



# Air Quality Monthly Report

## June, 2024



Department of Environment  
Ministry of Environment Forest and Climate Change, Bangladesh.

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## **Introduction:**

Department of Environment (DoE), Bangladesh has been established a countrywide air quality monitoring (AQM) network. The continuous monitoring of 6 (six) criteria pollutants ( $PM_{2.5}$ ,  $PM_{10}$ ,  $SO_2$ , CO,  $NO_x$  and  $O_3$ ) is being done by 31(thirty one) Continuous Air Monitoring Stations (CAMS) and Compact Continuous Air Monitoring Stations (C-CAMS) located in the divisional and industrial districts of the country; The network encompasses all the regions of the country - Dhaka, Narayanganj Gazipur, Savar, Mymensing, Narsindi in the center, Chittagong in the south-east. Khulna Cumilla and Barisal in the south, Rajshahi in the west, and Sylhet in the north-east regions, Rangpur in the north west of the country. And C-CAMS are located in Faridpur, Jashore, Satkhira, Bagerhat, Gopalganj, Tangail, Bogura, Tongi, BUET campus, Brahmanbaria, Feni, Noakhali, BSRM(Chattogram), Cox's-Bazar, Nagor Bhaban, Dhaka. The data and information generated from those stations are automatically collected in the central server and are disseminated through DoE website. Air Quality Index (AQI) for each city is calculated and published online daily for notifying the public about the status of air quality in their respective city.

Quality Assurance/Quality Control (QA/QC) methods and procedures are implemented with full documentation and are validated through an international certified calibration reference laboratory. Forms and log sheets document every activity in the air monitoring stations and document all maintenance, calibration, operation and other activities such as all visits to the stations. This monthly report provides an overview and analysis of air quality monitoring data in Bangladesh for the month wise monitoring results.

The report summarizes the data of different CAMS located in different cities of Bangladesh.

## Standards of Ambient Air Quality

The Government of Bangladesh has enacted Air Pollution (Control) Rules – 2022 with ambient air quality standards. This report establishes the Air Quality Index (AQI) followed by USEPA guideline to evaluate air pollution.

Table 1 National Ambient Air Quality Standards (NAAQS) for Bangladesh

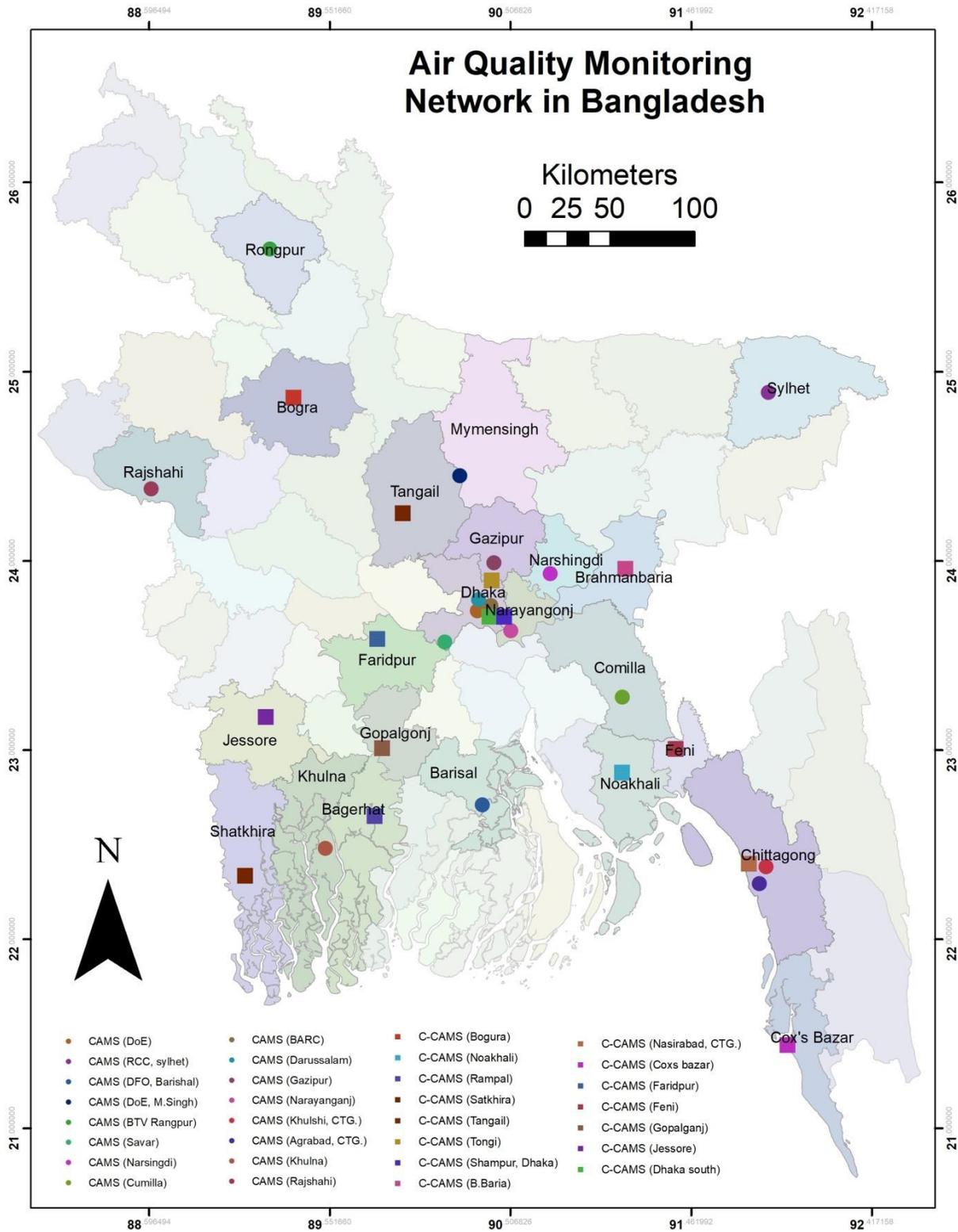
Pollutant	Limit Value	Averaging time
CO	5 mg/m <sup>3</sup>	8 hours <sup>a</sup>
	20 mg/m <sup>3</sup>	1 hour <sup>a</sup>
Pb	0.25 µg/m <sup>3</sup>	Annual
	0.50 µg/m <sup>3</sup>	24 hours
NO <sub>x</sub>	40 µg/m <sup>3</sup>	Annual
	80 µg/m <sup>3</sup>	24 hours
PM <sub>10</sub>	50 µg/m <sup>3</sup>	Annual <sup>b</sup>
	150 µg/m <sup>3</sup>	24 hours <sup>c</sup>
PM <sub>2.5</sub>	35 µg/m <sup>3</sup>	Annual
	65 µg/m <sup>3</sup>	24 hours
O <sub>3</sub>	180 µg/m <sup>3</sup>	1 hour <sup>d</sup>
	100 µg/m <sup>3</sup>	8 hours
SO <sub>2</sub>		Annual
	80 µg/m <sup>3</sup>	24 hours <sup>a</sup>

Table 2 Air quality index (AQI) in Bangladesh

Air quality index (AQI)	Category		Colour
	In English	In Bangla	
0-50	Good	ভালো	Green
51-100	Moderate	মোটামুটি	Yellow Green
101-150	Caution	সতর্কতামূলক	Yellow
151-200	Unhealthy	মোটামুটি অস্বাস্থ্যকর	Orange
201-300	Very Unhealthy	খুব অস্বাস্থ্যকর	Red
301-500	Extremely Unhealthy/Hazardous	অত্যন্ত অস্বাস্থ্যকর	Purple

# Location Map of Air Monitoring Station

Figure 1 Locations Map of Continuous Air Monitoring Stations (CAMS) under Department of Environment in Bangladesh.



## Station Information

Table 3 Overview of the locations and capacity of the CAMS

City	ID	Location	Latitude/ Longitude	Monitoring Capacity	Year of Est.	Type	Inlet & Met tower Height( m)
Dhaka	CAMS-1	Dept of Environment	23°.77'73.94"N 90°.37'26.03"E	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , CO, O <sub>3</sub> & NO <sub>x</sub> with Meteorological Parameters	2012	UB/Res	4.8 & 8
	CAMS-2	Farmgate	23°.75'94.10"N 90°.38'86.79"E		2008	Rd/Com	8.8 & 11
	CAMS-3	Darussalam	23°.78'07.75"N 90°.35'54.10"E		2012	UB/Com	8.8 & 11
Gazipur	CAMS-4	Gazipur	23°.99'41.28"N 90°.42'23.15"E		2012	SUB	8.8 & 11
Narayanganj	CAMS-5	Narayanganj	23°.62'60.79"N 90°.50'72.00"E		2012	UB industry	8.8 & 11
Chattogram	CAMS-6	TV Station, Khulshi	22°.36'04.87"N 91°.80'04.54"E		2006	UB1	4.8 & 7
	CAMS-7	Agrabad	22°.32'30.20"N 91°.80'23.36"E		2012	UB/Res	8.8 & 11
Khulna	CAMS-8	Boyra	22°.83'57.75"N 89°.52'90.56"E		2008	UB	6.8 & 10
Rajshahi	CAMS-9	Sapura	24°.38'33.20"N 88°.60'80.07"E		2008	Rd/Res	6.8 & 10
Sylhet	CAMS-10	Red Crecent Campus	24°.88'83.34"N 91°.86'73.47"E		2012	Rd/UB/Res	13.8 & 15
Barishal	CAMS-11	DFO Office Campus	22°.71'02.87"N 90°.36'25.98"E		2012	UB/Res	6.8 & 10
Mymensingh	CAMS-12	DoE Office, Divisional Headquarter	24°.76'24.58"N 90°.40'21.02"E		2019	UB	8.8 & 11
Rangpur	CAMS-13	BTV Rangpur Station	25°.74'73.71"N 89°.22'89.31"E		2019	UB	8.8 & 11
Savar	CAMS-14	Atomic Energy Research Institute	23°.95'37.04"N 90°.27'97.94"E		2019	SUB	10.8 & 14
Narsingdi	CAMS-15	Sadar Upazila Complex	23°.93'24.56"N 90°.71'65.98"E		2019	SUB	8.8 & 11
Cumilla	CAMS-16	Court Area	23°.47'29.88"N 91°.18'06.71"E		2019	UB	8.8 & 11

UB: Urban; Rd: Road; Res: residential; Com: Commercial; SUB: Suburban; Rural: Rural

Table 4 Overview of the locations and capacity of the C-CAMS

City	ID	Location	Lat/Lon	Year of Est.	Type	Monitoring Capacity	Inlet & Met tower Height(m)
Faridpur	C-CAMS-17	Sadar, Faridpur (Municipal Office)	23°.60'64.11"N 89°.83'88.19"E		SUB		9 & 11
Jashore	C-CAMS-18	Sadar, Jashore (circuit house)	23°.16'22.16"N 89°.20'63.70"E		SUB		12 & 14
Satkhira	C-CAMS-19	Shyamnagar, Satkhira	22°.31'59.96"N 89°.04'31.70"E		Rural		5.2 & 7.2
Bagerhat	C-CAMS-20	Rampal, Bagerhat (Maytree Super Thermal Power Project)	22°.59'60.86"N 89°.55'37.20"E		Rural/Industrial		5.7 & 7.7
Gopalganj	C-CAMS-21	Sadar, Gopalganj	23°.00'88.53"N 89°.82'91.60"E		SUB		22 & 24
Tangail	C-CAMS-22	Sadar, Tangail (DoE office)	24°.24'97.96"N 89°.92'93.57"E		SUB		15 & 17
Bogura	C-CAMS-23	Sadar, Bogura (DoE Office)	24°.86'17.79"N 89°.36'11.46"E		SUB		9 & 11
Tongi	C-CAMS-24	BSCIC, Tongi, Gazipur	23°.89'41.74"N 90°.41'12.10"E		Com/Industrial	PM <sub>10</sub> , PM <sub>2.5</sub> , SO <sub>2</sub> , CO, O <sub>3</sub> & NO <sub>x</sub> with Meteorological Parameters	18 & 20
BUET	C-CAMS-25	Department of Chemical Engineering, BUET, Dhaka	23°.72'75.91"N 90°.39'27.97"E	2020	UB		10 & 12
Brahmanbaria	C-CAMS-26	Sadar, B.Baria (municipal Office)	23°.97'43.71"N 91°.10'97.69"E		SUB		18 & 20
Feni	C-CAMS-27	Sadar, Feni (DoE Office)	23°.00'62.97"N 91°.38'13.05"E		SUB		18 & 20
Noakhali	C-CAMS-28	Maijdi Bazar, Noakhali (DoE Office)	22°.88'11.48"N 91°.09'69.66"E		SUB		15 & 17
Chattogram BSRM	C-CAMS-29	BSRM, Nasirabad, Chattogram	22°.37'28.38"N 91°.81'80.54"E		UB/Industrial		12 & 14
Cox's-Bazar	C-CAMS-30	Saymon Road, Sadar, Cox's-Bazar (DoE Office)	21°.44'22.08"N 91°.97'10.83"E		SUB		9 & 11
Nagor Bhaban, Dhaka	C-CAMS-31	Nagar Bhaban, DSCC, Dhaka	23°.72'40.75"N 90°.40'91.42"E		UB/Com		13 & 15

UB: Urban; Rd: Road; Res: residential; Com: Commercial; SUB: Suburban; Rural: Rural

# Summary of Components

## Month of June, 2024

Table 5 Summary of components\_ Month of June, 2024

Parameter	Summary	DoE	BARC	Darus-salam, Dhaka	Gazipur	Narayanganj	TV-Station, Chattagram	Agrabad, Chattagram	Sylhet	Khulna	Rajshahi	Barisal	Savar	Mymensingh	Rangpur	Cumilla	Narshingdi
SO <sub>2</sub> -24 hr	Average	6.4	2.2	6.5	4.9	DNA	87.2	5.4	4.8	2.1	3.3	3.6	0.3	2.0	3.0	DNA	DNA
	Max	8.6	6.0	6.5	6.6	DNA	101.6	8.2	5.2	5.7	5.9	4.5	0.9	2.0	7.2	DNA	DNA
	Min	0.6	0.1	6.4	3.9	DNA	57.5	4.3	4.5	0.1	1.4	1.9	0.1	2.0	0.6	DNA	DNA
	Exceedance(Days)	0.0	0.0	0.0	0.0	DNA	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0
	Data capture(%)	83.9	64.5	74.2	22.6	DNA	38.7	96.8	96.8	35.5	96.8	80.6	93.5	3.2	87.1	DNA	93.5
NO <sub>2</sub> -24 hr	Average	4.7	26.0	0.6	0.2	DNA	DNA	7.7	DNA	1.9	2.0	0.7	10.1	1.7	4.8	8.1	1.9
	Max	11.4	35.2	1.4	0.2	0.0	DNA	13.2	DNA	2.7	2.2	4.6	13.6	1.9	6.1	11.3	4.8
	Min	0.1	14.3	0.2	0.2	0.0	DNA	3.6	DNA	1.6	1.9	0.2	7.4	1.6	3.6	6.5	0.1
	Exceedance(Days)	0.0	0.0	0.0	0.0	0.0	DNA	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Data capture(%)	83.9	87.1	38.7	41.9	0.0	DNA	96.8	DNA	93.5	96.8	58.1	87.1	87.1	96.8	87.1	96.8
CO-8hr	Average	1.2	2.2	1.0	1.5	0.5	DNA	DNA	1.6	1.0	1.8	DNA	0.3	1.2	1.4	2.2	1.4
	Max	2.1	3.3	1.4	2.7	0.7	DNA	DNA	2.7	2.5	3.0	DNA	2.3	2.2	2.0	2.8	3.0
	Min	0.5	1.0	0.6	0.1	0.5	DNA	DNA	0.5	0.2	1.2	DNA	0.1	0.5	0.7	1.4	0.8
	Exceedance(Hour)	0.0	0.0	0.0	0.0	0.0	DNA	DNA	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0
	Data capture(%)	74.3	93.5	20.0	5.0	66.0	DNA	DNA	95.8	16.1	84.8	DNA	91.7	95.2	90.3	94.1	95.8
O <sub>3</sub> -8hr	Average	DNA	6.6	4.2	27.3	0.3	11.0	DNA	0.8	13.8	21.6	6.7	13.0	12.3	22.4	DNA	10.4
	Max	DNA	22.9	4.3	34.7	0.3	22.6	DNA	1.0	26.3	29.9	27.9	22.7	37.6	29.9	DNA	25.4
	Min	DNA	0.1	4.0	23.7	0.3	4.9	DNA	0.6	0.4	10.8	0.1	5.7	5.4	0.3	DNA	1.3
	Exceedance(Hour)	DNA	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	DNA	0.0
	Data capture(%)	DNA	94.0	93.4	74.2	2.2	35.1	DNA	15.3	90.5	72.6	51.1	22.6	95.2	32.7	DNA	95.8
PM <sub>2.5</sub> -24hr	Average	36.7	42.1	47.5	46.9	31.2	27.6	23.3	21.5	19.1	47.5	23.2	48.7	44.3	54.6	35.8	32.5
	Max	111.6	77.7	80.6	103.7	74.4	63.1	57.2	38.6	42.2	102.2	62.9	79.6	68.8	99.4	99.6	79.2
	Min	16.5	22.1	24.3	19.7	9.4	13.2	8.7	8.2	7.8	23.0	12.4	24.2	25.1	24.1	15.1	6.2
	Exceedance(Days)	1.0	3.0	3.0	3.0	1.0	0.0	0.0	0.0	0.0	5.0	0.0	5.0	1.0	7.0	3.0	1.0
	Data capture(%)	83.9	93.5	90.3	80.6	67.7	41.9	93.5	80.6	93.5	96.8	80.6	93.5	96.8	83.9	96.8	74.2
PM <sub>10</sub> -24hr	Average	58.4	84.3	74.4	68.3	72.4	DNA	59.0	49.2	32.1	81.7	46.8	87.7	109.7	91.7	58.9	49.4
	Max	137.0	148.4	129.5	140.1	114.5	DNA	113.6	92.6	63.4	144.3	127.6	145.2	153.2	142.7	153.5	131.9
	Min	24.8	25.9	32.8	29.9	25.5	DNA	25.4	21.5	14.2	26.3	19.8	53.1	65.0	38.9	25.6	16.8
	Exceedance(Days)	0.0	0.0	0.0	0.0	0.0	DNA	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	0.0
	Data capture(%)	83.9	58.1	83.9	80.6	74.2	DNA	93.5	93.5	93.5	80.6	64.5	93.5	12.9	96.8	71.0	71.0
Solar rad. 1hr	Average	226.97	135.45	132.2	65.4	DNA	414.5	168.0	4.5	652.2	756.7	113.5	207.0	178.1	223.3	156.7	194.5
	Max	514.17	803.0	1003.5	815.7	DNA	488.1	802.4	5.0	1000.0	779.5	659.7	918.8	835.1	949.3	851.4	999.9
	Min	21.87	0.1	981.1	0.1	DNA	1.0	7.7	4.0	1.7	745.9	6.1	0.0	0.0	0.1	0.0	0.0
	Data capture(%)	79.57	76	93	64	DNA	33	94	96	87	94	73	60.6	34.3	63.7	73.8	74.3
	Relative Humidity 1hr	Average	71.63	84.6	76.6	16.5	DNA	57.2	81.5	39.7	74.6	91.8	71.9	81.1	96.0	90.3	74.2
	Max	91.75	100.0	93.7	16.5	DNA	95.1	99.7	39.9	91.2	96.4	84.4	99.4	99.4	99.7	100.0	65.8
	Min	42.64	55.3	50.6	16.5	DNA	30.0	50.2	39.6	45.0	83.3	48.7	50.8	69.3	59.0	16.2	16.8
	Data capture(%)	79.57	21.6	92.9	0	DNA	32	94	96	94	94	73	84.7	44.5	90.3	33.3	95.8
Ambient Temp. 1hr	Average	36.75	26.7	32.9	25.3	DNA	29.6	31.4	DNA	31.9	33.3	32.7	28.6	28.3	27.9	28.1	28.5
	Max	42.92	33.2	36.1	40.5	DNA	36.5	42.9	DNA	39.5	40.5	40.3	34.9	34.0	34.1	34.6	34.0
	Min	27.73	19.3	12.3	8.9	DNA	23.2	7.2	DNA	7.7	10.9	25.1	13.5	11.7	22.8	22.2	16.8
	Data capture(%)	21.10	76.2	78	2	DNA	35	54	DNA	88	94	73	82.8	44.0	84.9	88.6	95.0
	Rainfall 1hr	Average	DNA	DNA	0.8	0.3	DNA	DNA	DNA	DNA	41.0	DNA	0.4	0.1	4.3	0.1	0.0
	Max	DNA	DNA	0.8	0.6	DNA	DNA	DNA	DNA	52.0	DNA	54.0	0.5	56.7	1.0	0.1	16.8
	Min	DNA	DNA	0.5	0.0	DNA	DNA	DNA	DNA	7.0	DNA	0.0	0.0	0.3	0.0	0.0	0.0
	Data capture(%)	DNA	DNA	91	6	DNA	DNA	DNA	DNA	7	DNA	70	5.5	4.4	5.8	4.4	4.8

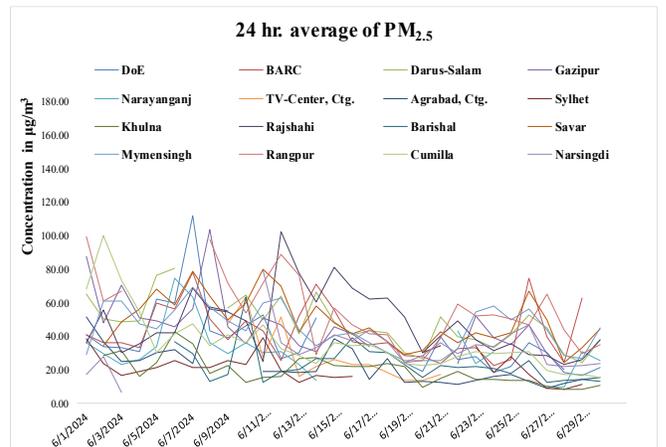
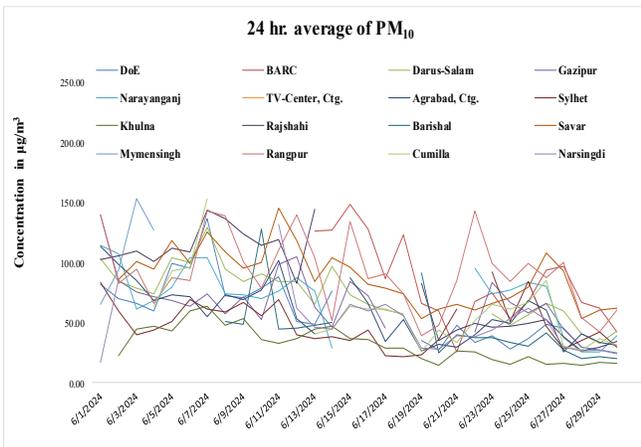
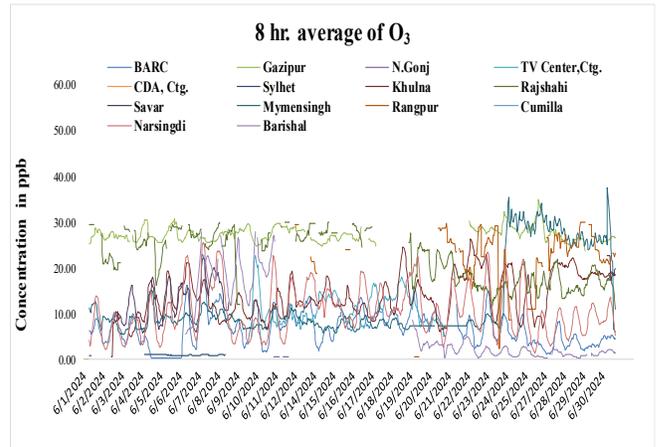
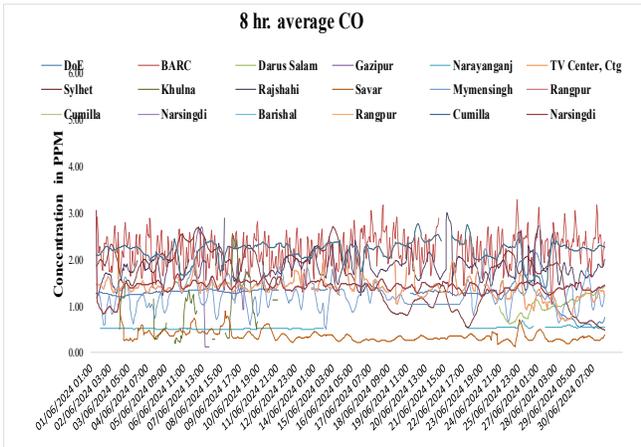
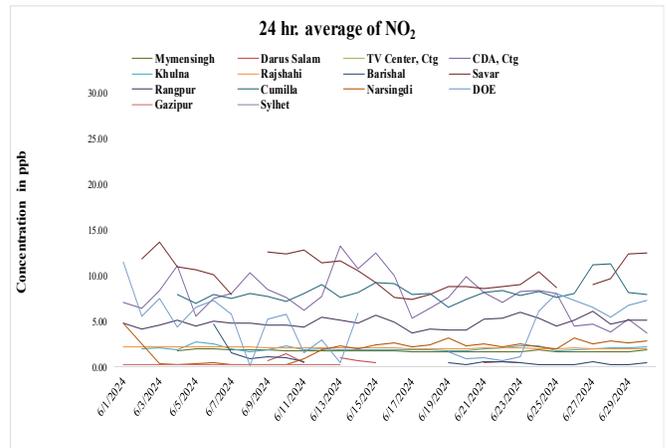
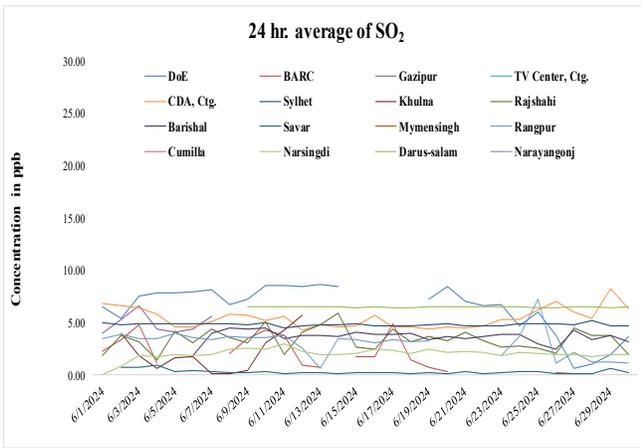
CAMS= Continuous Air Monitoring Station, NAAQS=National Ambient Air Quality Standard, a=Refurbishment CAMS, PM= Particulate Matter

DNA= Data Not Available

Table 6 Air Quality Index (AQI)\_ Month of June, 2024

Date	Dhaka	Chittagong	Gazipur	Narayangonj	Sylhet	Khulna	Rajshahi	Barisal	Savar	Mymensingh	Rangpur	Cumilla	Norshindi
6/1/2024	124	133	178	102	134	DNA	102	DNA	DNA	180	172	169	DNA
6/2/2024	112	81	126	68	72	95	100	51	95	137	125	189	55
6/3/2024	109	77	88	92	59	92	DNA	DNA	132	153	156	161	DNA
6/4/2024	102	79	138	102	64	61	144	DNA	DNA	119	117	140	DNA
6/5/2024	149	94	121	94	50	77	118	DNA	142	117	167	86	51
6/6/2024	144	66	205	98	91	73	109	108	137	136	166	112	DNA
6/7/2024	178	68	150	96	76	120	142	87	162	157	94	119	DNA
6/8/2024	142	95	179	100	108	62	137	51	148	146	92	85	DNA
6/9/2024	130	91	155	86	97	68	134	89	126	147	158	115	DNA
6/10/2024	139	138	114	101	71	51	202	66	135	130	137	103	DNA
6/11/2024	107	74	156	88	96	55	304	68	162	151	156	125	164
6/12/2024	101	97	167	DNA	58	51	201	65	149	154	165	93	102
6/13/2024	88	61	91	0	49	80	143	67	105	103	125	86	82
6/14/2024	99	67	87	0	60	74	133	79	119	91	86	73	90
6/15/2024	128	73	113	0	55	69	155	81	114	98	116	94	107
6/16/2024	98	68	104	0	60	70	129	95	100	103	109	97	98
6/17/2024	99	66	92	0	72	71	129	90	119	93	104	93	101
6/18/2024	101	53	0	0	18	73	140	87	101	88	105	89	101
6/19/2024	81	46	DNA	DNA	51	72	144	75	87	78	77	73	74
6/20/2024	75	55	DNA	DNA	104	42	87	57	91	DNA	76	72	85
6/21/2024	90	63	DNA	DNA	103	55	114	70	115	DNA	104	72	98
6/22/2024	87	46	70	151	DNA	66	136	69	101	90	152	83	89
6/23/2024	110	52	116	73	104	53	101	70	119	135	108	80	104
6/24/2024	77	56	108	89	63	56	85	93	107	DNA	135	83	97
6/25/2024	86	81	143	64	83	DNA	103	62	115	DNA	119	88	114
6/26/2024	113	71	139	63	62	DNA	93	78	145	DNA	120	96	128
6/27/2024	101	27	109	51	30	40	79	51	126	105	151	63	75
6/28/2024	73	46	86	DNA	81	34	71	51	75	85	103	60	DNA
6/29/2024	72	49	DNA	148	54	32	76	54	90	80	86	61	71
6/30/2024	85	46	DNA	78	27	39	100	69	112	107	98	56	73

Table 7 Graphical representation of Gaseous and Particulate matter.



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