Equipment further needed:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1.	COD Digestor with chamber	05	13.	PM 10 (RDS) sampler	50
2.	BOD Incubator	05	14.	PM 2.5 (Fine particulate matter) sampler	50
3.	Micro balance	05	15.	CAAQMS	10
4.	Weighing balance	05	16.	Electronic Display board	20
5.	Hot Air oven	05	17.	Ultrapure Water purification system	06
6.	Refrigerator	05	18.	Zero head space extractor	02
7.	pH	05	19.	Ion meter with electrodes	04
8.	Noise meter	11	20.	Turbidity meter	06
9.	Desiccators	10	21.	Bacteriological Incubator	05
10.	Hot Air oven	05	22.	UV-Vis Spectrophotometer	05
11.	Noise meter	20	23.	DO meter	05
12.	Conductivity	05			

**Details of laboratory infrastructures available and further need at
Bihar SPCB**

A. Instruments/ Equipment Available:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1.	Bacteriological Incubators	01	30.	Charcoal tubes	01
2.	Refrigerator	01	31.	Filtration assembly	01
3.	Autoclave	01	32.	Stop watch	02
4.	Microscope	01	33.	Hot air oven	05
5.	Cold room	02	34.	Muffle furnace	01
6.	Colony counter	01	35.	Water bath	01
7.	Hot plate	01	36.	Meteorological sensors	12
8.	Ice box	06	37.	Noise level Meter	05
9.	Refrigerator	02	38.	Water purification assembly	02
10.	Water purifier	01	39.	BOD incubator	01
11.	GPS	01	40.	COD digester	02
12.	Spectrophotometer	01	41.	DO sampler	05
13.	Burette digital	01	42.	Magnetic stirrer	01
14.	Electronic balance	01	43.	Microwave digester	01
15.	pH meter	05	44.	Vacuum pump	01
16.	Conductivity meter	04	45.	Water testing kit	05
17.	Glass distillation water assembly	03	46.	Analytical balance	04
18.	Thermometer	08	47.	Flame photometer	01
19.	DO meter	04	48.	Gas chromatograph	01
20.	Dust analyser	01	49.	Portable analyser kit	05
21.	Handy sampler	02	50.	Vis spectrophotometer	01
22.	High volume sampler	30	51.	Total organic carbon analyser	01
23.	Low flow pump	04	52.	Elemental analyser	01
24.	Micro balance	01	53.	BTX analyser	03
25.	Multi calibration system	03	54.	BTX calibrator	01
26.	Multi-channel recorder	03	55.	RSPM sampler	36
27.	Multi calibration kit	03	56.	SO2 analyser (online)	03
28.	NO-NO2-NOX Analyser	03	57.	Stack monitoring kit	11
29.	Ozone analyser	09	58.	Permeation tubes for calibration	03

B. Instruments/ Equipment further Needed:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1.	Analytical Balance (weighing upto 0.01 mg)	10	22.	Magnetic Stirrer with Hot plate	05
2.	Atomic Absorption Spectrophotometer with Graphite	04	23.	Microwave Digester	03

	Furnace and Hydride Generation System				
3.	Autoclave	05	24.	Muffle Furnace	05
4.	Binocular Microscope	05	25.	pH Meter with combined glass electrode	10
5.	Bottom sampler	05	26.	Portable Analyzer Kit (DO, pH, Temp. Cond.)	10
6.	BOD Incubator	05	27.	Precision Balance weighing up to 1 mg	05
7.	COD Digester with aluminium heating block system	10	28.	Rotary evaporator	01
8.	Colony Counter (Electronic)	01	29.	Spectrophotometer (Ultra Violet-Visible)	04
9.	Conductivity Meter	10	30.	Spectrophotometer (visible)	05
10.	Digester with condensers	05	31.	TKN Analyzer semi automatic with aluminium block digester	05
11.	Digestion chamber (Fume Hood)	05	32.	Turbidity meter	10
12.	Flame Photometer	05	33.	Vacuum pump	05
13.	Filtration Assembly with vacuum pump	05	34.	Water Purification System (RO based)	4
14.	Gas Chromatograph with ECD, FID, NPD, FPD	05	35.	Water Distillation Assembly (Glass)	05
15.	High Pressure Liquid Chromatograph	01	36.	Water Bath (Thermostatic control)	05
16.	Hot Air Oven	08	37.	Air conditioner (split type)	20
17.	Incubators for Bacteriological Tests	05	38.	Air conditioner (window type)	04
18.	Ion Chromatograph	01	39.	Cold room for sample storage	4
19.	Laminar Flow (Inoculation chamber)	05	40.	Computer with printer (Data logger)	12
20.	Liquid Handling systems (Dispensers)	05	41.	Refrigerator (Frost free, CFC free)	05
21.	Mercury Analyzer Digital	05	42.	Uninterrupted Power Supply (U.P.S.) system 7.5 KVA	05

**Details of laboratory infrastructures available and further need at
Chhattisgarh ECB**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	
1.	PM10 Sampler	✓
2.	PM2.5 Sampler	✓
3.	Stack monitoring kit	✓
4.	Ice Box	✓
5.	Thermometer	✓
6.	Analytical Balance	✓
7.	Desiccatores	✓
8.	UV-Vis. Spectrophotometer	✓
9.	pH meter	✓
10.	Conductivity meter	✓
11.	Desiccator	✓
12.	BOD incubator	✓
13.	COD digester	✓
14.	Condensers set	✓
15.	Water purification system/Distillation assembly	✓
16.	Bactariological Incubator	✓
17.	Autoclave	✓
18.	Turbidity meter	✓

B. Instruments/ Equipment further needed:

S. No.	Instruments/ Equipment	
1.	Atomic absorption spectrophotometer	✓
2.	Autoclave	✓
3.	Centrifuge	✓
4.	Hg Analyser	✓
5.	Rotatory Evaporator	✓
6.	Digital balance upto 5 digits	✓
7.	Stack monitoring kit	✓
8.	Computer system with all accessories	✓
9.	Computer table with chair	✓
10.	Water purification system (type-i)	✓
11.	Laminar Flow	✓
12.	Micro Pipettes	✓
13.	Gas Chromatograph with ECD, FID, NPD, FPD	✓
14.	Bottom Sampler	✓
15.	Hot Plates	✓
16.	Microwave Digester	✓
17.	TKN Analyser semi-automatic with aluminum block digester	✓

18.	Water Bath (Thermostatic control)	✓
19.	Conductivity meter	✓
20.	Water Bath	✓
21.	Locker	✓
22.	Bio-safety cabinet	✓
23.	Electronic balance upto 6 digit	✓
24.	Computer with coloured printer	✓
25.	Biological Incubator	✓
26.	Refrigerator	✓
27.	Thermo scientific orion fluoride meter	✓
28.	Sampling Bottle 1.5 l	✓

**Details of laboratory infrastructures available and further need at
Goa SPCB**

A. Instruments/ Equipment Available:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1.	Oven	03	22.	Water Bath	02
2.	Autoclave	04	23.	Flame photometer	01
3.	TCLP	01	24.	Total Kjeldhal nitrogen	01
4.	ICPMS (Inductive Couple Plasma Mass Spectrophotometer)	01	25.	Heating mantle	06
5.	Microwave digestive system	01	26.	Auto Secador Desiccator	01
6.	Water bath incubator	02	27.	Micro balance	01
7.	Hot Plate	02	28.	Weighing balance	03
8.	Bomb Calorimeter	01	29.	U.V. Visible spectrophotometer	01
9.	TOC	01	30.	Ph meter	02
10.	Digital Colony Counter	01	31.	Conductivity meter	02
11.	Microscope	01	32.	Fluoride analyser	01
12.	Bio Safety Chemist	01	33.	Turbidity meter	02
13.	GC-MS	01	34.	Dissolved Oxygen	01
14.	Laminar Air Flow	01	35.	Flow meter	02
15.	Milli Water purification system	02	36.	Remi revolutionary centrifuge	01
16.	Sound level meter	04	37.	Hot plate with magnetic stirrer	02
17.	COD digestor	03	38.	BOD incubator	03
18.	Refrigerator	02	39.	Online noise meter	04
19.	Muffle furnace	01	40.	Respirable dust sampler	06
20.	Fine particulate sampler	04	41.	CO Analyser	01
21.	Ozone Analyser	01	42.	Stack Monitoring Kits	02

B. Instruments/ Equipment further needed:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1.	Microbiology laboratory design and set up	01	17.	Toxicology laboratory set up	01
2.	Electric Bunsen burner	02	18.	Laboratory glassware washer	01
3.	Icebox	10	19.	Automatic loop sterilizer	02
4.	Bottle top dispenser	02	20.	Conductivity meter	04
5.	Digital Hygrometer/ thermometer with clock LCD display	05	21.	Hygrometer	10
6.	Master calibrator for flow rate for FPS	01	22.	Weigh box E2 Class	01
7.	Weighing balance 5 digits	01	23.	GPS	06
8.	Weather monitoring stations	01	24.	Ph meter	04
9.	DO meter	02	25.	Digital Weighing balance	04
10.	Water purifier Aqua Guard	01	26.	Refrigerators	02
11.	Glassware	01	27.	Water Bath	03
12.	Ultra-pure system	03	28.	Atomic absorption	01

				spectrometer	
13.	Total Organic Carbon Analyser	01	29.	Liquid Chromatograph Mass spectrometer	01
14.	Vertical Laminar Air Flow	01	30.	Digital Colony Counter	01
15.	Streozoom Microscope	01	31.	Compound Microscope	01
16.	Incubators	04			

**Details of laboratory infrastructures available and further need at
Gujarat SPCB**

A. Instruments/ Equipment Available:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1.	Digital Burrate	05	39.	Ammonical Nitrogen	01
2.	BOD Incubator	03	40.	Ion Meter	01
3.	Digital Thermometer	01	41.	HRGC-HRMS	01
4.	Muffle Furnace	01	42.	LC-MS/MS	01
5.	Heating Oven	02	43.	Rotary Vacuum Eva operator	01
6.	COD Digester	03	44.	Solvent (Accelerated) Extraction System	01
7.	Bact. Incubator	02	45.	Total Organic Carbon Analyzer	01
8.	Weighting Balance	01	46.	HPLC	01
9.	Balance	01	47.	Inductively Coupled Plasma Mass Spectrometer	01
10.	Laminar Air Flow	01	48.	GCMS (Volatile Organic Compound Analyser)	01
11.	Serological Water Bath	01	49.	Zero Space Extractor	01
12.	Sterilization Media Autoclave	01	50.	Water Purification System	01
13.	Autoclave for Discard	01	51.	UV-Visible Spectrophotometer	01
14.	pH meter	02	52.	Microwave Digester	01
15.	Conductivity meter	02	53.	X-ray Diffractometer (XRD)	01
16.	Microscope	01	54.	Gas Chromatograph with NPD and FPD	01
17.	Colony Counter	01	55.	Spectrofluorometer	01
18.	Bio safety cabinet	01	56.	Gas Chromatograph with ECD,FPD, and FID	01
19.	Water Bath	01	57.	Micro Digital Balance(METTLER Toledo)	01
20.	TKN Assembly	01	58.	Atomic Absorption Spectrophotometer-(AAS)	01
21.	Digestion Hot Plate with fuming hood	01	59.	Microscope Binocular & attached display System	01
22.	Flame Photometer	01	60.	Micro Digital Balance (Aczet)	01
23.	Heating Mental -06 Nos.	06	61.	Noise Level Meter with Data Logger	01
24.	AAS	01	62.	Specific Ion Meter EUTECH Model -ION-277	01
25.	Spectrophotometer	01	63.	TKN Analyser	01
26.	Turbidity meter	01	64.	Hot Air Oven (Medium Size)	01
27.	Weight Box	01	65.	Spectralab COD Digester	02
28.	Pressure Gauge of Autoclave	02	66.	Muffle Furnace (HVGPS System) LED Display	01
29.	Wet & Dry Thermometer	02	67.	Mettler Toledo Model ME-204 (Weighing Balance)	01
30.	Glass Thermometer	03	68.	BOD Incubator	01
31.	Balance (6g)	01	69.	Colorimeter	01

32.	Micro Digital Balance(METTLER Toledo)	01	70.	Hot Air Oven (Medium Size)	01
33.	Atomic Absorption Spectrophotometer-(AAS)	01	71.	Spectralab COD Digester	02
34.	Microscope Binocular & attached display System	01	72.	Muffle Furnace (HVGPS System) LED Display	01
35.	Micro Digital Balance (Azet)	01	73.	Mettler Toledo Model ME-204 (Weighing Balance)	01
36.	Noise Level Meter with Data Logger-Casella make	01	74.	BOD Incubator	01
37.	Specific Ion Meter EUTECH Model - ION-277	01	75.	Colorimeter	01
38.	TKN Analyser	01			

B. Instruments/ Equipment further needed:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1.	Hot air oven	08	26.	Rotary Evaporator	04
2.	Muffle furnace	04	27.	Spectrophotometer- Ultraviolet & visible	09
3.	Standard weight	09	28.	Specific Ion Meter	09
4.	Refrigerator big size 300 liters or above	12	29.	Total Organic Carbon Analyzer	06
5.	Deep Freezer-90 lit ,-200C	06	30.	Dispensor	09
6.	Cold Room-15000 lit,temp n20-80c	01	31.	Digitl Burette	09
7.	Autoclave	10	32.	Micro Pipette	09
8.	BOD Incubator	09	33.	Bomb colorimeter-semi	09
9.	Centrifuge	09	34.	Toxicity characteristic leaching procedure (TCLP) extractor	06
10.	COD Digester with aluminum heating Blocks	09	35.	Mobile Monitoring van with CAAQMS	04
11.	Colony Counter	09	36.	Portable Gas Analyser for estimation/analysis of Volatile Organic Compounds	28
12.	Flocculator (Jar testing apparatus)	09	37.	Portable Analyser for Water Parameters like pH, TDS, Conductivity, Salinity, DO, Ammonia-NH ₃ ,ION Electrodes	64
13.	Flow meter	37	38.	pH Meter	10
14.	Incubator for bacteriological test	18	39.	Turbidity meter	10
15.	Bio Safety Cabinete	09	40.	Organic Halogen Analyzer (AOX/TOX)	03
16.	Mechanical Shaker	09	41.	Binocular Microscope	09
17.	Microwave digester	06	42.	Flame Photometer	09
18.	TKN Analyzer semi- automatic with aluminum block digester	02	43.	Gas Chromatograph with following detector	03
19.	Ultrasonic water bath	09	44.	GC-MS with ancillary parts	02
20.	Vacuum pump	18	45.	Ion Chromatograph	01
21.	Water purification / distillation assembly	06	46.	Mercury Analyzer Digital	09
22.	Chloroscope for residual chlorine	18	47.	Analytical Balance + [1 mg]	09
23.	Lovibond Colour Comparator	09	48.	Analytical Balance + [0.1 mg]	09
24.	Refractometer(Salinity Meter),	09	49.	Conductivity Meter	10
25.	Karl Fischer titrator	09	50.	Dissolved oxygen meter	10

**Details of laboratory infrastructures available and further need at
Himachal Pradesh SPCB**

A. Instruments/ Equipment Available:

S. No.	Instruments/ Equipment	
1.	UV- Visible Spectrophotometer	✓
2.	BOD Incubator	✓
3.	COD Digester	✓
4.	Flame Photometer	✓
5.	Water Purification System	✓
6.	Analytical Balance	✓
7.	pH Meter	✓
8.	Conductivity Meter	✓
9.	Turbidity Meter	✓
10.	Fume Hood	✓
11.	Noise Meters	✓
12.	Visible Spectrometer	✓
13.	Refrigerator	✓
14.	Electronic Balance	✓
15.	Magnetic Stirrer with heater accessories	✓
16.	Conductivity/ TDS meter	✓
17.	Digestion Chamber (Fume Hood)	✓
18.	Filtration Assembly (6 Fold with vacuum pump)	✓
19.	Magnetic stirrer with hot plate	✓
20.	Spectrophotometer	✓
21.	Decicators	✓
22.	Digital Camera	✓
23.	Stabilizer 1KV	✓
24.	Autoclave	✓
25.	Water Distillation Assembly	✓
26.	Magnetic stirrer with hot plate	✓
27.	pH meter with combined glass electrode bench top	✓
28.	Digital Thermometer	✓
29.	Aerator	✓
30.	Water Purification System	✓
31.	Refrigerator (Frost Free, CFC free)	✓
32.	PM 2.5 Dust Sampler	✓
33.	Hot Air Oven	✓
34.	Filtration Assembly	✓
35.	Vacuum Pump	✓
36.	Muffle Furnace	✓
37.	Water Bath	✓
38.	RDS along with gaseous attachment	✓
39.	HVS APM430 along with gaseous attachment	✓
40.	PM 2.5 Fine Particulate matter	✓

41.	Micro-Metero monitor Envirotech WM271	✓
42.	Stack Monitoring kit	✓
43.	Electronic Balance	✓
44.	Hot Air Oven	✓
45.	Inoculation Chamber/ Laminar Flow	✓
46.	Bacteriological Incubator	✓
47.	Autoclave Cylinder Vertical	✓
48.	Electronic balance (Shimadzu)	✓
49.	Single Flask Membrane Filtration Assembly	✓
50.	Filtration Assembly with vacuum pump	✓
51.	Liquid Handling System (Dispenser)	✓
52.	Muffle furnace	✓
53.	Magnetic Stirrer	✓
54.	Computer System	✓
55.	Incubator	✓
56.	Invertor with batteries	✓
57.	Deep Freezer	✓
58.	Water Distillation Assembly	✓
59.	PM 10 Respirable dust samplers	✓
60.	Stack Monitoring Kit	✓

B. Instruments/ Equipment further needed:

S. No.	Instruments/ Equipment	
1.	Atomic absorption spectrophotometer	✓
2.	Centrifuge	✓
3.	Hg Analyser	✓
4.	Rotatory Evaporator	✓
5.	Air Conditioner	✓
6.	Stack monitoring kit	✓
7.	Autoclave	✓
8.	Computer system with all accessories	✓
9.	Computer table with chair	✓
10.	Hot air oven	✓
11.	Ice box	✓
12.	Water purification system (type-i)	✓
13.	Laminar Flow	✓
14.	Hot Air oven	✓
15.	Micro Pipettes	✓
16.	Gas Chromatograph with ECD, FID, NPD, FPD	✓
17.	Bottom Sampler	✓
18.	Hot Plates	✓
19.	Microwave Digester	✓
20.	TKN Analyser semi-automatic with aluminum block digester	✓
21.	Water Bath (Thermostatic control)	✓
22.	Conductivity meter	✓

23.	Digital balance up to 4 digits	✓
24.	Water Bath	✓
25.	Locker	✓
26.	Bio-safety cabinet	✓
27.	Refrigerator	✓
28.	Electronic balance up to 6 digit	✓
29.	Computer with coloured printer	✓
30.	Biological Incubator	✓
31.	Specific Ion Meter	✓
32.	UPS	✓

**Details of laboratory infrastructures available and further need at
Jharkhand SPCB**

A. Instruments/ Equipment Available:

S. No.	Instruments/ Equipment	
1.	Air Quality Equipment (RDS sampler APM 460 NL)	✓
2.	Air Quality Equipment (APM 550 MFC 2.5)	✓
3.	Stack Sampler6 (VSS-1)	✓
4.	Sound Level Equipment	✓
5.	Total organic Carbon Analyzer Microwave Digestor	✓
6.	RO Based Water Purification System	✓
7.	UV-VIS Spectrophotometer	✓
8.	Atomic Absorber Spectrophotometer (AAS)	✓
9.	BOD Incubator	✓
10.	Bacteriological Incubator COD	✓
11.	Hygrometer	✓
12.	Filtration Assembly	✓
13.	Megnetic Stirrer	✓
14.	Orset Appratus	✓
15.	Vacume Pump	✓
16.	Refrigereator 290 Litrs	✓
17.	Water Bath	✓
18.	Water Bath Thermostatic	✓
19.	GPS & Accessories	✓
20.	Aqua Guard cum Water Filter	✓
21.	Inverter with Battery	✓
22.	Computer set	✓
23.	Printer Set	✓
24.	Photocopier	✓

B. Instruments/ Equipment further needed:

S. No.	Instruments / Equipment	
1.	RDS	✓
2.	Electronic Balance (Sartorius Make)	✓
3.	COD Digester	✓
4.	Pocket PH Meter	✓
5.	Stack Kit	✓
6.	DO Meter	✓
7.	Water Analysis Kit	✓
8.	BOD Incubator	✓
9.	Bacteriological Incubator	✓
10.	Water Filtration TSS (Millipore Make)	✓
11.	Autoclave	✓
12.	Conductivity Meter	✓

13.	pH Meter	✓
14.	Hygro Meter	✓
15.	Turbidity Meter	✓
16.	Double Distillation Set	✓
17.	Water Bath	✓
18.	Burette	✓

**Details of laboratory infrastructures available and further need at
Kerala SPCB**

A. Instruments/ Equipment Available:

S. No.	Instruments/ Equipment	
1.	UV- Visible Spectrophotometer	✓
2.	BOD Incubator	✓
3.	COD Digester	✓
4.	Flame Photometer	✓
5.	Water Purification System	✓
6.	Specific Ion Meter	✓
7.	Analytical Balance	✓
8.	pH Meter	✓
9.	Conductivity Meter	✓
10.	Turbidity Meter	✓
11.	Fume Hood	✓
12.	Noise Meters	✓
13.	Visible Spectrometer	✓
14.	Refrigerator	✓
15.	Electronic Colony Counter	✓
16.	Conductivity/ TDS meter	✓
17.	Digestion Chamber (Fume Hood)	✓
18.	Filtration Assembly (6 Fold with vacuum pump)	✓
19.	Magnetic stirrer with hot plate	✓
20.	Spectrophotometer	✓
21.	Autoclave	✓
22.	Water Distillation Assembly	✓
23.	Colony Counter	✓
24.	Magnetic stirrer with hot plate	✓
25.	Ph meter with combined glass electrode bench top	✓
26.	Specific ion meter	✓
27.	Water Purification System	✓
28.	Refrigerator (Frost Free, CFC free)	✓
29.	PM 2.5 Dust Sampler	✓
30.	Hot Air Oven	✓
31.	Refrigerator	✓
32.	Vacuum Pump	✓
33.	Water Bath	✓
34.	PM 2.5 Fine Particulate matter	✓
35.	Stack Monitoring kit	✓
36.	Electronic Balance	✓
37.	Hot Air Oven	✓
38.	Inoculation Chamber/ Laminar Flow	✓
39.	Bacteriological Incubator	✓
40.	Autoclave Cylinder Vertical	✓

41.	Automatic Burette Digital	✓
42.	Filtration Assembly with vacuum pump	✓
43.	Incubator	✓
44.	Bio-safety cabinet	✓
45.	Vortex mixer	✓
46.	Portable Analyzer Kit	✓
47.	pH meter pen type	✓
48.	COD photometer	✓
49.	Deep Freezer	✓
50.	Water Distillation Assembly	✓
51.	Stack Monitoring Kit	✓

B. Instruments/ Equipment further needed:

S. No.	Name of Instruments/ Equipment	
1.	Hg Analyser	✓
2.	Digital balance upto 5 digits	✓
3.	Air Conditioner	✓
4.	Computer system with all accessories	✓
5.	Computer table with chair	✓
6.	Ice box	✓
7.	Bottom Sampler	✓
8.	Microwave Digester	✓
9.	Locker	✓
10.	Computer with coloured printer	✓

**Details of laboratory infrastructures available and further need at
Madhya Pradesh SPCB**

A. Instruments/ Equipment Available:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1	Atomic Absorption Spectrophotometer with Flame & Graphite Furnace and Hydride Generation System	02	28	Depth Sampler	05
2	Analytical Balance 1 mg	05	29	Digester with condensers	10
3	Conductivity Meter	05	30	Digestion chamber	02
4	Dissolved oxygen meter	10	31	Incubator for bacteriological test	02
5	pH Meter with combined glass electrode	05	32	Laminar flow	02
6	Turbidity meter	05	33	Magnetic Stirrer with hot plate	10
7	Flame Photometer	02	34	Mechanical Shaker	02
8	Mercury Analyzer Digital	03	35	Microwave digester	02
9	Portable Analyzer Kit (DO, pH, Temp. Cond.)	05	36	TKN Analyzer semi automatic with aluminum block digester	04
10	Precision Balance weighing up to 1 mg (water / air)	05	37	Ultrasonic water bath	03
11	Rotary Evaporator	02	38	Vacuum pump	05
12	Spectrophotometer (Visible) or Ultraviolet & visible	02	39	Water purification / distillation assembly	05
13	Filtration assembly	05	40	Chloroscope for residual chlorine	10
14	Heating Mantle	02	41	Bomb colorimeter	02
15	Hot air oven	06	42	Elemental analyzer	02
16	Hot plate	06	43	Flash point apparatus	02
17	Muffle furnace	04	44	Moisture content meter	02
18	Standard weight	05	45	Zero head space extractor (ZHE)	02
19	Water bath	06	46	BTX analyzer (PID/FID detector)	01
20	Thermometer/s	10	47	CO Analyzer	01
21	Autoclave	04	48	Flue gas analyzer	02
22	Bottom sampler	05	49	Noise level meter	02
23	BOD Incubator	05	50	Micro balance (Readability 1 µg)	05
24	Centrifuge	10	51	RSPM sampler	10
25	Aquarium for bioassay test	20	52	Stack monitoring kit	05
26	COD Digester with aluminium heating blocks	05	53	TOC Analyser	02
27	Colony Counter	10			

B. Instruments/ Equipment further needed: NIL

**Details of laboratory infrastructures available and further need at
Manipur SPCB**

A. Instruments/ Equipment Available:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1.	Digital Ph Meter	01	14.	Digital TDS meter	01
2.	Lamination Air Flow	01	15.	Inclined binocular microscope	01
3.	Water Purification System	01	16.	Nitrogen Analyser	01
4.	BOD incubator	01	17.	COD digestion unit	01
5.	Portable Ph meter handy	01	18.	RDS PM10	21
6.	Vertical Autoclave heavy duty	01	19.	FPS PM2.5	15
7.	Magnetic Stir hotplate	01	20.	Spectrophotometer	01
8.	Rectangular water bath	01	21.	Ultra-pure water purifier	01
9.	UV-Spectrophotometer	01	22.	Electronic weighing balance	03
10.	Ion Analyser	01	23.	Nitrogen protein system: Digestion system Distillation system Scrubber system	01 01 01
11.	Weighing Balance	01	24.	Dryer	01
12.	Hot plate	01	25.	Muffler	01
13.	Digital D.O. meter	01			

B. Instruments/ Equipment further needed: NIL

**Details of laboratory infrastructures available and further need at
Meghalaya SPCB**

A. Instruments/ Equipment Available:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1	Multigas Analyzer	04	32	Microscope Lamp Kochler Substage	01
2	Micro balance	01	33	Rotary shaker with stainless steel platform CAP 36nos. of 250ml flash	01
3	Digital Anemometer (Hand Held)	10	34	Ultra-Sonic Water Bath (Ultrasonic Cleaner)	01
4	Humidity Meter (Hand Held)	10	35	Alpha/B radio activity counter radiation counting system, Alpha Probe AP/165	01
5	CO Analyzer (Portable)	01	36	. Handy Sampler for gaseous monitoring	01
6	Microscopes	01	37	COD Digester with aluminium heating Block System	02
7	Hot Plate (Rectangular)	03	38	Karl Fisher moisture Content Meter	01
8	Handheld Dissolved Oxygen Meter	05	39	. Hot Air Oven	06
9	Portable Digital Thermometer with Probe	05	40	Vertical Autoclave	01
10	Rain Gauze	12	41	Muffle Furnace	01
11	Conductivity Meter	01	42	Nephelometer/Turbidity Meter	01
12	Handheld Conductivity/TDS Meter	05	43	Incubator Universal	03
13	Waterproof Hand-Held pH Meter	05	44	Micro pH System with special glass electrode	01
14	Weight Box F2 Class	01	45	Rotary Evaporator	01
15	Respirable Dust Sampler APM 460	03	46	BOMB Calorimeter Controlled Jacket Vessel	01
16	PM 2.5 sampler new improves APM 550MFC fine	15	47	Colony Counter (digital) Hi-Media	01
17	Noise Meter SLM 109	02	48	Turbidity Meter (Digital)	01
18	Digital Thermometer and Hygrometer	01	49	Hand Held Anemometer with wind Vane and Temperature	02
19	Flue Gas Analyzer	01	50	(Handy Sampler) for Gaseous Monitoring	01
20	Water Purification System (RD) based Millipore Synergy	01	51	Benzene Sampler	01
21	UV-Visible Spectrophotometer	04	52	Water Purification	01
22	Atomic Absorption Spectrophotometer with graphic furnace and Hydride Generator System	01	53	Toxicity Characteristic Leaching Procedure (TCLP) Zero Head Extractor (ZHE)	01
23	Gas Chromatograph with ECD FID Detector	01	54	Ion Chromatograph	01
24	Balance Mattler	04	55	Mercury Analyzer	01
25	Sound Level Meter	04	56	Water Distillation Unit	02
26	Smoke Meter Netal	04	57	Smoke Density Meter	04

27	Orsat Gas Analysis Unit (JSGWS)	01	58	Stack Monitoring Kit	03
28	Hand Held Conductivity Meter	01	59	BOD Incubator Caltron Deluxe	02
29	Global Positioning System	02	60	Anemometer (Digital)	10
30	Binocular Stereo Microscope	01	61	Temperature and Humidity (Digital)	10
31	Colony Counter – Electronics	01			

B. Instruments/ Equipment further Needed: NIL

**Details of laboratory infrastructures available and further need at
Mizoram SPCB**

A. Instruments/ Equipment Available:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1	Computer with Printer	05	19	pH meter	01
2	Refrigerator, 300lts or above (frost free, CFC free)	03	20	Potable Analyser Kit (DO, pH, Temperature, Conductivity)	01
3	Uninterrupted Power Supply	01	21	Spectrophotometer (UV-Vis)	01
4	Digestion Chamber	01	22	Spectrophotometer (Visible)	01
5	Air conditioner (window type)	01	23	Turbidity meter	01
6	Autoclave	01	24	Water Bath (Thermostatic controlled)	01
7	BOD Incubator	01	25	Bomb Calorimeter	01
8	Current meter	01	26	Analytical balance	02
9	Hot Air oven	01	27	COD digester	01
10	Incubator for bacteriological tests	01	28	Heating mantle	01
11	Laminar Flow (Incubation Chamber)	01	29	pH meter with combined glass electrode	01
12	Magnetic stirrer with hot plate	02	30	Stereo Microscope	01
13	Mechanical shaker	01	31	Micro balance (readability 1micro gram)	01
14	TKN Analyser	01	32	PM 2.5 sampler	04
15	Water purification system	01	33	Noise level meter	04
16	Atomic Absorption spectrophotometer	01	34	RSPM sampler with flow controller/ brush less motor + calibration kit	04
17	Conductivity meter	01	35	WS/ WD monitor with data blogger	01
18	Flame photometer	01			

B. Instruments/ Equipment further Needed:

S. No.	Instruments / Equipment	Qty.	S. No.	Instruments / Equipment	Qty.
1	Cold room for sample storage	03	45	Gas chromatograph with ECD, NPD, FID Detector	03
2	Constant Voltage Transformer	03	46	HPLC	03
3	Computer with Printer	03	47	Mercury Analyser Digital	03
4	Exhaust System	03	48	pH meter	03
5	Refrigerator, 300lts or above (frost free, CFC free)	03	49	Potable Analyser Kit (DO, Ph, Temperature, Conductivity)	03
6	Trolley for sample transportation	06	50	Specific Ion Meter (Microprocessor controlled)	03
7	Tool Kit (Electrical & Mechanical)	06	51	Spectrophotometer (UV-Vis)	03
8	Uninterrupted Power Supply	03	52	Spectrophotometer (Visible)	03
9	Working benches (top surface made of acid and alkali resistant materials)	12	53	Total Organic Carbon Analyser	03
10	Digestion Chamber	03	54	Toxic gas analyser	03
11	Air conditioner (window type)	03	55	Turbidity meter	03
12	Breathing apparatus	06	56	Water bath (Thermostatic)	03

				controlled)	
13	Face shield & helmet	06	57	Bomb Calorimeter	03
14	Gas mask	12	58	Elemental analyser	03
15	Aquarium for bio assay tests	03	59	Flash point Apparatus	03
16	Autoclave	03	60	Karl Fisher moisture content meter	03
17	Bottom Sampler	03	61	Rotary Evaporator	03
18	BOD Incubator	03	62	Toxicity characteristic leaching procedure (TCLP) Agitator	03
19	Chloroscope for residual chlorine	03	63	Analytical balance	03
20	Colony Counter (electronic)	03	64	COD Digester with aluminium heating block system	03
21	Current meter	03	65	Heating mantle	03
22	Digester with condensers	03	66	Hot plates (different sizes)	03
23	Electrometric titrator	03	67	Muffle furnace	03
24	Filtration Assembly	03	68	pH Meter with combined glass electrode	06
25	Flocculator (Jar testing apparatus)	03	69	Precision balance weighing up to 1mg	03
26	Hot air Oven	06	70	Stereo microscope	03
27	Incubators for bacteriological tests	03	71	BTX analyser (PID/FID detector)	03
28	Laminar Flow (Inoculation chamber)	03	72	Canister	03
29	Liquid Handling Systems (Dispensers)	12	73	CO Analyser (NDIR)	03
30	Magnetic Stirrer with hot plate	03	74	Handy sampler for gaseous monitoring	03
31	Mechanical Shaker	03	75	Micro balance (readability 1µg)	03
32	Oil and Grease Sampler	03	76	Ozone analyser (Ultraviolet)	03
33	Soxlet Extraction Assembly	03	77	PM 2.5 Sampler	06
34	Standard weights	03	78	For establishing one continuous Air Monitoring Station at Aizawl city (SPM, NO _x , SO ₂ , Ozone, etc)	03
35	TKN Analyser	02	79	Detector tubes with pump	03
36	Vacuum pump	03	80	Exhaust CO/HC analyzer	03
37	Water Purification System	03	81	Flue gas analyzer	03
38	Alpha/Beta Radioactivity Counter	03	82	Handy sampler for gaseous monitoring	03
39	Atomic Absorption Spectrophotometer	02	83	High temperature probe for stack monitoring	03
40	Conductivity meter	03	84	Noise level meter	06
41	Dissolved oxygen meter	03	85	RSPM sampler with flow controller / brush less motor + calibration kit	06
42	Distillation Apparatus	03	86	Smoke density meter	03
43	Flame photometer	03	87	Stack monitoring kit	03
44	WS/WD monitor with data logger	03			

**Details of laboratory infrastructures available and further need at
Nagaland SPCB**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Weighing Balance	04	13.	COD digester	01
2.	Spectrophotometer	03	14.	Digital pH meter	01
3.	BOD Incubator	01	15.	Conductivity meter	01
4.	Oven	02	16.	DO meter	01
5.	Laminar Flow	01	17.	Colony Counter	01
6.	Muffle Furnace	01	18.	Double Distillation Unit	01
7.	Autoclave	01	19.	Heating mantle	01
8.	Bacteriological Incubator	01	20.	Turbidity meter	01
9.	PM2.5 sampler	12	21.	Wind monitor	01
10.	Refrigerator	03	22.	CAAQMS	01
11.	Respirable dust sampler	14	23.	CO Analyser	01
12.	Noise meter	02			

Instruments/ Equipment's needed:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Stack Monitoring	01	12.	Depth Sampler	02
2.	Wind monitoring	02	13.	Filtration Assembly with Vacuum pump	01
3.	Weighing Balance	03	14.	Incubator for bacteriological test	01
4.	Spectrophotometer	03	15.	Mercury analyzer digital	01
5.	Atomic Absorption Spectrophotometer	01	16.	TKN Analyzer Semi Automatic with Aluminum block digester	01
6.	Gas chromatograph	01	17.	Water purification system	01
7.	Flame Photometer	01	18.	COD digester	01
8.	Bionocular Microscope	01	19.	Digital pH meter	01
9.	Bottom sampler	01	20.	Conductivity meter	01
10.	Centrifuge	01	21.	DO meter	01
11.	Current meter	01			

**Details of laboratory infrastructures available and further need at
Odisha SPCB**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Filtration Assembly	13	42.	Temperature Humidity meter	05
2.	Vacuum pump	14	43.	Filter paper inspection unit	0
3.	Thermometers/s (upto 100degree C)	15	44.	Bacteriological incubator	05
4.	Thermometer/s (upto 250 degree C)	10	45.	Autoclave	02
5.	Refrigerator/s	04	46.	Horizontal laminar flow	16
6.	Analytical Balance (upto 0.001 g)	08	47.	Hi Loop Electrical Sterilizer	0
7.	Analytical balance (upto 0.0001g)	18	48.	Micropipetter, 1 ml	04
8.	Analytical Balance (upto 0.0001 g)	14	49.	Micropipette, 1-10 ml	04
9.	Analytical balance (upto 0.000001g)	01	50.	Colony counter	01
10.	pH meter	18	51.	Binocular microscope	01
11.	pH meter with Flat bottom Ph electrode	0	52.	Compound microscope	01
12.	Conductivity meter	02	53.	Stereo Zoom microscope with digital camera attachment	01
13.	Nepheloturbidity meter	01	54.	Bottle Top Dispensette (1-25ml)	05
14.	Hot Air oven	14	55.	Ice Box	20
15.	Hot Plate	14	56.	Gas Chromatograph With ECD, NPD and FID detector	01
16.	Water Bath	01	57.	VOC sampler	04
17.	Muffle furnace	01	58.	High pressure performance liquid chromatograph	01
18.	BOD incubator	17	59.	Microwave digestion unit	01
19.	COD digester	15	60.	Shaker (for 20 conical flasks)	01
20.	Ammonia distillation assembly	03	61.	Rotary Evaporator	01
21.	TKN digestion unit	02	62.	Sieve Shaker	02
22.	DO Sampler	0	63.	Magnetic Stirrer	02
23.	Digital Flow monitoring kit	01	64.	Magnetic Stirrer with hot plate	02
24.	Flame photometer with compressor unit	02	65.	Heating mantle 1000 ml	01
25.	Visible Spectrophotometer (Range 320-990 nm)	19	66.	Heating mantle 500 ml	01
26.	UV-Vis-Spectrophotometer (range:220-990 nm)	0	67.	Digital Thermometer (up to 250 degree C)	01
27.	Field Kit for Ph, EC, DO	0	68.	Humidity Controller	01
28.	Specific Ion Meter: ➤ with fluoride electrode ➤ with cyanide electrode ➤ with Ammonia electrode	02 01 0	69.	Phenol Distillation unit	01
29.	Water purification system	01	70.	Cyanide Distillation unit	01
30.	Double distillation system	15	71.	Cadmium reduction column	01
31.	Atomic Absorption spectrophotometer with hydride generator and graphite furnace	01	72.	Fume cupboard	02
32.	Respirable dust sampler with gaseous attachment	127	73.	Vertical deep freezer	01
33.	PM 2.5 Sampler	115	74.	Horizontal deep freezer	03
34.	High Volume Sampler	0	75.	Desiccating cabinet	01

35.	Flue Gas Analyser	04	76.	Mercury analyser (digital)	02
36.	ORSAT Apparatus	01	77.	TOC analyser	0
37.	Stack Monitoring Kit	16	78.	Bomb calorimeter	01
38.	Sound level meter with calibrator	15	79.	Ultrasonic water bath	01
39.	CO Analyser	03	80.	Standard Weight 1mg- 200 g	0
40.	Weather Monitoring Station	0	81.	Thickness gauze meter	02
41.	Digital Barometer	01	82.	Standard weights 2, 100, 200 g	01

B. Instruments/ Equipment's needed:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Filtration Assembly	15	43.	Temperature Humidity meter	40
2.	Vacuum pump	15	44.	Filter paper inspection unit	20
3.	Thermometers/s (upto 100degree C)	30	45.	Bacteriological incubator	32
4.	Thermometer/s (upto 250 degree C)	30	46.	Autoclave	32
5.	Refrigerator/s	15	47.	Horizontal laminar flow	02
6.	Analytical Balance (upto 0.001 g)	18	48.	Hi Loop Electrical Sterilizer	02
7.	Analytical balance (upto 0.0001g)	14	49.	Micropipetter, 1 ml	24
8.	Analytical Balance (upto 0.0001 g)	14	50.	Micropipette, 1-10 ml	24
9.	Analytical balance (upto 0.000001g)	0	51.	Colony counter	0
10.	pH meter	14	52.	Binocular microscope	01
11.	pH meter with Flat bottom Ph electrode	01	53.	Compound microscope	01
12.	Conductivity meter	16	54.	Stereo Zoom microscope with digital camera attachment	01
13.	Nepheloturbidity meter	15	55.	Bottle Top Dispensette (1-25ml)	30
14.	Hot Air oven	18	56.	Ice Box	50
15.	Hot Plate	20	57.	Gas Chromatograph With ECD, NPD and FID detector	01
16.	Water Bath	20	58.	VOC sampler	15
17.	Muffle furnace	16	59.	High pressure performance liquid chromatograph	01
18.	BOD incubator	17	60.	Microwave digestion unit	01
19.	COD digester	17	61.	Shaker (for 20 conical flasks)	01
20.	Ammonia distillation assembly	04	62.	Rotary Evaporator	02
21.	TKN digestion unit	04	63.	Sieve Shaker	02
22.	DO Sampler	30	64.	Magnetic Stirrer	20
23.	Digital Flow monitoring kit	15	65.	Magnetic Stirrer with hot plate	05
24.	Flame photometer with compressor unit	15	66.	Heating mantle 1000 ml	06
25.	Visible Spectrophotometer (Range 320-990 nm)	06	67.	Heating mantle 500 ml	06
26.	UV-Vis-Spectrophotometer (range:220-990 nm)	20	68.	Digital Thermometer (upto 250 degree C)	04
27.	Field Kit for Ph, EC, DO	16	69.	Humidity Controller	06
28.	Specific Ion Meter :		70.	Phenol Distillation unit	06
	➤ with fluoride electrode,	15			
	➤ with cyanide electrode,	08			
	➤ with Ammonia electrode	02			
29.	Water purification system	18	71.	Cyanide Distillation unit	06
30.	Double distillation system	18	72.	Cadmium reduction column	06
31.	Atomic Absorption spectrophotometer with hydride generator and graphite furnace	02	73.	Fume cupboard	04
32.	Respirable dust sampler with gaseous	70	74.	Vertical deep freezer	32

	attachment				
33.	PM 2.5 Sampler	70	75.	Horizontal deep freezer	0
34.	High Volume Sampler	30	76.	Desiccating cabinet	25
35.	Flue Gas Analyser	15	77.	Mercury analyser (digital)	03
36.	ORSAT Apparatus	15	78.	TOC analyser	01
37.	Stack Monitoring Kit	16	79.	Bomb calorimeter	01
38.	Sound level meter with calibrator	30	80.	Ultrasonic water bath	0
39.	CO Analyser	70	81.	Standard Weight 1mg- 200 g	04
40.	Weather Monitoring Station	15	82.	Standard weights 2, 100, 200 g	14
41.	Digital Barometer	30	83.	Residual free chlorine kit	02
42.	Thickness gauze meter	20			

**Details of laboratory infrastructures available and further need at
Punjab SPCB**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Ice Box	06	22.	Bacteriological Incubator	03
2.	Filtration assembly	03	23.	Water bath	03
3.	Vacuum pump	03	24.	Autoclave	03
4.	Thermometer/s	06	25.	Laminar Flow Bench	01
5.	Refrigerator/s	06	26.	Hotplate	01
6.	Analytical balance	06	27.	Digestion chamber	01
7.	Desiccator	06	28.	ICP-OES	01
8.	UV-Vis-Spectrophotometer	04	29.	GC-MS	01
9.	pH meter	06	30.	Gas Chromatograph-Mass Spectrophotometer (GCMS)	01
10.	Conductivity meter	06	31.	Respirable dust sampler	01
11.	DO meter	02	32.	PM _{2.5} samplers	03
12.	Hot air Oven	06	33.	Analytical balances	03
13.	BOD incubator	03	34.	Desiccators	03
14.	COD digester	03	35.	Humidity Chamber	01
15.	Auto Dispenser	03	36.	Vis-Spectrophotometer	03
16.	Digital Burette	08	37.	Water Purification System	06
17.	Flame Photometer	03	38.	Low Volume Sampler	01
18.	Ion meter	01	39.	Stack Monitoring kit	03
19.	Muffle furnace	03	40.	Flue gas analyser	03
20.	TKN Analyzer	03	41.	Sound Level Meter	03
21.	Rotary Evaporator	01			

B. Instruments/ Equipment's needed:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	AOX analyzer	01	12.	Fume hood	04
2.	Atomic Absorption Spectrometer with flame, graphite, hydride and cold vapour system	03	13.	Gas chromatograph MS-MS	01
3.	Water Purification System	03	14.	Inductive Coupled Plasma (ICP)-MS	01
4.	Computer system (Printer, UPS) for management of data	02	15.	Microwave Digester	03
5.	Conductivity meter	04	16.	Muffle Furnace	02
6.	Digester unit	02	17.	Multi parameter kit pH, DO & Conductance meter	08
7.	Digestion unit	03	18.	pH meter-microprocessor based	04
8.	Digital Burette	06	19.	Rotary evaporator	02
9.	Dispensers	06	20.	Sampling vehicle	02
10.	Filtration assembly	04	21.	Selective ion analyzers	02
11.	Flame Photometer	02	22.	Spectrophotometer UV-Visible	04

**Details of laboratory infrastructures available and further need at
Sikkim SPCB**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Weighing Balance (4 digit)	01	12.	pH meter	02
2.	Weighing Balance (5 digit)	01	13.	TDS meter	04
3.	Dedicator	07	14.	Electronic suction machine	03
4.	Hot Air Oven	01	15.	Autoclave	03
5.	Fume Hood	02	16.	Digital Oven	01
6.	Spectrophotometer	02	17.	Colony counter	01
7.	Humidifier	01	18.	Incubator	02
8.	BOD Incubator	01	19.	Microscope	04
9.	COD Digester	02	20.	Multi-parameter meter	02
10.	DO meter	03	21.	LAF	02
11.	Double Distillation Unit	01			

B. Instruments / Equipment Needed:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Colony Counter	01	3.	Weighing balance (4 Digit)	01
2.	UV-Spectrophotometer (water lab.)	01			

**Details of laboratory infrastructures available and further need at
Tamil Nadu SPCB**

A. Instruments / Equipment Available:

S. No.	Name of Instruments/ Equipment	
1.	Analytical Balance	✓
2.	AOX Analyser	✓
3.	Atomic Absorption Spectrophotometer with Graphite furnace	✓
4.	Bacteriological Incubator	✓
5.	BOD Incubator	✓
6.	CO Analyser	✓
7.	COD Digester	✓
8.	Cold Room	✓
9.	Conductivity Meter	✓
10.	Dissolved Oxygen Meter	✓
11.	Fine Particulate Sampler PM2.5	✓
12.	Flame Photometer	✓
13.	Flue Gas Analyser	✓
14.	FTIR	✓
15.	Gas Chromatograph	✓
16.	ICP. MS	✓
17.	Microbalance	✓
18.	Mercury Analyser	✓
19.	Muffle Furnace	✓
20.	Ozone Analyser	✓
21.	pH Meter	✓
22.	Respirable Dust Sampler PM10	✓
23.	Rotary Evaporator	✓
24.	Sound Level Meter	✓
25.	Stack Monitoring Kit	✓
26.	Total Kjeldhal Nitrogen Analyser	✓
27.	TOC Analyser	✓
28.	Turbidity meter	✓
29.	UV Visible Spectrophotometer Analyser	✓
30.	Wind monitoring Kit	✓

B. Instruments / Equipment Needed:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ equipment	Qty.
1	Gas chromatography – mass spectrometry (GC-MS)	01	7	Flue Gas Analyser	01
2	Inductively coupled plasma mass spectrometry (ICP-MS)	01	8	Sound Level Meter	01
3	Direct Mercury Analyser (DMA)	01	9	Water Purification System	01
4	VOC Analyser	01	10	PM ₁₀ Sampler	01
5	UV – Spectrophotometer	01	11	PM _{2.5} Sampler	01
6	Analytical Balance	01	12	Stack Monitoring Kit	01

**Details of laboratory infrastructures available and further need at
Telangana SPCB**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	
1.	UV- Visible Spectrophotometer	✓
2.	BOD Incubator	✓
3.	COD Digester	✓
4.	Flame Photometer	✓
5.	Water Purification System	✓
6.	Specific Ion Meter	✓
7.	DO Meter	✓
8.	Analytical Balance	✓
9.	pH Meter	✓
10.	Conductivity Meter	✓
11.	Turbidity Meter	✓
12.	Fume Hood	✓
13.	Noise Meters	✓
14.	Visible Spectrometer	✓
15.	Refrigerator	✓
16.	Electronic Balance	✓
17.	Electronic Colony Counter	✓
18.	Kelvinator Refrigerator KCP 324B H 307'e S/ Door	✓
19.	Conductivity/ TDS meter	✓
20.	Digestion Chamber (Fume Hood)	✓
21.	Filtration Assembly (6 Fold with vacuum pump)	✓
22.	Magnetic stirrer with hot plate	✓
23.	Spectrophotometer	✓
24.	Decicators	✓
25.	Autoclave	✓
26.	Water Distillation Assembly	✓

27.	Colony Counter	✓
28.	Magnetic stirrer with hot plate	✓
29.	Ph meter with combined glass electrode bench top	✓
30.	Specific ion meter	✓
31.	Digital Thermometer	✓
32.	Aerator	✓
33.	Water Purification System	✓
34.	Refrigerator (Frost Free, CFC free)	✓
35.	PM 2.5 Dust Sampler	✓
36.	Hot Air Oven	✓
37.	Filtration Assembly	✓
38.	Refrigerator	✓
39.	Vacuum Pump	✓
40.	Muffle Furnace	✓
41.	Water Bath	✓
42.	RDS along with gaseous attachment	✓
43.	PM 2.5 Fine Particulate matter	✓
44.	Micro-Metero monitor Envirotech WM271	✓
45.	Stack Monitoring kit	✓
46.	Flue Gas Analyser	✓
47.	Electronic Balance	✓
48.	Hot Air Oven	✓
49.	Inoculation Chamber/ Laminar Flow	✓
50.	Bacteriological Incubator	✓
51.	Autoclave Cylinder Vertical	✓

52.	Electronic balance (Sartorius)	✓
53.	Single Flask Membrane Filtration Assembly	✓
54.	Filtration Assembly with vacuum pump	✓
55.	Liquid Handling System (Dispenser)	✓
56.	Muffle furnace	✓
57.	Magnetic Stirrer	✓
58.	Computer System	✓
59.	Incubator	✓
60.	Invertor with batteries	✓
61.	Portable Analyzer Kit	✓
62.	Ph meter pen type	✓
63.	Deep Freezer	✓
64.	Water Distillation Assembly	✓
65.	PM 10 Respirable Dust Samplers	✓
66.	Stack Monitoring Kit	✓
67.	Continuous Ambient Air Quality Monitoring Station (CAAQMS)	✓
68.	Bomb Calorimeter	✓
69.	DG Set 250 KVA	✓

70.	Cyanide Sulphide Distillation Assembly	✓
71.	Microwave Digestion System	✓
72.	Flash Point Apparatus	✓
73.	Weather Monitoring Stations	✓
74.	Sound Level Meter	✓
75.	Portable VOC meter	✓
76.	VOC Samplers	✓
77.	TKN Analyzer	✓
78.	Walk in Chamber	✓
79.	GC- MS / MS	✓
80.	GC	✓
81.	CHNS Analyser	✓
82.	Ion Chromatograph	✓
83.	Atomic Absorption Spectrophotometer	✓
84.	ED-XRF	✓
85.	ICP	✓
86.	Mercury Analyser	✓
87.	Accelerated Solvent Extraction System	✓
88.	TCLP Agitator	✓
89.	KF Titrator	✓
90.	Micro Balance	✓
91.	UPS	✓

B. Instruments / Equipment Needed:

1.	Atomic Absorption Spectrophotometer	✓
2.	ICP – MS	✓
3.	LC - MS	✓
4.	Hg Analyser	✓

5.	Water Purification System (Type-I)	✓
6.	Bottom Sampler (Benthic sampler)	✓
7.	Water Bath	✓

**Details of laboratory infrastructures available and further need at
Tripura SPCB**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Continuous Ambient Air Quality Monitoring Station (CAAQMS)	02	15.	C.O.D Digester	01
2.	Respirable Dust Sampler APM-460 (XNL) with Thermo Electrically Cooled Gaseous Sampling Attachment APM 411 TE.	05	16.	pH meter	02
3.	Fine Particulate Sampler APM-550(MFC)	05	17.	Conductivity meter	02
4.	Stack Monitoring Kit	01	18.	Turbidity meter	04
5.	Anemometer	01	19.	Laminar Air Flow	01
6.	Atomic Absorption Spectrophotometer	01	20.	Colony Counter	01
7.	UV-Spectrophotometer	02	21.	Magnetic Stirrers	01
8.	Digital Microscope	01	22.	Hot Air Oven	05
9.	Total Kjeldhl Nitrogen Analyzer	01	23.	Autoclaves	01
10.	B.O.D. Incubator	03	24.	Muffle Furnace	01
11.	Bacterial Incubator	04	25.	Analytical Balance	05
12.	Deep Freezers	03	26.	Water Purification System	01
13.	Thermo reactor	01	27.	Sound Level Meter (Class I & Class-II)	11
14.	Bio Monitoring Kit	01			

B. Instruments / Equipment Needed:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Flue Gas Analyser	02	3.	Ion Chromatograph	01
2.	Gas Chromatograph and Mass Spectrophotometry	01			

**Details of laboratory infrastructures available and further need at
Uttarakhand SPCB**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Atomic Absorption Spectrophotometer	01	25.	COD digester	03
2.	Microwave Digester	03	26.	Balance	02
3.	Absorbable Organic Halide	01	27.	Hot Plate	02
4.	RO purifier system	02	28.	Ph/ TDS/ EC meter	05
5.	UV Spectrophotometer	02	29.	Hygrometer	04
6.	Flame photometer	03	30.	Microbiological Incubator	01
7.	Conductivity meter	04	31.	Double beam spectrophotometer	01
8.	Hot Air Oven	06	32.	Distillation Unit	03
9.	Bacteriological Incubator	04	33.	RO filtration unit	01
10.	Autoclave	04	34.	Deep Freezer	02
11.	Laminar Flow	03	35.	Weighing balance	01
12.	Double Distillation Unit	01	36.	AOX Analyser	01
13.	BOD Incubator	03	37.	Analytical balance	01
14.	Water Bath	02	38.	Decicator	01
15.	Freeze	02	39.	Spectrophotometer	02
16.	Stack Monitoring Kit	01	40.	Noise Monitoring Kit	01
17.	APM NL 46 for PM 10 monitoring	12	41.	AMP 550 for PM2.5 monitoring	10
18.	Colony counter	01	42.	Heating mantle	02
19.	Magnetic stirrer	01	43.	Ion Analyser	01
20.	Balance	02	44.	Noise level meter	01
21.	Smoke density meter	01	45.	Sludge Sampler	01
22.	Hydrometer	01	46.	Water depth sampler	01
23.	Stack Sampler	01	47.	High Volume Sampler	02
24.	Respirable Dust sampler	02	48.	Handy Air Sampler	04

B. Instruments / Equipment Needed: NIL

**Details of laboratory infrastructures available and further need at
Uttar Pradesh SPCB**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	
1.	Colour Comparator	✓
2.	Ice Box	✓
3.	Physical Conductivity meter	✓
4.	Turbidity Meter	✓
5.	Manual (Titration)	✓
6.	Filtration (EC) assembly	✓
7.	Vacuum pump	✓
8.	Thermometers	✓
9.	Refrigerators	✓
10.	Analytical balance	✓
11.	Desiccators	✓
12.	Vis Spectrophotometer	✓
13.	UV-Vis Spectrophotometer	✓
14.	pH meter	✓
15.	Hot air Oven	✓
16.	BOD incubator	✓

17.	COD digester	✓
18.	Condensers	✓
19.	Auto Dispenser	✓
20.	Digital Burette	✓
21.	Water Purification System	✓
22.	Distillation assembly	✓
23.	Flame Photometer	✓
24.	Muffle Furnace	✓
25.	Bacteriological Incubator	✓
26.	Water bath	✓
27.	Autoclave(2)	✓
28.	Laminar Air Flow Bench	✓
29.	Microscope(100X)	✓
30.	Rotary Evaporator	✓
31.	Gas Chromatograph(GC)	✓
32.	TCLP Extractor	✓
33.	Atomic Absorption Spectrometer (AAS)	✓

B. Instruments / Equipment Needed:

S. No.	Instruments/ Equipment	
1.	Cyanide Assembly	✓
2.	Ion meter	✓
3.	TKN Analyzer	✓
4.	Rotary Evaporator	✓
5.	GC-MS	✓

**Details of laboratory infrastructures available and further need at
West Bengal SPCB**

A. Instruments/ Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1	Analytical Balance (weighing upto 0.01 mg)	03	30	Spectrophotometer (visible)	05
2	AOX / TOX Analyzer	02	31	Standard weights	01
3	Atomic Absorption Spectrophotometer (Flame)	01	32	TKN Analyser semi-automatic with aluminium block digester	03
4	Autoclave	06	33	Water Purification System (RO based)	02
5	Automatic Burette (Digital-50 ml)	06	34	Water Distillation Assembly (Glass)	01
6	Bottom Sampler	03	35	Water Bath (thermostatic control)	05
7	BOD Incubator	07	36	Conductivity Meter with electrode	01
8	Centrifuge	03	37	Desiccator	01
9	COD Digester with Aluminium Heating Block System	05	38	Distilled H ₂ O Apparatus Milli-q system	01
10	Colony Counter (Electronic)	02	39	Fridge 4°C	01
11	Conductivity Meter	07	40	Micropipette Eppendorf	01
12	Current Meter	05	41	Pipette Container	01
13	Depth Sampler	05	42	Icebox box	01
14	Digester with condensers	07	43	Balance Macro	01
15	Dissolved Oxygen Meter	05	44	Hot Air oven	01
16	Flame Photometer	02	45	Heating Mantle	01
17	Filtration Assembly with Vacuum Pump	03	46	Balance 5 Digit	01
18	Hot Air Oven	06	47	Micropipette	01
19	Hot Plates (different sizes)	04	48	Thermometer	05
20	Incubators for bacteriological test	04	49	Computer with Accessories (Desktop, Printer, Scanner, UPS)	01
21	Laminar Flow (Inoculation Chamber)	01	50	Air Conditioner	01
22	Liquid Handling System (Dispensers)	04	51	Stack Monitoring kit	01
23	Magnetic Stirrer with hot plate	09	52	Respirable Dust Sampler PM ₁₀	01
24	Mechanical Shaker	06	53	PM _{2.5} Dust Samplers.	01
25	Muffle Furnace	01	54	Orset Operators	01
26	pH meter with combined gas electrode	09	55	Barometer	01
27	Portable Analyzer Kit (DO, pH, Temp, Cond)	01	56	Spectro Photometer	01
28	Specific Ion Meter (Microprocessor controlled)	05	57	Desiccator	01
29	Spectrophotometer (UV visible)	03	58	Distilled H ₂ O Apparatus Milli-q system	01

B. Instruments/ Equipment needed:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1	Air Conditioner	01	45	Magnetic Stirrer	08
2	Ambient air Quality Monitoring Device	01	46	Manual Autoclave	01
3	Analytical Balance	10	47	MDS	03
4	APM 460 BL	01	48	Mechanical Shaker	01
5	Aspirator	01	49	Micro wave digester	01
6	Atomic Absorption Spectrometer	02	50	Microbiological Safety Cabinet	01
7	Autoclave (Sterilizer)	09	51	Microcontroller Flame Photometer	01
8	Autometic Flash Point Tester	01	52	Micropipette	02
9	Autopipette	08	53	Muffle Furnace	04
10	Bacteriological Incubator	09	54	Orsat Apparatus	01
11	Balance 5 Digit	01	55	Partisol	01
12	Balance Macro	01	56	pH Meter	06
13	Barometer	01	57	Pipette Container	01
14	BOD Incubator	12	58	PM2.5 Dust Samplers	01
15	Bomb Bacteriological	01	59	Precision / Fine Electrical Balance	02
16	Bunsen Burner	01	60	printer	06
17	Circulating Water Bath / Cooling Bath	03	61	RDS Sampler	04
18	Clean Bench	02	62	Refractometer	01
19	COD Block Digester	02	63	Refrigerator	20
20	COD Hot Plate	06	64	Respirable Dust Sampler PM10	01
21	Colony Counter	01	65	RigoHeyroth / Van dorn Type Water Sampler	03
22	Computer with Accessories (Desktop, Printer, Scanner, UPS)		66	Rotary Vacuum Evaporator	02
23	Computers	08	67	Rough Balance (Digital Electronic Balance)	04
24	Conductivity Electrode	01	68	Screw Driver Set	01
25	Conductivity Meter	06	69	Spectro Photometer	01
26	Cyclo Mixer	03	70	Spinix, Vortex Mixture	03
27	Desiccator	01	71	Stack Monitoring kit	02
28	Digital sound Level Meter	01	72	Standard Weight Box (E2 Class)	01
29	Digital Temperature Controller of Water Bath	04	73	Suction Pump	01
30	Dispensate	03	74	Thermoandersen Flow Manager	01
31	Distilled H2O Apparatus Milli-q system	01	75	Thermometer / Glass thermometer	08
32	Double Pan manual Balance	01	76	Thermoreactor	08
33	Flame photometer (Labard)	04	77	Turbidity Meter	02

34	FRM Model 2000 Partisol PM 2.5 Dust Analyzer	06	78	Ultrasonic Cleaner	02
35	Fume Chamber	03	79	UPS System	06
36	Gas Chromatograph	02	80	UV-VIS Spectrophotometer	07
37	Glass Water Distillating Apparatus	02	81	UV-Visible double Bim	01
38	Heating Mantle	04	82	Vaccum Drying Oven	01
39	High Volume Sampler	01	83	Vacuum Pump	04
40	Hot Air Oven	10	84	Water Bath with stirrer	03
41	Hygrometer	01	85	Water distillation apparatus	01
42	Icebox box	01	86	Water Purification System	04
43	Ion Meter	02	87	Weighing Balance	02
44	Laminar Air Flow chamber	03			

**Details of laboratory infrastructures available and further need at
Chandigarh PCC**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1	Ice Boxes/Filtration assembly	03	18	Flame Photometer	03
2	Vacuum pump	03	19	Ion Meter	01
3	Thermometers	03	20	Muffle Furnace	03
4	Analytical balance	03	21	TKN Analyzer	03
5	Desiccator	03	22	Rotary Evaporator	01
6	Refrigerator/s	03	23	Bacteriological Incubator	03
7	UV-Vis- Spectrophotometer	04	24	Water Bath	03
8	pH meter	06	25	Autoclave	03
9	Conductivity meter	06	26	Laminar Flow Bench	01
10	DO meter	06	27	Hotplate	01
11	Hot air Oven	06	28	Digestion Chamber	01
12	BOD incubator	04	29	Atomic Absorption Spectrophotometer (Flame, hydride generation system and Graphite furnace) with the cathode lamps/ ICP-OES	01
13	COD Digester	01	30	GC-MS	01
14	Magnetic Stirrer	01	31	Gas Chromatograph-Mass Spectrophotometer (GCMS)	01
15	Auto Dispenser	03			
16	Digital Burette	08			
17	Water Purification System/ Distillation Assembly	05			

B. Instruments / Equipment Needed:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1	Inductive Coupled Plasma (ICP)-MS	01	24	Digital Burette	01
2	Atomic Absorption Spectrometer with flame, graphite, hydride and cold vapour system	01	25	Flame Photometer	01
3	AOX analyzer	01	26	Fume hood	01
4	Gas chromatograph MS-MS	01	27	Filtration assembly	01
5	Spectrophotometer UV-Visible	02	28	Microwave Digester	01
6	Multi parameter kit pH, DO & Conductance meter	04	29	Computer system (Printer, UPS) for management of data	01
7	Digestion unit	03	30	Sampling vehicle	01
8	Rotary evaporator	02	31	Atomic Absorption Spectrometer with flame, graphite, hydride and cold vapour system	01

9	Water Purification System	01	32	Spectrophotometer UV-Visible	01
10	Digital Burette	04	33	Selective ion analyzers	01
11	Muffle Furnace	02	34	Multi parameter kit pH, DO & Conductance meter	02
12	Dispensers	06	35	Digester unit	01
13	Fume hood	02	36	Conductivity meter	02
14	Filtration assembly	02	37	Water Purification System	01
15	Microwave Digester	01	38	pH meter-microprocessor based	02
16	Atomic Absorption Spectrometer with flame, graphite, hydride and cold vapour system	01	39	Digital Burette	01
17	Spectrophotometer UV-Visible	01	40	Flame Photometer	01
18	Selective ion analyzers	01	41	Fume hood	01
19	Multi parameter kit pH, DO & Conductance meter	02	42	Filtration assembly	01
20	Digester unit	01	43	Microwave Digester	01
21	Conductivity meter	02	44	Computer system (Printer, UPS) for management of data	01
22	Water Purification System	01	45	Sampling vehicle	01
23	pH meter-microprocessor based	02			

**Details of laboratory infrastructures available and further need at
Jammu & Kashmir PCC**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	UV- Visible Spectrophotometer	03	41.	Hot Air Oven	05
2.	BOD Incubator	03	42.	Filtration Assembly	01
3.	COD Digester	05	43.	Refrigerator	02
4.	Flame Photometer	02	44.	Vacuum Pump	01
5.	Water Purification System	01	45.	Muffle Furnace	01
6.	Specific Ion Meter	01	46.	Water Bath	01
7.	DO Meter	02	47.	RDS along with gaseous attachment	13
8.	Analytical Balance	02	48.	HVS APM430 along with gaseous attachment	02
9.	Ph Meter	02	49.	PM 2.5 Fine Particulate matter	05
10.	Conductivity Meter	01	50.	Micro-Metero monitor Envirotech WM271	01
11.	Turbidity Meter	03	51.	Stack Monitoring kit	02
12.	Fume Hood	01	52.	Flue Gas Analyser (Testo 350)	01
13.	Noise Meters	08	53.	Electronic Balance	01
14.	Visible Spectrometer	01	54.	Hot Air Oven	01
15.	Refrigerator	03	55.	Inoculation Chamber/ Laminar Flow	01
16.	Electronic Balance	02	56.	Bacteriological Incubator	01
17.	Electronic Colony Counter	01	57.	Autoclave Cylinder Vertical	01
18.	Magnetic Stirrer with heater accessories	01	58.	Electronic balance (Shimadzu)	01
19.	Kelvinator Refrigerator KCP 324B H 307'e S/ Door	01	59.	Single Flask Membrane Filtration Assembly	01
20.	Conductivity/ TDS meter	02	60.	Automatic Burette Digital	02
21.	Digestion Chamber (Fume Hood)	01	61.	Filtration Assembly with vacuum pump	03
22.	Filtration Assembly (6 Fold with vacuum pump)	02	62.	Liquid Handling System (Dispenser)	03
23.	Magnetic stirrer with hot plate	01	63.	Muffle furnace	01
24.	Spectrophotometer	03	64.	Portable Generators	03
25.	Decicators	04	65.	Magnetic Stirrer	02
26.	Digital Camera	01	66.	Computer System	03
27.	Small Locker	02	67.	Big Locker	02
28.	Stabilizer 1KV	03	68.	Stabilizer 2KV	06
29.	Autoclave	01	69.	Incubator	04
30.	Water Distillation Assembly	01	70.	Bio-safety cabinet	01
31.	Colony Counter	01	71.	Vortex mixer	01
32.	Magnetic stirrer with hot plate	01	72.	Invertor with batteries	01
33.	Ph meter with combined glass electrode bench top	02	73.	Portable Analyzer Kit	01
34.	Specific ion meter	01	74.	Ph meter pen type	02
35.	Free and total chlorine (Ultra High) Photometer	01	75.	Fluoride low range photometer	01
36.	Digital Thermometer	12	76.	COD photometer	01
37.	Aerator	02	77.	Deep Freezer	01

38.	Water Purification System	01	78.	Water Distillation Assembly	01
39.	Refrigerator (Frost Free, CFC free)	01	79.	PM 10 Respirable dust samplers	08
40.	PM 2.5 Dust Sampler	08	80.	Stack Monitoring Kit	01

B. Instruments / Equipment Needed:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Atomic absorption spectrophotometer	01	18.	Gas Chromatograph with ECD, FID, NPD, FPD	01
2.	Auto Clave	01	19.	Bottom Sampler	01
3.	Centrifuge	01	20.	Hot Plates	04
4.	Hg Analyser	01	21.	Microwave Digester	01
5.	Rotatory Evaporator	01	22.	TKN Analyser semi-automatic with aluminum block digester	01
6.	Digital balance upto 5 digits	02	23.	Water Bath (Thermostatic control)	01
7.	Air Conditioner	04	24.	Conductivity meter	01
8.	Stack monitoring kit	01	25.	Digital balance upto 4 digits	01
9.	Autoclave	01	26.	Water Bath	01
10.	Computer system with all accessories	01	27.	Locker	02
11.	Computer table with chair	01	28.	Bio-safety cabinet	01
12.	Hot air oven	02	29.	Refrigerator	01
13.	Ice box	03	30.	Electronic balance upto 6 digit	01
14.	Water purification system (type-i)	01	31.	Computer with coloured printer	01
15.	Laminar Flow	01	32.	Biological Incubator	01
16.	Hot Air oven	01	33.	Refrigerator	01
17.	Micro Pipettes	01			

**Details of laboratory infrastructures available and further need at
Ladakh PCC**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Repairable Dust Sampler (PM 2.5 & PM10)	07	5.	Oven	01
2.	BOD Incubator	01	6.	pH meter	01
3.	Muffle Furnace	01	7.	Noise Level meter	25
4.	Conductivity Meter	01	8.		

B. Instruments / Equipment Needed: NIL

**Details of laboratory infrastructures available and further need at
Lakshadweep PCC**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Hot air oven	02	9.	BOD Incubator	01
2.	Electric Oven	01	10.	Refrigerator	02
3.	COD Digester	01	11.	Suction Pump	01
4.	Fume hood	01	12.	Incubator	01
5.	Conductivity Meter	01	13.	Autoclave	01
6.	Auto pH Instrument	01	14.	Laminar Airflow Cabinet	01
7.	Muffle furnace	01	15.	Respirable dust sampler	01
8.	Magnetic Stirrer	01			

B. Instruments / Equipment Needed:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1.	Analytical Balance	01	9.	Flame Photometer	02
2.	Desiccator	02	10.	Muffle Furnace	02
3.	UV-Vis-Spectro photo Meter	01	11.	TKN Analyzer	02
4.	Conductivity Meter	02	12.	TOC Analyser	02
5.	DO Meter	02	13.	Bacteriological Incubator	02
6.	COD Digester	01	14.	Water bath	02
7.	Auto Dispenser (chemical)	02	15.	Autoclave	01
8.	Digital Burette	02	16.	Microscope (100X)	02

**Details of laboratory infrastructures available and further need at
Puducherry PCC**

A. Instruments / Equipment Available:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1	pH Meter	01	17	Sound Level Meter	06
2	Conductivity METER	01	18	Pitot Tube	01
3	Weighing Balance	01	19	Stack Monitoring Kit (SMK)	01
4	Turbidity Meter	01	20	Glass Thermometer	01
5	Desiccator	03	21	Flue Gas Analyser	01
6	Weighing Balance	01	22	Dry Wet Thermometer	01
7	UV Spectrophotometer	01	23	Dry Gas Meter	01
8	Flame Photometer	01	24	Fume Hood	01
9	Magnetic Stirrer with Hot Plate	01	25	Acoustic Calibrator	01
10	Temperature Indicator with Sensor (Muffle Furnace)	01	26	GC-MS	01
11	Temperature & Humidity Meter	01	27	Refrigerator	02
12	Water Purification Unit	01	28	Deep Freezer	01
13	COD Hot Plate	01	29	Gaseous sampler	08
14	Double Stage Vacuum Pump	01	30	Respirable Dust Sampler	11
15	Water Bath	01	31	Temperature Controller with Sensor (BOD Incubator)	02
16	Temperature Indicator with Sensor (Hot Air Oven)	02			

B. Instruments / Equipment Needed:

S. No.	Instruments/ Equipment	Qty.	S. No.	Instruments/ Equipment	Qty.
1	B.O.D. Incubator	01	28	Phenol Distillation Assembly	01
2	Burette (Digital) III	01	29	pH/Ion Analyser with accessories	01
3	Bottle Cooler	01	30	PM 2.5 SAMPLER	01
4	Bomb Calorimeter	01	31	Rotary Evaporator with accessories	01
5	C.O.D. Digestion Apparatus	01	32	Spectrophotometer (UV-Visible)-PC Controlled	01
6	Caliberation kit for RDS	01	33	Stack Monitoring Kit with Dry gas Meter & Vaccum Pump	01
7	Combustion / Stack gas Analyser 1 18	01	34	Stack velocity monitor	01
8	4CO/HC Analyser	01	35	Pitot tube & Probe pipe (2 Mtr.)- Stack Monitoring Kit Accessories	01
9	DO meter with accessories.	01	36	TKN Assembly with accessories	01
10	Double Distillation Assembly Quartz Type- with electronic relay unit	01	37	Vaccum Pump for Filtration Assembly	01
11	Flue Gas Analyser (stand by)	01	38	Multi Parameter Water Quality Analyser.	01

12	Flame Photometer with compressor	01	39	Laminar Air Flow Chamber/ Bio Safety Cabinet	01
13	Filtration Assembly with vaccum pump	01	40	Autoclave	01
14	Filtration assembly (Multi Type)	01	41	Bacteriological Incubators	01
15	Fume Extraction System for AAS	01	42	Digital Colony Counter	01
16	Fume Hood Chamber	01	43	Lab Blender	01
17	Flash Point Apparatus with accessories.	01	44	Water Bath	01
18	GPS Receiver	01	45	Analytical Balance	01
19	Arc GIS Software	01	46	Deep Freezer	01
20	Jar Test Apparatus / Flocculator	01	47	UV-Vis Spectrophotometer	01
21	Kjeldhal Extraction Apparatus	01	48	Microscope Centrifuge	01
22	Muffle furnace with digital temperature controller	01	49	Digital pH Meter	01
23	Magnetic Stirrer with hotplate	01	50	Anaerobic Jar	01
24	Microwave oven	01	51	Refrigerator	01
25	Moisture analyzer	01	52	Hot Air Oven	01
26	Nephelo-Turbidity Meter – Digital	01	53	Micropipette	01
27	Orsat Gas Analyser with accessories	01			

Figure 1a: Status of Staff Strength in SPCBs

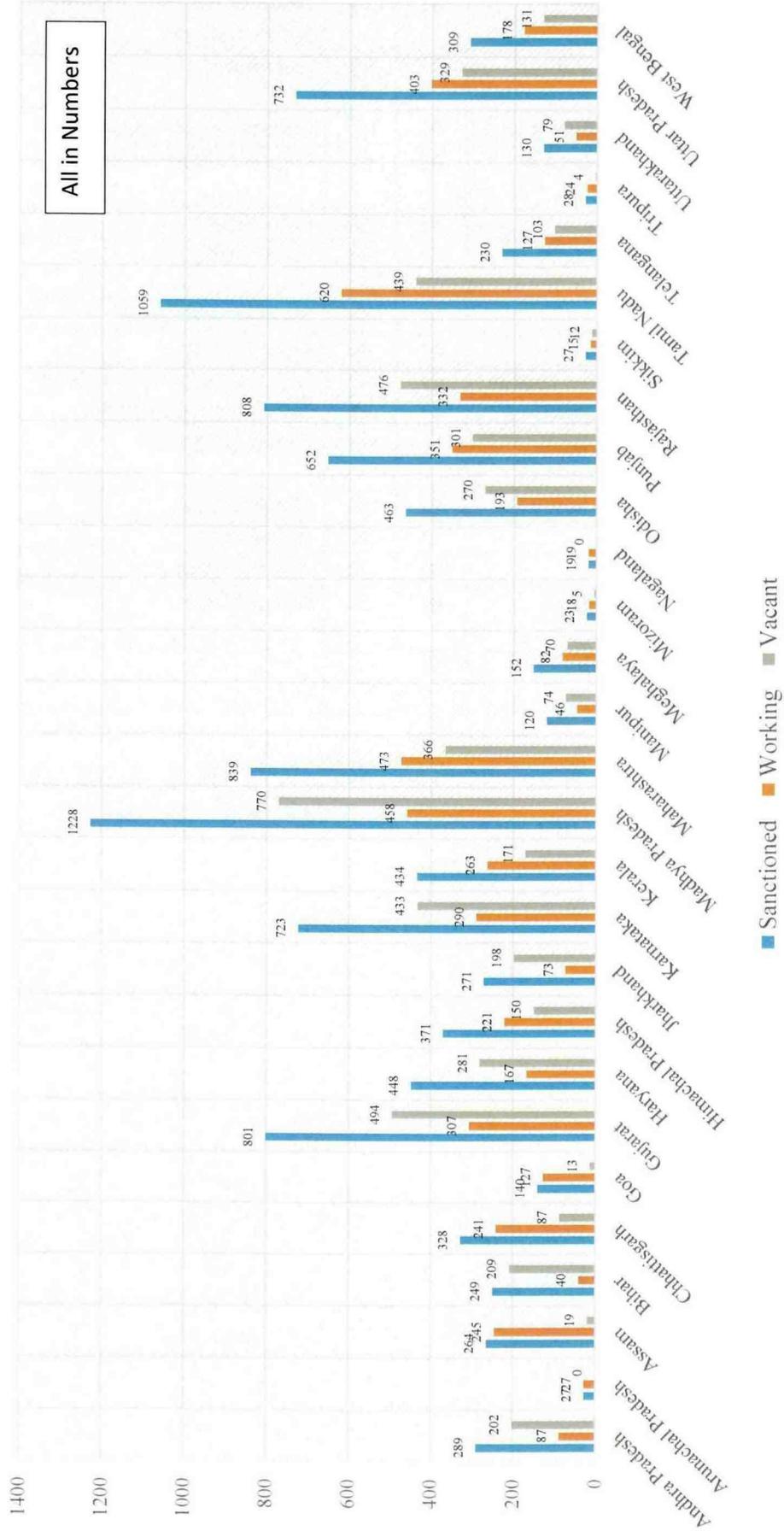


Figure 1b: Status of SPCBs Staff Strength in PCCs

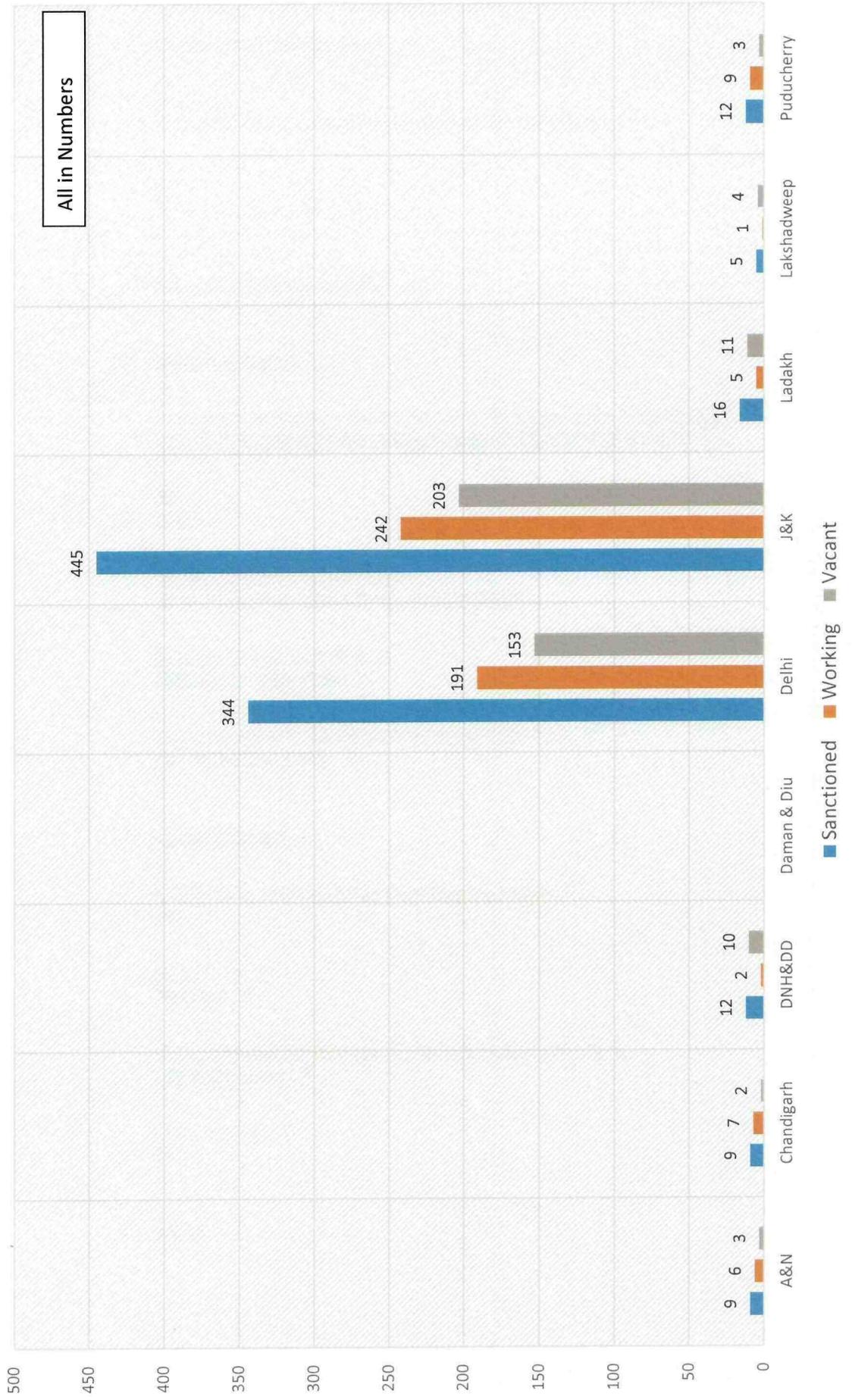


Figure 2: Status of Contractual Staff Strength in SPCBs/ PCCs

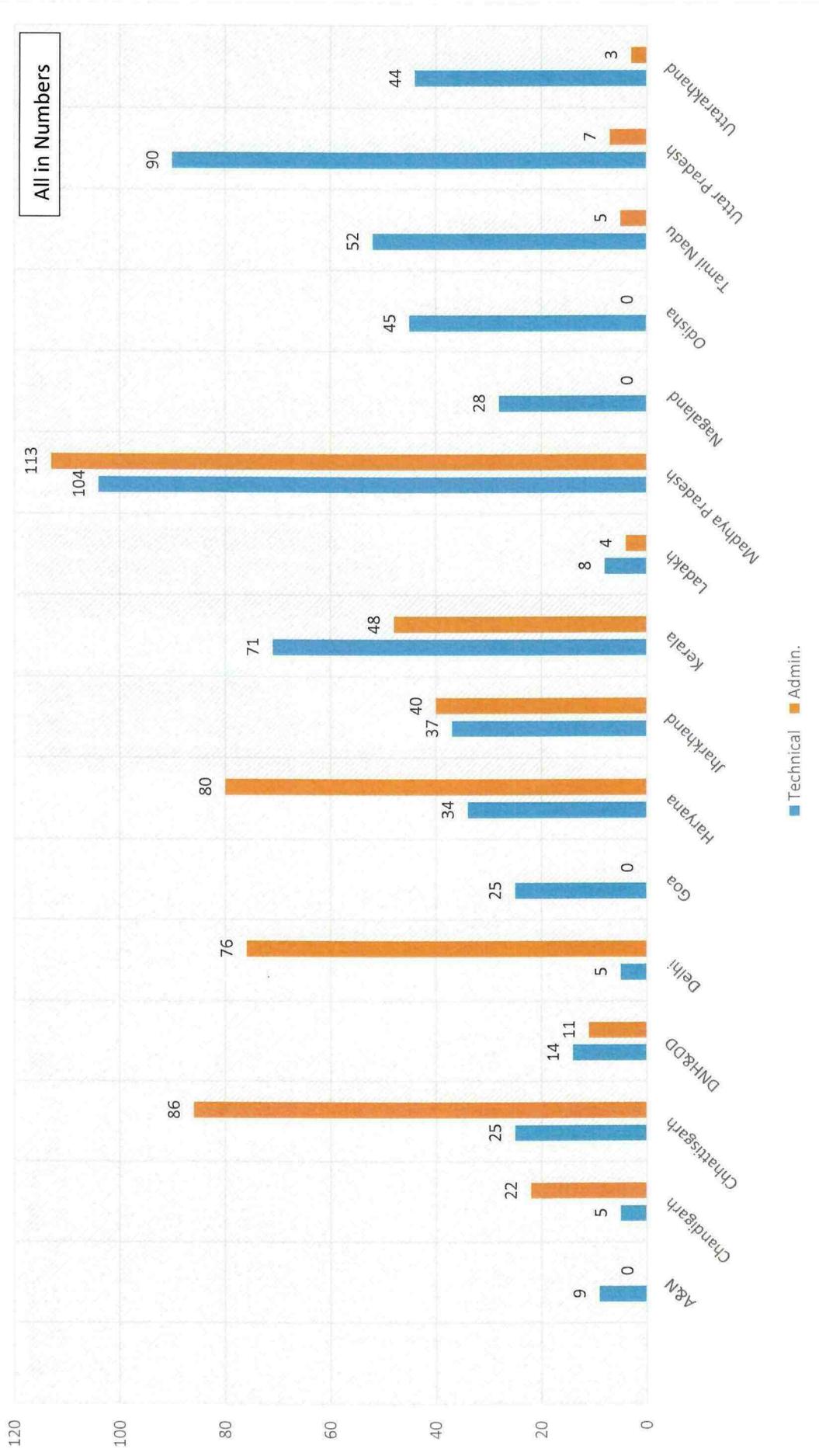


Figure 3: Ratio of Administrative: Technical Posts in SPCBs/ PCCs

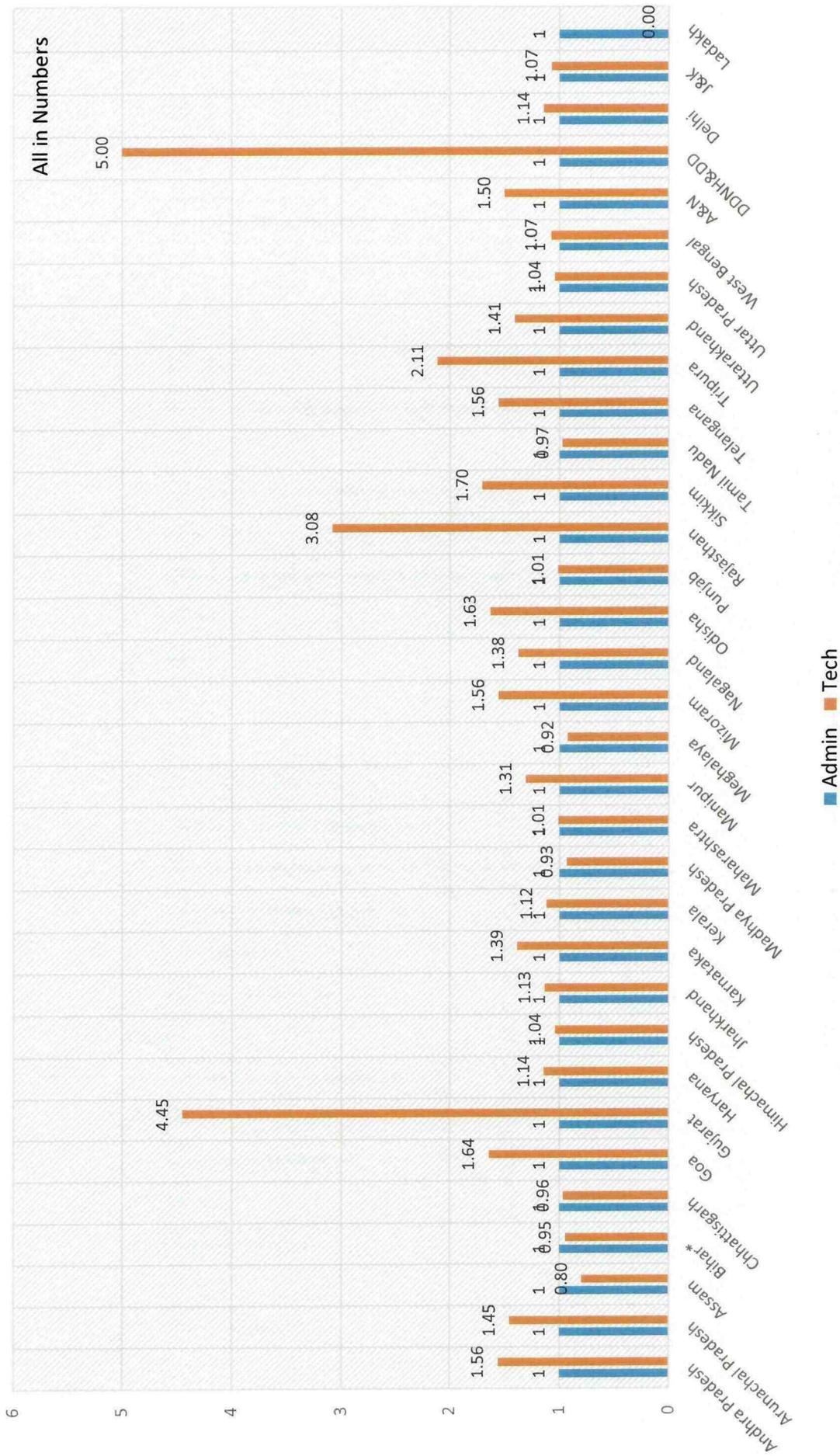


Figure 4: Environmental Laboratories at SPCBs / PCCs

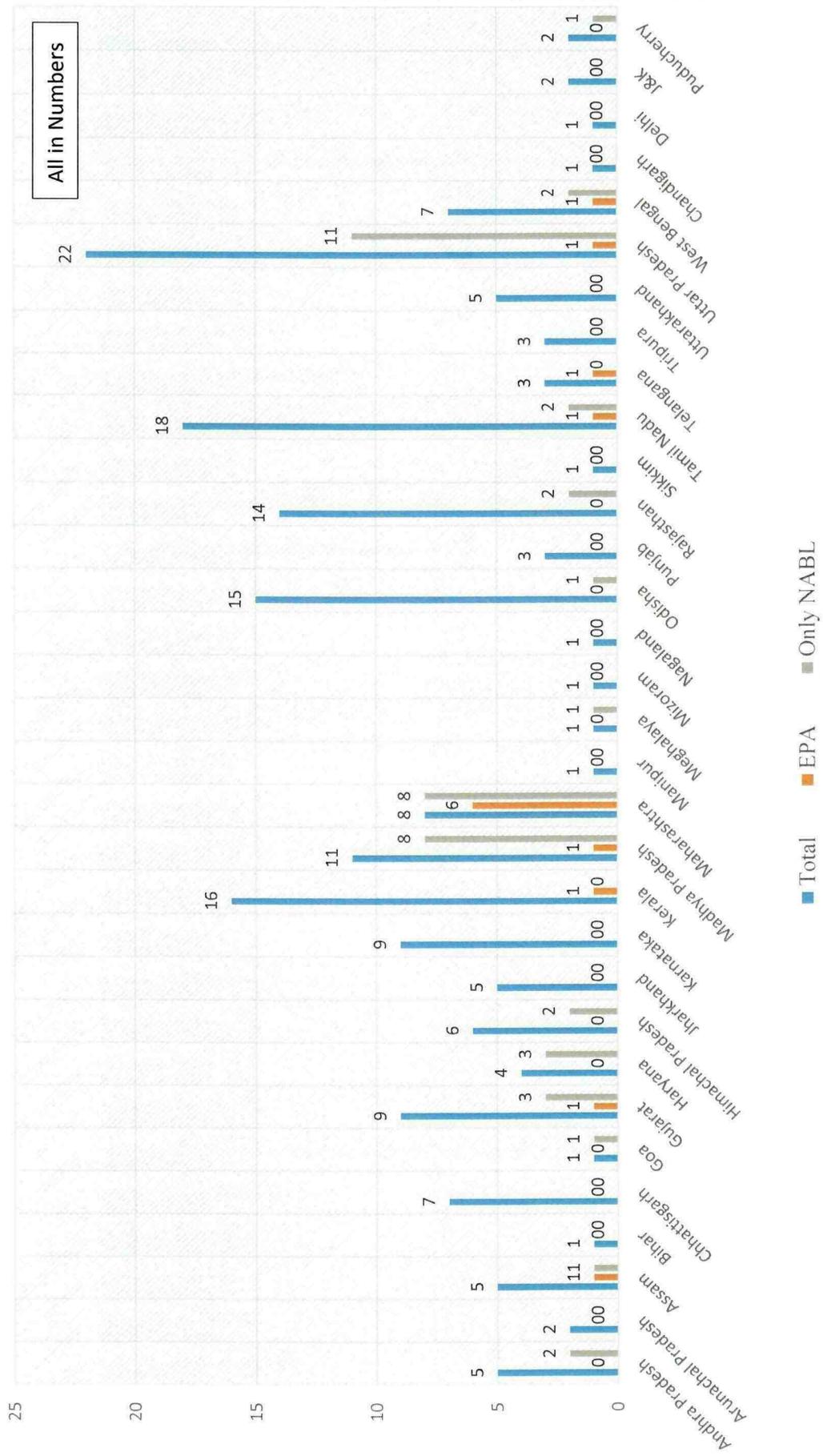


Figure 5a: Monitoring Network of NWMP and NAMP of SPCBs

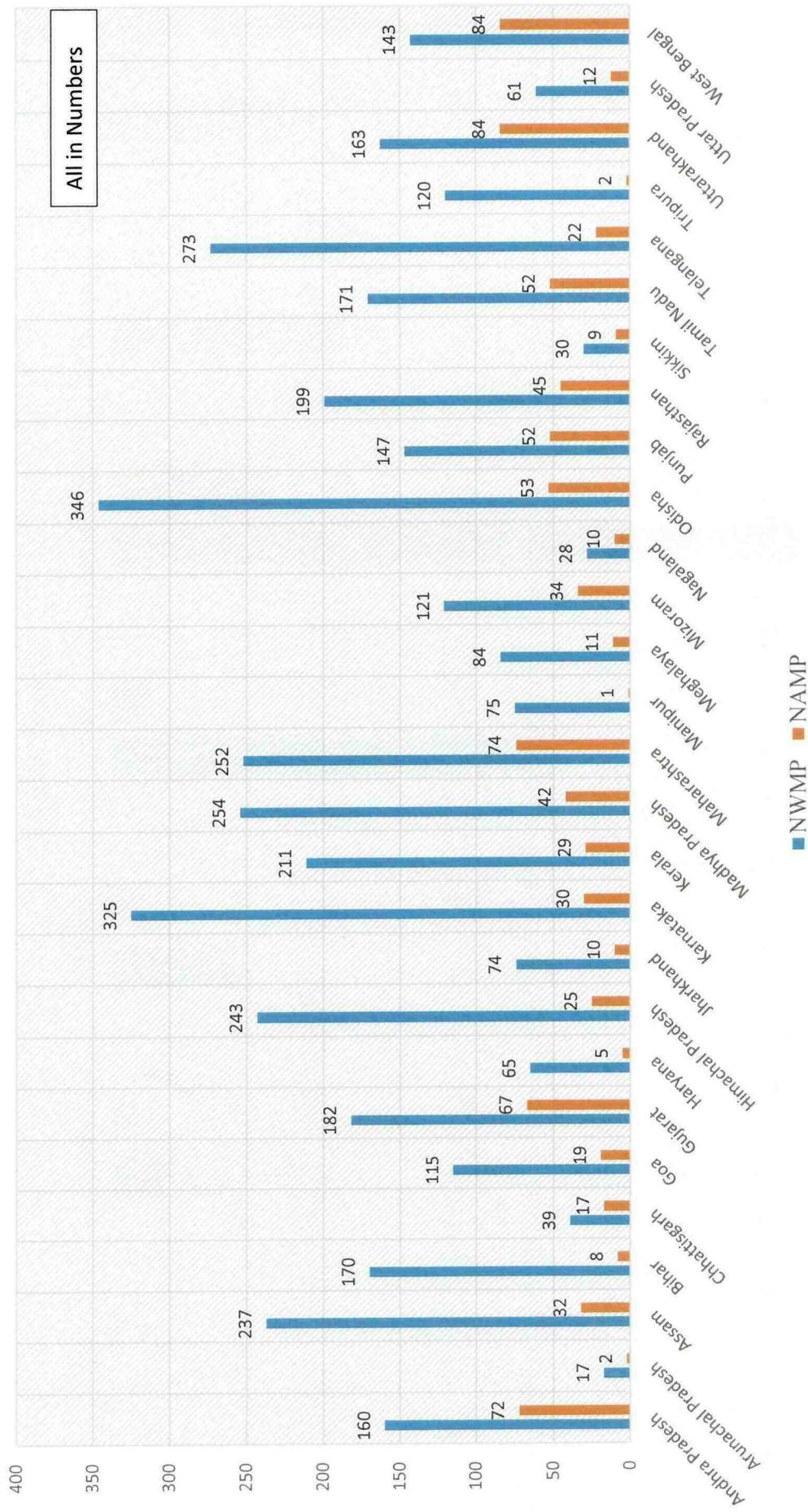


Figure 5b: Monitoring Network of NWMP and NAMP of PCCs

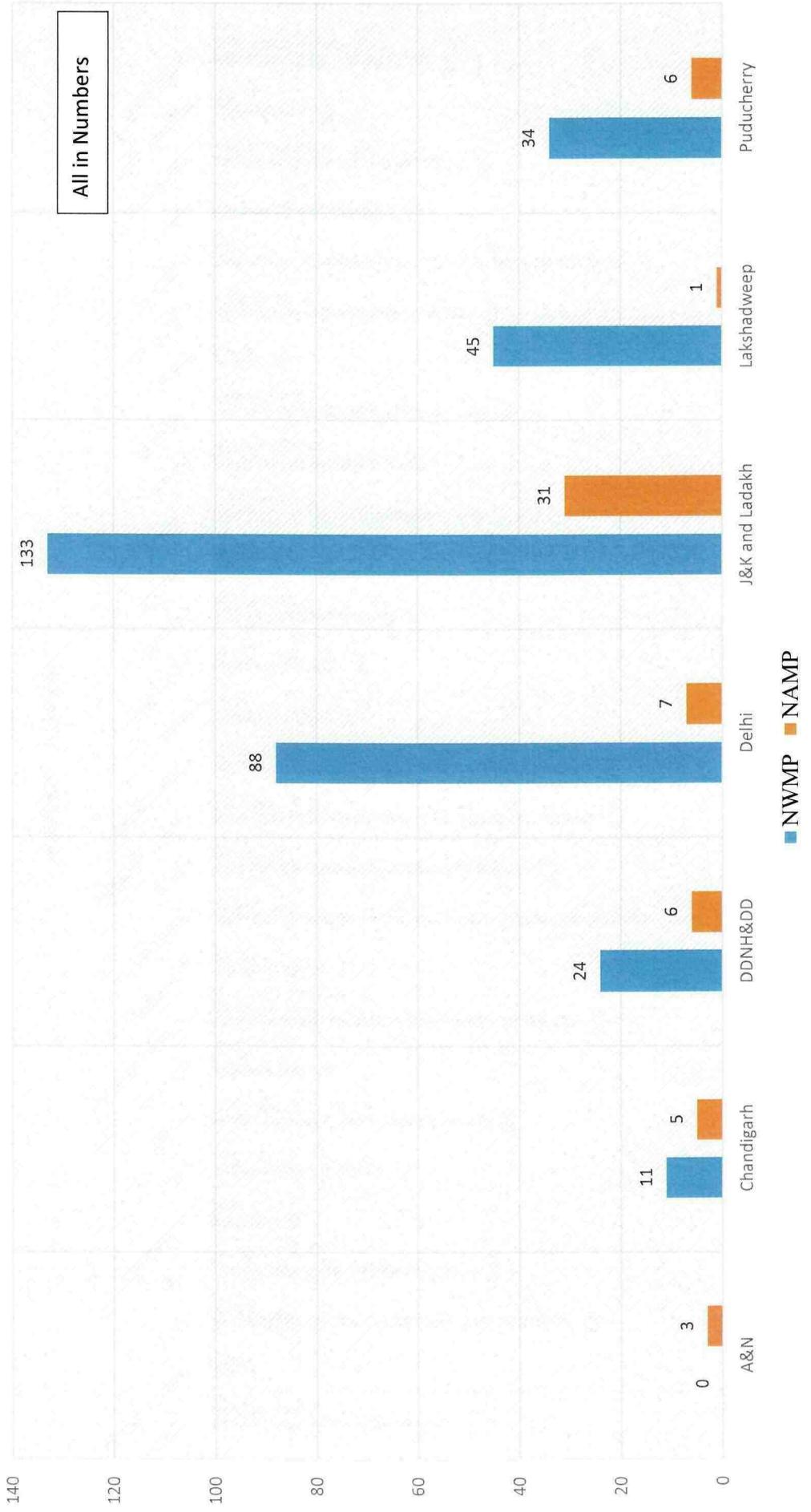


Figure 5c: Monitoring Network of CAAQMS and NANMN in SPCBs

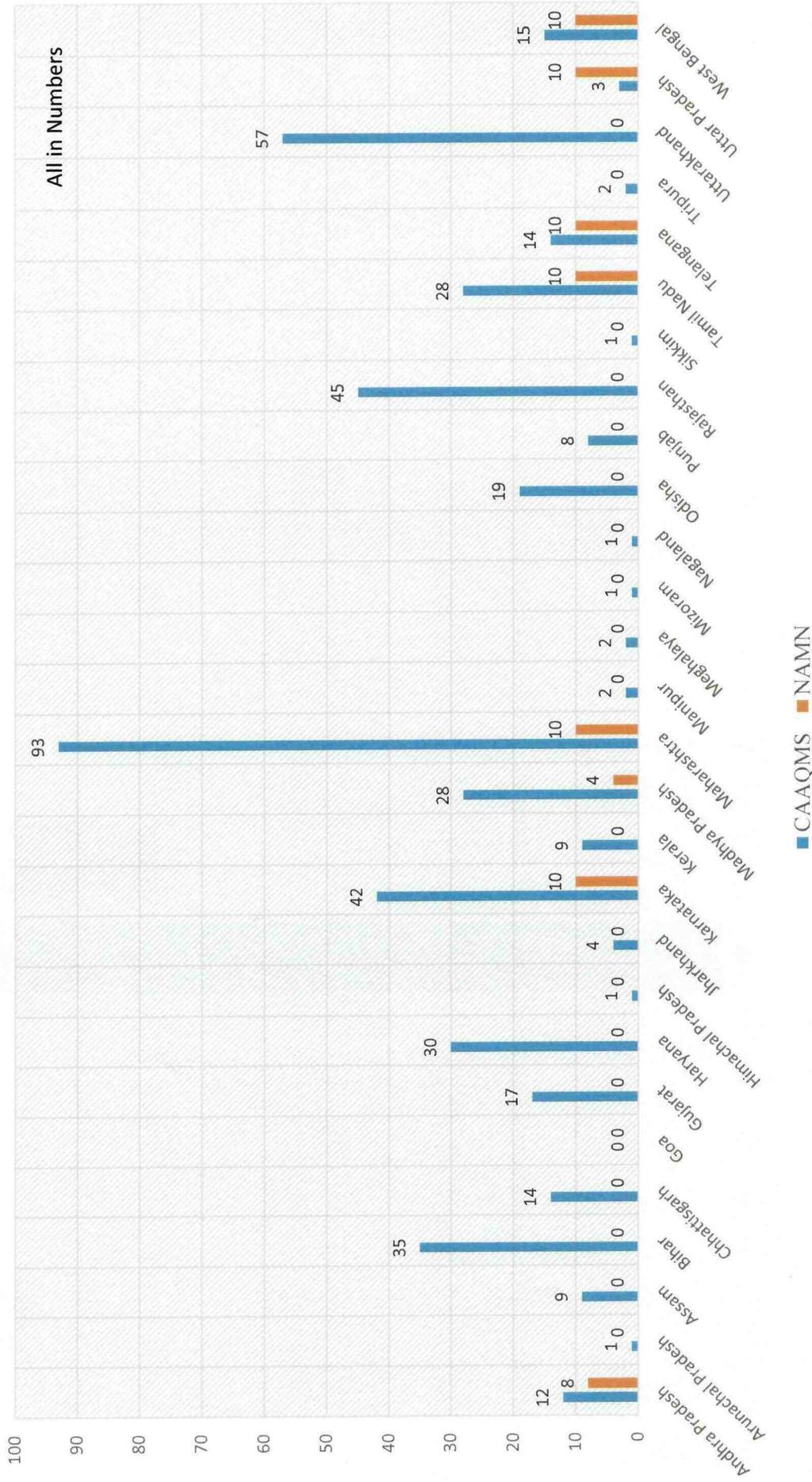


Figure 5d: Monitoring Network of CAAQMS and NAMN in PCCs

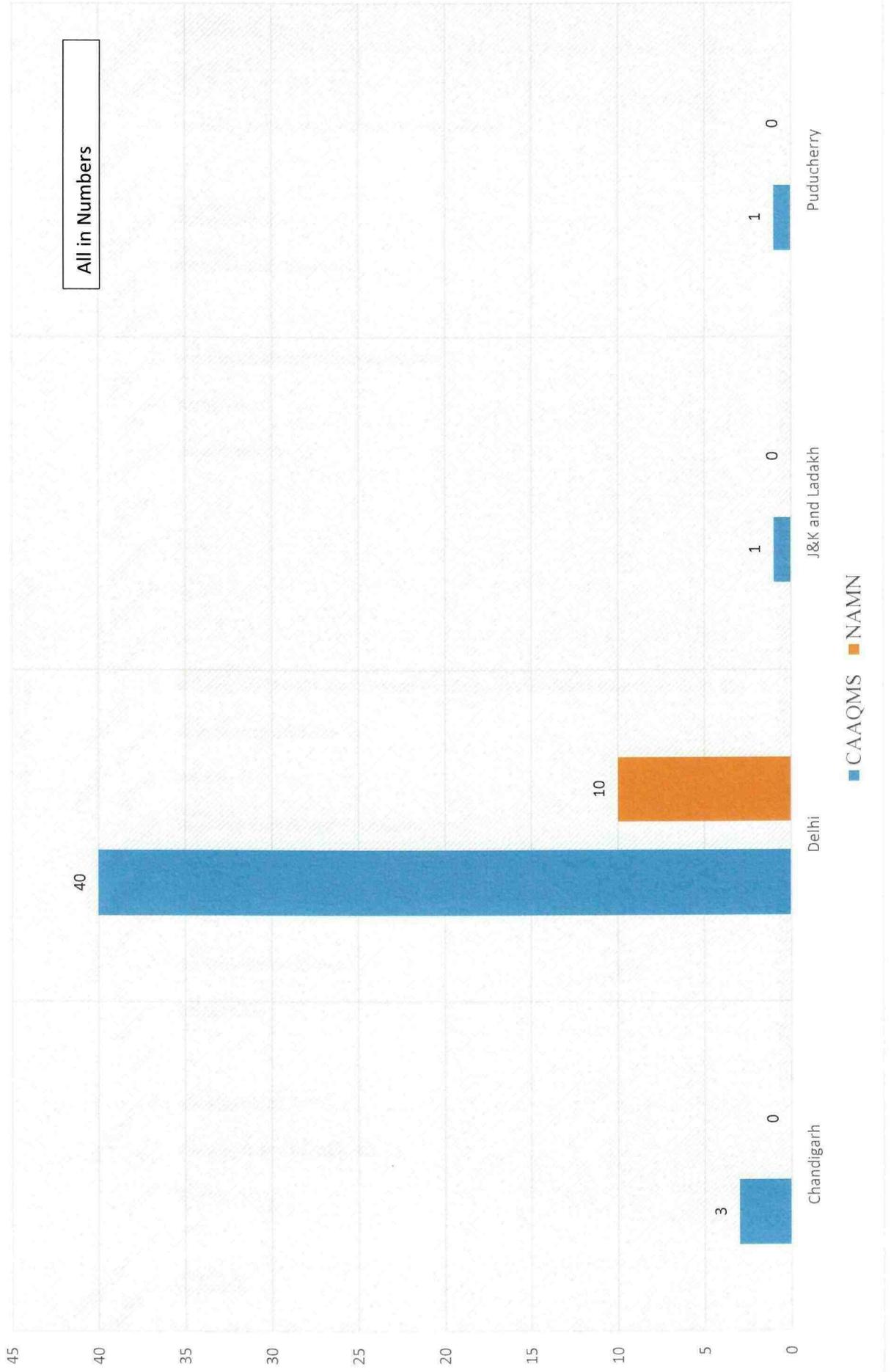


Figure 6: Sanctioned and Present Strength in SPCBs/ PCCs Laboratory

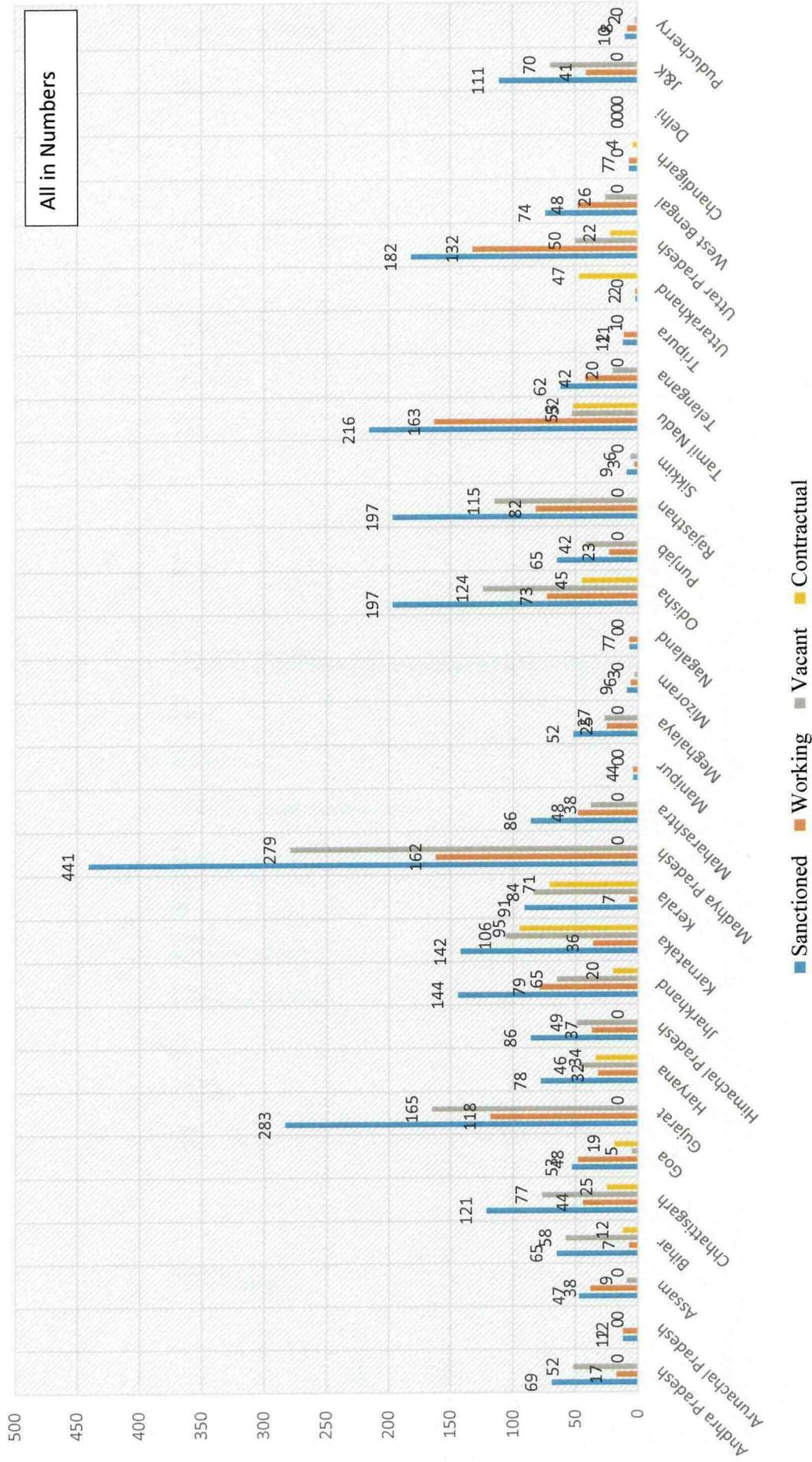


Figure 7a: Average Income Generated and Expenditure during 2020-21 & 2021-22 of SPCBs

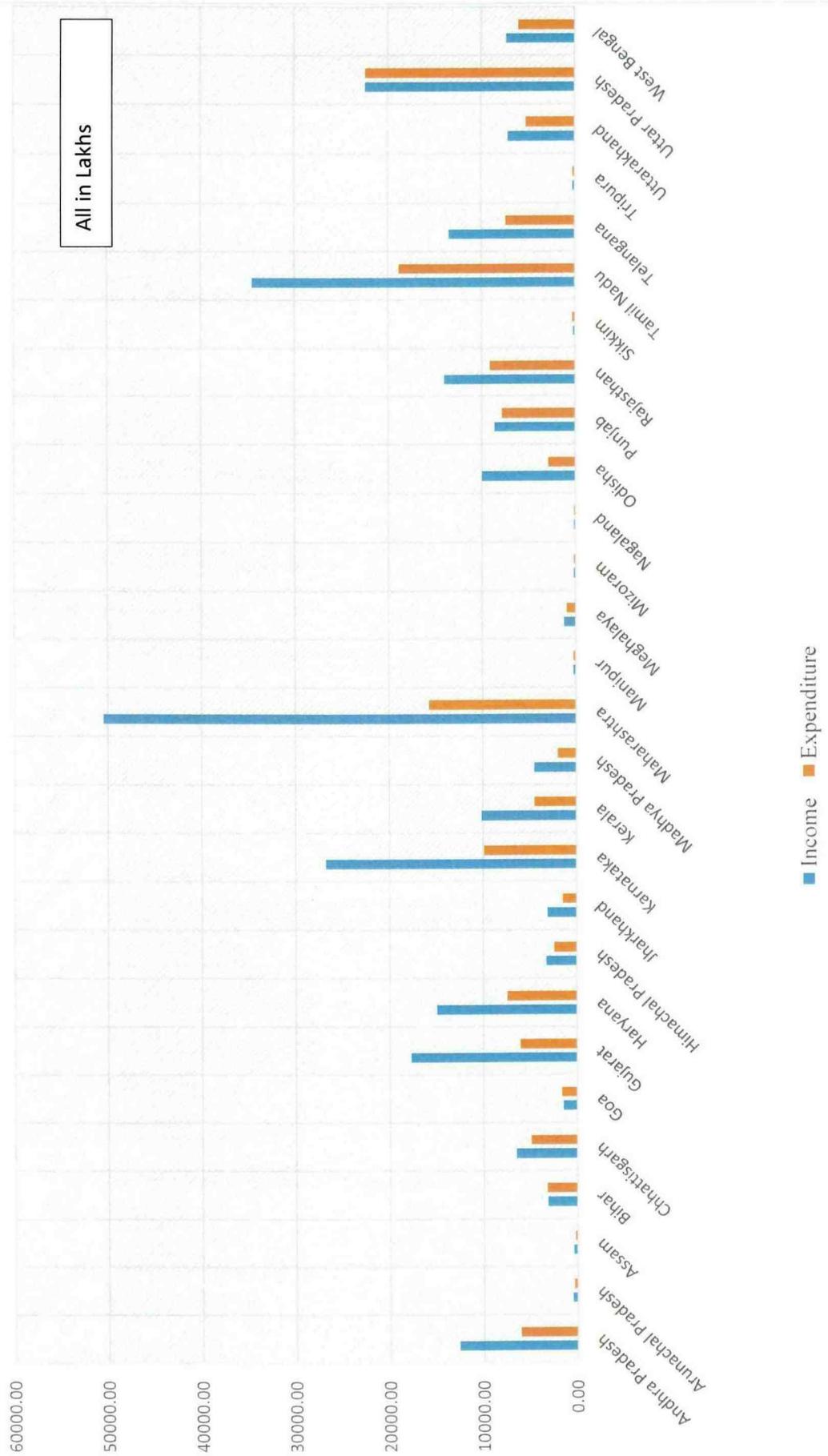


Figure 7b: Average Income Generated and Expenditure during 2020-21 & 2021-22 of PCCs

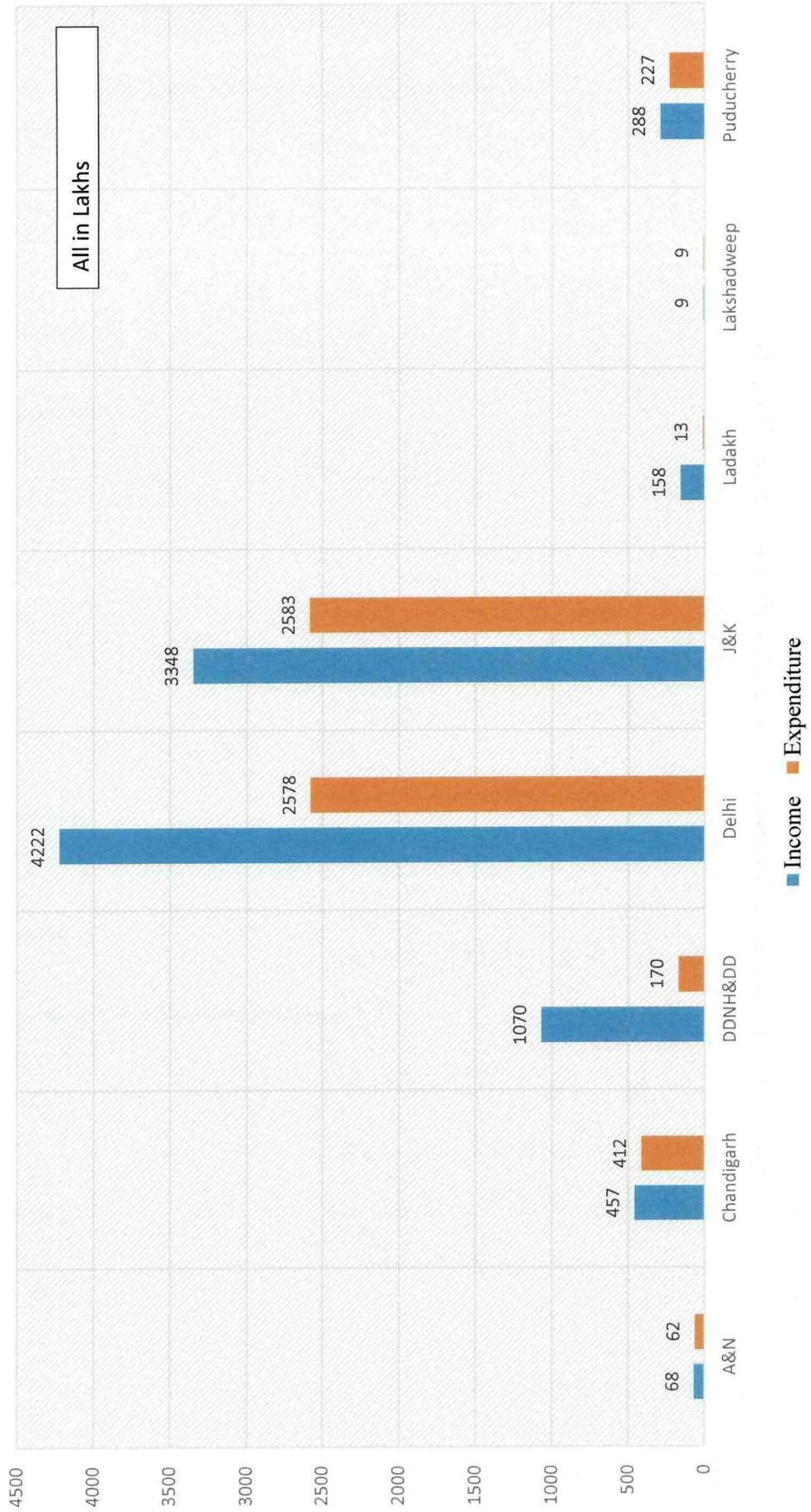


Figure 8a: Funding Assistance to SPCBs / PCCs during 2020-21

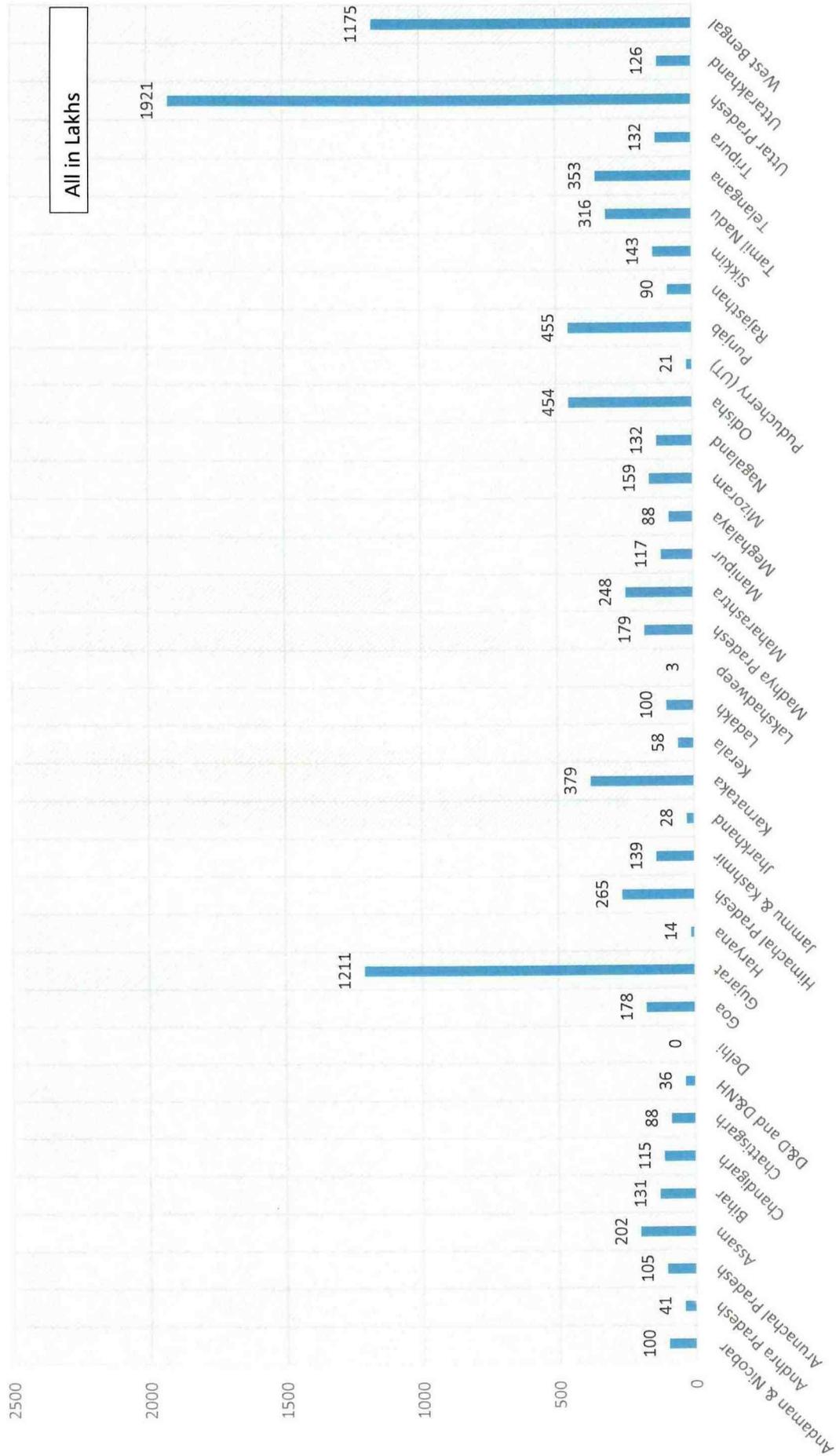
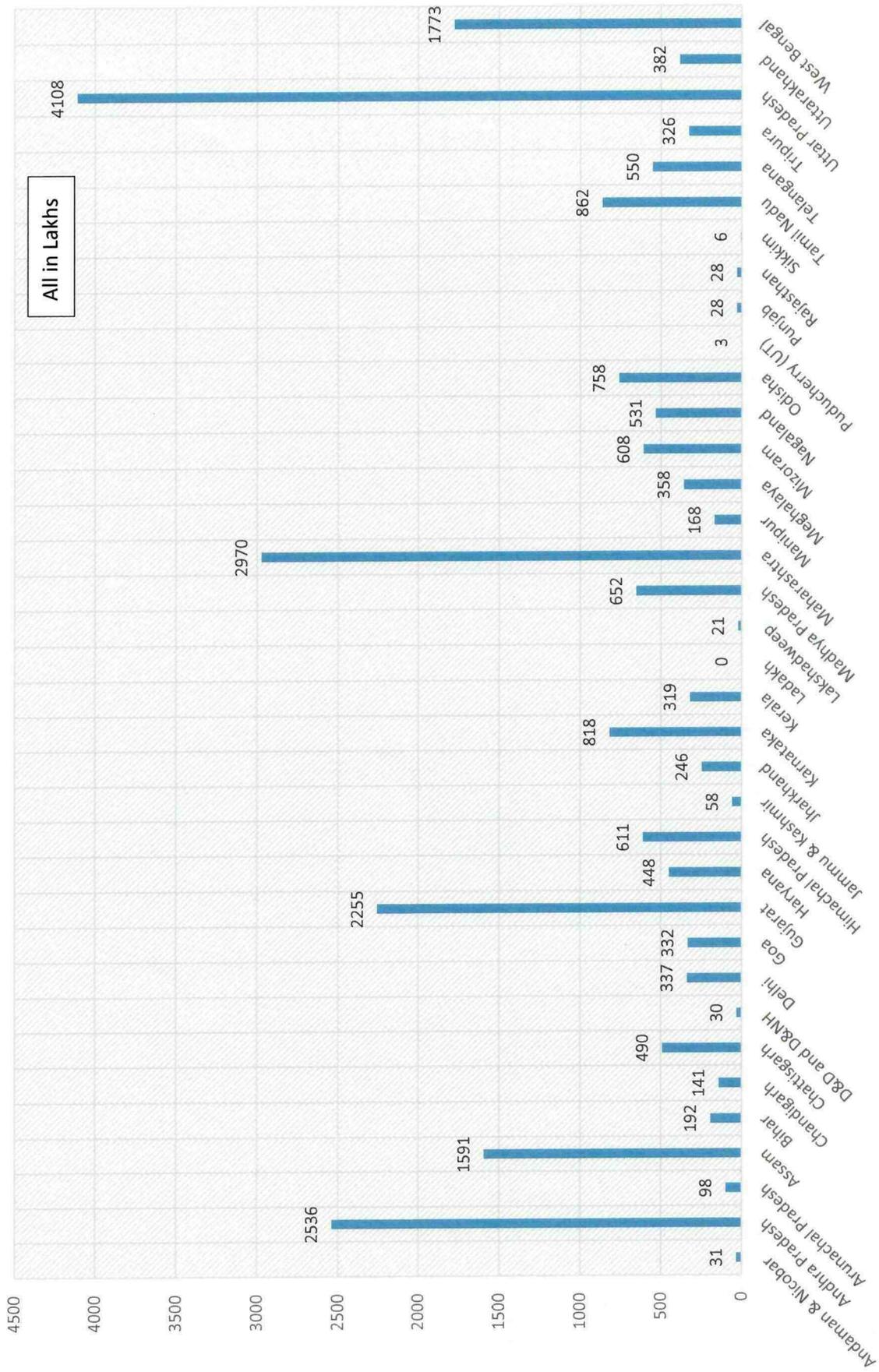


Figure 8b: Funding assistance to SPCBs / PCCs during 2021-22



Item No.13

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI**

Original Application No.693/2023

News Item titled "**Pollution Control Boards are the weak link**" appearing in Deccan Herald dated 24.10.2023.

Date of hearing: 02.02.2024

**CORAM: HON'BLE MR. JUSTICE PRAKASH SHRIVASTAVA, CHAIRPERSON
HON'BLE DR. A. SENTHIL VEL, EXPERT MEMBER**

Respondent: Mr. Amit Singh Chauhan, Adv. for CPCB (Through VC)
Ms. Srishti Govil & Mr. Tanish Manuja, Advs. for MoEF & CC
Mr. Rahul Khurana, Adv. for the State of Haryana & HSPCB
Mr. Shubham Bhalla & Ms. Anchita Nayyar, Advs. for R - 30
Ms. Snehpreet Kaur, Adv. for the State of Uttarakhand
Mr. Prateek K. Chadha, D.A.G with Mr. Sreekar Aechuri, Adv. for the State of Punjab
Mr. Nishe Rajen Shonker & Mr. Alim Anvar, Advs. for the State of Kerala
Mr. Jogy Scaria & Mr. Ashwani Kumar Soni, Advs. for Kerala PCB
Ms. Jyoti Mendiratta, Adv. for Govt. of NCT of Delhi (Through VC)
Mr. A.V. Nair, Adv. for Gujarat PCB (Through VC)
Ms. Anshul Sura, Adv. for UT of Puducherry (Through VC)
Ms. Aanchal, Adv. for UT of Lakshadweep (Through VC)
Ms. Pranali Tayade, Adv. for the State of Telangana (Through VC)
Ms. Anupama Ngangom, Adv. for the State of Manipur (Through VC)
Mr. Rahul proxy counsel for Mr. Bhanwar Pal Singh Jadon, Adv. for the State of UP

ORDER

1. In this original application, Tribunal is considering the issue of infrastructure, resources and capacity of the State Pollution Control Boards (SPCBs)/ Pollution Control Committees (PCCs) to perform the functions assigned to them, which is affected on account of inadequate sanctioned strength of personnel, high number of vacancies especially in technical positions, absence of proper training, lack of pollution monitoring and abatement equipments, absence of technically competent leadership, protracted enforcement mechanisms, insufficient funds and ineffectual spending. These issues have already been flagged by the Tribunal in the order dated 23.11.2023 by taking note of the earlier order in OA 95/2018 in the matter of *Aryavarat Foundation vs. M/s. Vapi green Enviro Ltd.* dated 05.02.2021 and issuing notices to SPCBs, PCCs and

1

CPCB for filing their reports on the line including the information as directed in that order.

2. Reports on behalf of CPCB and some of the SPCBs/PCCs have been filed i.e. State of Nagaland, State of Chhattisgarh, State of Madhya Pradesh, State of Maharashtra, State of Punjab, Union Territory of Ladakh, State of Arunachal Pradesh, State of Manipur, State of Meghalaya, State of Tripura, State of Uttar Pradesh, Union Territory of Chandigarh, Union Territory of Dadra and Nagar Haveli and Daman & Diu, State of Telangana, State of Uttarakhand, State of Gujarat, Union Territory of Delhi, Union Territory of Lakshadweep and State of Kerala.

3. Learned Counsels appearing for SPCBs/PCCs submitted that they have submitted copies of these reports to CPCB.

4. Counsel for CPCB is directed to tabulate the information disclosed in these reports by SPCBs/PCCs in the chart form to facilitate the factual appreciation and submit the tabulated information before the Tribunal at least one week before the next date of hearing.

5. It will be open to the Counsel for CPCB to download copy of the report of SPCBs/PCCs, in case, if any of the SPCBs or PCCs has not supplied it to him.

6. SPCBs/PCCs who have not filed report till now in terms of the directions of the Tribunal dated 23.11.2023, are directed to file the same within four weeks to the Tribunal by marking copy to the CPCB by e-mail at judicial-ngt@gov.in preferably in the form of searchable PDF/ OCR Support PDF and not in the form of Image PDF.

7. Learned Counsel for MoEF&CC has pointed out that CPCB has been wrongly impleaded as respondent no. 37 through Secretary,

MoEF&CC. Hence, we correct the description of respondent no.37 as under:

37. Central Pollution Control Board (CPCB) and Regional Directorate Laboratories through Secretary, CPCB.
8. We also deem it proper to implead the following:-
 38. Ministry of Environment, Forest and Climate Change (MoEF&CC) through Secretary.
 39. Ms. Srishti Govi, Advocate accepts notice on behalf of respondent no. 38-MoEF&CC and seeks four week's time to file response.
 40. List on 12.04.2024.

Prakash Shrivastava, CP

Dr. A. Senthil Vel, EM

February 02, 2024
Original Application No.693/2023
JG.